



# Engineering for Sustainable Growth of the Global Community

## 2023 Integrated Report

Year ended March 31, 2023



Ammonia has been used as a fertilizer for around the last hundred years, and it has therefore contributed to food production and supported the increasing global population.

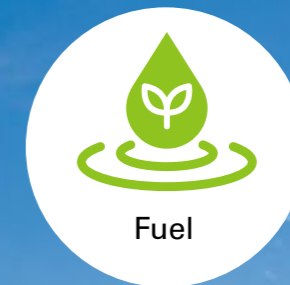
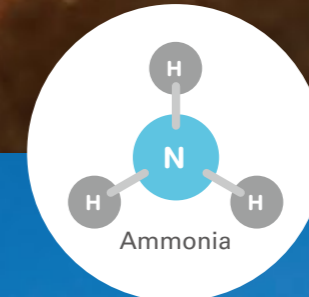
Ammonia is expected to continue serving as a clean fuel that does not result in the emission of CO<sub>2</sub>.

New  
possibilities  
for ammonia

# Fertilizer

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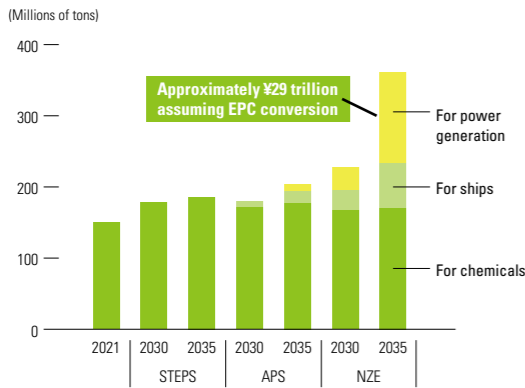
# Carbon-free fuel



A diverse range of applications that go beyond thermal-power co-firing are expected of ammonia

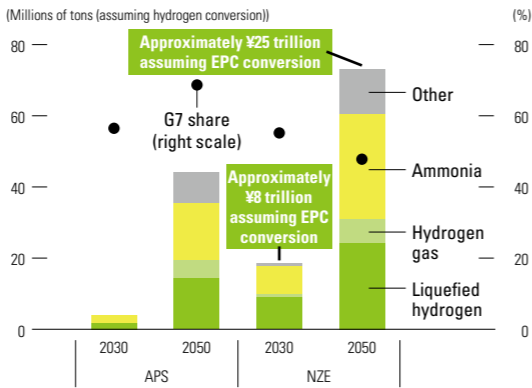
In Japan, people tend to focus on coal-fired co-firing when it comes to ammonia, but, globally speaking, there is a greater focus on ammonia's use as ship fuel. Ammonia is highly valued due to its high energy efficiency as a hydrogen carrier, its usability for existing infrastructure at a low cost, and other characteristics, and—in Europe—there are active efforts underway both to discuss safety measures and develop ammonia receiving-facility infrastructure.

Demand outlook by ammonia application (global)



Note) The meaning of each scenario is as follows:  
STEPS : The Stated Policies Scenario  
APS : The Announced Pledges Scenario  
NZE : The Net Zero Emissions by 2050 Scenario  
Source: Towards hydrogen definitions based on their emissions intensity, IEA

Demand outlook by hydrogen carrier (for G7 member countries)



TOYO pursues initiatives related not only to ammonia production but also to demand generation

Ammonia is also promising as a fuel for naphtha crackers, and its introduction is expected in regions such as Japan and Asia in particular, where renewable energy prices are high and it is difficult to switch to electric arc furnaces. In addition, to encourage the use of ammonia as a hydrogen carrier, we are considering annexing cracking plants to our domestic receiving terminals. We believe initiatives such as the above will help to stimulate the market for ammonia production plants.

Practical application of ammonia fuel for a naphtha cracker



Switching from conventional fuel, which used methane as its main ingredient, to ammonia in order to reduce CO<sub>2</sub> emissions practically to zero during combustion

- Demonstration period: fiscal 2021 to fiscal 2030
- Cooperating companies: Mitsui Chemicals, Inc., Maruzen Petrochemical Co., Ltd., and Sojitz Machinery Corporation

Potential demand for fuel ammonia for naphtha crackers  
Japan: around 8 million tons  
Asia: around 100 million tons  
We will target countries where renewable energy prices are high and where it is difficult to achieve electrification (build electric arc furnaces).

Source: Ministry of Economy, Trade and Industry (METI)

Utilizing hydrogen via ammonia cracking\*



Imported ammonia can be cracked at a receiving terminal and then utilized as hydrogen

- Technology Readiness Level (TRL): 7 to 9
  - ▶ Technology used to generate desulfurization hydrogen when starting up an existing ammonia production plant
  - ▶ Although there is room to further increase efficiency, the technology itself is at the commercial level.
- Energy efficiency (HHV): 80 to 85% = the heat of the acquired hydrogen + (the energy of the input NH<sub>3</sub> + the input power)  
Further improvements are expected due to future catalyst improvements and ammonia-burner development.
- Hydrogen purity: maximum of 99.97% (Can be used for FCVs, which require the highest purity.)

Source: KBR

\* Cracking ammonia to extract hydrogen

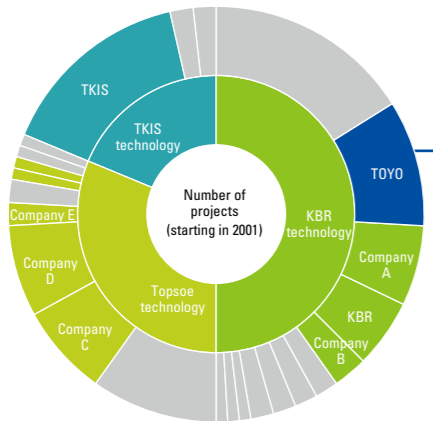
TOYO is uniquely qualified to achieve clean fuel ammonia

TOYO's project track record includes 87 ammonia plants and over 48 storage tanks around the world. We have also been involved in CCS\* projects since the 1980s, and we handle renewable energy EPC business that includes bio-mass-fired power plants and solar power plants at the 1.4-GW scale or higher. Therefore, we believe that TOYO can help to derive optimal solutions that fuse the elements necessary for clean fuel (chemicals, CCS, and renewable energy).

\* CCS: Carbon Capture and Storage

Ammonia plant EPC share

\* The gray portion is the share held by Chinese, South Korean, and unknown (local, etc.) players. Each company is estimated to have around one or two projects.



Extensive ammonia project experience

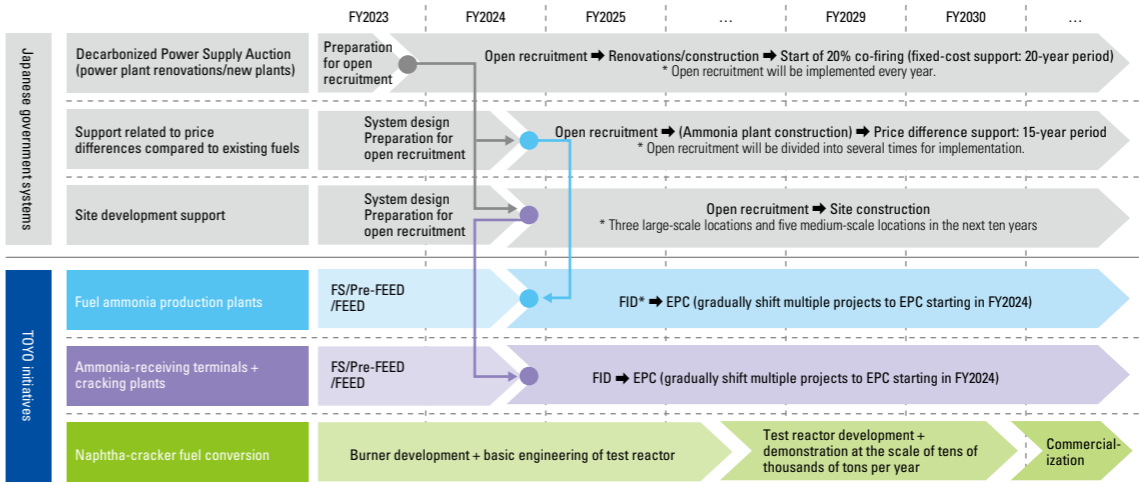


Technical capabilities in the decarbonization field



TOYO takes advantage of business opportunities while keeps pace with the trends of Japanese government system

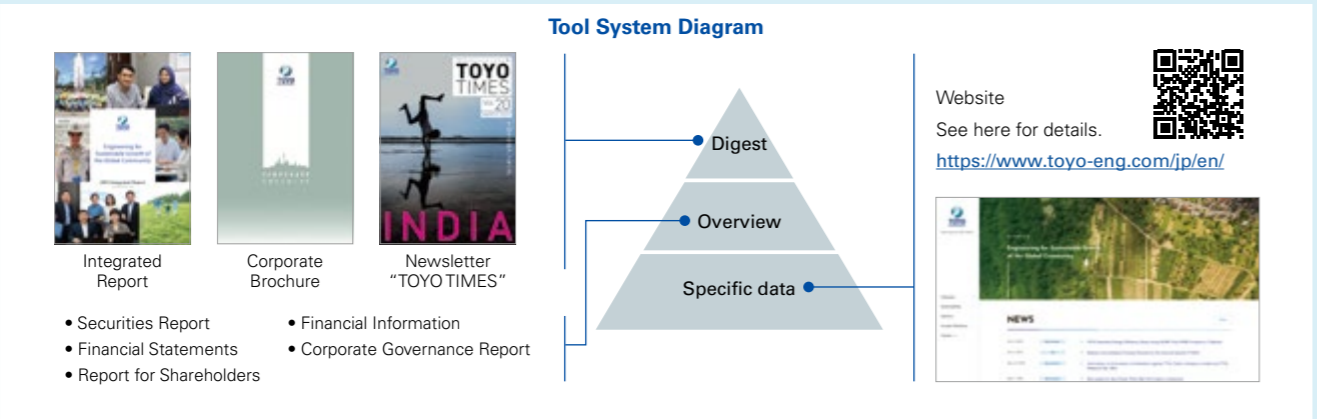
Government support is extremely important at the dawn of an industry. In particular—given that there is currently an extremely large difference between the costs of decarbonized fuels and fossil fuels—government support is essential for FIDs related to production and receiving infrastructure. Based on its ammonia-related knowledge and track record, TOYO will contribute to making various government systems while taking advantage of opportunities related to EPC and participating in business.



\* Final Investment Decision

KGI  
(Key Goal Indicator)

	Target	FY2022 Results
Consolidated net income attributable to owners of the parent	<ul style="list-style-type: none"><li>FY2023–2025 average: ¥5 billion or higher</li><li>FY2030: ¥10 billion</li></ul>	¥1.6 billion
Consolidated net sales	<ul style="list-style-type: none"><li>Emphasis on profit over net sales</li><li>Net sales target: ¥300 billion</li></ul>	¥192.9 billion
ROE	<ul style="list-style-type: none"><li>FY2025: 10% or higher</li><li>Thereafter: Stably 10% or higher</li></ul>	3.5%
Dividends	<ul style="list-style-type: none"><li>Aim to resume dividend payments during period of plan</li></ul>	—



Management Vision

- 06 Corporate Philosophy

07 President’s Message

10 The Chronicle of TOYO

12 TOYO Digest

14 Creating Social Value Through Engineering
- 16 Value Creation Process

18 Mission and Materiality

20 TOYO’s Strengths

24 Discussion between Analysts and President Hosoi

28 Message from the CFO

Medium-term Management Plan

- 30 Outline of Medium-term Management Plan (FY2021–FY2025)

34 Strategy “Sustainable Technology and Business Development”

34 Initiatives Aimed at the Social Implementation of Synthetic Fuel

36 Strategy “Advanced EPC Operation”

36 Advanced Engineering Operation Initiatives

38 Advanced Procurement Operation Initiatives

40 Advanced Construction Operation Initiatives

42 Using DXoT to Change Our Business Model Through AWP
- 44 Market Environment and Business Strategy

44 India

46 Indonesia

48 FPSO

50 Japan

52 China

53 Korea

54 Malaysia

55 Brazil

Foundation for Sustainable Growth

- 56 Sustainability Initiatives

58 E: Environment

58 Addressing Climate Change (Disclosure Based on TCFD Recommendations)

61 Environment

63 S: Social

63 Human Rights

64 Human Capital
- 66 G: Governance

66 Directors and Audit & Supervisory Board Members

68 Discussion between Outside Directors and Chairman Nagamatsu

72 Corporate Governance

77 Compliance

78 Risk Management

80 Quality, and Health and Safety Initiatives

Data Section

- 82 ESG Data

84 Ten-Year Financial Highlights

86 Corporate Information

TOYO's MVV  
Mission, Vision, Values

Engineering for  
Sustainable Growth of  
the Global Community



Engineering for  
Sustainable Growth of  
the Global Community

By undertaking engineering that melds various elemental technologies and optimizes the overall system, we will comprehensively solve various issues and contribute to creating a sustainable global community.



From plant builder to value chain organizer

My name is Eiji Hosoi and I took office as President in June 2023. I have two missions as President this year, which is the third year of the five-year Medium-term Management Plan that began in fiscal 2021. The first is to achieve our KGI in the form of profitability in the final three years of the Medium-term Management Plan by delivering the results of the measures implemented so far based on the strategy set forth in the plan. The second is to firmly set a direction for TOYO after 2026, which is after the current Medium-term Management Plan, to make TOYO a company capable of sustainable growth.

One of the most important issues in the world today is the realization of

We will contribute to solving  
customer and social issues as  
a group of professionals in  
step with the times

Eiji Hosoi

Representative Director,  
President/Chief Executive Officer

a carbon-neutral (CN) society. For more than 200 years since the Industrial Revolution in the late 18th century, humans have been using fossil fuels such as coal, oil, and gas in pursuit of economic rationality. As a result, the problem of global warming has arisen. The sense of urgency varies from country to country, but if you look at it broadly, the global goal is to halve greenhouse gas (GHG) emissions by around 2030, and then by 2050 to achieve net zero by offsetting GHG emissions with absorption. Solutions to achieve this include promoting significant energy conservation, the use of renewable energy sources such as solar and wind power, the use of hydrogen as an energy source, and a shift to a circular economy through the recycling of waste plastics. However, it takes time to develop technology, build infrastructure and supply chains to enable the use of new fuels, and reduce costs, all of which are extremely difficult and challenging tasks.

Under such circumstances, the role of TOYO, an engineering company, is to evolve from a traditional plant builder, which constructs plants according to customer specifications and requirements, into a value chain organizer that brings together various companies to establish supply chains for production, transportation and use and to create new markets. TOYO has accumulated a wide range of technical knowledge and regional know-how through the construction of numerous plants around the world, and by exercising judgment cultivated through this experience, we have developed the comprehensive capability to identify promising technologies and then implement them practically by adding TOYO's technology, experience, and know-how to them. By sincerely meeting the customer's expectations,



Profile

Eiji Hosoi joined the Company in April 1982. As a Project Manager, he worked in Saudi Arabia, Thailand, Indonesia, and India and completed numerous plant construction projects. Starting in 2015, he served as President of the Indonesian subsidiary (IKPT) for three years, which he grew into a company capable of constructing a wide range of plants, including oil and gas, chemical, fertilizer, power generation, and infrastructure. In 2019, he was appointed Unit Director of the Plant Business Unit, where he developed new business fields, such as a carbon neutral team, to supplement the existing ones. In June 2023, he was appointed Representative Director, President/Chief Executive Officer.

building a relationship of trust, and starting discussions together from the early stages of the project, we are able to incorporate various cost reduction ideas and realize co-creation of technology. Furthermore, I believe that it is precisely because of our past track record and relationships of trust that our existing customers and partner companies are approaching us for new initiatives in the CN field. We will continue to aim to become a value chain organizer that creates a framework for a win-win relationship for all parties involved in order to realize solutions to social issues.

Path to stabilizing management and improving profitability

In the past, TOYO has experienced major losses on a number of occasions. I think the biggest reason for this was our acceptance of unreasonable orders. When market conditions were poor, or when business expansion was the goal, we accepted orders that had strict contract conditions, an unreasonable project execution structure, or optimistic expectations that led us to underestimate the risks. As a result, during the project execution stage, strains began to appear, leading to a negative spiral and a major loss. In order not to repeat such mistakes, we improved the project review process at the proposal stage and built a system that reliably utilizes feedback from past lessons learned. We are also strengthening management by utilizing the latest DX in project execution. As a result, we have become a company with a stable financial base and steady profits. The backlog of contracts is steadily increasing, and we are proceeding proposal activities for future projects while carefully monitoring market conditions and risks. We will continue to increase the profitability of existing business fields and develop the profitability of new business fields.

The new business fields we are focusing on include new energy-related businesses such as ammonia and hydrogen; the e-fuel (synthetic fuel utilizing CO<sub>2</sub>) and SAF\*1 business; specialty chemicals necessary for automobiles, semiconductors, ICT, healthcare, and life care products; and the domestic advanced pharmaceutical and fine chemical fields. In terms of existing business areas, we will also focus on the FPSO\*2 field, in which we entered into an alliance last year. We will also aim to expand sales of our proprietary urea, methanol, and energy-saving technologies (*SUPERHIDIC*\*3 and HERO\*4). TOYO’s strength lies in the fact that its group companies around the world are highly capable and autonomously managed with strong local roots, and each has its own product field. These include oil and LNG regasification facilities and petrochemicals in India, foreign customer projects in China, geothermal power generation in Indonesia, and oil and gas and power generation in Brazil. Out of these focus areas, alliances, and group company operations, we intend to forge at least three business pillars as the backbone of the company’s stability over the next three years of the Medium-term Management Plan.

\*1 Sustainable Aviation Fuel  
\*2 Floating Production Storage and Offloading System  
\*3 Delivers energy savings of more than 50% in various industrial applications in the petrochemical and oil refinery industries by applying existing distillation technology without the use of special equipment.  
\*4 Service that contributes to profit improvements for customers through the provision of solutions that conserve energy consumption and reduce GHG emissions across all processing and utility systems.

A group of professionals in an organization that continues to learn

When I became President, I sent out a message to our employees: “Let’s become an organization that continues to learn and a group of professionals that our customers can rely on.” The world is moving toward CN at tremendous speed, and new technologies, products, alliances, and business models are being created one after another. We cannot contribute to society and grow as a company unless we acquire new knowledge and technologies and proactively propose compelling solutions to our customers. Over the years, TOYO has built a wide variety of plants for local communities around the world. This is exactly TOYO’s mission: Engineering for Sustainable Growth of the Global Community. To help today’s young employees realize the appeal of such challenging and responsible work, we must actively provide opportunities for such experiences. We will learn many things from our seniors, colleagues, juniors, and customers, fostering the joy of learning, the joy of growth, and an exciting culture, and raising the level of the entire company. I consider a professional to be someone who loves his or her work, is willing to put in the effort, and is able to lead people to their final destination with enthusiasm and never give up, no matter what the situation. We will therefore establish a new committee to consider and implement various measures related to human resources so that TOYO can become a group of true professionals. With our slogan “**Your Success, Our Pride.**” in our hearts, we will strive to be a company that satisfies its customers.

To our stakeholders

We have now passed the two-year mark on the Medium-term Management Plan, and we have been implementing a wide range of initiatives and preparations for new projects, but I am aware of the criticisms of our stakeholders that we are not moving fast enough and that we are not yet demonstrating results in the form of business performance. We have set KGIs of an average net profit of ¥5 billion or higher in the final three years of the Medium-term Management Plan and resumption of dividends during the plan period, and as the person responsible for achieving this KGI, I will do everything possible to achieve it. We will avoid repeating the mistakes of the past, stabilize management, increase profitability, and achieve sustainable increases in corporate value. I sincerely appreciate the continued support of our stakeholders.

  
Eiji Hosoi  
Representative Director,  
President/Chief Executive Officer

The Chronicle of TOYO



the1960s

Expanding Overseas and Establishing a Technical Foundation

- Received an order for a fertilizer plant in India as our first overseas project since we were founded in 1961.
- Cooperated with licensors to establish a technological foundation.

the1970s to the1980s

Enhancing Our Technical Capabilities and Expanding Our Business

- Learned about various cutting-edge technologies to enhance our technical capabilities.
- Expanded our overseas group companies to build a foundation for our global operation.

the1990s

Diversifying Our Portfolio

- Diversified our portfolio to include pharmaceuticals and power plant fields due to more intense competition.
- Expanded our information technology to encompass our plant enhancement business and the industrial system field.



the2000s

Establishing a Global TOYO Structure

- Promoted the utilization of overseas group companies and established all group companies as autonomous profit centers.
- Specified the Group's MVV and unified the logo to enhance solidarity.

the2010s

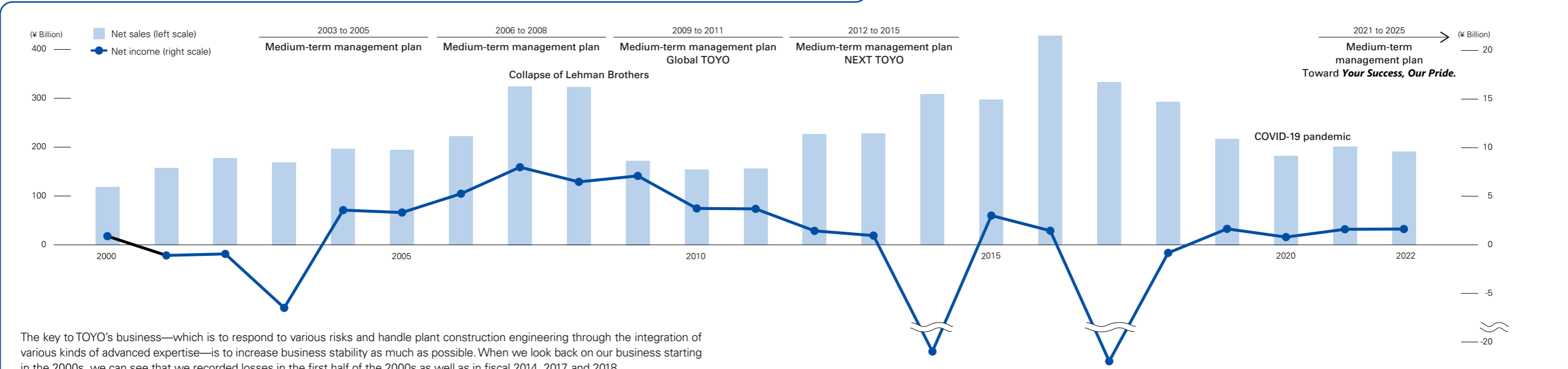
Switching from Our Expansion Course

- Enhanced risk management and CHANGE!
- Promoted management reforms and changes to our corporate culture.

the2020s

Sustainable Technology and Business Development and Advanced EPC Operation

- Taking on the challenge of contributing to the achievement of a carbon-neutral society.
- Promoting DX to increase productivity by six times.



The key to TOYO's business—which is to respond to various risks and handle plant construction engineering through the integration of various kinds of advanced expertise—is to increase business stability as much as possible. When we look back on our business starting in the 2000s, we can see that we recorded losses in the first half of the 2000s as well as in fiscal 2014, 2017, and 2018.

For us, the early 2000s were a period of management reorganization due to extraordinary losses stemming from the liquidation losses suffered by our financial subsidiary in fiscal 1997, and—although we took action that included reviewing our management systems, pursuing human capital measures, and reducing fixed costs—we ended up recording major losses in fiscal 2003 due to project losses in Saudi Arabia. After that, we were able to stably make revenue due to both the promotion of organizational/operational system reforms and improvements in the oil & gas market environment.

From fiscal 2009 to 2011, we had three basic policies under our medium-term management plan: (1) responding to changing business conditions, (2) evolving to achieve our Global TOYO vision, and (3) enhancing our human capital. Based on these policies, we strived to expand our portfolio and build a global network system with our overseas group companies.

In addition, in fiscal 2012, we strived to maximize our corporate value and expand the scale of our business through global operations, and we announced a medium-term management plan aimed at increasing our number of employees and expanding both our orders received and net sales. After that—partially due to the receipt of orders for large projects—we achieved record high annual new orders of ¥470.3 billion in fiscal 2014 and also received US ethylene and other orders in fiscal 2015. However, our backlog of contracts also suddenly piled up in a short period of time, which imposed various kinds of strain on our EPC execution system, ultimately leading to cost increases for multiple projects that necessitated the recording of significant losses in fiscal 2014.

In fiscal 2015, we implemented management structure reforms and strived to rebuild our management under our Revival Plan, which called for enhanced risk management before receiving orders, reduced SG&A expenses, enhanced project risk management, and improved communication. Although these measures successfully achieved a temporary recovery in terms of our fiscal 2015 results, we ended up once again recording losses in fiscal 2017 and 2018 due to a significant increase in the cost of US ethylene. To restore our heavily damaged financial base, we increased our capital by ¥15 billion through the third-party allocation of preferred shares in March of 2019—for which Integral Corporation was the underwriter—and we utilized the acquired funds to enhance our competitiveness, mainly in terms of DX and R&D.

As a result of more comprehensively managing risks related to projects ordered from us starting in fiscal 2015, we improved our balance of income and expenditure, and, in fiscal 2019, we completed and delivered the US ethylene plant to the client—which we were worried about—subsequently achieving profitability for the first time in four years, and we have remained profitable ever since. In fiscal 2021, we announced our medium-term management plan for the period up through fiscal 2025, and—as global efforts to achieve a carbon-neutral society accelerate—we will change our business portfolio through the expansion of new business fields while also focusing on existing business fields to promote initiatives aimed at the stabilization of our management and the achievement of sustainable growth.

Business model

In terms of plant construction, we cooperate with various partners around the world to provide high-quality EPC and non-EPC services in a wide range of business fields in line with the needs of our customers and society, ranging from the business planning stage to engineering, procurement, and construction, the maintenance and operations of completed plants, and actions necessary to achieve a low environmental impact.

EPC business

Businesses consisting of engineering services we have provided in response to customer needs ever since we were founded, covering plant planning and engineering (E) to equipment procurement (P) and construction and commissioning (C).

Engineering

Procurement

Construction

Commissioning

Non-EPC business

New businesses based on our knowledge of EPC businesses, including business planning, business investment, and intellectual property business. Non-EPC businesses also include projects with a business structure that does not involve undertaking all the engineering, procurement, and construction work (EPsCm, etc.). We also offer technical and business consulting aimed at a carbon-neutral society.

Intellectual property/  
licensing business

Business planning

Business investment and  
operations

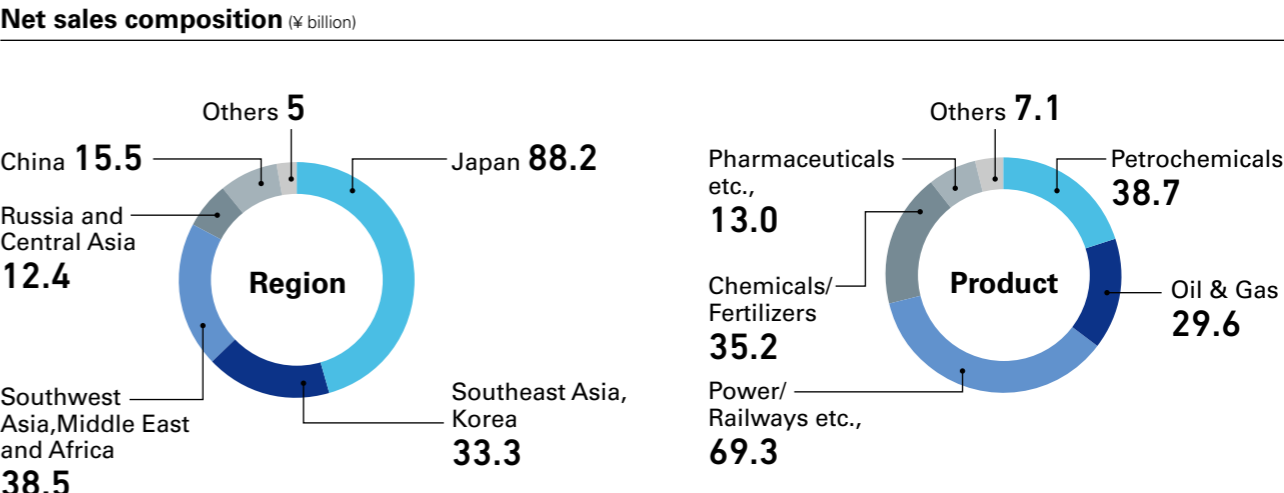
PMC<sup>\*3</sup> and owner's  
engineering

EPsCm<sup>\*4</sup>

Performance fee-based  
and subscription-type  
business

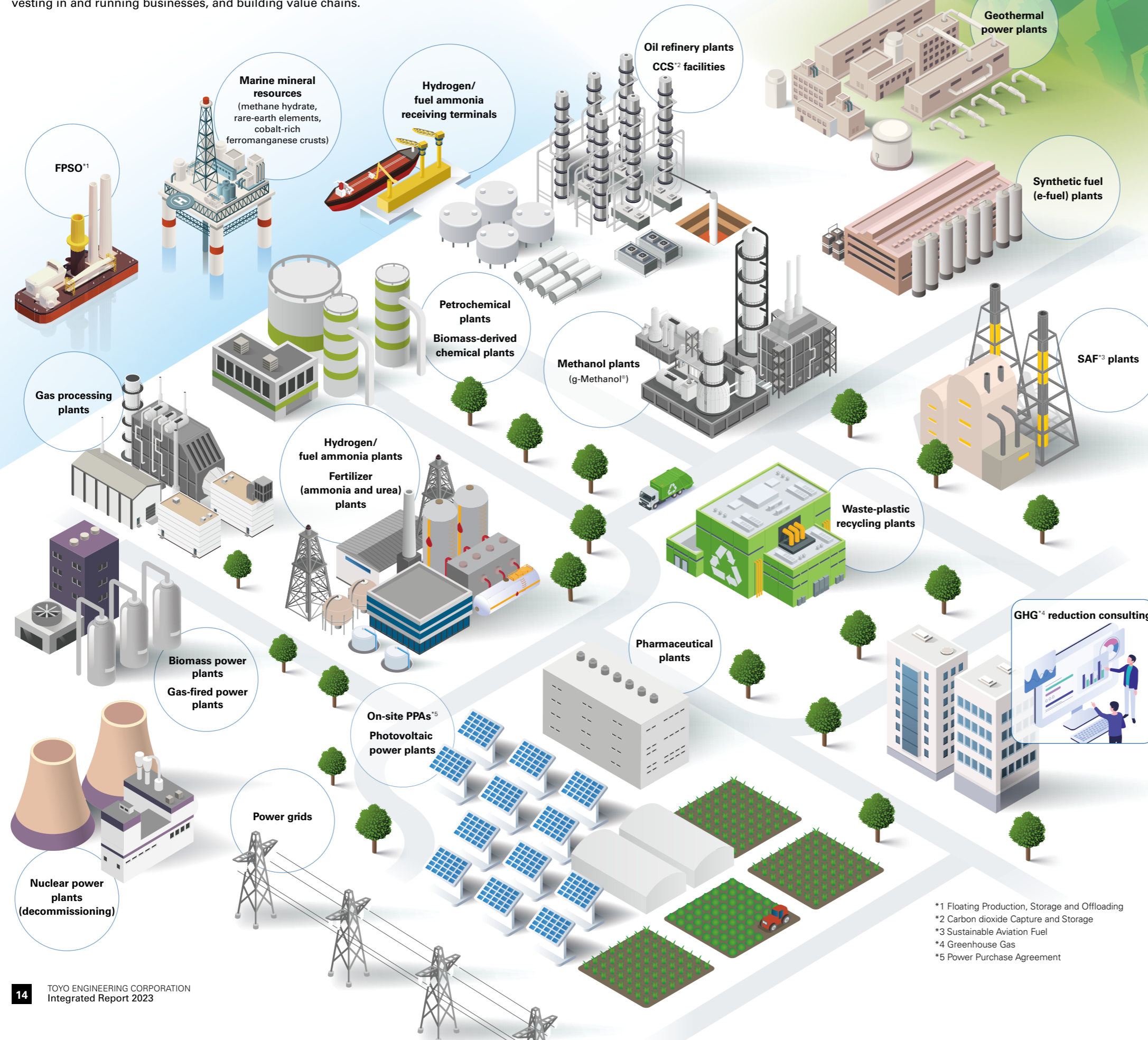
Main data

Established in	1961	Net sales	¥ 192.9 billion
Number of employees*	6,686	Net income	¥ 1.6 billion
EPC group companies	11 countries around the world	Gross profit composition (non-EPC businesses)	44 %



# Creating Social Value Through Engineering

TOYO is involved in a wide variety of plants and ultimately contributes to safer and more secured society in the form of fuel, raw materials, daily necessities, pharmaceuticals, and other things that are essential for the daily lives of people. We utilize our expertise we have cultivated over the years to contribute to the sustainability of the earth and society through efforts that include developing environmentally friendly technology, constructing plants, planning commercialization, investing in and running businesses, and building value chains.



\*1 Floating Production, Storage and Offloading  
 \*2 Carbon dioxide Capture and Storage  
 \*3 Sustainable Aviation Fuel  
 \*4 Greenhouse Gas  
 \*5 Power Purchase Agreement

## Contributing to the carbon neutrality and an affluent society



Toyo is engaged in the social implementation of environmentally friendly plants and CO<sub>2</sub> free fuels.

**Business examples**  
 GHG reduction consulting  
 Sustainable aviation fuel (SAF)  
 Fuel ammonia



Through plant construction, we pursue initiatives ranging from the production of daily necessities and other raw materials to recycling products.

**Business examples**  
 Waste-plastic recycling plants  
 Biomass-based chemical plants, and  
 Petrochemical plants



We use our urea and ammonia technology—our original business—to contribute to food production.

**Business examples**  
 Fertilizer (ammonia and urea) plants

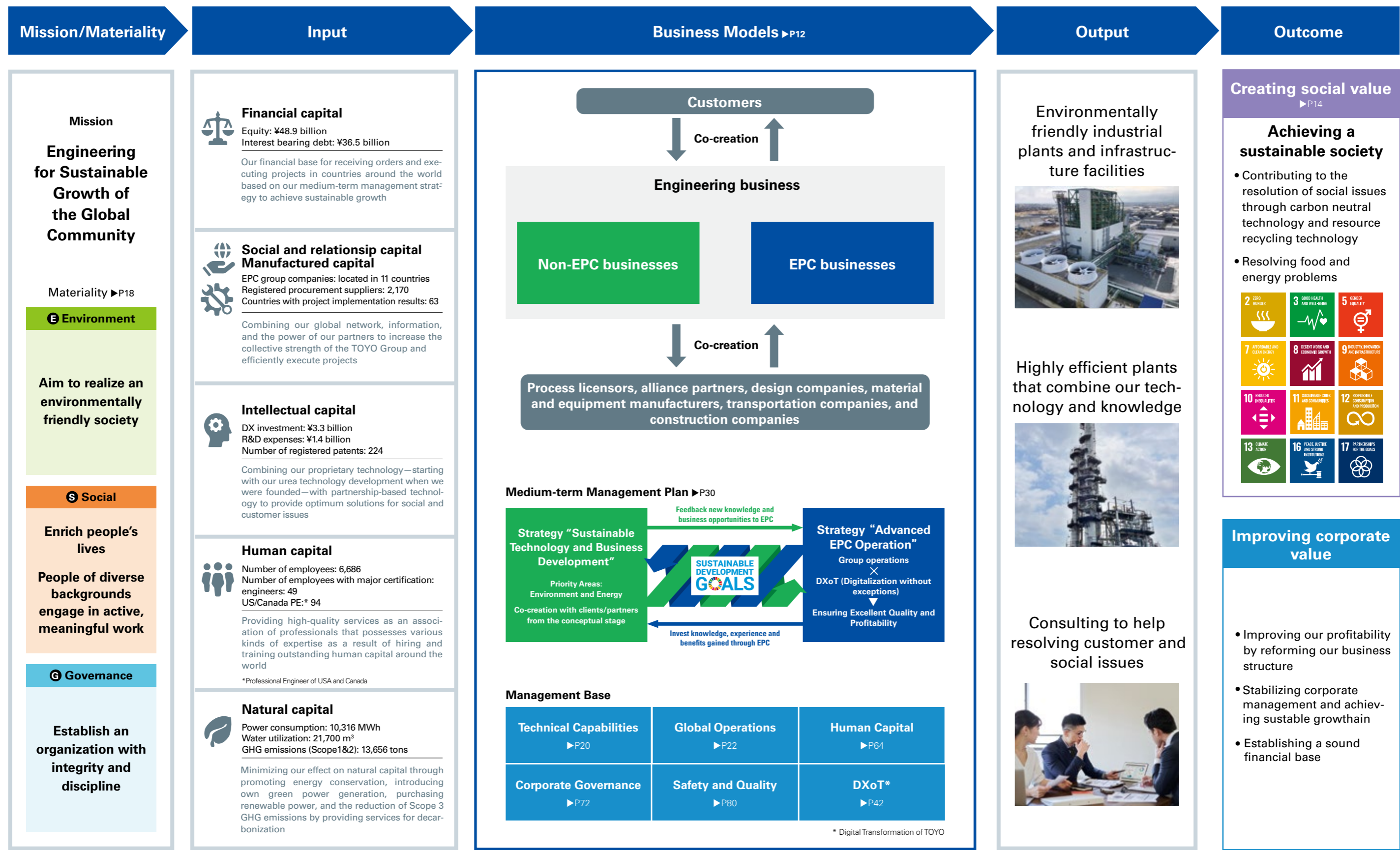


We construct various power plants, thereby supporting social infrastructure.

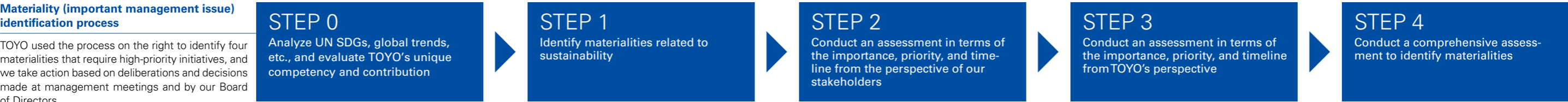
**Business examples**  
 Renewable energy power plants  
 Co-generation power plants

Value Creation Process

We will leverage the technological capabilities and expertise we have cultivated to provide optimum solutions, aiming to realize a society that enriches people’s lives and is environmentally friendly while improving TOYO’s corporate value.



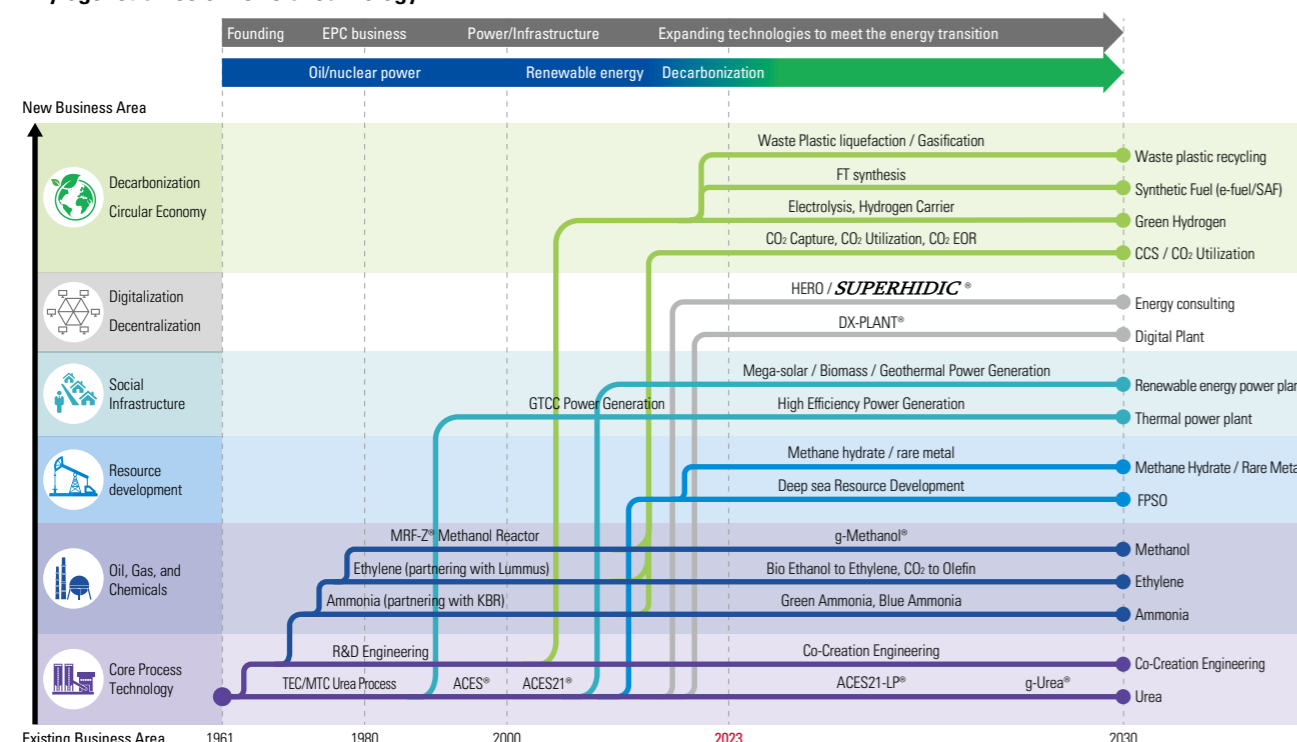
Mission and Materiality



## 1 Technical Capabilities

The source of TOYO's strengths lies in our ability to help resolving customer issues utilizing our technical capabilities. Ever since TOYO was founded, we have developed our technology—including urea, methanol, and other proprietary technology as well as ammonia, ethylene, and other technology offered in partnership with licensors—in line with the needs of our customers and the time trend, and we have designed and constructed various plants essential for people's daily life. We will continue to utilize the knowledge and experience we have cultivated until now as we refine our technical capabilities on a daily basis to not only contribute to the resolution of international customers but also to respond to technically challenging social needs related to the decarbonized society and circular economy in a timely manner.

### Phylogenetic Tree of TOYO's Technology

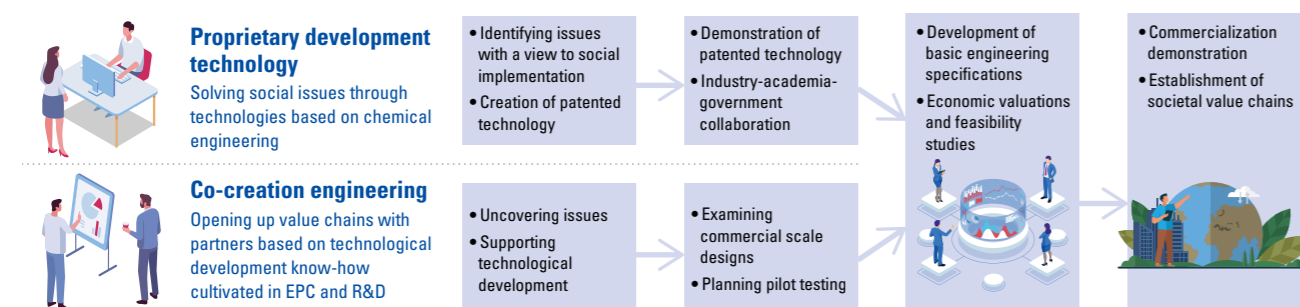


## Achieving social implementation through proprietary technology and co-creation engineering

Leading the social implementation of new technology is one of TOYO's important missions as an engineering company.

To help resolving social issues, TOYO identifies issues and sets goals with a view to social implementation based on the knowledge, experience, and know-how we have cultivated over the years and then pursues in-house technological development accordingly.

In addition, through co-creation engineering, we provide technical support services aimed at prompt achievement of commercial scale operations for new manufacturing technology at the lab or pilot scale. By providing engineering services suitable for the relevant stage of each customer covering searching for technological seeds to R&D, scaling up production equipment, and establishing societal value chains, we serve as our customer's partner, helping them to achieve the commercialization, mass production, and social implementation of new technology. At the same time, we develop our own proprietary technology to serve for the resolution of social issues.



## Intellectual property strategy: protecting intangible assets and linking them to value creation

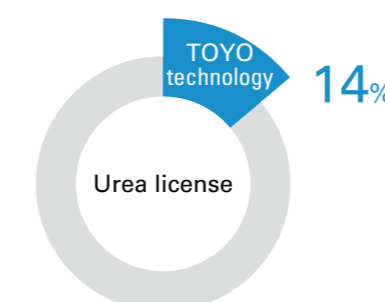
TOYO's business involves many intangible assets, including licenses, patents, and know-how. As an example, chemical plants—one of TOYO's core businesses—involve technology established over the years, but we actually constantly create new intellectual property in relation to such plants, including the actual plant construction, creative ideas for resolving various technical issues that arise during long-term continuous plant operation, and the promotion of DX in terms of design and operations. TOYO has also tried to flesh out its intellectual property by promptly establishing and implementing a reasonable, highly transparent employee invention system in response to the revised Patent Act.

Under the medium-term management plan we are currently working on, we have predicted issues in the renewable energy and plastic recycle fields, and we are considering possible solutions as we strive to realize them and expand our business. TOYO is also working on acquiring industrial property rights in the form of patents and trademarks for intellectual property created as a result of the above activities, thereby differentiating ourselves from other companies and securing our freedom to use various technologies. We also investigate the trends of our competitors, provide a third-party observation to a national patent office as necessary to stop them from obtaining a patent, and/or change our own design to avoid violating the existing patent of them. For example, in the urea field—in addition to simply obtaining patents to protect our intellectual property as proprietary technology—we change the designs of urea plants according to the patent situation in each country (even if they are of similar capacity), and we decline such business opportunities or obtain licenses from the patent holders in cases where there is a risk of violating existing patents, thereby protecting our intellectual property.



**Yukari Miyamoto**  
General Manager of Licensing and Patent Administration Department  
Legal Department, Corporate Administration Division

## TOYO is a leading licensor of urea, with a 14% global share



EPC share since 2001

License grant to use process-technology with intellectual property are essential for constructing and operating plants. Since our founding, at TOYO, we have developed and owned proprietary licenses such as urea technology and collaborated with other licensors for various plants over the course of more than half a century. Regarding technology for which we have proprietary licenses, we maintain constant improvements to increase the performance and reduce the environmental impacts.

## Developing our next-generation urea process ACES21-LP® to save energy and reduce costs

By improving our energy-saving urea synthesis technology ACES21®, we have developed the advanced ACES21-LP® process, which simultaneously achieves the lowest synthesis pressure and highest CO<sub>2</sub> conversion rate among all competing processes. Currently, we are conducting proposals of this new process to our customers.



Existing ACES21® urea plant

### Features

#### Achievement through low-pressure synthesis technology:

- Reduced plant construction costs (synthesis equipment steel: 5 to 10%)
- Increased energy savings and reduced operating costs (steam and electricity: 3 to 5%)

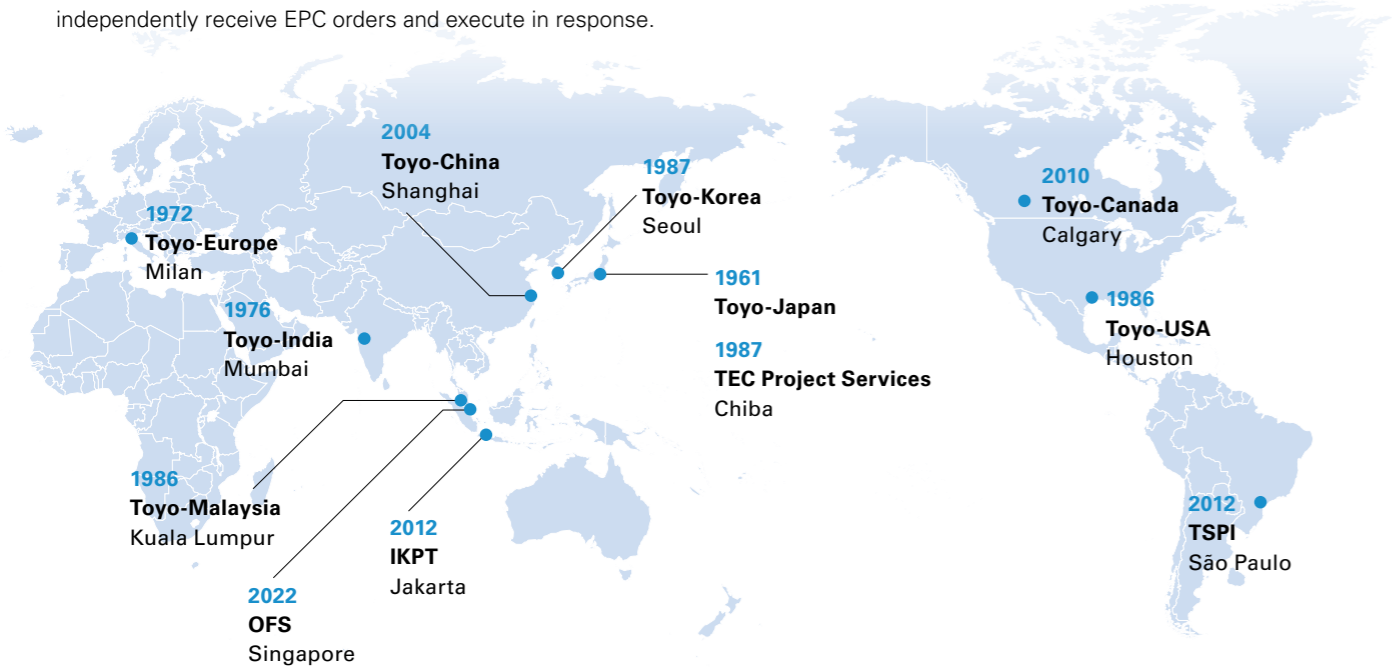
**Applicable to both new and existing plants**

2 Global Operations

One feature of TOYO's global operations is that our system enables group companies to either construct plants independently or cooperate with each other. As group companies conduct business rooted in their countries or regions, they utilize their strengths to organize formations in line with customer needs and flexibly form teams of experts to provide optimal engineering services around the world.

History of how we have strengthened our global EPC execution capability

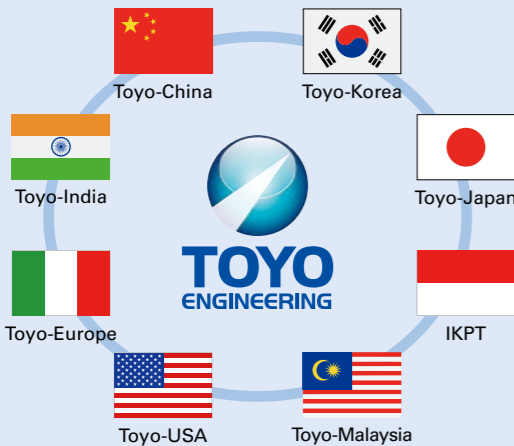
Half a century has passed since we established our first overseas group company, and we currently have EPC group companies in eleven countries around the world. Since the 1990s, we have developed the TOYO standard, which underpins our high quality, and our group companies have accumulated experience by executing projects in compliance with this standard. One of TOYO's strengths is the fact that we have group companies in various countries, each of which serves as a profit center with its ability to independently receive EPC orders and execute in response.



Close Up!

Example of a project involving cooperation of multiple group companies

Our ethylene complex project in Malaysia was large-scale and complicated that was conducted with a truly "All TOYO" team, including the handling of the engineering by Toyo-Japan, Toyo-India, IKPT, and Toyo-Malaysia as well as efforts by Toyo-Europe, Toyo-Korea, Toyo-China, Toyo-USA, and other companies to cooperate with suppliers in each region for the organized procurement of equipment and materials.



3 Professional Human Capital

TOYO's employees include engineers, project managers, and experts in a wide range of fields. Because there are professionals with a wealth of both knowledge and experience at not only our Head Office but also our group companies, we can effectively conduct business around the world. We will continue striving to acquire new knowledge and technologies as we actively propose comprehensive solutions to our customers.

Professional human capital that plays an active role at TOYO

Process development that takes advantage of corporate technology and knowledge as well as personal experience

I am currently in charge of technology development that includes urea-process energy saving, scaling up, and engineering cost reduction. I utilize the experience I have accumulated in relation to process engineering, operational support, technology consulting, etc. for various plants. TOYO also owns experts on various technologies. In particular, in the urea plant area, which we have been involved in since we were founded, the wealth of technology and knowledge we have accumulated over the years—including design, materials, analysis technology, operations, and maintenance—is the source of our competitiveness, and this enables us to develop and design plants that can be easily constructed and smoothly operated. In addition, the fact that TOYO is both a licensor and EPC contractor enables us to provide a wide range of technical services in line with customer needs.

Profile  
Mr. Yanagawa has been involved in process engineering ever since he started working for TOYO in 1990. His work has included a wide range of projects both within and outside of Japan, including a fine chemical plant, urea process ACES21 plant, and SAF pilot plant. He currently utilizes his abundant knowledge to supervise urea process development.



Takahiro Yanagawa  
Engineering and Technology Unit  
Senior Process Engineer,  
Process Engineering Division

A project manager's (PM's) mission

As a PM, I have always tried to demonstrate leadership and improve communication. The keys to ensuring that a project succeeds are drafting a detailed plan and implementing the PDCA cycle. It is essential to formulate a strategy in line with the project characteristics, form a project team consisting of the best available people, select the right subcontractors, and implement and, if necessary, revise the plan. After I built up experience as an engineer and PM at a Chinese design institute for 18 years, I started working at TOYO, where I have acted as the PM for many projects for customers in Europe, America, and Japan. I am proud to say that, as a result of completing these projects in line with their contract schedules, I earned the trust from our customers, which ultimately led to repeated orders from same clients. Going forward—as the head of my division and a project director (PD)—I hope to train many promising PMs.

Profile  
After working at a national Chinese design institute, Ms. Ni started working for Toyo-China in 2007. She is the General Manager of the Project Management Department and a PD for projects currently underway. In 2019, she was appointed Vice President of Toyo-China.



Ni Ping  
Toyo-China  
Vice President,  
Project Director, General Manager of  
Project Management Department

Contributing to international projects as an Attorney and construction disputes specialist

I specialize in contract law and dispute resolution related to international EPC projects. Up until now, I have been based in India, Germany, the USA, and Japan, and my work has included arbitration/dispute resolution and legal risk management for many large-scale international projects. I will continue using my skills to contribute to the success of TOYO's projects around the world by ensuring that problems do not arise while also striving to train the next generation of professionals.

Profile  
Ms. Dhali is licensed to practice law in both India and California (USA) while also being qualified as a fellow of the UK-based Chartered Institute of Arbitrators, where international arbitrators are trained. She started working for Toyo-Japan in 2020.



Niharika Dhali  
Legal Counsel (admitted in India and  
California, US), Legal Department,  
Corporate Administration Division

# Discussion between Analysts and President Hosoi



**Hirosuke Tai**  
Chief Analyst, Equity Research  
Department, Daiwa Securities



**Tatsuhiko Ito**  
Senior Analyst, Equity Research  
Department, Mizuho Securities



**Satoshi Taninaka**  
Analyst, Equity Research Division,  
SMBC Nikko Securities



**Eiji Hosoi**  
Representative Director, President &  
Chief Executive Officer, TOYO Engineering

## Improving TOYO’s corporate value and ensuring sustainable growth

Eiji Hosoi was appointed the new President of TOYO Engineering in the third year—the mid-point—of the current five-year medium-term management plan. Tasked with accelerating the company’s transition to a new business structure that combines its existing business fields with new business fields such as carbon neutrality, President Hosoi has launched a new management system. We invited three analysts to join President Hosoi and discuss topics such as TOYO’s role in society and its possibilities for sustainable growth.

### TOYO’s role in society

**Hosoi** TOYO is an engineering company as an association of professionals that boasts outstanding technical and management skills and our role, I believe, is to help make society richer and achieve environmental harmony. We can do this by integrating various elemental technologies and overseeing complex projects, and building various types of plants as social implementation.

**Tai** TOYO Engineering is faced with an increasing number of competitors, and this has resulted in fierce cost competition; as such, I believe TOYO and the rest of the industry must work together to give serious consideration to how to become more profitable—otherwise, things could become extremely difficult. Over the last one or two years, we have entered a period of inflation. Who is going to shoulder the burden of rising costs? Engineering work is hard. Engineering companies oversee difficult projects, and yet gross profit margins are low—and this strikes me as a strange state of affairs. At present, TOYO’s gross profit margin stands at about 10%. However, I would like to see that rise to 20%.

**Hosoi** While we want to raise our profit margins, we must do so within limits that our customers find acceptable. We

include risk management fees in our order prices. When negotiating with our customers, we can agree on our approach to risk; and, I think, by adjusting our risk management fees accordingly, we can secure appropriate profits that are in line with the added value we provide. Our customers understand that prices for materials and equipment are rising around the world. In our industry, it frequently happens that new engineering firms emerge from developing nations, submit low offer prices, and create extreme cost competition; we must be patient in such situations, and keep our peace. As you point out, engineering work delivers high added value, and we must work out a way to ensure we are properly compensated.

**Ito** The engineering industry has a problem in that there is a lag between what companies wish to do and how they are assessed by the market. If you receive an order, then your share price rises in the near-term; but carbon neutral initiatives require a longer-term perspective. TOYO is currently engaged in carbon neutral initiatives, but this has yet to result in large orders—there is a gap, here, I think, that needs to be bridged. When it comes to carbon neutrality, the key is transitioning to low-energy density plants—but seen from a society-wide standpoint, this is an inefficient way of doing things.

Nevertheless, for engineering companies I believe carbon neutrality represents a new business opportunity.

**Taninaka** In contrast to other companies in the engineering industry who excel in the fields of oil & gas, one of TOYO’s strengths is fertilizer plants, because its origin is Mitsui Chemicals. The global population is increasing—in developing nations, in particular—and so there is meaning in building plants that improve agricultural productivity. And the fact that this will result in future business opportunities is very much a positive. On the other hand, rather than TOYO’s importance to society and other intangible attractions, the stock market prioritizes concrete results, such as order values, profit, and other performances, and the potential for sustainable growth. As such, there is an extremely large gap between the share price that TOYO anticipates and its actual share price. While it will be difficult to close this gap immediately, if you can create a business model that goes beyond engineering, procurement, and construction (EPC), then I believe the stock market will be less inclined to fixate solely on your stock price and profits.

**Hosoi** Previously, we submitted estimates based on ITB\*1. We would come up against numerous rivals, and so a large part of our job was to overcome these rivals in price competition. In our new business fields, however, instead of playing a waiting game, we are actively seeking to structure projects ourselves. An example of this is our green ammonia project in Indonesia. Our customer is a state-operated fertilizer company that owns five fertilizer plants; realizing they had excess production capacity, we proposed that they use this excess capacity to make green ammonia. Our relationship with the customer goes back 40 years or so, and the plants in question are ammonia and urea plants built by TOYO—and so this was a proposal only we could make. Since this is a new market, we are actively helping to build the value chain as a whole. While previously we only undertook EPC for manufacturing plants, now we are looking to jointly invest in special purpose companies that operate within the value chain, in the areas of production, transportation, receiving, and use. In order to create new distribution channels, we are in direct talks with primary distributors, transportation companies, and consumers—and such opportunities arise during the process of project structuring.

### Initiatives in new business fields

**Taninaka** Previously, you waited for ITBs to receive orders, but now you are working to structure projects yourselves. I believe that this requires a different type of human capital—how do you intend to respond?

**Hosoi** Internally, we have reassigned suitable personnel to the Carbon Neutral Business Division. We are also in the process of hiring mid-career recruits who have knowledge of and expertise in the relevant products and technologies, as well as recruits who have experience in project development. We face various issues in our projects in new business fields, including scaling up and streamlining mass production through technological development and engineering improvements, and



**Hirosuke Tai**  
Chief Analyst, Equity Research  
Department, Daiwa Securities

Hirosuke Tai joined Daiwa Institute of Research in 1995. After researching OTC stocks, tires and automotive sales sector, since 2000 he has been assigned to the machinery and ship-building plant sector.

**The key is striking a balance between what you want to do, what you ought to do, and what you can do.**

ensuring profitability through cost reductions. However, if we can solve these issues and gain experience in achieving social implementation, we anticipate that our employees will grow significantly.

**Ito** One of the difficulties of carbon neutrality is considering projects in a wholistic manner—choosing between hydrogen and ammonia, for example, or accounting for the costs of transportation when deciding where to locate production—and proposing optimal solutions. However, I believe this is a field in which TOYO can excel.

**Hosoi** Yes, there are a number of new fuels, including hydrogen, ammonia, and methanol. TOYO has an abundance of expertise when it comes to ammonia—having built at least 80 ammonia plants around the world—while we also possess methanol production technologies. Methanol can be made from hydrogen and carbon dioxide, and is expected to have wide-ranging uses both as raw materials in chemical products and as a clean synthetic fuel. At TOYO, we possess technologies, but we are also able to identify which new technologies we need. Since our founding, we have carried out numerous overseas projects, and acquired knowledge of various countries around the world. As such, carbon neutrality is very much a field in which we can excel.

**Ito** Discussions regarding sustainable aviation fuel (SAF) have gathered momentum over the last two or three years, but, unfortunately, I feel that Japan has fallen behind the rest of the world in this field. Overseas companies are already building commercial plants—whereas Japanese companies possess the technologies, but are disadvantaged by lacking speed.

**Hosoi** In the field of SAF, Japanese companies are striving to accelerate their initiatives. In terms of timelines, we intend to finalize our basic designs during this fiscal year, then begin working on EPC orders in fiscal 2024. We hope to start on projects as soon as possible, using methods we have already worked on that take woody biomass and CO<sub>2</sub> as raw materials; we also plan to consider the use of other raw materials such as waste cooking oil and bioethanol.

**Tai** In anything, the key is to strike a balance between what you want to do, what you ought to do, and what you can do. Sometimes it is not clear whether you ought to do something or not—in such cases, not doing it might be the best course



**Tatsuhiko Ito**  
Senior Analyst, Equity Research  
Department, Mizuho Securities

Tatsuhiko Ito joined Mizuho Bank in 2013. After working at the Mizuho Securities Equity Research Department's Auto Parts team, in 2021 he was assigned to oversee the Shipbuilding and Plant team. From 2022, he is also responsible for ESG.

**I have high hopes that TOYO will take advantage of new business opportunities, and create a new business model that combines its existing EPC business with new business fields**

of action. When market conditions are poor, I am concerned you will be forced to take on projects with low profit margins. Of course, you cannot avoid undertaking orders with low profit margins altogether; nevertheless, it is important to draw your limits, and to act with discernment. When Integral invested in TOYO, I hear that it mapped out in which fields your company's strengths lay. It is widely accepted that TOYO will profit from its operations in former Communist bloc countries, and from its technology licenses; however, Integral identified strengths in other areas, too. It is critical that TOYO identifies in which areas it can be profitable; for this reason, you must not change "what you ought to do" based on industry fads and trends. TOYO possesses technology licenses, and this puts you in a unique position as an engineering company. I believe you can take advantage of this situation to develop new forms of competitiveness.

**Hosoi** There was a time when TOYO's governance was insufficient when it came to evaluating orders. However, after our equity capital halved, we changed—and we now carry out careful controls. With regard to our licenses, we have developed low-pressure synthesis technologies for the urea production process that reduce energy consumption and cut both operating and construction costs. We therefore intend to make proposals to our customers that draw on these technologies. I would also like to note that our current carbon neutral projects combine "what we want to do" and "what we ought to do."

**Tai** The field of carbon neutrality is fraught with difficulties—it is expensive, labor-intensive, and comes with new and significant risks. In fact, it is not easy to assess whether carbon neutrality can be truly profitable.

**Hosoi** As you point out, compared to fossil fuels, costs in the field of carbon neutrality are high. As such, there will no doubt be cases a final investment decision is not made. Yet it is also a fact that governments around the world are offering carbon neutral subsidies. We are focusing on projects for Japanese and overseas customers with whom we already enjoy strong relationships, and we intend to improve profitability by offering our customers high added value. Finally, as to whether this is "what we can do," I think the key is resource

management—specifically, ensuring we secure talented human capital, and accepting an appropriate volume of orders in relation to our talent pool. On that note, we successfully concluded our organizational reforms this year, and we are now in a position to re-assign human resources to their optimal positions at the earliest opportunity.

**Assessing TOYO's medium-term management plan**

**Hosoi** For our current medium-term management plan, one of our key goal indicators is achieving an average net profit of 5 billion yen per year from fiscal 2023 to 2025. We have forecast net income of 3 billion yen for fiscal 2023, which is the first of the three years from which the average will be calculated; going forward, we intend to secure orders, advance our digital transformation (DX), cut unnecessary costs, realize shorter construction period, improve productivity, and thereby grow our profits.

**Ito** This is your opportunity to step into a new field of carbon neutrality—and I am interested to see how you grow your new business. For example, you might insist on cost reimbursement contracts<sup>\*2</sup>, or you might agree an EPC+ deal that includes O & M<sup>\*3</sup> services to provide support in operating plants. Looking around the world, there are engineering companies who have discontinued their EPC businesses, and who now specialize in providing services or licenses.

**Hosoi** In addition to carbon neutrality, TOYO is engaged in mineral resource projects such as methane hydrate, rare earths, and cobalt-rich ferromanganese crust, and these are generating steady profits. We intend to gradually increase the number of reliably profitable new fields we engage in. One of the central goals of our current medium-term management plan is to increase the ratio of our non-EPC businesses—this includes issuing licenses, offering consulting services for GHG-reduction, and providing customer support services. We are working steadily toward achieving this goal. However, completely withdrawing from EPC and focusing solely on non-EPC businesses such as project management consultancy (PMC) and front-end engineering and design (FEED) will entail ceasing construction work—our technological skills will suffer and this, in turn, will impact negatively on the quality of our FEED. In Europe and America, there are engineering companies that have chosen to specialize in FEED and, as a consequence, their technical level is said to have fallen. For these reasons, we believe that achieving the right balance between EPC and non-EPC work is crucial to maintaining and improving our capabilities.

**Ito** I am also interested in how you leverage your overseas group companies. Other companies in the industry have commented on the outstanding engineering skills of TOYO's group companies in India and other countries. Since the Indian population is growing, utilizing your Indian group company effectively will be important for your existing businesses.

**Hosoi** The prospects for the Indian market are extremely promising. India is home to the largest overseas group

company in the TOYO Group, with a history dating back almost 50 years. We intend to utilize our assets in the country to further demonstrate our unique strengths. TOYO-India is already the focal point of the engineering stages of our global projects; it is therefore a key source of TOYO's competitiveness. Indeed, TOYO's overseas group companies in India and elsewhere have the capacity to independently execute projects worth tens of billions of yen, and they are delivering world-class quality across the globe.

**Taninaka** SAF, fuel ammonia, and other carbon neutral projects are the pillars of your medium-term management plan. I am attracted by the idea that you have completely changed your future growth narrative. However, it is your income statements—and the information on gross profit margins, on selling, general, and administrative expenses, and on effective tax rates they contain—that third parties will judge you on. Until your new businesses become genuinely profitable, you will be judged on the state of the existing businesses that comprise your earnings base. However, it feels as if your results are becoming less predictable; I would like you to expand the scope and quality of your briefings, and discuss whether you are seeing the results of your DX investments, and whether you can improve your gross profit margins.

**Hosoi** With regard to DX, we have begun applying advanced work packaging (AWP)<sup>\*4</sup> for our Indian projects. We will be sure to provide more easy-to-understand briefings, by providing information of greater scope and quality on as many topics as possible, including the improvements elicited by our DX investments.

**Tai** No engineering companies outline goals for gross profit margins in their medium-term management plans. In your medium-term management plan, I would like you to set out your forecasts for gross profit, and indicate the gross profit margins you need to achieve your target income for the year. TOYO has set the ratio of non-EPC contributions to its gross profit margin as a KPI. However, I feel it would be easier to understand if you defined your gross profit margin and gross profit goals.

**Hosoi** Increasing our gross profit margin is key to achieving our medium-term management plan goals. However, going forward we will discuss as an issue how we communicate our medium-term management plan goals to external parties.

**Hopes and expectations for President Hosoi and for TOYO's future**

**Ito** Over the last year or two, your business results have become more consistent. Under the system introduced by new President Hosoi, I would like you to show the markets that your revenues are growing, and that you are working on forward-looking projects. I hear that Eiji Hosoi was appointed the new President partly due both to his leadership and to his abundant experience in overseas projects. Experience in overseas projects will be critical to TOYO's future growth—and to the growth of its existing businesses in particular. To this end, I would like President Hosoi to draw on his knowledge. I have high hopes for TOYO's future growth.

**Tai** I believe that Integral's increased investment in 2019



**Satoshi Taninaka**  
Analyst, Equity Research Division, SMBC Nikko Securities

Satoshi Taninaka joined SMBC Nikko Securities in 2015. He was initially engaged in retail service, before starting researching the machinery and shipbuilding plant sector in 2019.

**I would like TOYO to translate the growth potential of its initiatives in the field of carbon neutrality into concrete business results**

marked a significant turning point for TOYO. Even now, TOYO's capital structure remains unchanged, and Integral officers are active at TOYO as outside directors or at a Unit level. Now that a new President has been appointed, TOYO will be expected to reap the rewards of Integral's increased investment, and I encourage you to show how TOYO has changed.

**Taninaka** The growth potential of your initiatives in the field of carbon neutrality—something you set out in your current medium-term management plan starting in fiscal 2021—is compelling, but I would like you to translate this potential into concrete business results. TOYO has invested in DX, new technologies, and new business development, but all I have seen are claims that results will likely improve in the future. TOYO's share price indicates that the market is not fully convinced by its initiatives thus far—for this reason, I would like you to show clearly how these investments have helped change the company, and how they are contributing to improved gross and net profits.

**Hosoi** I would like to thank you all for participating in this discussion today. I plan to draw on my abundant experience in overseas projects, to actively engage in discussions with our customers all over the world, to visit our worksites in person, and to lead TOYO's further growth. We have used the increased investment from Integral to invest in DX, new technologies, and new fields. We are increasing the number of projects in which DX is applicable; in new business fields, we have progressed from feasibility studies to the engineering stage and beyond, and I recognize that we are now in a position to generate concrete results in the form of revenues. TOYO's mission is to fulfil the expectations of all its stakeholders. I intend to build an organization that is capable of continued learning; of grasping global trends and increasing its technological capabilities; of swiftly engaging in new business initiatives; of providing services with high added value; of solving social issues; and of realizing sustainable growth.

<sup>\*1</sup> Invitation to Bid  
<sup>\*2</sup> A "cost reimbursement contract"—also known as a "cost-plus fee contract"—is a contract in which the contractor executes and manages the project on behalf of the owner, with the owner taking responsibility for the project, including costs.  
<sup>\*3</sup> Operation & Maintenance  
<sup>\*4</sup> "Advanced work packaging" is a process driven by construction planning and method for digitalized project execution managing work packages throughout project.

# Message from the CFO

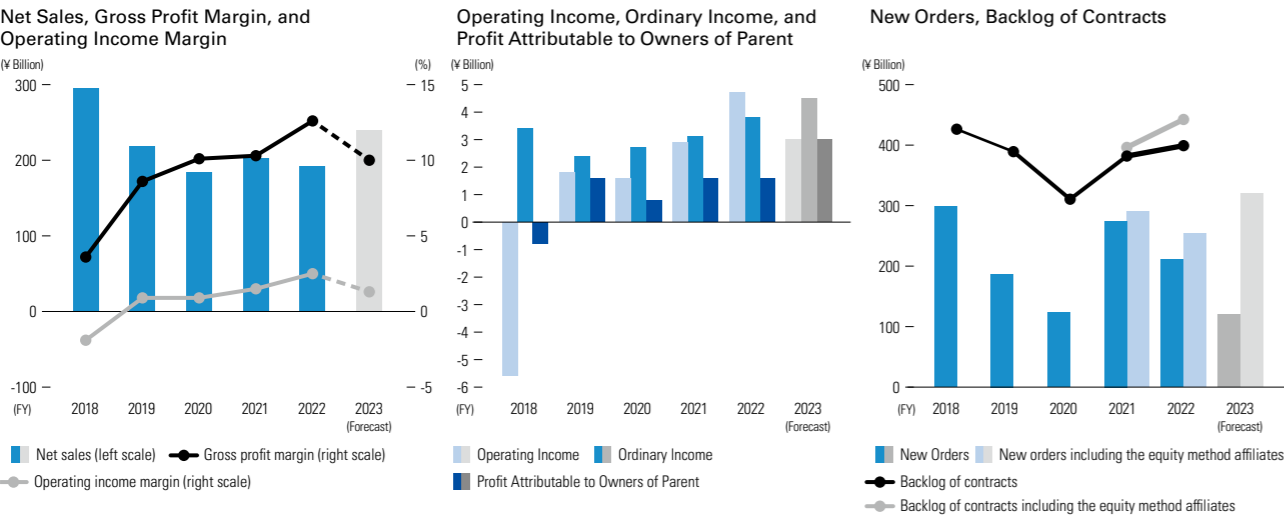
**By receiving orders for good projects and implementing comprehensive risk management, we will improve our profitability, accumulate shareholders' equity, and pave the way to the resumption of our dividend payments.**

**Kensuke Waki**  
Director, Senior Executive Officer  
Chief Financial Officer (CFO)

## Fiscal 2022 Result Review

In fiscal 2022, we recorded net sales of ¥192.9 billion, operating income of ¥4.7 billion, and net income of ¥1.6 billion. Our business was therefore profitable for the fourth year in a row, and we maintained a gross profit margin of over 10%, due in part to the strong profitability of our overseas group companies. We also recorded new orders of ¥254.2 billion, including equity method affiliates, and—although the market conditions in the petrochemical field have not yet recovered

completely—we have more or less escaped the slump in order receipt due to decreased global plant investment demand resulting from former COVID-19 and other factors. However, the current international market conditions of the conventional petrochemical field remain poor, and—due in part to up-front investment costs related to new business and DXoT—our net income seems to be still not at a sufficient level.



## Fiscal 2023 Outlook

Due to trends that include increasing energy demand and increasing fertilizer demand due to the increasing population, a certain amount of new investment is expected in existing business fields. In terms of new business fields, the accelerated social implementation of carbon neutrality (CN) fields that include fuel ammonia and SAF is expected, and we believe that we will sow the seeds for this in fiscal 2023. Due to the recovery of our order volume in fiscal 2021 and 2022, we expect active progress related to our projects—including FPSO projects being pursued by our equity method affiliates—and

we therefore predict a year-on-year increase in our net sales and income, including net sales of ¥240 billion, operating income of ¥3 billion, ordinary income of ¥4.5 billion, and net income of ¥3 billion. Our target order amount is ¥320 billion, and over ¥200 billion of this has been covered by two FPSO projects that have already been started by equity method affiliates. On a consolidated basis, the Group is securing FS and FEED projects that will lead to future EPC business in new business fields in particular, and we are also aiming to selectively receive orders for good medium-scale EPC projects.

## Financial Measures for the Second Half of Our Medium-Term Management Plan

### (1) Dividend payment resumption policy

In fiscal 2022, we failed to pay out dividends for the sixth

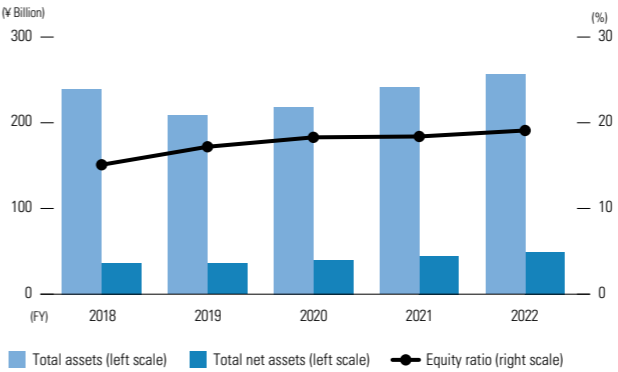
year in a row, for which we would like to humbly apologize to all our shareholders. One cause of this is that—due to past

construction losses—the retained earnings included in our non-consolidated net assets did not reach the amount required for dividends under the Companies Act. To resume our dividend payments as soon as possible, we will start by increasing our non-consolidated order volume and implement more comprehensive risk management after orders are received to expand our non-consolidated profitability. We will also consider reviewing our asset holdings and surplus dividends from subsidiaries, maintain our awareness of the resumption of dividend payments as a top-priority management issue, and do everything in our power to resume our dividend payments as soon as possible by the end of the current medium-term management plan period, which is fiscal 2025.

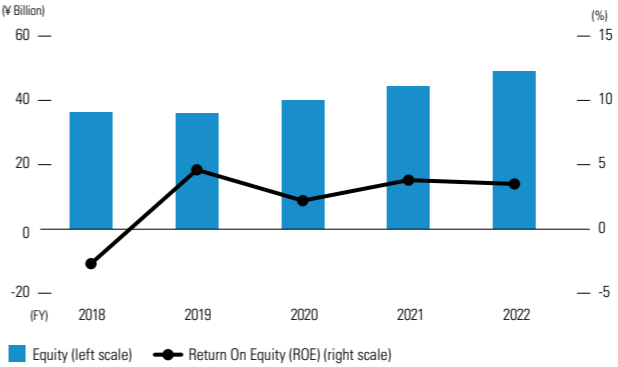
### (2) Accumulation of shareholders' equity

As we aim to resume dividend payments as soon as possible, we also realize that striving to accumulate shareholders' equity is an important issue in terms of our finances. At our peak in fiscal 2013, TOYO recorded consolidated net assets of ¥74.8 billion and an equity ratio of 28.5%, but this fell to ¥25.2 billion by the end of fiscal 2017. After that, we increased our capital stock by issuing class A preferred shares, and, at the end of fiscal 2022, we recorded net assets of ¥49.3 billion and an equity ratio of 19.1%. In addition, although our current policy is to expand our non-EPC businesses by changing the structure of our CN-related businesses, the DNA that makes up the core of TOYO's business is still EPC, and the building of large-scale industrial systems by combining various elemental technologies will remain one of the pillars of our business. Given the large business scale of each of our projects as well as production technology risks, geopolitical risks, and period-length related risks—to ensure our financial

### Total Assets, Total net Assets, and Equity Ratio



### Equity, Return On Equity (ROE)

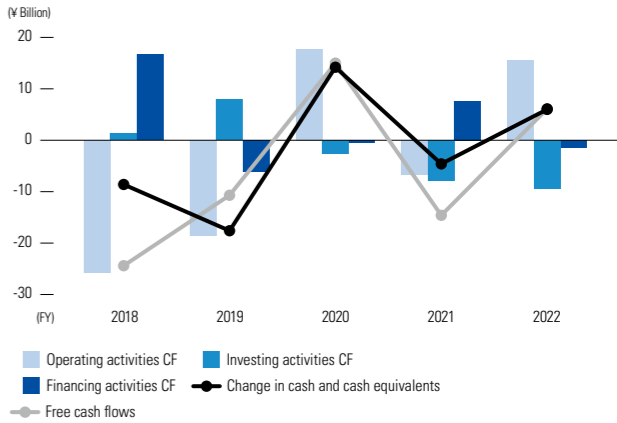


stability—we have set the following targets for the time being: an equity ratio of at least 25% and amount of around ¥75 billion.

### (3) Cash management

At the end of fiscal 2022, our consolidated cash and deposits amounted to ¥108.5 billion, which is a fairly high level given the current scale of our business. In general, this is a result of not accepting orders for negative-cash-flow projects. Starting in fiscal 2023, we expect our balance to decrease due to the progress of our projects. At the same time—as a result of training up until now—some of our EPC subsidiaries have expanded their revenue ratio and accumulated retained earnings, so we will account for the credit conditions offered by local financial institutions and keep our desire to promptly resume dividend payments in mind as we consider implementing a certain amount of non-consolidated returns.

### Cash Flows



### (4) Aiming to achieve an ROE of 10% or more

Given our capital cost level, it is necessary for us to achieve an ROE (return on equity) of 7 to 8%, but our ROE is still too low, with a recorded ROE of 3.5% at the end of fiscal 2022 and a predicted ROE of 6.0% for this fiscal year. In addition, our current PBR (price-to-book ratio) is less than 0.5, which is far below the TSE's requirement of at least 1.0 and must be given extremely serious consideration. In terms of our predicted revenue for this fiscal year, if we consider our PER (price earnings ratio) based on our EPS (earnings per share) and actual stock price, it seems like the low level of our ROE is the main cause of our sluggish PBR, so—rather than our capital efficiency—it seems especially important to improve our ROE, which means stably increasing our profitability. To stably improve our profitability going forward, we must consider our resource allocation as we secure suitable gross profit from orders and implement comprehensive risk management to eliminate project revenue volatility. In addition, I hope that we can make steady progress towards achieving the monetization of both our existing business and new business fields related to CN as we incorporate growth factors to attain our fiscal 2025 ROE target of at least 10%. I also believe that, to achieve a PBR of at least 1.0, it is extremely important to promote dialogues with shareholders and the market regarding the above corporate activities. I look forward to the ongoing understanding and support of all our stakeholders.

Outline of Medium-term Management Plan (FY2021–FY2025)



The current medium-term management plan—which aims to contribute to a better, more sustainable world—began in fiscal 2021, and concluded its second year at the end of fiscal 2022.

Key progress and results over the past two years

1. Promotion of carbon neutral business

- In fiscal 2021, we established a special team with a view to actively participating in the carbon neutral business; from fiscal 2022 onward, we have been expanding and strengthening our carbon neutral organization and workforce.
- Based on our technologies and past achievements in relation to ammonia plants, we have engaged in numerous feasibility studies (FS) and pre-FEED, and we are spearheading the establishment of multiple value chains.

2. Healthy balance of EPC and non-EPC orders, by improving Group operations and coordination between the group

- Following a slump in orders in fiscal 2019 and 2020, in fiscal 2021 and 2022 our order volumes recovered; orders for non-EPC projects are also trending upward. In our focus regions of India, China, and Brazil, we received orders for refinery, petrochemical, fertilizer, and gas-fired power generation plants.
- We are strengthening risk management for projects undertaken independently by group companies.

3. Promoting initiatives through partnering

Field	Partner	State of initiatives
SAF	JGC Japan Corporation	• On a per project basis, in discussions about execution systems for FEED and EPC
FPSO	MODEC, Inc.	• Made a 35% investment in the OFS*1 joint venture in October 2022 • Executed FEED for a project in Guyana, received EPCI order*2 • Executed FEED for a project in Brazil, received EPCI order
Fuel ammonia	JGC Holdings Corporation	• Jointly carried out sales activities, FS, and pre-FEED
Pharmaceuticals and fine chemicals	TAISEI Corporation	• Joint orders and execution for biopharmaceutical facilities
Comprehensive collaborations	NIPPON STEEL ENGINEERING Co., Ltd.	• Joint orders and execution for biomass power generation facilities • Collaborative projects in Japan and overseas, mutual cooperation in expertise

\*1 Offshore Frontier Solutions, Pte. Ltd. \*2 Engineering, Procurement, Construction, and Installation

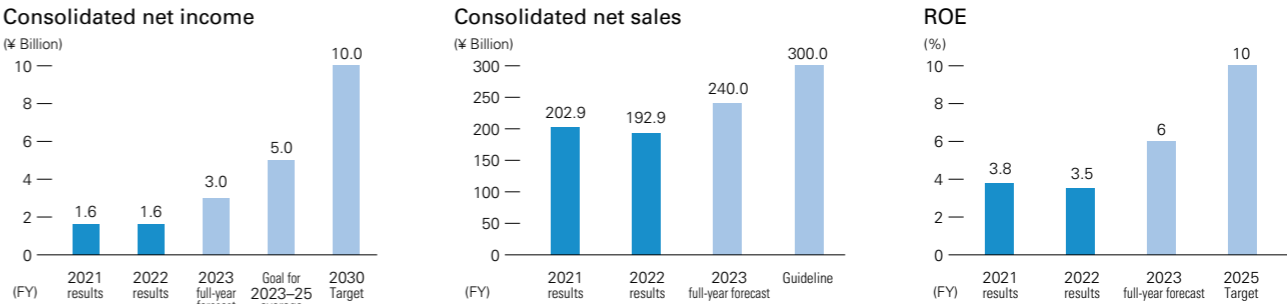
4. Progress with DXoT

- We are working toward our goal to sextuple EPC productivity in 5 years from fiscal 2020 to 2025. As of March 31, 2023, progress rate is 32%—roughly in line with our expectations for the first two years.
- Periods of our major projects are several years in length; as such, we can realize improved profitability through DXoT after our projects achieve a certain level of progress. However, we already have signs of the benefits of DXoT in our EPC business, where improvements in visualization and efficiency have helped prevent the occurrence of additional costs. Going forward, we apply DXoT to more projects to improve profitability and to reduce loss costs.

KGI and KPI			
KGI (Key Goal Indicator)		KPI (Key Performance Indicator)	
Target	Results for the period ended March 31, 2023	Target	Results for the period ended March 31, 2023
Consolidated net income attributable to owners of the parent • FY2023–2025 average: ¥5 billion or higher • FY2030: ¥10 billion	¥1.6 billion	Gross profit composition (non-EPC*1 businesses) • FY2025: 25% or higher • FY2030: 50%	44%
Consolidated net sales • Emphasis on profit over net sales • Net sales target: ¥300 billion	¥192.9 billion	Gross profit composition (new business areas) • FY2025: 25% or higher • FY2030: 50%	23%
ROE • FY2025: 10% or higher • Thereafter: Stably 10% or higher	3.5%	Gross profit composition (6 main Group companies) • FY2025: 45% or higher*2 • FY2030: 50%	68%
Dividends • Aim to resume dividend payments during period of plan	—	Employee's satisfaction • Improved from the previous year level	Fiscal 2021: 3.63 out of 5 Next survey to be carried out in fiscal 2023
		No. of employees Toyo-Japan: Sustainable Technology and Business Development Double current workforce of 110 employees Other Group companies: Increase/decrease according to demand	About 130 now Group-wide workforce: approx. 6,500 people

\*1 Non-EPC = non-EPC/EP Lump Sum projects \*2 TPSI (Brazil) and OFS (Singapore) are equity method affiliates, and hence not included

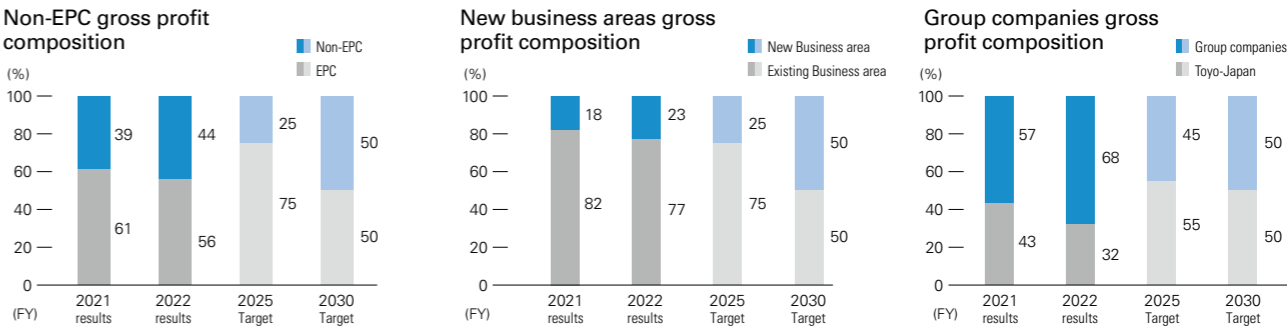
KGI Graphs



Higher revenues and profits for fiscal 2023 owing to increase in new orders and progress of existing projects

Due to a stagnation in new orders in fiscal 2019 and 2020, revenues fell significantly under our target of 300 billion yen; as a result, net income and ROE remained at an unsatisfactory level. However, from fiscal 2021 onward, both new orders and our order backlog have increased; as such, we forecast net income of 3 billion yen and ROE of 6.0%, on course to achieve our medium-term management goals.

KPI Graphs



\*2 TPSI (Brazil) and OFS (Singapore) are equity method affiliates, and hence not included

KPIs trending upward

The composition ratio of our non-EPC business, which have high gross profit margins, has already climbed to 44%—well in excess of our fiscal 2025 goal of 25%; this is due to new orders and progress of existing projects for customer support services such as FEED and PMC\*. The composition ratio of our new businesses has now risen to 23%, thanks in large part to our energy-saving and GHG-reduction consulting services, and to our specialty chemicals business. The composition ratio of our key subsidiaries, which form the heart of our existing businesses, has risen to 68%, again significantly outperforming our goals for fiscal 2030.





\* Project Management Consultant

Priority measures for fiscal 2023 onward to achieve the medium-term management plan

Group-wide strategies

1. Recruit and utilize diverse human resources to improve our value to be provided and to strengthen our functions

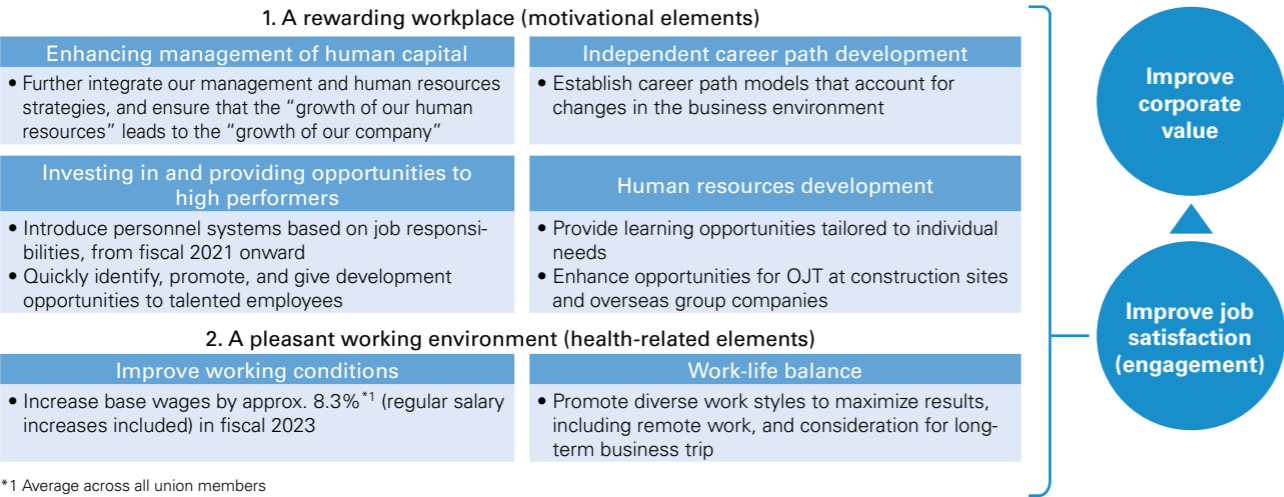
Expanding opportunities for human resources to excel, and creating environments that facilitate co-creation

 <b>Mid-career recruitment</b> <ul style="list-style-type: none"><li>Strengthen recruitment via referral from existing employees</li></ul>	 <b>Effective utilization of Group-wide human resources</b> <ul style="list-style-type: none"><li>Share human resources flexibly across the group companies</li></ul>	 <b>Alliances</b> <ul style="list-style-type: none"><li>Collaborate and coordinate with other engineering companies</li><li>Form strategic partnerships</li></ul>	 <b>Partnering</b> <ul style="list-style-type: none"><li>Engage in co-creation with our customers</li></ul>
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Diversity and Inclusion

Toyo is an organization that generates new value, and we encourage diverse human resources to excel. We recognize diverse value systems regardless of gender, nationality, age, or disabilities, and we strive to foster a corporate culture that enables diverse human resources to excel. Female participation and advancement in the workplace is already increasing at our overseas group companies. Going forward, we will continue working to improve both diversity and inclusion.

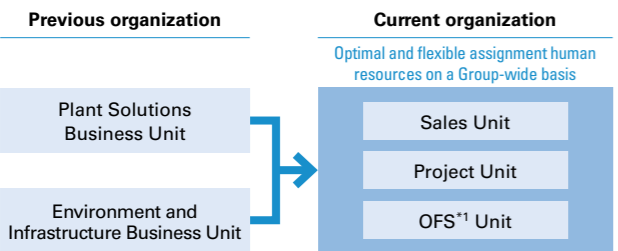
Improving corporate value by improving job satisfaction



2. Identify priority business fields, and establish systems that facilitate the optimal and flexible allocation of human resources

Organizational reform

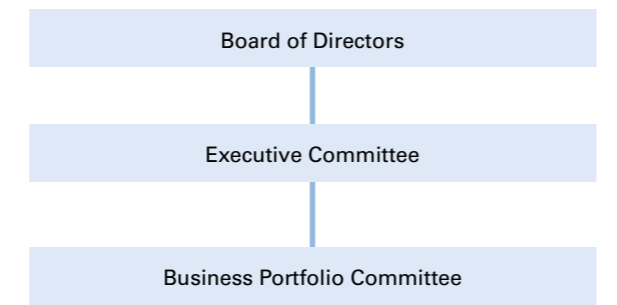
In April 2023, we transitioned from a former Business Unit system to a system that prioritizes Group-wide coordination. Our aim in adopting this new system was to be able to respond flexibly to changes in the business environment in a cross-organizational manner, and to optimally and swiftly re-allocate Group resources.



\*1 Offshore Frontier Solutions (the name of a joint venture with MODEC, established to implement FPSO projects)

Establishment of Business Portfolio Committee

We established a Business Portfolio Committee as a sub-committee of the Executive Committee. The Business Portfolio Committee aims for optimally allocating Group-wide resources and promoting inter-Group coordination.



Priority measures for fiscal 2023 onward to achieve the medium-term management plan

“Sustainable Technology and Business Development” strategy

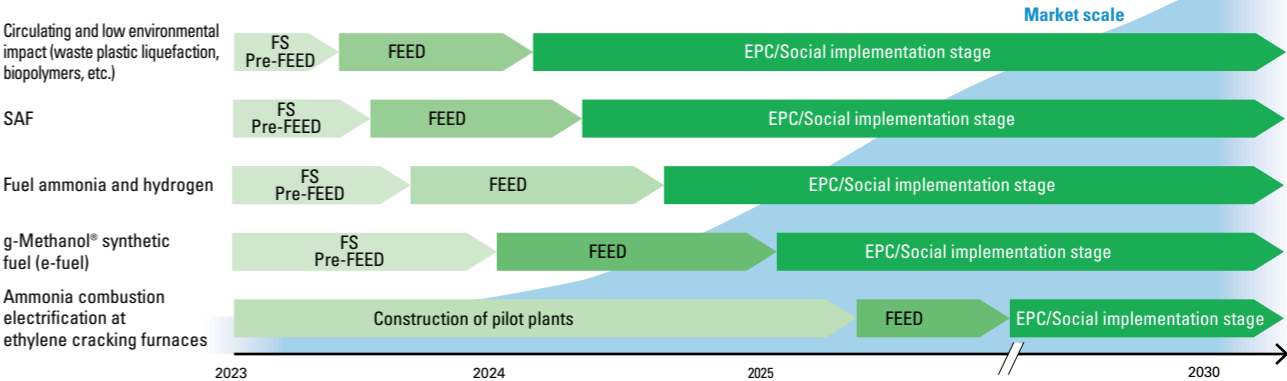
1. Secure stable profits from non-EPC (customer support service) projects

Our customer support services are contributing more to FS and FEED projects. These projects are high in added value but low in risk, and as such they help prop up our profit base. Going forward, we intend to continue leveraging the technical capabilities we have cultivated thus far, and provide our customers with high-added-value support services.

2. Ensure profitability by advancing from the planning stage of carbon neutral projects to EPC

Toyo is in discussions with primary distributors, transportation companies, customers, and partner companies to structure new projects, and to establish new value chains and markets. At present, our discussions are primarily focused on FS, pre-FEED, FEED, and other projects still in the planning stage; however, from the second half of 2024 onward, we expect demand for EPC plant projects to rise.

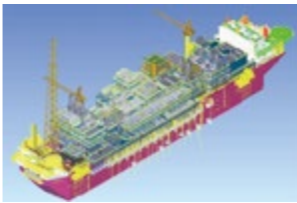
Chart showing the speed at which new business fields are being implemented in society and market scale



“Advanced EPC Operation” strategy

1. Receive orders for and execute several large-scale FPSO projects (priority allocation of suitable human resources)

In fiscal 2022, we established OFS joint venture in Singapore with MODEC. In the spring of 2023, OFS received orders for two large-scale FPSO projects and fully commenced EPCI work. In order to maximize Toyo’s expertise to steadily execute the projects and secure profits, and in order to ensure we continue to receive further projects, we are prioritizing the allocation of necessary human resources to these projects.



3D model of FPSO off the coast of Guyana



3D model of FPSO off the coast of Brazil

2. Selectively receive orders for projects with high gross profit margins and low risk

In our current medium-term management plan, we are focusing more on gross profits than on order values. As part of our organizational reform in April 2023, we established the Business Portfolio Committee as a sub-committee of the Executive Committee; the Business Portfolio Committee is

tasked with further clarifying our focus on gross profits, and with making decisions related to the assessment and selection of project orders. By being more selective in our acceptance of orders, we have been able to increase remuneration and appraisal amounts of TOYO’s provided value; we are also working to improve profitability through careful risk management and the application of DXoT.

3. Ensure EPC group companies receive and execute orders for attractive, medium-size projects

Toyo’s EPC group companies are distinctive for having the capacity to independently receive and complete orders for projects in their own and in neighboring countries. Indeed, this is one of Toyo’s strengths. At each of these companies, we are working to ensure that they selectively receive attractive orders for projects with high gross profit margins and low risk, as outlined in “2.” above.

4. Promote implementation of DXoT to projects

We have started fully implementing AWP\*1 in the Indian project we received at the beginning of fiscal 2023. Going forward, by implementing AWP in more projects, we intend to improve the profits of the Group as a whole.

\*1 “Advanced work packaging” is a process driven by construction planning and method for digitalized project execution managing work packages throughout project.

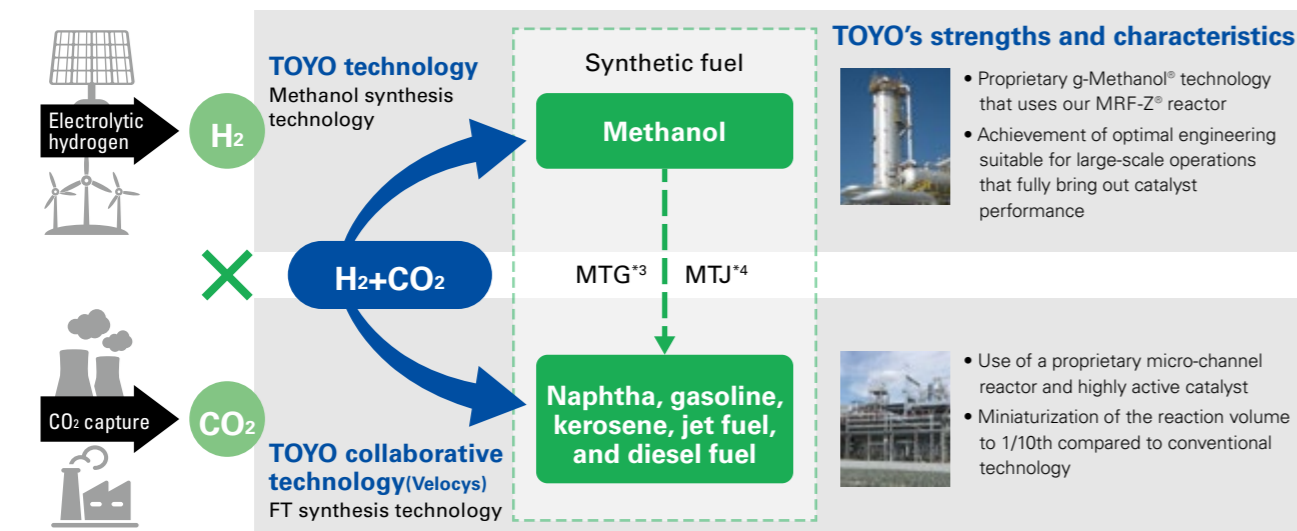
# Strategy “Sustainable Technology and Business Development”

## Initiatives Aimed at the Social Implementation of Synthetic Fuel

Because synthetic fuel uses CO<sub>2</sub> as a raw material and can be utilized with the existing infrastructure, it is expected to help the world transition to a carbon neutral (CN) society. In particular, synthetic fuel is promising as a way to help liquid fuel users—including aircraft, for which it is difficult to use electricity or hydrogen as an alternative fuel—achieve carbon neutrality. TOYO promotes initiatives aimed at early social implementation based on the technical knowledge it has cultivated over the years.

### Synthetic fuel and TOYO's technology

Because synthetic fuel (e-fuel) is produced from CO<sub>2</sub> and hydrogen derived from renewable energy, it can be regarded as a type of decarbonized fuel. In addition, because synthetic fuel can be stored long-term, it contributes to energy security, and it can also be used with existing infrastructure as drop-in fuel<sup>\*1</sup>. TOYO possesses two technologies that serve as the foundation of its synthetic fuel production: g-Methanol<sup>®</sup> technology (proprietary technology) and FT synthesis technology<sup>\*2</sup> (collaborative technology).

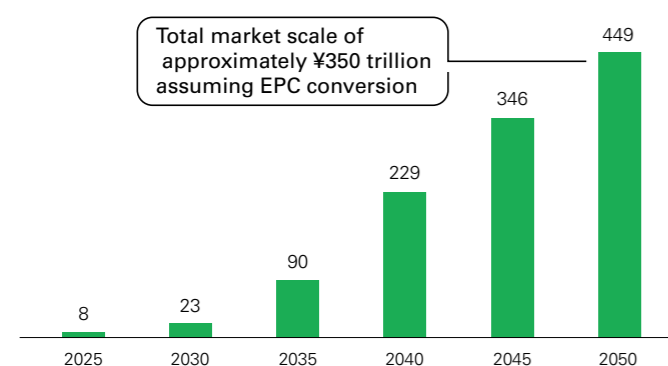


\*1 Fuel that enables the ongoing use of existing infrastructure  
 \*2 Fischer-Tropsch synthesis technology: developed in the 1920s in Germany as a technology for producing liquid fuel from synthesis gas  
 \*3 Methanol to Gasoline (technology for producing gasoline from methanol)  
 \*4 Methanol to Jet (technology for producing jet fuel from methanol)

### Expanding clean fuel demand

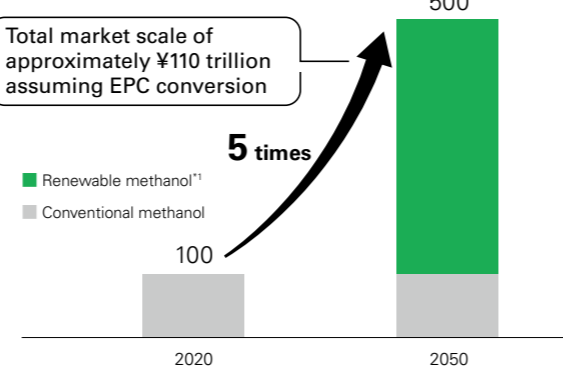
The main applications assumed for synthetic fuel are aviation, ships, and large vehicles. In particular, given the medium to long-distance routes typical of the aviation field, it would be difficult to select any non-liquid fuel from the perspective of energy density, and the demand for SAF has been estimated to increase to around 450 billion liters by 2050. Meanwhile, in addition to methanol's conventional chemical applications, methanol is also promising for its applications as a synthetic fuel, so the demand for methanol has been estimated to increase to 500 million tons by 2050, an increase of five times compared to 2020.

Predicted demand for SAF up through 2050 to achieve net-zero emissions (Unit: billions of liters)



Source: Fly Net Zero 2050, IATA

Predicted methanol production output in 2050 (Unit: millions of tons)



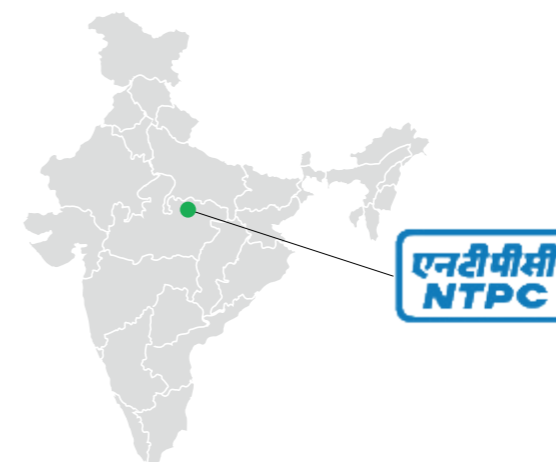
\*1 Biomass methanol and e-methanol  
 Source: Compiled by TOYO based on Fig. 47 of IRENA's Renewable Methanol Report.

### Examples of initiatives that take advantage of TOYO's strengths (g-Methanol<sup>®</sup> and FT synthesis)

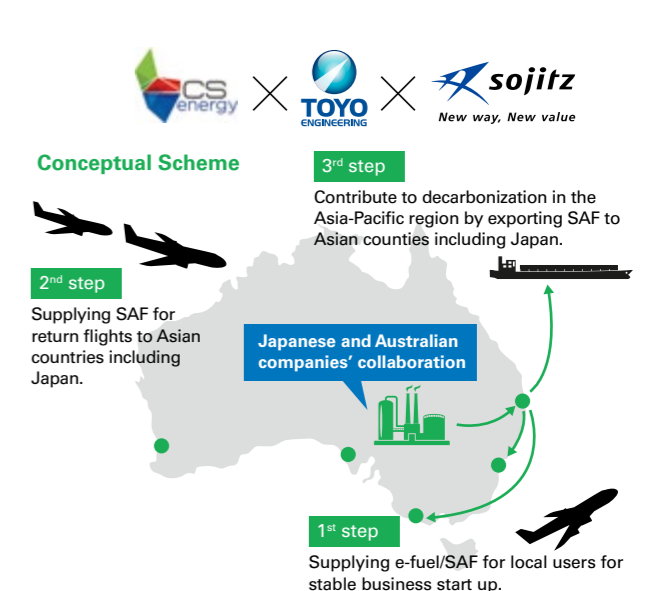
Regarding g-Methanol<sup>®</sup>, we receive inquiries from all over the world, and, in 2021, we received an order from the Indian state-owned company NTPC to license out our technology for a demo plant, and we delivered a reactor in February of 2023. In addition, in March of 2023, we concluded an MOU with CS Energy—a power company owned by the government of Queensland, Australia—and Sojitz Corporation, and we started considering building a value chain of e-fuel/SAF that uses renewable-energy hydrogen there.

#### Constructing a g-Methanol<sup>®</sup> demo plant

- Customer: National Thermal Power Corporation, India (NTPC)
- Construction site: Vindhyachal, Madhya Pradesh
- Production capacity: 10 tons per day

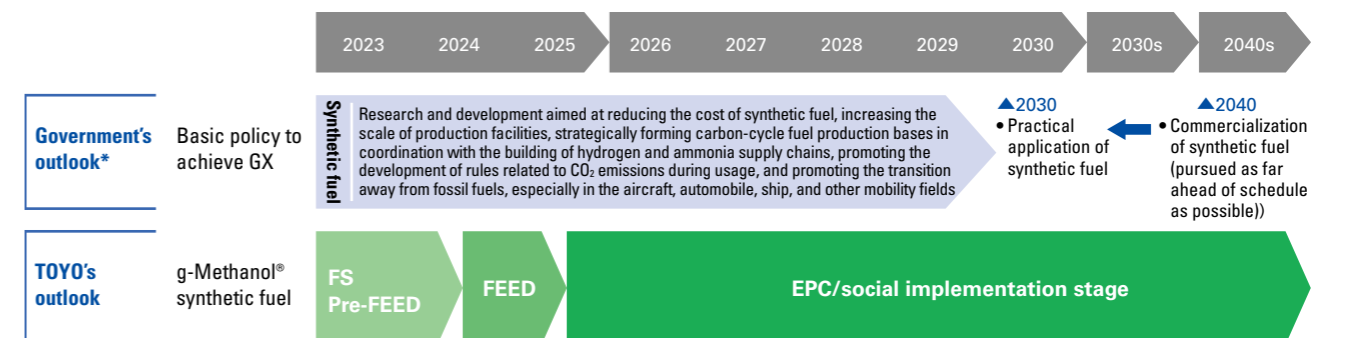


#### Building an e-fuel/SAF value chain in Queensland, Australia



### Roadmap to achieve social implementation

Synthetic fuel assumes both a reduction in the cost of hydrogen derived from renewable energy and the full-scale spread of such hydrogen. Methanol has already been practically applied as a ship fuel, and—given that there is a possibility of the market shifting to aviation-fuel raw material in the future—relatively early social implementation is expected. Although most of the current work is at the study stage, it is assumed that projects will be advanced towards social implementation based on a schedule that involves handling basic engineering and receiving EPC orders from 2024 to 2025.



\* Source: The Basic Policy for the Realization of GX: Reference document (February of 2023 Cabinet decision)

# Strategy “Advanced EPC Operation”

## Advanced Engineering Operation Initiatives

### The source of TOYO's engineering capabilities

Plant engineering is proceeded based on our extensive expertise and unique product-related knowledge, and we handle such work by coordinating between engineering conditions and various kinds of engineering information while also resolving issues that include effects on procurement, construction, and commissioning. To ensure smooth progress, it is necessary to organically and efficiently share engineering information that is guaranteed to be of high quality in a timely fashion. The technology, business foundation, and human capital that TOYO tirelessly develops represent one of our key strengths in terms of promoting high-quality engineering. In addition, through our experience working on diverse services and products that are not limited to specific fields, we foster a culture that enables us to flexibly absorb and utilize new knowledge

and technology in order to take on challenges in collaboration with various stakeholders.

#### TOYO's strengths

- Expert engineering knowledge, technical capabilities, and ability to apply skills in line with business**  
In particular, TOYO is familiar with the required specifications for specific products that include ethylene, ammonia, and urea.
- Technology, knowledge, and a business foundation that TOYO has continuously improved**
- Human capital and an organizational culture that enable operations, decision-making, and problem-solving based on experience and results**

### Improving engineering quality/productivity and achieving advanced operation

#### Reforms and the digital shift of engineering work

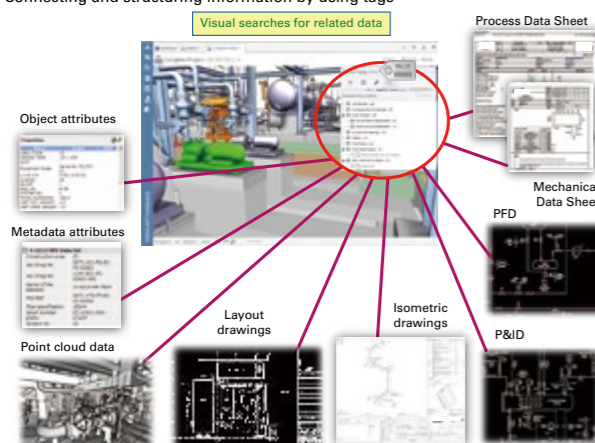
To improve our productivity, we are promoting reforms and the digital shift of our work, and, in fiscal 2022, we set a target of reducing the required man-hours by 20% and ended up achieving an expected reduction effect of 18%.

#### Example measures to shift our work towards digitalization

1. Automating engineering
2. Automating quality checks
3. Shifting to engineering-information database management
4. Shifting to an engineering-schedule task management system
5. Digitalizing our cross-department interface
6. Predicting risks by utilizing AI

#### Utilization of our engineering data integration platform

Connecting and structuring information by using tags



#### Engineering Digital Twin

We are building an Engineering Digital Twin (EDT) system to switch from a document centric to a data centric approach, increase productivity related to transferring information, and visualize both work progress and engineering-information reliability in real time. We have built an Engineering Information Hub (E-Hub) to serve as the foundation of the above system, thereby setting up an environment that increases effects such as those below.

#### Before

Engineering work mainly based on passing documents back and forth

- It took a lot of time and hard work to process the massive amount of engineering data in a timely fashion while maintaining quality.
- Every time information was passed between the engineering, procurement, construction, and delivery processes, there was an increased risk of mistakes or contradictions.
- It was difficult to divide or integrate data, and utilizing data was inefficient.

#### After E-Hub introduction

Work executed by using a centrally managed database

- Because data consistency confirmation and change management are automated, information can be transferred more smoothly.
- The new system eliminates duplicate work and enables engineering that offers a high level of change trackability.
- The latest information and confirmation timing are clearly defined.
- Reusing data is easy.

The reliability (status) of data in E-Hub can be visualized in combination with 3D figures and graphs. Going forward, we plan to use EDT to promote the utilization of our data for both plant lifecycles, including post EPCC, and other projects.

### Employee voices

#### We used a piping Design Rule Checker (DRC) and felt the effects!

In recent years, due to the increasing size and complexity of projects, it has started to take longer to check the quality when issuing construction drawings. However, due to the increased digitalization of recent projects, we can now use DRC to detect serious quality problems, which has enabled us to significantly reduce the time necessary to do quality checking work. In addition, these system-based checks have improved the overall quality of construction drawings. DRC has also been extremely effective in terms of (1) interference checks (automatically reducing the amount of interference caused by equipment and piping or eliminating interfering parts), (2) adding up construction materials (reducing costs by preventing the ordering of excess materials or the wrong materials), and (3) improving our handling capabilities (easily and promptly editing information extracted from 3D models to achieve the shapes specified by our customers).



Leonid A Lopes

Toyo-India  
DX Engineering  
Department  
Deputy Manager

### Effectively utilizing know-how and developing human capital

#### Effectively utilizing know-how

We are promoting initiatives to prevent the recurrence of problems and improve our engineering quality by rebuilding our Feedback Knowledge Management System (FKMS) to implement an accumulation and utilization cycle that enables the efficient accumulation and natural use of valuable knowledge. By doing this, we have reduced the time necessary to search for information and achieved a system that utilizes push-style knowledge that combines solutions that take advantage of the synergy between making tacit knowledge explicit and utilizing natural-language processing AI with data, thereby greatly contributing to improved engineering quality.

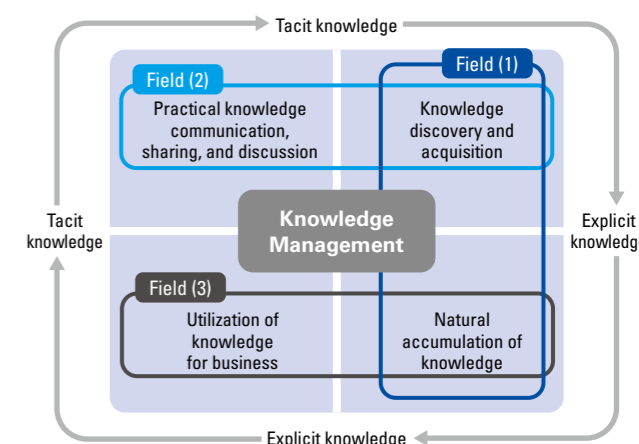
#### Developing human capital

We create development opportunities that encourage the growth of individuals, including our Company-wide educational programs, various specialized educational programs, OJT, on-site training, and other early education as well as the one-stop provision of experience related to everything from engineering to job sites and the provision of opportunities for employees to take on the challenge of highly difficult work with the support of senior engineers. In addition, we promote flexible, creative initiatives aimed at enhancing our organizational capabilities as well as the abilities of our individual staff members, such as

by participating in feedback study sessions, new technology/product explanatory meetings, and academic conferences/associations outside the Company.

#### Rebuilding our Knowledge Management system

- Field (1)** Incorporate the accumulation of knowledge into our business processes.
- Field (2)** Associate knowledge with the circumstances behind considerations and decisions that support it and share this.
- Field (3)** Extract and utilize required knowledge when it is necessary, similarly to a veteran.



Compiled by TOYO based on the SECI model.

### Improving the Group's collective strength through cooperation with group companies

Toyo-Japan has a long history of involvement with its group companies—including guiding them, assisting them, and transferring technology to them—and, through these efforts, we have built relationships of trust and a common foundation with our group companies. Our group companies autonomously execute projects in their own countries while also leveraging the collective power of the TOYO Group to pursue projects around the world. In addition, Toyo-Japan does not simply engage in one-way communication with group companies. Instead, our group companies also provide feedback and

improvement proposals, we collaboratively promote the development of tools and engineering criteria, and we take other steps to increase the Group's collective strength based on relationships as equals. Nowadays, thanks to the spread of IT tools, it has also become easier for group companies to communicate with each other. Our engineering departments regularly hold meetings with group companies to give each other feedback while also sharing information on and discussing issues to improve and enhance the Group as a whole.

Strategy “Advanced EPC Operation”

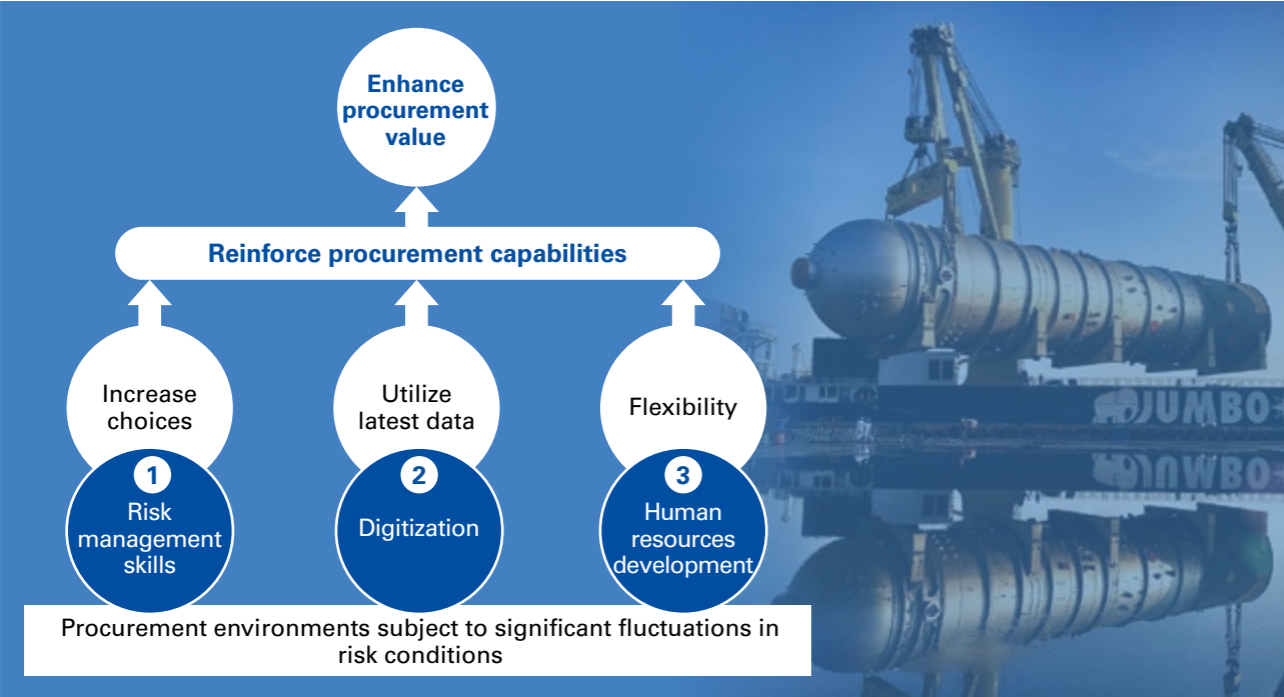
Advanced Procurement Operation Initiatives

Reinforcing Our Procurement Capabilities

Over the past two years, we have faced huge changes that exceeded our expectations. Examples include an explosive rise in the price of materials, protracted transportation times, and restrictions on movement. In light of these changes, we have worked hard to mitigate the impact of cost increases and to avoid delivery delays. Procurement environments are subject to significant fluctuations, and we have identified three key goals for improving our ability to cope with them: 1. Increase

our range of choices; 2. Utilize the latest data; 3. Develop flexibility of thought and action.

To achieve these goals, we have defined the following concrete measures: 1. Strengthen our procurement risk management skills; 2. Promote the digitization of our procurement operations; 3. Develop our human resources. Achieving the goals 1.–3. outlined above will contribute to the success of our projects—and this, in turn, will enhance the value of our procurement.



1 Strengthening our procurement risk management skills

One of Toyo’s strengths is that it always procures equipment and materials from optimal countries. This is made possible by Toyo’s network of overseas subsidiaries, which are located around the world. Rooted in their local communities, our procurement subsidiaries go about their work independently; at the same time, all Group companies share close relationships, and coordinate with each other in line with various requests. Group companies coordinate on wide-ranging topics, including: exchanging latest information on suppliers; providing support for

new fields; collaborating on projects; and flexibly sharing human resources. The equipment and materials market is beginning to stabilize following the tumult of the last two years; nevertheless, geopolitical risks remain, and procurement risks are liable to skyrocket again in the future. By utilizing Toyo’s global activity bases, and by increasing our range of procurement choices—based on ensuring readiness in our main suppliers’ production region, and on sharing knowledge between our procurement subsidiaries—we can respond to everchanging risk conditions.

Employee voices

Familiarity with regional information leads to the discovery of new suppliers

This February, we received a request for assistance from Toyo-Japan, which would be built a fertilizer plant in Africa and wanted to procure equipment from India. Toyo-Japan had initially intended to purchase this equipment from South Korea; but, following the end of the coronavirus pandemic, plant construction within South Korea had increased rapidly, causing South Korean manufacturers to raise their prices significantly. The Toyo-India Procurement Division has vast experience dealing with excellent manufacturers that Toyo-Japan is unfamiliar with. As such, after jointly investigating the details of potential suppliers on our recommendation, we were able to consider several manufacturers of pressure vessels and heat exchangers who were capable of required specifications at an acceptable price.



Rajdatta B Patil  
Toyo-India  
Purchasing Department,  
Procurement Division,  
Deputy Manager

Employee voices

Ensuring quality and on-time delivery through expediting suppliers and implementing early measures

Toyo-Japan had ordered key equipment from an Italian manufacturer for a chemical plant in Japan, and we were asked to oversee the production process of the Italian manufacturer.

We faced three challenges: 1. This was the first time we had dealt with the manufacturer; 2. The crisis in Ukraine had led to a spike in the price of steel materials; 3. The equipment had to comply with Japanese laws and regulations, specifically the High Pressure Gas Safety Act. We stationed employees at the manufacturer’s plant and observed how production was progressing, we learned the essence of the manufacturer’s concerns by speaking in local language, and we increased the frequency of communication with Toyo-Japan more than usual. Implementing these measures enabled us to deal with the majority of issues at an early stage. At one point, it appeared as if delivery would be significantly delayed; in the end, however, the equipment was shipped on schedule.



Giuseppe Lama  
Toyo-Europe  
Managing Director

2 Promoting the digitization of our procurement work

In our procurement, we adopt the approach of CC (commissioning and construction) Driven Engineering, which gives the highest priority to improving the productivity of commissioning and construction operations. We are particularly focused on visualizing production process data—which includes the engineering specifications for various equipment and materials and the quantities required—in our supply chain management (SCM). That has two benefits: one is that we can detect signs of delays at an early stage by streamlining supplier progress updates

and the other is that, through integrated EPC execution, we can keep continual track of the scheduled arrival dates of each item of equipment and each material at our construction sites. Suppliers update data using a shared format on our portal website; this enables Toyo and its suppliers to identify and share any divergences between plans and the latest progress. Utilizing the latest data, we can accelerate our initial response to SCM risks, thereby reducing delays in delivering equipment and materials, and preventing increases in construction costs.

Employee voices

Operational reforms and system development aimed at optimizing the whole

We are now carrying out operational reforms and developing systems that harmonize with redefined SCM functions in EPC integrated perspective. This brings three advantages: 1. With regard to data required to carry out procurement risk assessments, we can respond to risks from a CC Driven-approach; 2. The latest data which previously retained in the procurement departments or person in charge can now be widely shared; 3. Limited resources can be allocated on a priority basis. With regard to operational reform, the process of switching from the old work style we were used to, to a new work style is an extremely difficult task, and can result in various issues; however, we are making steady progress toward our goal of executing work in a manner that is optimal for the entire EPC process.



Airi Kimura  
Toyo-Korea  
BPO Department,  
Procurement Division,  
Buyer & AWP SCM Leader

3 Developing our human resources

As far as human resources development is concerned, our goal is to nurture human resources capable of the “4As,” of being able to “achieve,” while “abroad,” even when “alone,” and “away” at other companies. Our overseas procurement ratio stands at more than 65%, and we do not always use the same suppliers. As such, we frequently encounter problems, and negotiations can be extremely challenging. If we wish to successfully manage procurement risks, which are constantly changing, then the flexible ideas and actions of “4A” human resources who have mastered the concept of “individual diversity” will be a huge asset. At the same time, this ability to respond flexibly will also be of use for joint ventures and other collaborative organizations, which have increased in recent years. Now that restrictions on movement have been lifted for the first time in three years, we are once again moving human resources between

different Group organizations, and posting them to overseas joint ventures. With regard to employees engaged in procurement, we intend to provide them with more opportunities to broaden their horizons, and to react to events with greater speed and resilience, in situations where unexpected things can happen.

The Procurement Division comprises four departments—Purchasing, Supply Chain Management, Quality Control, and Strategic Procurement Promotion—and so our organization has a roughly 50-50 split between arts and sciences. Since our employees have opportunities to engage in cross-functional discussions with experts in different fields, they develop diverse perspectives. In addition, our employees experience different responsibilities on a rotational basis, working together with colleagues from different countries. In this way, we promote the development of “4A” human resources.

# Strategy “Advanced EPC Operation”

## Advanced Construction Operation Initiatives

### Optimizing construction through our modular construction method

#### Reducing construction-period delay risks and cost overrun risks in regions that have high labor costs and various serious risks

Nowadays, construction work involves great risks due to the increasing size, complexity, and diversity of plants, and such risks are becoming more difficult to predict. To reduce construction risks, our Construction Division is taking various measures that include Constructability Study\*1 enhancement and

early project construction planning through the introduction of AWP\*2. Of these measures, we believe that applying the modular construction method could be a major solution and are therefore focusing on it.

#### Characteristics of the modular construction method

- This construction method involves producing parts of plants (modules) at factories, transporting them to the construction site, and then assembling them there.
- Compared to normal construction methods, interfaces of EPC are more complex, which makes the modular approach difficult.

#### Modular construction method flow (FPSO example)



#### Advantages of the modular construction method

Because a factory equipped with the necessary facilities can be used to produce major parts of buildings, the modular construction method has the advantages below and can significantly reduce construction-period delay risks, quality risks, and cost overrun risks.

- **Reduced construction period:** The amount of work and time necessary to complete on-site assembly work can be reduced.
- **Improved quality control and production efficiency:** Decreased quality resulting from climate conditions and construction-precision variance can be minimized, and production efficiency can be increased.
- **Optimal factory selection:** Optimal manufacturing factories can be selected based on perspectives that include costs, technical capabilities, and experiences with TOYO, so there is no need to limit operations to the country where the construction is taking place.
- **Minimized construction site risks:** Various risks can be minimized, including construction-site weather risks, the risk of being unable to secure outstanding workers, and the risk of soaring labor costs.

#### Issues related to the modular construction method

- **Transportation costs:** Because it costs money to transport modules, there is little or no advantage except construction sites that have high labor costs.
- **Detailed planning and management:** More detailed planning and management are necessary in terms of project management compared to the conventional approach, including process management related to module production and on-site construction as well as the management of drawings and materials.
- **Additional work:** It is necessary to do construction-plan and management-related work that was not necessary for the normal construction method, including transporting large modules by land and sea, installing heavy goods at the construction site, and fitting up.

#### Extensive modular construction method experience

TOYO has been building up experience related to the modular construction method since around 2005, especially in relation to FPSO construction work. We have a lot of module manufacturing plant experience in China, Southeast Asia, and Brazil, and we are capable of managing construction in line with the characteristics of each region. Going forward, we will consider using the modular construction method for larger FPSO units as well as fuel ammonia and other projects, and we will pursue initiatives to further enhance our related systems and improve our construction productivity.

#### AWP as a way to achieve the modular construction method

As described above, the modular construction method requires a detailed construction plan and management. To handle this, TOYO has introduced AWP to promote the linkage and adjustment of various kinds of necessary information, the achievement of detailed initial construction plans and Constructability Studies, the creation of schedules, and drawing, material, and construction-management work based on the above.

\*1 An assessment to determine whether the building construction process can be handled efficiently and smoothly

\*2 Advanced Work Packaging (a process driven by construction planning and method for digitalized project execution managing work packages throughout project)

### Increasing the efficiency of site management by promoting construction DX

#### Introducing our construction management system (iCON)

TOYO developed and started operating its construction management system (iCON) in 2004 and then started developing and operating it in the cloud in 2019. (Track record of 15 projects plus seven projects for which the system will be introduced in fiscal 2023)

#### Advantages of introducing iCON

- Because entry is possible using mobile devices, accurate site data can be centrally collected and managed in a timely fashion.
- Linkage with the Project Twin enables the visualization and sharing of the site situation. The dashboard can be used to gain a quick understanding of issues and then promptly respond.
- This system also greatly contributes to saving labor on repetitive work—including everything from data collection to reporting—enabling the use of more time for important work.

TOYO has also started utilizing many other DX systems and is promoting the increased efficiency of construction management. The time that is freed up by increasing efficiency can be used to take effective action related to safety, quality, and meeting deadlines.

### Early development and training of FCMs

In terms of enhancing our construction execution capabilities, one important issue is to develop and secure FCMs (Field Control Managers), who are key people for construction management. As one step for overseas sites—which differ in terms of their culture, environment, and other characteristics—Toyo-Japan is taking on the challenge of training FCMs

early at Japanese sites. (Track record: 12 results) By not only obtaining construction management know-how and technical knowledge but also accumulating experience that enables us to demonstrate leadership and negotiating power, we are promoting early growth and striving to improve TOYO's overall construction management capabilities.

#### FCM's voices

##### Pursuing win-win relationships with customers and contributing to regional development

The Gobo biomass-fired power plant project I am in charge of is a recent project that TOYO received in 2022, and we are incorporating feedback from past projects to achieve thorough construction planning and management. In addition, we are contributing to the regional economy and considering the opinions of locals as we handle the construction, including various kinds of cooperation with Gobo city as well as the appointment of local companies as the construction companies for the project. We also pursue win-win results from the perspective of our clients, put safety first, and constantly remain mindful of the need for both quality control and meeting construction deadlines. Through this project, we hope to focus all our energy on the sustainable development of the region to achieve personal growth as well.



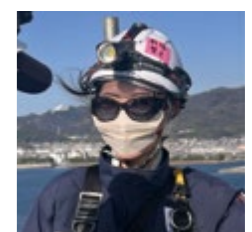
Geoffrey Mutyaba

Construction Planning  
Department  
Construction Division

#### FCM's opinion

##### Utilizing our understanding of the contract and DX tools to suitably manage the budget and processes

I first took on the challenge of being an FCM at our Gamagori biomass-fired power plant site. The FCM's main job is to stick to the budget and execute the project in line with the construction period. During the recent project, I mainly gained experience related to managing additional costs and processes. Thanks to my deep understanding of the contract details, I was able to minimize unnecessary costs when additional construction work became necessary. In addition, to more efficiently manage processes, I actively learned about Power BI and other DX tools, visualized the construction progress by using graphs, etc., and reported such details to our customers in an easy-to-understand way. I hope to utilize this experience to actively participate in future domestic and foreign projects.



Qiaoyi Li

Construction Planning  
Department  
Construction Division

# Strategy “Advanced EPC Operation”

## Using DXoT to Change Our Business Model Through AWP

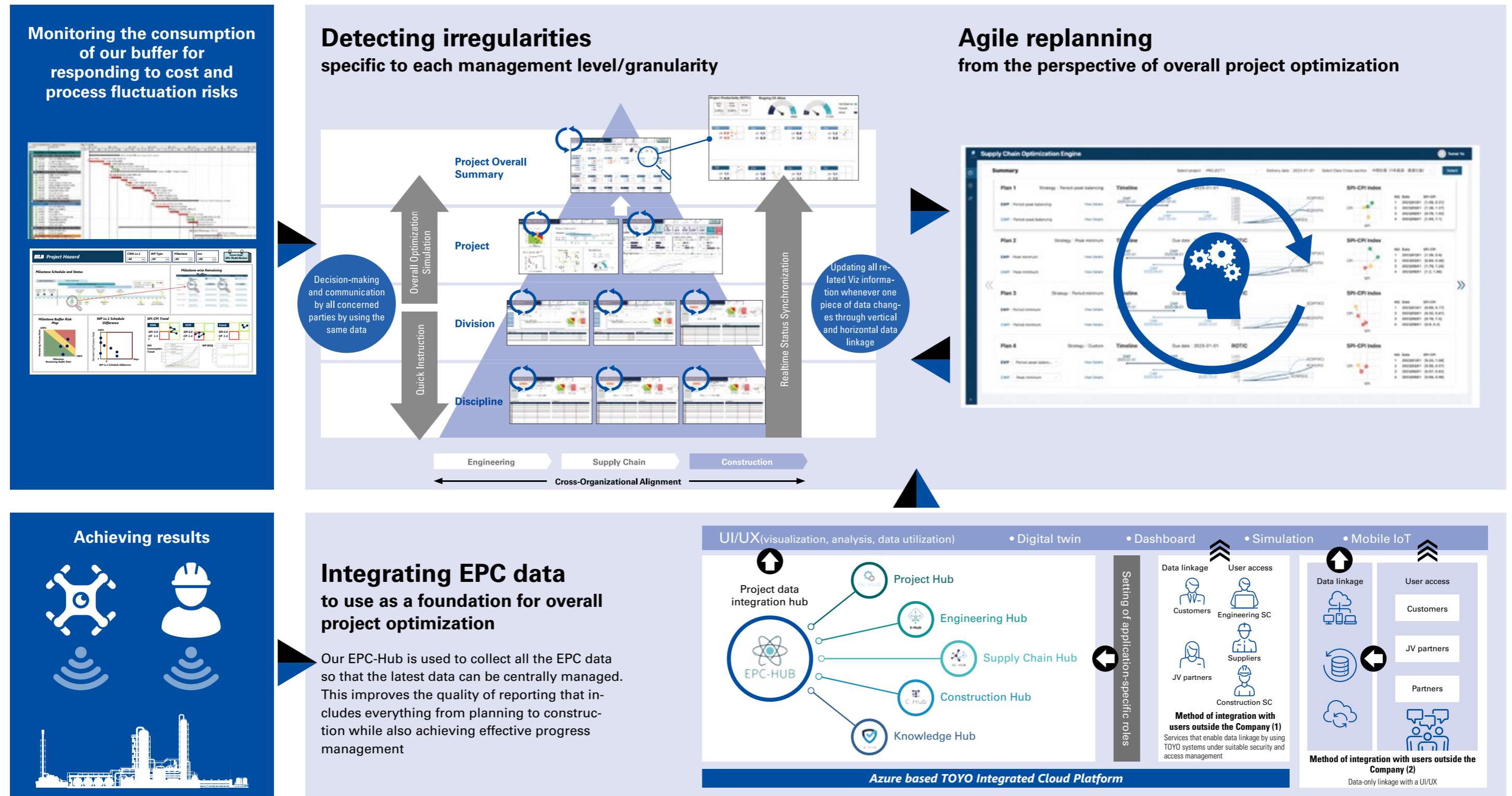
We are using DXoT to work on achieving Advanced Work Packaging (AWP) through three stages: (1) digital project execution, which involves digitalizing individual projects, (2) insightful project execution, which involves optimizing overall projects by integrating EPC data and achieving more flexible project execution through efforts that include agile replanning in response to irregularities, and (3) resilient project execution, which involves achieving future predictions via digital twins for EPC.

We have already built our EPC-Hub—a database that integrates EPC data that makes up the project foundation—to finish digital project execution, and we are currently shifting to the insightful project execution stage. We used the EPC-Hub data as a foundation to develop our irregularity detection and replanning systems. This not only enables all the concerned parties to

communicate by using the same data but also enables dashboard viewing based on analysis perspectives specific to each management level/degree of precision while also supporting predictions and decision-making by each level.

We first applied an AWP approach that uses the above system to a lubricant project in India received in fiscal 2022. Applying this system contributes to improved quality and helps to reduce unnecessary costs.

As we strive to shift to the next step, resilient project execution, we will also aim to achieve more flexible EPC operation to attain six times the productivity by 2025.



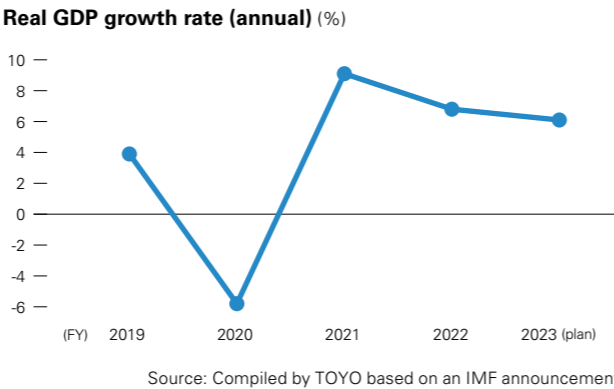
# Market Environment and Business Strategy



## The market of India, home of the world's largest population

The United Nations Population Fund (UNFPA) has announced in its “State of World Population Report 2023” that India is expected to surpass China as the world’s most populous country by mid-2023. In addition, according to the International Monetary Fund (IMF), India ranks as the world’s 5<sup>th</sup> highest GDP in 2021 and is expected to grow the world’s 3<sup>rd</sup> largest economy by surpassing Japan and Germany by 2027. As a result of its immense market size and strong economic growth, many overseas companies are actively promoting expansion into India.

In spite of the slowdown of global demand and the tightening of monetary policy to curb inflationary pressure, India recorded an annual growth rate of 6.8% for the fiscal year ended in March 2023, and the IMF has also announced that the country is expected to maintain a high growth rate of 6.1% for the fiscal year ending in March 2024. In addition, the capital expenditure by the central government of India has increased



by 63.4% and is driving India’s economic growth. In particular, there has been strong export growth for the services sector, which has been improving the outlook, along with comprehensive trade agreements with major trade partners.

## Toyo-India’s growth strategy

Toyo-India, which was founded in 1976, has grown significantly to become one of leading India-based comprehensive engineering companies, with over 2,000 employees, throughout executing various projects, including fertilizer (ammonia and urea), oil refinery, LNG regasification, petrochemicals, power generation, and FPSO. Our core business is based on two pillars: detailed engineering design for large-scale projects undertaken by the TOYO Group and domestic EPC / consulting projects. In addition, DXoT support team set up at Toyo-India two years ago has gotten on track and is now focusing on the Group’s overall digital transformation promotion, contributing to the enhancement of TOYO’s project execution capabilities and competitiveness.

Given that Indian economic development is expected to remain robust, Toyo-India is strategically positioning itself by focusing on core business opportunities within domestic oil and petrochemical industries where new investment is expected. Additionally, we aim to expand its business into sectors such as chemical / specialty chemical industries, as well as green business fields toward decarbonization goal.



## Oil and petrochemical market

India, as the world’s 3<sup>rd</sup> largest consumer of oil, is experiencing rapid growth in its crude oil consumption due to the country’s rapid economic expansion driven by population growth. The projected annual average growth rate (CAGR) for crude oil consumption is 5.14%, expected to increase from 4 million barrels per day in 2021 to 7.4 million barrels per day in 2030. Indian government plans to double the oil refinery capabilities of 23 refineries in India (approximately 251 million tons per

year as of October of 2022) by 2030.

The demand for downstream petrochemicals is also rising, as an important element in supporting the development of other industries, including infrastructure and pharmaceuticals. The scale of India’s market for chemicals and petrochemicals is expected to reach approximately 1 trillion US dollars, so state-owned oil companies and major private companies are promoting plans to actively invest in the petrochemical

industry. Toyo-India is currently executing expansion projects in three domestic oil refineries, scheduled for completion in the



An oil plant for HRRL

fiscal 2024, and will continue to actively participate in investment-intensive petrochemical projects within India.



An LNG regasification facility for HPLNG

## LNG regasification facility market

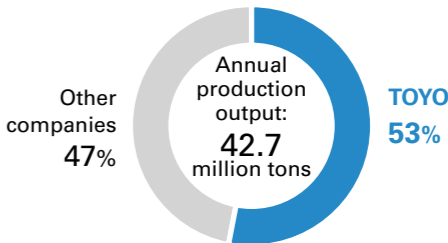
India has set a target of increasing the percentage of its domestic energy consumption covered by natural gas from the current 6.2% to 15%, and the natural gas consumption is expected to increase from 174 million m<sup>3</sup>/day in 2021 to 555 million m<sup>3</sup>/day by 2030 at a CAGR of 12.2%.

As of December of 2022, there were a total of 22,335 kilometers of natural gas pipelines in operation in this country. It is projected that the network will expand by approximately 54% to reach 34,500 kilometers by fiscal 2024. Furthermore, plans to connect all the states by 2027 through major pipelines has been established. The development of gas-infrastructure-network is expected to lead to an increase in the demand of India’s LNG import.

Toyo-India has successfully constructed about half of the

regasification facilities for the total processing capabilities of LNG receiving terminals in India. Leveraging our experiences and track records, we are committed to pursuing further opportunities in this field.

### Share of LNG regasification facility construction results



## Potential of the carbon neutrality field

The Indian government has implementing various policies to achieve energy independence. As part of these efforts, a target has been set to increase the blend ratio of biofuel included in gasoline and diesel fuel to 20% by the fiscal year ending March 2026. Regarding which they declared to achieve a ratio of 10% in June 2022. However, due to the raw material supply shortages, India still relies on imports for about 40% of its fuel, and there are many plans to boost the country’s production capacity, including second-generation (2G) biofuel\*<sup>1</sup> and compressed biogas\*<sup>2</sup> (CBG).

In addition, at COP26 (a conference held in 2021), Prime Minister Narendra Modi announced India’s commitments to achieve net-zero emissions by 2070, including the supply of 500 GW of power from non-fossil power sources by 2030, thereby reducing the country’s overall greenhouse-gas emission intensity by 45%. Under India’s latest National Green Hydrogen Mission, announced by Indian government in January 2023, which offered renewable energy incentives for green hydrogen and ammonia, the government presented a plan to allocate a budget of approximately 197.4 billion

Indian Rupees (approximately 2.4 billion US dollars) to promote the hydrogen industry. Additionally, various state governments have introduced their own independent investment incentives, both of which are expected to further boost investments in green business in India.

In particular, India’s renewable energy, such as solar and wind power, is known for its remarkable price competitiveness, which is an important element in terms of promoting projects aimed at transitioning from fossil fuel to alternative energy sources.

Given the above boost provided by governmental measures as well as the strong potential inherent in India’s location, public sector companies as well as leading private renewable energy companies are gradually coming up with ways to invest in various green related businesses, including green hydrogen and ammonia, green methanol, 2G bioethanol, and CBG. Toyo-India, while supporting its clients’ investment plans, will contribute to the economic development of India.

\*1 Biofuel that uses non-food biomass as a raw material.  
\*2 Flammable gas that is produced through the fermentation and anaerobic digestion of waste and biomass resources.

Indonesia’s market environment, which is aimed at achieving carbon neutrality

Indonesia is the largest ASEAN country in terms of its geographical area, population, and GDP. In the next 30 years, the country’s population is expected to increase to around 335 million people, its economic scale will be extended to more than triple, and its primary energy demand is expected to increase. In addition, by the end of 2023, the country is aiming to reduce its GHG emissions by 29% through its own efforts and by 41% with international support, and the country has also announced its intention to achieve net zero emissions by 2060. Indonesia also has a plan to accelerate its energy

transition through a long-term energy plan that prioritizes investment in clean energy. In order for the country to achieve its decarbonization scenario, it will have to invest a total of 2.3 to 2.4 trillion dollars by 2050. Around half of this investment will be allocated to renewable energy, power grids, electricity storage, and other related infrastructure to achieve power field reforms. It will also be necessary to invest a lot of money in industries that include bioenergy, hydrogen, blue/green ammonia, and batteries for EVs (electric vehicles).

IKPT’s history and future growth strategy

IKPT was founded in 1982 and is a leading EPC company that has been involved in oil and gas processing plants for many years. TOYO and IKPT have a good relationship that started with collaboration on fertilizer plant construction projects and other business in the 1990s, and, in 2012, IKPT became a consolidated subsidiary of TOYO. Since then, IKPT has done business in a wide range of fields, including oil, gas, petrochemicals, chemicals, fertilizer, infrastructure, power, and consumer goods.

The company is currently aiming to enter new markets via new client development while also promoting the enhancement and expansion of its services based on a medium-term management plan consisting of two main strategies: networking and digital transformation. The company plans to build a network with business stakeholders to enhance its existing services and expand its portfolio into new fields, including carbon neutrality. IKPT’s client base increased from 19 companies in 2012 to 37 companies currently. The company is also enhancing its cooperation not only with customers but also with licensors and OEMs.\*

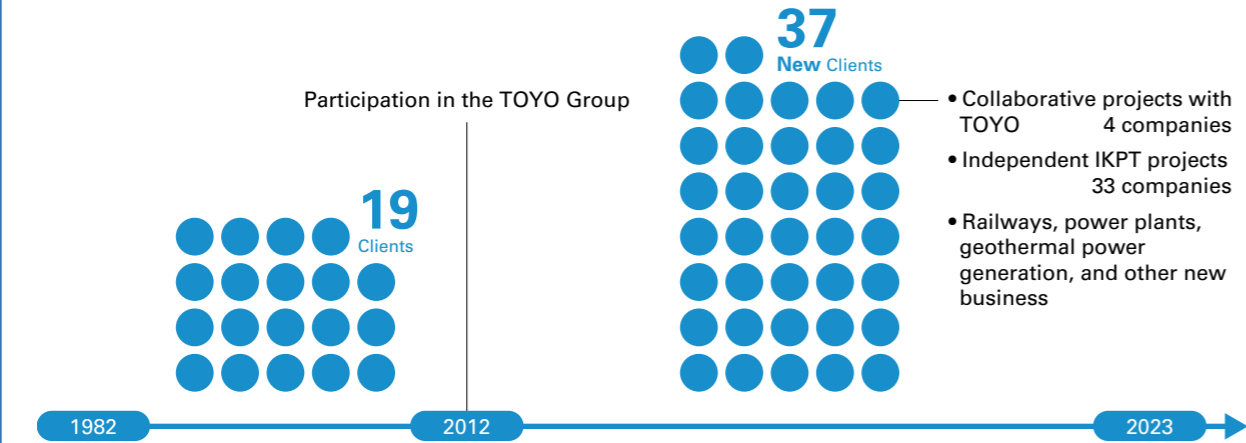
Due to global trends associated with new business fields related to the energy transition and carbon neutrality, IKPT will aim to further enhance its EPC business in renewable energy fields, including geothermal power generation, while also pursuing more business opportunities.

\* Original Equipment Manufacturer (a company that produces outsourcer-brand products)



Lori Octavia  
IKPT  
Corporate Planning Department  
Manager

Network with new clients



Initiatives in the carbon neutrality field

To help achieve carbon neutrality, the state-owned fertilizer company Pupuk Indonesia—which produces 80% of Indonesia’s ammonia—has formulated a long-term roadmap aimed at reducing CO<sub>2</sub> emissions and has announced the intention to develop blue ammonia and green ammonia.

TOYO has conducted a green-ammonia-production feasibility study for Pupuk Iskandar Muda’s fertilizer plant. TOYO will continue focusing on helping to achieve carbon neutrality in Indonesia.

IKPT’s strategy in the geothermal power generation market

Indonesia has abundant natural resources and therefore has a lot of potential in terms of renewable energy, especially hydroelectric, geothermal, and solar power generation. Under Indonesia’s plan, in order for the country to achieve net zero emissions (NZE) by 2060, the country has set the following target for the ratio of its power covered by renewable energy: to increase the ratio from 14% in 2021 to 23% by 2025. Under the Electricity Supply Business Plan (2021 to 2030) of the state-owned power company PLN, the country intends to achieve the above target through new hydroelectric power generation, geothermal power generation, biomass-fired power generation, and biomass co-firing at coal-fired power plants.

Through the projects IKPT has implemented up until now, the company has maintained collaborative relationships with strategic partners and stakeholders, including companies, fund providers, and OEMs. In addition, Currently, IKPT is also supporting TOYO for the promotion of technology of Closed

Loop System which can serve as a breakthrough technology to expand client’s geothermal capability by reactivating depleted/suspended well due to lack of downhole steam. In the geothermal power generation field, IKPT will implement a blue ocean strategy to generate new demand while simultaneously pursuing differentiation and low costs.

IKPT’s geothermal power generation results

1995	Gunung Salak unit 4, 5, and 6 project (3 × 55 MW)
2010	Lahendong unit 4 project (1 × 20 MW)
2011	Ulubelu unit 1 and 2 project (2 × 55 MW)
2017	Lumut Balai unit 1 project (1 × 55 MW)
2019	Dieng small-scale project (1 × 10 MW)
2023	Blawan Ijen unit 1 project (1 × 34MW)

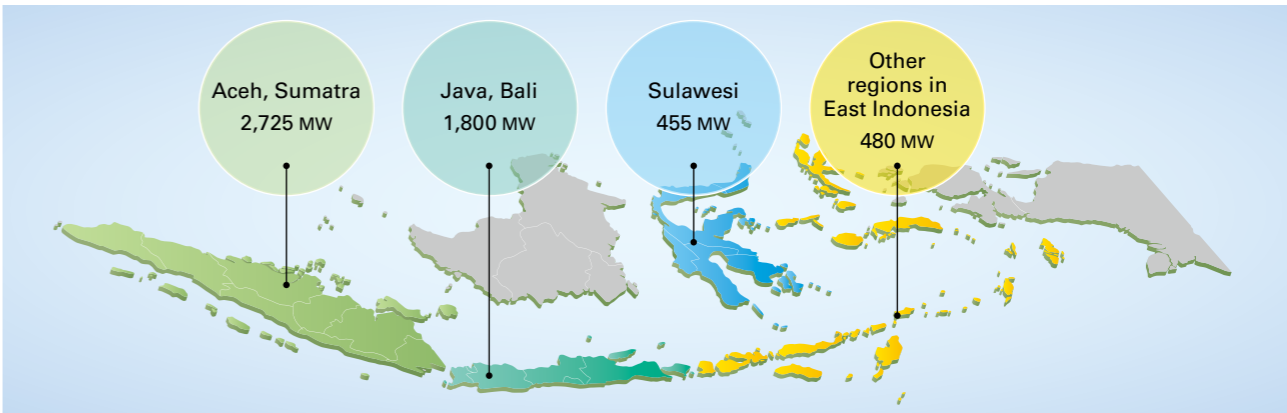


Dieng small-scale geothermal power plant



Signing ceremony for the Blawan Ijen unit 1 geothermal power plant project

Potential demand for geothermal power plant development in Indonesia up through 2030



Source: 2021 to 2030 Electricity Supply Business Plan, PLN



FPSO market environment and establishment of OFS

In 2022, we established the strategic affiliate Offshore Frontier Solutions (OFS)—which handles FPSO EPCI\* work—with MODEC, Inc. in Singapore.

Currently, major oil companies and state-owned oil companies have a lot of investment appetite for the FPSO market. As the SDG tide rises, most major oil companies are setting CO<sub>2</sub> emission reduction targets. As such companies consider how to reduce their CO<sub>2</sub> emissions and maintain their cost competitiveness, they are planning to continue investing heavily in the deep sea field (a growth field) until around 2030. When major oil companies select FPSO EPCI contractors, they prioritize contractors that are capable of executing projects within the desired time period and that have proven track records, and the market's two leading companies—SBM (based in the Netherlands) and MODEC—are expected

to maintain their superiority for the time being.

The FPSO market had its first boom from 2003 to 2012, and—given the cyclical nature of this market—it will have another boom in the next ten years, and a lot of large projects are being planned. Our policy is to devise a reliable strategy for taking advantage of these trends, foster an environment that enables us to help create this market, assign an order of priority for selecting projects, and reliably receive orders as a result.

We will take full advantage of both MODEC's market building capabilities and knowledge as well as TOYO's FPSO top-side project results and know-how to increase the orders we receive and reliably execute projects.

\* Engineering, Procurement, Construction, Installation

TOYO's FPSO results

In 2005, we started out by mainly handling engineering work as a subcontractor for MODEC to expand our offshore knowledge, and then, in 2010, we established the joint venture MTOPS with MODEC for the purpose of executing projects and started jointly handling EPCI work. All the projects we handled through MTOPS were for Brazil, which means the projects had local content requirements.\* We were aided by the exchange rate difference with the Brazilian real, and—in spite of the difficult environment, including regulations, the culture, and the national character of the people—we were able to successfully complete the projects by setting up an organization capable of project execution, implementing detailed reporting and cost schedule management,

and constantly reminding subcontractors what needed to be done. By fusing the strengths of our two companies—specifically MODEC's ability to handle projects based on its knowledge of FPSO-specific requirements and TOYO's experienced systematic plant-engineering management and construction management methods—we were able to achieve synergistic effects that we believe led to successful project execution.

Through the new establishment of OFS, we will not only provide engineering technology but also contribute to construction, foster a culture that provides our customers with both cost competitiveness and high value, and endeavor to ensure the success of projects.

\* Regulations that require a certain level of procurement from local companies based in the country, etc.

Order received in	Completed in	Customer	Country	Production capacity (BOPD)	Contractor	Service details
2005	2008	BHPBP/MODEC	Australia	80,000	Toyo-Japan	EPCm
2007	2008	BHPBP/MODEC	Australia	96,000	Toyo-Japan	FEED
2008	2011	BP/MODEC	Angola	157,000	Toyo-Japan	FEED+E
2010	2012	Petrobras/MODEC	Brazil	120,000	MTOPS	EPCI
2011	2013	OSX 3 Leasing B.V./MODEC	Brazil	100,000	MTOPS	EPC
2011	2014	Petrobras/MODEC	Brazil	150,000	MTOPS	EPCI
2012	2015	Petrobras/MODEC	Brazil	150,000	MTOPS	EPCI
2013	2016	Petrobras	Brazil	100,000	MTOPS	EPCI
2013	2018	Petrobras/MODEC	Brazil	150,000	EBR*	EPCI
2019	2020	MODEC	Brazil	180,000	EBR	C
2019	2021	MODEC	Brazil	180,000	Toyo-Japan, Toyo-India EBR	EC

\* A Brazilian 50% equity-method affiliate

Initiatives to reduce the environmental impact

For the orders we received at the end of April of 2023 and at the beginning of May—the Uaru project (Guyana) for Exxon Mobil and the BM-C-33 project (Brazil) for Equinor—given the need to consider the environment, we have decided to introduce combined-cycle power generation, which reduces the CO<sub>2</sub> emissions compared to conventional gas-turbine power generation. In addition, although we are currently focusing on

FPSO as our main business product, the reason we called the new company Offshore Frontier Solutions is that our plan is for the company to be a provider of all kinds of offshore solutions, so we intend to actively and horizontally expand into offshore ammonia, offshore hydrogen, and other green and blue projects. In essence, we will utilize the knowledge possessed by MODEC and TOYO to build a new business model.

Partner's opinion

This year marks MODEC's 55<sup>th</sup> year in business. Our company was originally started as a spin-off company to handle business related to ocean projects for a shipbuilding company, and we currently pursue initiatives related to everything from pure FPSO EPC work to charter operations while also providing services related to oil production activities.

MODEC has grown rapidly in the last 20 years, and we now hold the number 1 share of the FPSO industry. Both our organization and the scale of our business grew before we knew it, and—during the last ten years—we learned a lot of hard lessons about how difficult FPSO operations are as well as differences compared to EPCI work. At first, we did not fully understand the concept of building a huge plant and then having to use it for twenty years before earning a return, and—as a result of getting involved in too many projects—I feel like we lost sight of our basic value, which is to make things that are good, as well as the culture and abilities necessary to support this. At the same time, because we established a position in the market, it was necessary to respond to its needs and to find a partner we could trust.

Our history with TOYO goes way back, and we have worked on many projects together. TOYO is home to many professionals who are experienced with FPSO projects, and TOYO is also appealing in terms of its diligence as a company and its many other outstanding executives and employees. Given the above strengths, it was only natural that we ultimately judged TOYO to be our best possible partner.

The energy industry is currently at a major turning point. To support this transition, I hope that we can continue to contribute to the stable production of fossil fuel, which supports the daily lives of people, for the time being as we take steps to ensure that the partnership between our two companies adds up not just to two but to ten or even a hundred times the effectiveness, including innovating, finding the courage to get out of our comfort zone, and steadily making revenue as we work together to formulate and execute strategies for handling the energy transition.



**Soichi Ide**  
Executive Managing Officer and Group CDO (Chief Digital Officer) of MODEC, Inc.  
President & CEO (Chief Executive Officer) of MODEC Offshore Production Systems (Singapore) Pte. Ltd. and Offshore Frontier Solutions Pte. Ltd. (Singapore)



MV32 FPSO completed in 2021



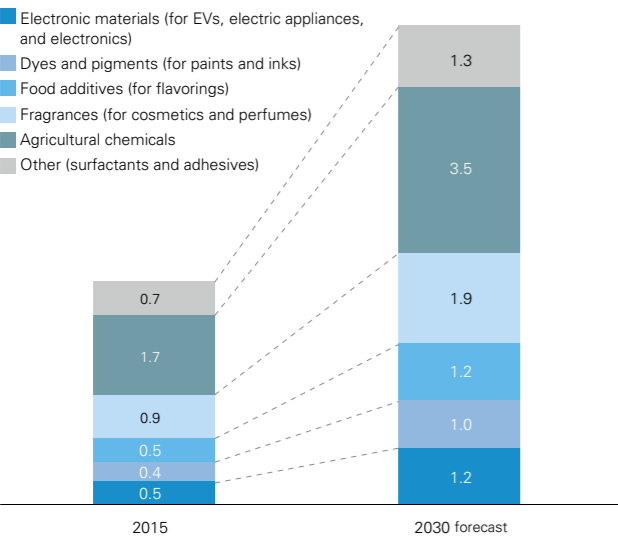
Plant Business (Functional Chemicals and Semiconductors): Market Conditions

Functional chemicals

Growth is anticipated in this field, and we expect the global market for functional chemicals (electronic materials, dyes and pigments, food additives, fragrances, and agricultural chemicals) to double in size between 2020 to approximately 10 trillion yen.

All of Japan's leading chemical companies are overhauling their portfolios, shifting from traditional all-purpose petrochemicals to functional chemicals. In particular, companies are positioning optical resins (materials for mega-lenses, and for smartphone and in-vehicle camera lenses), agricultural chemicals, and exhaust gas-purification catalysts as points of difference and growth drivers; as such, they are proactively investing in facilities—and we expect this state of affairs to continue in the near future.

Global market for functional chemicals (synthetic organic chemicals) (trillions of yen)



Source: NEDO Technology Strategy Center, compiled in 2018 from various sources

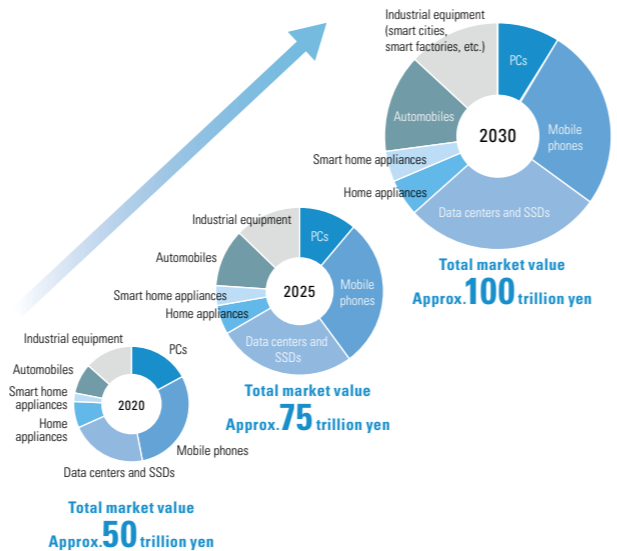
Plant Business Strategy

Plants in the fields of functional chemicals and semiconductors produce products with high added value; compared to conventional large-scale petrochemical plants, they are therefore distinctive for their compact size. We see leading chemical companies for whom we have already completed projects as our primary customers; we actively approach them with proposals for FS, FEED, and other upstream projects, and seek to expand these to EPC, which is one of our strengths. We are also seeking to acquire repeat orders for facilities we have a track record of constructing—including plants for smartphone lens materials, silica glass, agricultural chemicals, and exhaust gas purification catalysts—and we have set a target of increasing sales in these fields by approximately 150% by 2030. When it comes to executing projects, we intend to use DX to streamline our work processes; at the same

Semiconductors

The global market for semiconductors for use in mobile phones, data centers, and automotive IoT is expected to be worth approximately 100 trillion yen by 2030—roughly double its value in 2020. In Japan, too, companies are investing vast sums in semiconductor production facilities; for this reason, demand both for semiconductor auxiliary materials and for semiconductor production equipment is expected to rise. Specifically, the semiconductor industry uses a variety of materials, including etching gases, photoresists, silica glass, and protective tapes, and we believe that investment in production facilities for these materials is set to grow.

Market for semiconductors for IoT use



Source: "Strategy for the semiconductor and digital industries," issued in June 2021 by the Ministry of Economy, Trade and Industry

time, we plan to increase our capacity to propose both energy and labor-saving improvements for our customers' plants.



Exhaust gas purification catalyst plant

Pharmaceuticals and Related Businesses: Market Conditions

By 2030, the pharmaceutical industry is expected to have grown to its largest-ever size, with a value of 55 trillion yen. Although the market for conventional low-molecular synthetic active pharmaceutical ingredients (APIs) is predicted to see only a slight increase, we expect this slack to be taken up by growth in polymer drug conjugates; in particular, the antibody drugs market is predicted to be worth approximately 23 trillion yen in 2025. We anticipate that new-modality pharmaceuticals—including middle molecule pharmaceuticals (nucleic acids and peptides), gene therapy, and regenerative medicine—will see high growth rates, with each of these markets growing in value to several trillions of yen. In Japan, the government has put in place subsidy programs to strengthen domestic supply chains for low-molecular synthetic APIs, and the Dual Use Subsidy Program<sup>\*1</sup>, which seeks to strengthen vaccine production systems for post-COVID Japan. As such, we are seeing a boom in large-scale investments for production plants for both pharmaceuticals and pharmaceutical materials (separation and refining agents, refining films, and nucleic acid beads) in Japan. Going forward, we are confident that capital investment in Japan will continue to grow for antibody drugs and other biopharmaceuticals<sup>\*2</sup>, as well as for middle molecule pharmaceuticals—indeed, we have seen both leading Japanese pharmaceutical companies and contract development and manufacturing organizations enter

these markets. In the future, we believe we can also expect capital investment in facilities for gene therapy and regenerative medicine, which are post-middle molecule pharmaceutical modalities.

<sup>\*1</sup> Dual-use facilities refers to facilities that usually produce biopharmaceuticals, but that are capable of switching to the production of vaccines to combat infectious disease pandemics.  
<sup>\*2</sup> Biopharmaceuticals refers to pharmaceuticals that make effective use of proteins and are produced using recombinant DNA, cell culture, and other bio technologies.

Global market size by modality

Modality		Market size <sup>*1</sup> (2020)	Growth rate <sup>*2</sup> (20-30)	Market size <sup>*1</sup> (2030)
Regenerative medicine	Cell transplantation	220 billion yen	High (27%)	2.5 trillion yen
	ex vivo gene therapy	140 billion yen	High (31%)	2.0 trillion yen
Gene therapy	in vivo gene therapy	170 billion yen	High (32%)	2.6 trillion yen
		210 billion yen <sup>*3</sup>	30% <sup>*3</sup>	2.9 trillion yen <sup>*3</sup>
Middle molecule pharmaceuticals	Nucleic acid drugs	450 billion yen	High (17%)	2.1 trillion yen
	Peptide drugs	3.2 trillion yen	Medium (8%) <sup>*2</sup>	4.7 trillion yen (2025)
Polymer drug conjugates	Antibody drugs	16 trillion yen	Medium (8%) <sup>*2</sup>	23 trillion yen (2025)
	Protein drugs	6.4 trillion yen	Low (4%)	10 trillion yen
Low-molecular pharmaceuticals	Low-molecular pharmaceuticals	48 trillion yen (2016)	Low (slight increase)	approx. 55 trillion yen

<sup>\*1</sup> Predicted market values <sup>\*2</sup> Growth rates for 2020-25 <sup>\*3</sup> Including virus treatments  
Source: Based on "Final report on issues and essential initiatives to resolve these issues, aimed at industrialization of pharmaceutical-related fields," issued on March 29, 2021, by Arthur D. Little (Japan), Inc.

Strategy for Pharmaceuticals and Related Businesses

Biopharmaceutical and vaccine production facilities

Many leading companies have already successfully applied for the Dual-Use Subsidy Program. TPS<sup>\*1</sup> is seeking entry into the production facility EPC market, where it intends to leverage its advanced single-use technologies<sup>\*2</sup>. Biopharmaceutical and vaccine production facilities tend to entail large-scale investment projects, and we are working together with our partner, TAISEI Corporation, to expand our share of this market.

Middle molecule pharmaceuticals production facilities

Based on our past history in constructing nucleic acid production facilities, we aim to continue attracting orders for EPC projects; at the same time, we are actively soliciting orders for related facilities that are indispensable to nucleic acid production, including nucleic acid bead production facilities, and separation and refining agent production facilities.

Low-molecular synthetic API production facilities

Traditionally, batch-production systems have been the norm in the field of synthetic APIs. However, iFactory<sup>®</sup> Note), which we have participated in from the development stage, has completed development of a continuous API production system. iFactory<sup>®</sup> features easy recombination of unit operations and

is highly energy efficient; as such, we believe there is a strong likelihood it can be used in the continuous production of fine chemicals as well.

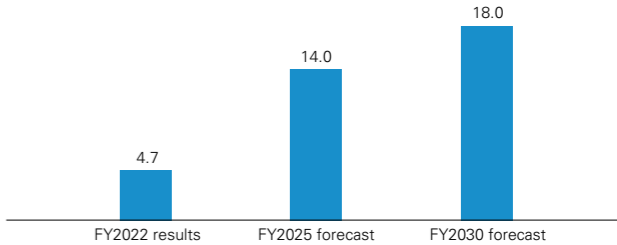
Going forward, we intend to grow sales of low-molecular synthetic API production facilities, while TPS intends to participate as an EPC contractor as well.

By expanding into various pharmaceutical fields, we intend to increase sales in our pharmaceuticals and related businesses approximately three-fold by 2025, and four-fold by 2030. We intend for pharmaceuticals and related businesses to become a key pillar of TPS operations.

<sup>\*1</sup> TEC Project Services Corporation (TPS) is a Toyo subsidiary that specializes in plant EPC in Japan.  
<sup>\*2</sup> Instead of conventional stainless-steel production facilities, TPS utilizes single-use resin facilities for production. The fact that they are single-use means that new facilities are used for each new project, so eliminating the need for cleaning, disinfecting, and checking processes; this enables production facilities to be established quickly, and saves on energy and labor.

Note) iFactory<sup>®</sup>  
1. In 2022, at the Fourth Japan Open Innovation Prize, "The development and widespread sales of the iFactory<sup>®</sup> innovative continuous production system" project received the Minister of Economy, Trade and Industry Prize  
2. In 2023, at the 15th ENAA Engineering Commendation and Special Encouragement Awards, "The iFactory<sup>®</sup> innovative continuous production system development team" received the Special Encouragement Award

TPS sales in pharmaceuticals and related businesses (¥ Billion)

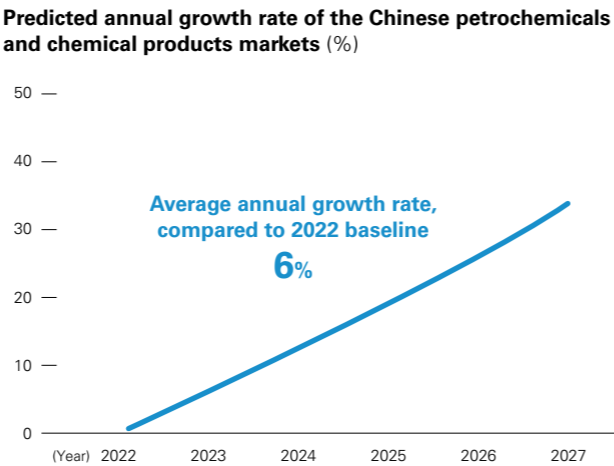


iFactory demonstration facilities



Continued Domestic Investment Expected in Chinese Markets

Following the end of the COVID-19 pandemic, the ensuing economic recovery has led to further opportunities for growth in the fields of carbon neutral, new infrastructure, electronic materials, and lithium-ion battery materials. As a result, China's markets are showing signs of increased domestic investment. From 2022 to 2027, the annual growth rate of the Chinese petrochemicals and chemical products industries is predicted to average 6%. Foreign investment in the Chinese petrochemicals and chemical products industries has been slightly slower than expected, but investment has continued, particularly in coastal regions.



Toyo-China's Growth Strategy

Toyo-China provides specialized engineering services to Japanese, European, and U.S. customers who invest in China in various fields, including petrochemicals, specialty chemicals, fine chemicals, catalysts, electron gas, and lithium-ion battery materials. If we can successfully fulfill our existing project orders and provide outstanding services, this will encourage our customers to place new orders for new projects; in this way, we are aiming to achieve harmonious co-prosperity with them. We are focused on helping our customers achieve carbon neutrality through our engineering, as well. We also plan to leverage our past experience and successes to actively enter new fields such as electronics and lithium-ion batteries.

Taking the DXoT tools that the Toyo Group is currently developing and applying them to medium and large-scale projects, we aim to further improve efficiency and boost quality, through the achievement of high performance, superior quality, more rigorously adhering to our schedules, and reducing costs. Going forward, Toyo-China will seek to provide better value and services in line with customer needs.



Chemical plant for DPE in Nantong



Chemical plant for Wacker Chemicals in Nanjing



South Korea's semiconductor market, which will remain promising

In 2020, South Korea had an 18.4% share of the world's semiconductor market and has maintained the world's second largest share of this market since 2013. The country's government is aiming to build a world-class semiconductor supply chain by 2030, and it plans to increase the investment tax reduction rate to as much as five times or more (6 to 10%). In addition, to support capital investment, the country has used 1 trillion won (approximately 800 million US dollars) to set up a special capital investment fund and plans to expand its support for the streamlining of semiconductor production facilities as well as the development of water, electricity, and other infrastructure.

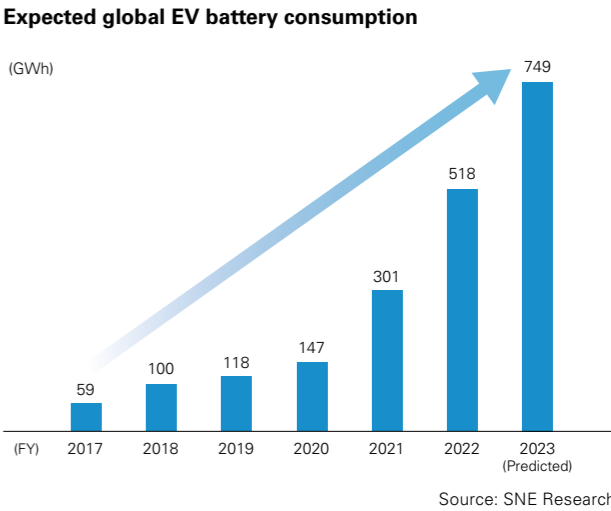
South Korea is also developing a specialized semiconductor complex to attract semiconductor-related equipment, material, and part manufacturers from countries around the world.



A dry gas plant completed in 2023

The increasing presence of South Korea's secondary EV battery market

The world's secondary EV (electric vehicle) battery market has been expanding since 2017. EV battery consumption reached around 749 GWh in 2023, and it is expected to increase at an average annual growth rate of 10% through 2030. The market shares of major South Korean companies have been steadily expanding, and South Korea is now the world's second largest producer of secondary batteries. South Korea's manufacturers—which produce battery materials that include cathodes, anodes, electrolytes, separators, and precursors—are planning investments to respond to increasing demand, and they are actively expanding their production capacity in South Korea, the USA, and Europe. In addition, to reduce potential risks stemming from trade friction between the US and China, some Chinese manufacturers are devising plans to build plants in South Korea through collaborative investment with South Korean companies.



Building a new business portfolio that takes advantage of past experience and knowledge

Toyo-Korea has implemented many projects, including petrochemicals, in South Korea and other countries around the world. Based on the technologies and regional know-how accumulated through such experiences, the company has recently gotten involved in the construction of semiconductor-related material plants. Toyo-Korea also plans to focus on constructing plants in the secondary EV battery field—for which demand is expected to greatly increase in the

future—including not only battery separators but also EV battery materials, as a new revenue source for the company. Toyo-Korea will continue providing overseas clients who are considering investment in South Korea with one-stop services that include everything from the basic engineering and government approval stages to plant construction, thereby acting as a partner to customers to help them reliably launch their operations in a short period of time.



Malaysia's market environment

In 2021, Malaysia's government announced the country's Twelfth Malaysia Plan, a medium-term five-year plan for national development. Under this plan, the country is emphasizing recovery from COVID-19, economic growth, and the pursuit of sustainability, and—during the final stage of the plan—Malaysia's aim is to become a high-income country, and the country is expected to maintain a stable GDP growth rate of 4 to 5%. To support this growth, the country is maintaining a certain scale of domestic and foreign investment in the manufacturing industry as well as new and replacement investment, and stable demand is expected in the oil, gas, petrochemical, and chemical industries, which are TOYO's main business fields.

In addition—based on Malaysia's policy of achieving carbon neutrality by 2050—the government announced National Energy Policy 2022-2040 in 2022. This policy consists of 12 strategies and 31 action plans for achieving the energy transition, and it includes important efforts that take advantage of the TOYO Group's knowledge and strengths—including improving the added value of existing petrochemical complexes, expanding the high-value-added downstream oil and gas product industry, promoting the local production of bioenergy, and enhancing competitiveness aimed at our upcoming carbon-neutral society—all of which are expected to result in diverse and abundant business opportunities.

Toyo-Malaysia's growth strategy

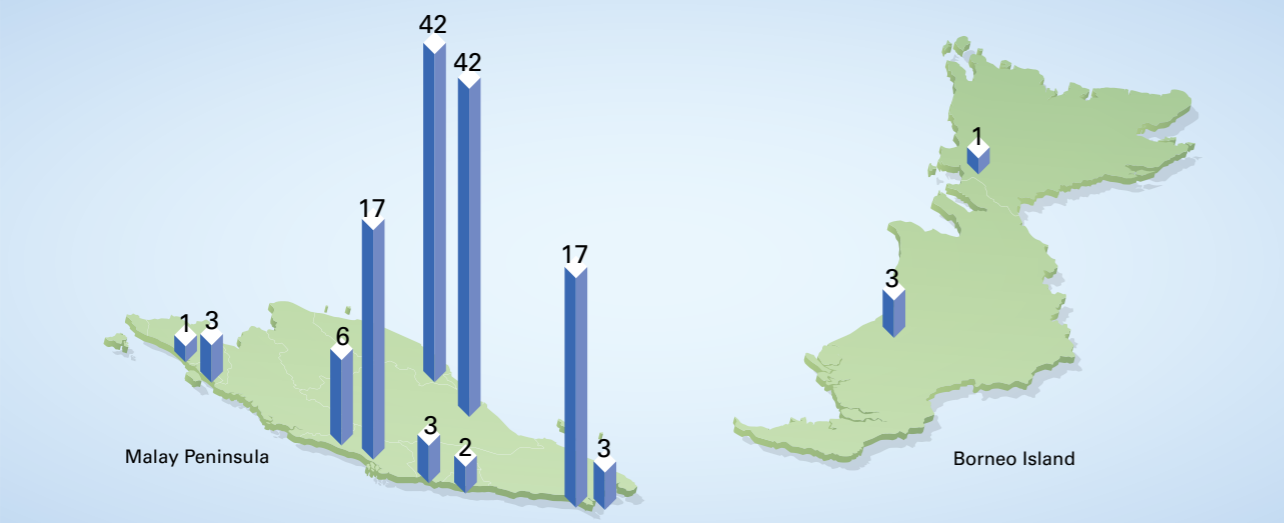
Toyo-Malaysia will take advantage of the strengths below in existing fields to serve its customers as the best possible engineering partner and to contribute to the success of their projects, including investment in the modernization and improvement of existing facilities in Malaysia for which ongoing demand is expected as well as investment in capacity expansion.

- Toyo-Malaysia's strengths**
- Toyo-Malaysia possesses comprehensive engineering departments in the country and can therefore provide high-quality engineering services.
  - Toyo-Malaysia possesses deep knowledge of the existing facilities of customers as well as Malaysia's laws and regulations and can therefore optimize customer plans.
  - Toyo-Malaysia has an extensive project track record that enables the company to select the best available local vendors and subcontractors for customers.
  - Toyo-Malaysia's reliable safety management system has the highest level safety record of any such system in the country for renewal projects, which involve a high degree of hazard risk.

In addition, as a member of the TOYO Group, Toyo-Malaysia boasts a diverse range of experiences collaborating with the group companies and is capable of utilizing the Group's latest knowledge and playing a role as a Group collaboration hub when it comes to large projects and opportunities in new domains.

Thanks to these strengths, Toyo-Malaysia can provide optimal one-stop EPC services in Malaysia to contribute to the success of customers in situations involving both domestic and foreign clients as well as new and replacement investment.

Major project experience in Malaysia (number of projects)



Brazil is aiming to reduce its greenhouse gas emissions by 50% by 2030 and to achieve carbon neutrality by 2050. President Lula, who was inaugurated in January of 2023, has identified environmental protection as an important political measure, and the efforts of Brazil's society to achieve carbon neutrality are therefore expected to accelerate. In addition, the population of Brazil is expected to continue increasing up through around 2050, and the country's GDP purchasing

power parity is expected to grow, so there are demands for the country to accomplish its energy transition no matter what. TSPI—our Brazilian affiliate—will fully utilize its EPC expertise, management capabilities, and relationships with customers developed until now to employ a multifaceted approach to the social issues facing Brazil, thereby contributing to the achievement of a sustainable society.

Oil refinery: reducing the environmental impact

One example of our projects to reduce the environmental impact is an order we received from Petrobras in 2022 to increase/build diesel fuel hydro-refining equipment and hydrogen recovery equipment planned for the Replan refinery. The purpose of this project is to reduce the sulfur content of all the diesel fuel produced by the Replan refinery, the largest in Brazil. Because the sulfur in diesel is emitted as exhaust gas and causes air pollution, sulfur reduction is one initiative that greatly contributes to reducing the environmental impact. The plan is to complete the Replan project in 2025, and it is expected to result in the production of 63,000 barrels per day (bpd) of low-sulfur diesel. Petrobras is planning a number of sulfur-reducing projects other than Replan as well, and TSE—a TSPI subsidiary that possesses regional know-how, technologies, and results—will contribute to the achievement of an environmentally friendly society through these plans.



Diesel desulfurization and hydro recovery facilities at the Replan refinery (under construction)

Gas-fired power generation: improving the QOL

In 2021 and 2022, we received consecutive orders for gas-fired power generation projects. In Brazil—where renewable energy accounts for over 80% of the electricity matrix—securing a stable supply of power is a major issue, and the development of base-load power sources that are not affected by nature is essential for achieving social development.

In 2021, we received an order from Eneva for the Parnaiba VI gas fired power plant—which was using only gas turbines to generate power—and we improved the power generation output and efficiency by adding steam turbine and a heat recovery steam generator. Increasing the power generation efficiency also reduced the CO<sub>2</sub> emissions from this plant, resulting in a reduced environmental impact.

The Barcarena project, which was ordered from us in 2022, involves the construction of a 600 MW combined cycle power plant in Para state. Para has one of the highest ratios of people unable to use power of any state in Brazil, so completing this project is expected to help mitigating the power shortage problem and improve residents' quality of life.



Parnaiba VI gas-fired power plant (under construction)

Message from the Chair of the Sustainability Committee

Noriyoshi Torigoe  
Director, Executive Vice President



In recent years, the international economic community has faced universal issues, including responding to climate change and realizing a balanced form of sustainable growth. Companies, too, are being called on to contribute to the resolution of various issues outlined in the UN's SDGs<sup>\*1</sup>. To realize our mission of engineering for sustainable growth of the global community, we have defined four materialities (important management issues). Based on our Sustainability Basic Policy, we also intend to fulfill our role as an engineering company in order to grow sustainably, too.

Based on our belief that business operations and sustainability are inseparably linked, we are promoting a medium-term management plan (2021-2025) focused on our green and blue strategies (sustainable technology and business development and advanced EPC operation).

We are implementing initiatives to enhance the technical capabilities, knowledge, and experience we have cultivated until now as we aim to (1) help “achieve an environmentally friendly society” by pursuing the development of fuel ammonia, hydrogen, synthetic fuel, and other next-generation energy as well as energy-saving plants, waste plastic, and other low-environmental-impact/cyclical technology and (2) “enrich people’s lives” by contributing to the resolution of food problems in the fertilizer and other fields, securing stable energy for transition purposes, and enhancing the foundation of life via high-performance materials, etc.

When it comes to sustainability, we recognize responding to climate change to be of particular importance. Therefore, in addition to executing the above initiatives, in November of 2021, we expressed our support for the recommendations of the TCFD<sup>\*2</sup>, and, in June of 2022, we disclosed and announced information in line with these recommendations. As part of our efforts to contribute to the international realization of the Paris Agreement, we have established targets of reducing our own greenhouse gas (GHG) emissions by 30% by 2030 (compared to 2021) and of achieving net zero emissions by 2050. We also intend to contribute to reductions of emissions generated by third parties by cooperating with our stakeholders and by providing the necessary technologies, products, and solutions.

Based on our belief that, to achieve the above strategies, it

is essential not only to utilize the knowledge and experience we have cultivated up until now but also to secure and train human capital in possession of diverse backgrounds and know-how, we have positioned human capital as our most important business resource as we aim to become an (3) an organization of “people of diverse backgrounds engage in active, meaningful work” through the pursuit of diversity, environmental development, suitable hiring activities, human capital training, and other initiatives.

At TOYO, our Code of Conduct forms the cornerstone of our business management as we endeavor to maintain and improve our (4) “integrity.” Having signed the UN Global Compact (UNGC)<sup>\*3</sup> in December of 2021, we now also engage in management that conforms to the Ten Principles of the Global Compact, which are related to human rights, labor, the environment, and anti-corruption.

In terms of business and human rights, we recognize respect for the human rights of all people affected by our global business activities as the foundation of our operations, and, in this spirit, we established our Basic Policy on Human Rights in June of 2023, and we strive to implement human rights due diligence as we strengthen our related initiatives.

To oversee our Group-wide sustainability initiatives, in November of 2021, we established the Sustainability Committee as an advisory body to the Executive Committee. The Sustainability Committee plans, promotes, and monitors Group-wide sustainability initiatives and is properly supervised by the Board of Directors. In addition, based on this committee, we have established various subcommittees in environmental and human rights fields, and we promote initiatives in collaboration with operation units and each Group company.

TOYO, as an organization that possesses integrity and that employs a diverse and motivated workforce with retaining the trust we have earned from society and from our stakeholders, intends to fulfill our unique duties as an engineering company and to sustainably improve our corporate value while also contributing to the sustainable development of the international economic community.

<sup>\*1</sup> Sustainable Development Goals  
<sup>\*2</sup> Task Force on Climate-related Financial Disclosures  
<sup>\*3</sup> UNGC (United Nations Global Compact)

Sustainability Basic Policy

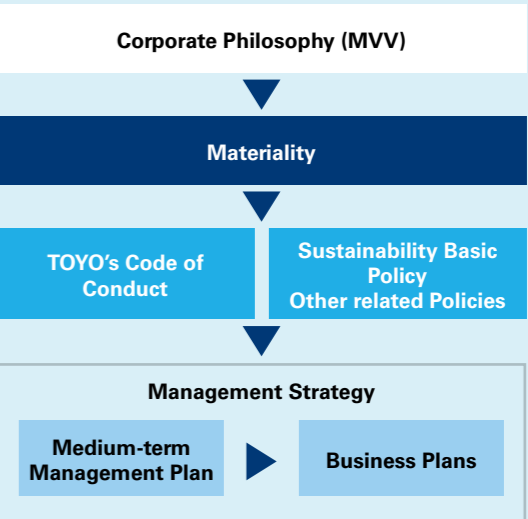
Sustainability Basic Policy

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.”

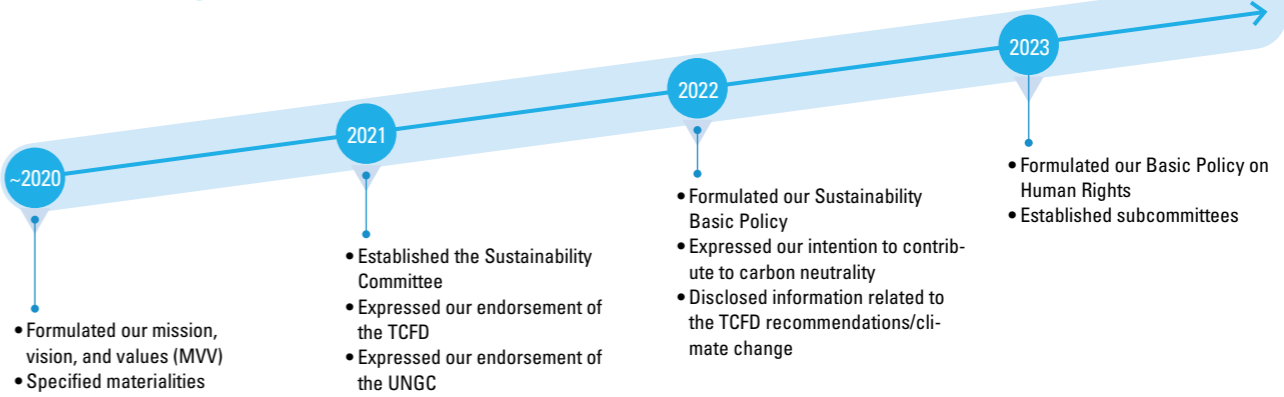
The Positioning of the Sustainability Basic Policy



Sustainability Promotion System



Sustainability Initiatives



# Addressing Climate Change (Disclosure Based on TCFD Recommendations)

TOYO recognizes that protection of the global environment and prevention of global warming are common issues for all humankind. We conduct business activities as our mission “Engineering for Sustainable Growth of the Global

Community” and under the slogan “environmentally-friendly society” which is one of our materialities. In November 2021, TOYO expressed its agreement for the recommendations of the Financial Stability Board (FSB)’s Task Force on Climate-related Financial Disclosures (TCFD), and based on these proposals, TOYO has established the strategies and promoted initiatives.



## Governance

We recognize responding to sustainability-related issues as an important management issue in terms of not only avoiding risks but also gaining business opportunities, and—to improve our corporate value in the medium to long term—we have formulated a Sustainability Basic Policy to describe our initiatives aimed at sustainability, and we are building sustainability-related systems supervised by our Board of Directors.

Our climate change measures are also planned, promoted, and monitored by the Sustainability Committee, an advisory committee to the Executive Committee, and our basic policies and important matters are discussed and formulated by the Board of Directors after deliberation and reporting by the Executive Committee.

(>For more information about “Corporate Governance,” see p72)

## Risk Management

Based on our Basic Policy of the Internal Control System, TOYO identifies the events of potential risks, including changes in the business environment, clarifies the processes for classifying, analyzing, assessing, and responding to risks, and the divisions in charge and related regulations, develops and implements risks management system. In order to identify and mitigate potential risks as quickly as possible, we periodically review and identify key risk items and implement risk management. Regarding identification and assessment of climate change-related issues, we comply with the framework recommended by the TCFD, and analyzes important factors affecting our business through scenario analysis and reflects in the medium-term management plans and other strategies.

(>For more information about “Risk Management,” see p78)

## Strategy

In line with the TCFD recommendations, the report is based mainly on (1) the 2.6°C scenario\* (Stated Policies Scenario (STEPS) and (2) the 1.5°C scenario\* (Net Zero Emissions by 2050 Scenario (NZE)). “Transition risks” refers mainly to the risks that may occur in course towards the decarbonization society (1.5°C scenario), and “physical risks” refers to the risks that would take place in the emissions reduction failure (2.6°C scenario).

\* Refer to World Energy Outlook 2021 of the International Energy Agency (IEA)

Scenario Analyses: the World in 2050	
Rise in average temperature of 2.6°C Stated Policies Scenario (STEPS)	Rise in average temperature of 1.5°C Net Zero Emissions by 2050 Scenario (NZE)
<ul style="list-style-type: none"><li>Increased energy consumption, increased demand for fossil fuels (Continued reliance on fossil fuels, rise in fossil fuel prices, improvements in energy efficiency)</li><li>Increasingly severe natural disasters</li><li>GHG emissions remain flat until 2050</li></ul>	<ul style="list-style-type: none"><li>Reduced energy consumption, reduced demand for fossil fuels and decarbonization (Significant shift to electrification and non-fossil fuel use, fall in fossil fuel prices, significant improvements in energy efficiency, widespread implementation of carbon pricing, and decarbonization/recycling-society development)</li><li>Gradual increase in major natural disasters</li><li>Net-zero GHG emissions by 2050</li></ul>

Major Risks and Opportunities				
	Item		Risks	Opportunities
Transition risks (primarily for 1.5°C temperature rise scenario)	Policies, laws and regulations	Carbon pricing	• Introduction of carbon pricing schemes may lead both to decreased demand for conventional plants due to falling demand for fossil fuels and to increased plant costs due to rising costs of raw materials and equipment	• The appropriate introduction of carbon pricing schemes might lead to increased orders and business opportunities for renewable power generation and non-conventional plants and to improved competitiveness due to decarbonized procurement of raw materials and equipment
		Licenses and support systems	• Insufficient responses to more stringent environmental permit requirements may result in reduced orders, missed business opportunities, and increased costs	• The use of government assistance might facilitate the development, verification, and social implementation of new technologies
	Technologies	New technologies	• Delays in developing new technologies may result in lost orders and missed business opportunities	• The use of decarbonized technology/CCUS or circular economy/circular technology application might lead to increased orders and business opportunities
		Energy savings and optimization	• Delays in responding to energy savings may result in decreased opportunities for new construction projects and modification projects	• The application of energy-saving/efficiency-boosting technology might lead to an increase in new projects or increased opportunities to renovate existing facilities
	Markets	Energy mix, power configuration, and product changes	• Decreased demand for conventional plants due to decreased fossil fuel demand and the spread of non-conventional energy • The realization of geo-economic risks may increase pressure on energy supplies, while energy transitions may result in volatile fossil fuel prices	• The development of renewable power generation and new technologies might lead to increased orders and business opportunities centered on non-conventional plants • Increased use of renewable energy in numerous countries and regions overseas may facilitate risk diversification, lead to lower medium- and long-term costs for fossil fuels, and lower prices and increased uptake of renewable power generation facilities
		Supply chains	• Supply chain issues may result in adverse impacts on stable procurement of raw materials and equipment, as well as on suppliers, local freight transporters, and subcontractors	• Focused procurement on the back of proper assessments and selective choice of suppliers, differentiation based on partnerships and alliances, supply chain management, and more efficient construction work
	Reputation	Initiatives for and contributions to fighting climate change	• Insufficient responses to climate change may result in adverse impacts on orders, business opportunities, partnerships, securing human resources, and financing due to poorer reputation among customers, partners, and markets	• The improvement/establishment of stakeholder assessments might lead to increased differentiation and opportunities
Physical risks (primarily for 2.6°C temperature rise scenario)	Acute Chronic	Natural disasters due to abnormal weather conditions	• Increasingly severe natural disasters (acute: typhoons and flooding; chronic: long-term heat waves and rising sea levels) might cause problems that include the stagnation of project execution, decreased productivity, and a worsened working environment	• More advanced business operations and expanded maintenance (due to target-site risk handling, insurance coverage, and safety measure costs as well as supplier decentralization, the minimization of on-site construction through the use of modules, etc., business continuity planning (BCP), etc.)

Risks, Opportunities, and Strategies in Major Business Fields			
Business field	Major transition risks (▲) and opportunities/response (●)	Medium-term (to 2030)	Long-term (to 2050)
Energy	▲ Decreased opportunities to receive orders for conventional plants in the oil and gas field due to the transition to clean fuel. However, due to the ongoing economic development of emerging countries in the short to medium term, there will still be conventional business opportunities during the transitional period.		● Increased business opportunities and orders for decarbonized plants aimed at achieving a carbon-neutral society by utilizing both our existing know-how of ammonia, hydrogen, synthesis gas technology, CO <sub>2</sub> recycling, etc. and the new technology of us and our partners.
Chemical	▲ Decreased opportunities to receive orders due to decreased demand for conventional petrochemical plants that use fossil raw materials and fuels resulting in high CO <sub>2</sub> emissions.		● Increased opportunities to receive orders for new decarbonized (blue or green) petrochemical plants as well as the gradual conversion to alternative fuels at existing facilities. Increased opportunities to receive orders in high-performance material fields and circular economy fields, including increasing the efficiency of plants by introducing energy-saving technology, waste plastic recycling, and biodegradable plastic.
Power generation	▲ Decreased opportunities to receive orders for gas-fired or coal-fired power generation due to the transition to clean power. However, there will also be increased opportunities to receive orders due to the transition to the use of LNG, which has relatively low CO <sub>2</sub> emissions, as well as orders in the short to medium term.		● Increased orders for and business opportunities related to overseas projects and large projects in Japan—regarding which we can take advantage of our renewable power generation technology and extensive track record. Increased orders for and business opportunities related to the transition from existing thermal power generation to ammonia co-firing as well as future single-fuel firing.

Specific Initiatives
Promotion—including co-creation partnerships—of EPC, non-EPC (pre/post-EPC, technological development, and business development), and value chain construction, especially in the fields listed below: <ul style="list-style-type: none"><li>Carbon-free fuels (ammonia and hydrogen fuels, decarbonized power-generation fuels, and synthetic fuels (e-fuels, SAF, and synthetic methane))</li><li>Green petrochemicals and CCU (g-Methanol®, green/blue ammonia, CO<sub>2</sub>-derived petrochemical raw materials/fuel, and heating furnace fuel conversion/electrification)</li><li>Renewable power generation and geothermal power generation</li><li>CO<sub>2</sub> capture (DAC, EOR-CCS, and BECCS)</li><li>Energy savings and more efficient resource use (HERO/SUPERHIDIC® and biorefineries)</li><li>Renewable/recycling (waste plastic recycling and urban mines/biomining)</li></ul>

>We have incorporated the above scenario analyses in our Medium-term Management Plan (2021–2025) strategies.

# Addressing Climate Change (Disclosure Based on TCFD Recommendations)

## Metrics and Targets

TOYO has set the following targets to reduce GHG emissions.

### Examples of specific initiatives

#### Scope 1 & 2 (targets)

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

\* Our Scope 1 & 2 emissions in 2021 amounted to approximately 11,800 tons (1.87 tons of CO<sub>2</sub> per person), and we are using this as a reference as we strive to achieve our targets.



#### New technology research center

TOYO is building a new technology research center in Chiba and plans to start running it in April of 2024. The center will use solar energy generated by the solar panels installed on its roof. The new center will research and develop technology that includes fuel ammonia, which is expected to help achieve carbon neutrality, as well as green methanol that can be produced with almost no GHG emissions.

#### Scope 3 (targets)

- TOYO will cooperate with its stakeholders to provide new technology, products, and solutions, thereby contributing to the reduced GHG emissions of the plants the Group delivers.

### Energy-saving/ renewable energy field



#### SUPERHIDIC®

**(Currently operating)** We delivered our energy-saving distillation system **SUPERHIDIC®** in response to an order received from Maruzen Petrochemical Co., Ltd., achieving over 50% more energy savings compared to conventional distillation towers.



#### Biomass-fired power generation

**(Result)** We have received orders for a total of 12 biomass-fired power generation plants in Japan since 2017 (total power generated: approximately 650 MW), which we have completed or are currently building (as of June of 2023).

### Next-generation energy field



#### Green ammonia production in Indonesia

**(Feasibility study)** We are verifying the feasibility and economic rationality of a project that involves introducing hydrogen produced using renewable energy to an existing fertilizer plant in order to produce clean fuel ammonia.



#### SAF

**(Demonstrated)** On June 17, 2021, we became the world's first company to, for a commercial flight between Haneda and New Chitose, supply SAF produced in Japan by using wood chips, etc. as raw materials. Our aim is to achieve social implementation by the late 2020s.

### Chemical plant field



#### Practical application of ammonia fuel for a naphtha cracker

**(Under development)** Our target is to switch the fuel from the conventionally used methane to ammonia in order to reduce the CO<sub>2</sub> emissions during combustion to zero. We are working on demonstrating ammonia-only commercial furnaces with the aim of achieving social implementation by fiscal 2030.



#### g-Methanol®

**(Business underway)** We are promoting initiatives aimed at achieving the social implementation of environmentally friendly methanol synthesis technology that uses CO<sub>2</sub> captured from various emission sources as well as hydrogen derived from renewable energy as raw materials. There is a possibility of diversifying carbon recycling options.

# Environment

# ENVIRONMENT Aim to Realize an Environmentally Friendly Society

## Basic Policy and Principles on the Environment

Regarding the environment (E), TOYO has stipulated “minimize environmental impact by saving resources and energy, detoxifying, reducing and recycling waste, and by preventing environmental pollution during the course of our business activities” within its Basic Policies on HSE, Quality, and Information Security.

Recognizing the preservation of the global environment and prevention of global warming as issues facing all of humankind, TOYO has also established “aim to realize an environmentally

friendly society” as its materiality, and carries out the business based on the basic philosophies stated on the right.

- We will contribute to the achievement of a sustainable community and society enabling both development of humanity and environmental protection.
- As an international company, we will strive to provide engineering services in harmony with the global environment.

## Environmental Management

In line with ISO14001 certification standards, TOYO takes the environmental management actions stated on the right when executing projects in Japan and within related divisions. We also confirm that these actions are effectively implemented through internal audits.

1. Evaluate compliance with environment-related laws
2. Formulate and implement the set of three environment-related actions (evaluate environmental impact, set environmental target, and implement environmental program)
3. Take and monitor environmental measurements at construction sites

## TOYO's Environmental Initiatives

To contribute to the protection of the global environment as a global engineering company, TOYO will reduce the GHG emissions caused by its engineering activities and provide plants that utilize the latest technology to achieve a low environmental impact collaborating with stakeholders to reduce the GHG emissions of various plants. In addition, we also pursue initiatives related to the maintenance and preservation of biodiversity, and we have developed nature reserve areas for endangered wild plants and animals during past projects as well.

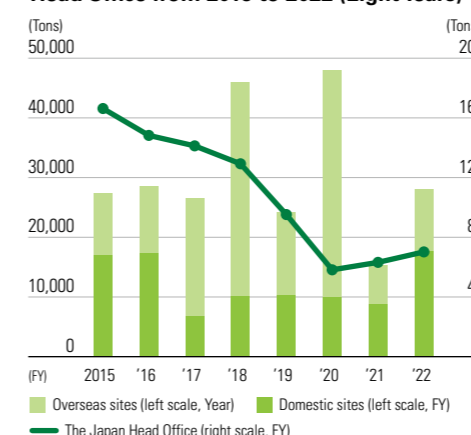
## Reducing the environmental impact

In addition to thoroughly sorting waste at not only in domestic and overseas construction sites but also the Head Office in Japan, TOYO safely disposes of hazardous substances and manages contaminants. Since obtaining ISO 14001 certification

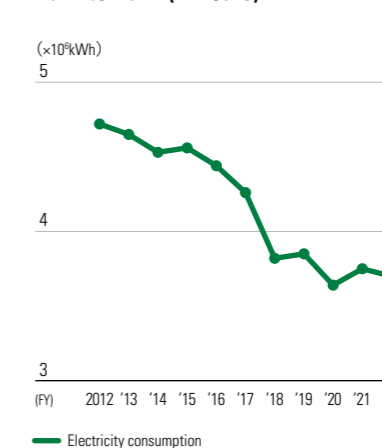
in 2004, we have maintained zero environmental accidents. At construction sites in Japan, we also work to limit the volume of waste and have maintained a recycling rate of more than 88%.

We also raise the environmental awareness of employees through activities that include using rainwater captured on the roof of our Head Office to flush toilets, turning off lights during break times, and opening and closing sunshades. Changes in the electricity consumption as well as the tap water and rainwater consumption at our Head Office in Japan are shown in the graphs below. Compared to fiscal 2021, in fiscal 2022, the COVID-19 pandemic calmed down, and our number of projects both in Japan and abroad increased, resulting in increased waste volume. In addition, the number of people working at the work increased, resulting in higher tap water consumption at our Head Office.

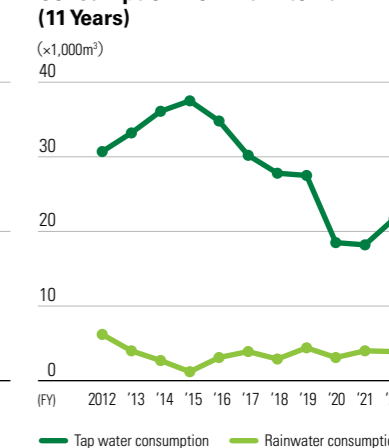
### Waste Generation Amount at Domestic and Overseas Construction Sites and the Japan Head Office from 2015 to 2022 (Eight Years)



### Electricity Consumption from 2012 to 2022 (11 Years)



### Tap Water and Rainwater Consumption from 2012 to 2022 (11 Years)



Reducing the Environmental Impact Through In-House Power Generation and PPA Business  
Solar power generation at our new technology research center

To contribute to the achievement of a carbon-neutral society by promoting energy-related technological development, TOYO is relocating its technology research center in Narashino City to Chiba City, with plans to start up operations in April of 2024. The solar panels installed on the roof of a new building will be used to supply approximately 40% of its required power by utilizing solar energy.



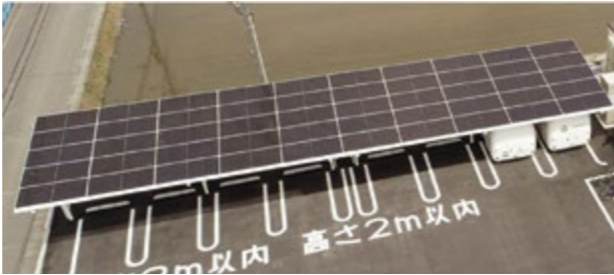
Reducing the environmental impact through on-site PPA\* business

TOYO is working on contributing to the invigoration and decarbonization of regional economies by developing regional power network infrastructure that facilitates the local production of renewable power for local consumption. As part of these efforts, we launched our on-site PPA business in fiscal 2023 by supplying solar power to Chosei Aoba Noen Co., Ltd., an agricultural company in Chiba Prefecture. In addition, we delivered a solar carport (a parking lot with a solar power generation system on the roof) to a SEVEN-ELEVEN JAPAN CO., LTD. store involved in a demonstration experiment related to reducing the environmental impact. In the future, we hope to provide solar-carport-based on-site PPA services to not only convenience stores but also other companies that own roadside stores with attached parking lots.

\* On-site Power Purchase Agreement (PPA). A system under which a power company (TOYO) sets up a solar power generation facility on a customer's site at the power company's expense, owns, maintains, and manages the facility, and supplies the electricity generated by the facility to the customer.



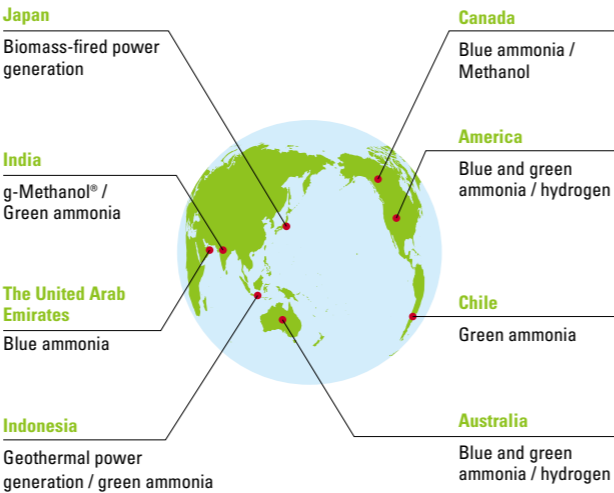
TOYO Chosei solar power plant



Solar carport (photo courtesy of SEVEN-ELEVEN JAPAN CO., LTD.)

Contributing to the Achievement of a Carbon-Neutral Society

TOYO will collaborate with customers to contribute to the decarbonization of society by fusing the engineering knowledge cultivated by the Group through its work on various plants with its low-carbon plant technology. With many countries around the world declaring their target to achieve zero emissions by 2050, we face urgent issues in terms of decarbonizing the raw materials and fuels used for our energy-intensive petrochemical plants and power plants as well as mitigating to emitted CO<sub>2</sub> by CCUS. In the petrochemical field, our proposals include switching to fossil raw materials to recycled petrochemical products, using green hydrogen produced via renewable energy, or using captured CO<sub>2</sub> for CCUS. In the power generation field, we are aiming to achieve a decarbonized society and circular economy by not only pursuing fuel conversion through the use of fuel ammonia, synthetic fuel, etc., but also by facilitating the widespread use of clean power through the utilization of renewable energy, biomass, geothermal, and other environmentally friendly energy sources.



Basic Approach

To contribute to the achievement of a society that enriches people's lives and enables people of diverse backgrounds to engage in active, meaningful work (two of TOYO's materialities) we recognize respect for the human rights of all people affected by our global business activities—including the activities of our group companies—as the foundation of our operations. Based on this belief, we will promote further initiatives aimed at respecting human rights, and—to fulfill our responsibilities in this regard—we have established Human Rights Basic Policy based on TOYO's Code of Conduct and our Sustainability Basic Policy.

Based on our Human Rights Basic Policy, TOYO respects human rights as they are defined in the International Bill of Human Rights<sup>1)</sup> and the International Labour Organization's

(ILO's) Declaration on Fundamental Principles and Rights at Work<sup>2)</sup>, we endorse the Ten Principles of the UN Global Compact<sup>3)</sup>, and we promote initiatives aimed at respecting human rights in line with the UN Guiding Principles on Business and Human Rights.

- 1) International Bill of Human Rights is the collective name of documents adopted by the UN, including the Universal Declaration of Human Rights, International Covenant on Economic, Social and Cultural Rights, and International Covenant on Civil and Political Rights.
- 2) This declaration establishes ten conventions as core labor standards in five areas: freedom of association and the effective recognition of the right to collective bargaining, the elimination of all forms of forced or compulsory labor, the effective abolition of child labor, the elimination of discrimination in respect of employment and occupation, and a safe and healthy working environment.
- 3) The UN Global Compact is a global framework for achieving sustainable growth that was established by the UN in cooperation with private companies and organizations, and it establishes ten principles to be followed by companies in four areas: human rights, labor, environment, and anti-corruption.

System for Promoting Respect for Human Rights

To steadily promote initiatives aimed at respecting human rights, TOYO has established a Human Rights Subcommittee under the Sustainability Committee—which is an advisory board to the Executive Committee and is chaired by the Chief Compliance Officer—and we cooperate with our group companies to promote initiatives aimed at respecting human rights based on our global system. (For details, see Sustainability Promotion System on P57.)

Implementing Human Rights Due Diligence

TOYO implements human rights due diligence to identify and assess the negative effects of our business activities on human rights and then prevent or reduce such effects. In particular, we have identified the five items below as high-priority human rights issues and are taking action accordingly.

High-priority human rights issues	Current initiatives	Future initiatives
1. Occupational safety and health	<ul style="list-style-type: none"><li>Fostering a safe culture</li><li>Developing and following safety standards</li><li>Maintaining and promoting employee health</li></ul>	Continuing and strengthening initiatives
2. Harassment and discrimination	<ul style="list-style-type: none"><li>Regularly implementing harassment training</li><li>Establishing an in-house consultation service</li><li>Ensuring the diversity of human capital (women, disabled persons, foreigners, mid-career hires)</li></ul>	Continuing and strengthening initiatives, developing a consultation service outside the company
3. Working environment (working hours and wages)	<ul style="list-style-type: none"><li>Suitably managing working hours</li><li>Improving work-life balance (remote work system, promoting the taking of childcare and nursing care leave, etc.)</li></ul>	Continuing and strengthening initiatives
4. Forced and child labor	<ul style="list-style-type: none"><li>Requiring that TOYO's Code of Conduct be followed in terms of individual procurement and construction contracts</li></ul>	Clearly stating our requirements in our Transaction Basic Policy, requesting the cooperation of our suppliers, and conducting questionnaires as necessary
5. Supplier management	<ul style="list-style-type: none"><li>Stipulating that TOYO's Code of Conduct be followed in terms of individual procurement and construction contracts as well as the prevention of bribery</li></ul>	Requesting the cooperation of our suppliers in following our Transaction Basic Policy and conducting questionnaires in sequence

Note) The above five items are established based on international standards, such as the principles of the UN Global Compact (UNGC) and the five areas covered by the International Labour Organization's (ILO's) core labor standards, and we also referred to industry-specific human rights risks (including UNEP FI and other international indicators and tools as well as examples of other companies in the industry) to identify human rights issues that TOYO should prioritize based on their level of severity and likelihood of occurrence.

Relief and Dialogues Related to Human Rights Risks

To handle all the human rights risks related to TOYO's global business activities, we have established complaint handling services at each TOYO Group company, we strive to suitably and sincerely respond to reports, and—if it becomes clear that we have somehow caused, promoted, or been directly related to a negative effect on human rights—we endeavor to rectify the situation and provide relief through suitable procedures.

In addition, we utilize outside experts specialized in human rights risks, and we engage in sincere dialogues and discussions with anyone who is negatively affected as well as other relevant stakeholders.

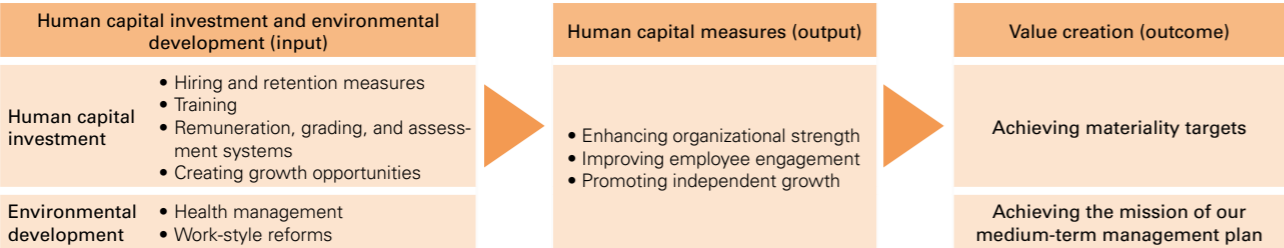
Initiatives to Achieve Respect for Human Rights in the Supply Chain

At TOYO, we apply our Human Rights Basic Policy to all Group executives and employees, we approach all of the suppliers, affiliates, and other business partners in our supply chain to ensure that they support this policy, and we cooperate with them as we strive to ensure respect for human rights.

Our Basic Approach to Human Capital

To implement our sustainable technology and business development and advanced EPC operation strategies under our medium-term management plan, it is essential not only to utilize the EPC-related knowledge and experience we have cultivated up until now but also to secure and train human capital with diverse backgrounds and know-how. TOYO will therefore position human capital as our most important business resource as we

aim to be an organization where people of diverse backgrounds engage in active, meaningful work—one of our materialities—and we will strive to achieve our medium-term management plan by enhancing the ability of our employees to succeed in the medium to long term from a multifaceted perspective that includes hiring, training, remuneration, and health management.



Our Vision for Our Organization and Human Capital

TOYO aims to be an organization that provides employees with a sense of job satisfaction when they achieve their work, such as by providing employees with opportunities to take on challenging work, promoting the expansion of their experience via job transfers based on their career plans, and rewarding them for their achievements with bonuses, selection-based promotions, awards, etc. In addition, we are making TOYO easier to work at by developing a working environment that responds to diverse work styles, including our remote work system and childcare/nursing care leave system. As a result, by running an organization that offers job satisfaction, we are promoting increased employee engagement as well as the development of an environment that enables employees to continuously demonstrate their capabilities.

At the same time, we know that companies and employees are not in a master-slave relationship but rather in a partnership. We expect employees to assume responsibility for their independent growth, take steps to actively acquire new skills, fulfill their duties based on their job responsibilities as they expand their fields of expertise, independently demonstrate their abilities, and successfully contribute to the growth of the company in both the short and long term.



Measure	Initiatives
Career support	<ul style="list-style-type: none"><li>Utilizing career review interviews</li><li>Respecifying the career path model and ideal human capital required for each business field</li><li>Utilizing onboarding plans for mid-career hires and employees</li></ul>
Training human capital (OJT/Off-JT)	<ul style="list-style-type: none"><li>Providing work opportunities in line with individual capabilities and aptitudes</li><li>Providing experience through practical construction site training, overseas group company training, overseas accompaniment training, etc.</li><li>Providing on-demand training by utilizing online technology</li></ul>
Improving remuneration and fair assessment	<ul style="list-style-type: none"><li>Implementing a base-pay increase of approximately 8.3%*1 in fiscal 2022, including the annual wage increase</li><li>*1 Union member average</li><li>Fair assessment system based on results and job responsibilities</li><li>Redesigning our system for awarding outstanding business performance</li><li>Selecting and promoting outstanding employees early</li></ul>
Diversity & inclusion	<ul style="list-style-type: none"><li>Developing a workplace environment that considers diverse cultures, religions, etc.</li><li>Developing a workplace environment with no gender gap</li></ul>
Improving work-life balance	<ul style="list-style-type: none"><li>Reducing working hours</li><li>Remote work</li><li>Limiting long-term business trips</li><li>Promoting the taking of childcare leave (especially paternity leave)</li></ul>
Health management	<ul style="list-style-type: none"><li>Holding health promotion events</li><li>Diagnosing health before long-term business trips and setting criteria for determining the possibility of business trips</li><li>Measures to prevent long working hours</li></ul>
Improving engagement	<ul style="list-style-type: none"><li>Conducting employee satisfaction surveys every two years</li></ul>

Taking on the challenge of being a project manager

Since I started working for TOYO, I have experienced 17 proposals and projects in Japan and abroad. The first time I worked as a project manager (PM) was for a fertilizer project in Nigeria, which received an order in fiscal 2022. I had participated in previous projects in Nigeria as a member as well, so I had established a good relationship with our customers there. My boss warned me that I should not knock something until I try it, which gave me the push I needed to decide to take on the challenge of being a PM. Being a PM is sometimes hard because I have more responsibilities and have to make important decisions more often than before, but—now that I have actually experienced this new role—I find that I am constantly discovering and learning new things, which is making my work interesting. As a PM, my aim is to constantly look at each project as a whole and complete each project as I consider the best possible answer for both our customers and TOYO.



Satomi Ishii  
Project Division  
Nigeria fertilizer project  
Project manager

Diversity & Inclusion

TOYO's human capital includes diverse individuals of different nationalities, genders, values, and backgrounds who play an active role in our operations around the world. By enabling diverse people to stimulate each other as they fully demonstrate their capabilities, we are aiming to further promote diversity and inclusion to achieve creativity and innovation in terms of

our business while also increasing the competitiveness of our organization. We will continue to implement training that covers all our overseas group companies while also actively promoting the hiring of mid-career professionals and appointment of suitable staff to managerial roles regardless of their nationality or gender to maintain or improve TOYO's diversity.

TOYO Global Leaders Seminar

We have been holding the TOYO Global Leaders Seminar since 2010, and—up through last year—a total of around 300 mid-career professionals and young employees from various group companies participated in the seminar. We have held the seminar every year except when there were travel restrictions due to COVID-19. This seminar offers the opportunity for a team consisting of people from Japan, India, China, South Korea, Indonesia, Malaysia, and other countries to experience collaborating with people from other cultures through group-based discussions and group work. Our aim is to not only strengthen the Group's human capital networking but also to develop a new generation of leaders who are capable of recognizing cultural and individual differences as they achieve results.



Shifting Human Capital to the Sustainable Technology and Business Development Field










As we shift mid-career employees from EPC fields to the sustainable technology and business development and DX fields, we have also focused on mid-career hires in an effort to acquire experience and new know-how from outside TOYO. We are also focusing on Toyo-Japan as we expand our business in green business fields while also strengthening our cooperation with overseas group company engineers in

EPC fields, thereby optimizing the utilization of personnel resources throughout the Group. Various business opportunities are expected in the sustainable technology and business development field, so we will enhance our efforts to promote the hiring of mid-career professionals and establish them as a pillar of our business as soon as possible, with the aim of achieving our medium-term management plan.





Directors and Audit & Supervisory Board Members

(As of July 1,2023)

Directors

 <p>Chairman <b>Haruo Nagamatsu</b></p> <ul style="list-style-type: none"><li>• Term of office for Directors 6 years</li><li>• Attendance at Board of Directors meeting 18/18 (100%)</li></ul>	 <p>Representative Director, President &amp; Chief Executive Officer <b>Eiji Hosoi</b></p> <ul style="list-style-type: none"><li>• Newly Appointed</li></ul>	 <p>Representative Director, Executive Vice President <b>Masayuki Yoshizawa</b></p> <ul style="list-style-type: none"><li>• Term of office for Directors 8 years</li><li>• Attendance at Board of Directors meeting 18/18 (100%)</li></ul>	 <p>Director, Executive Vice President Chief Compliance Officer <b>Noriyoshi Torigoe</b></p> <ul style="list-style-type: none"><li>• Term of office for Directors 2 years and 11 months</li><li>• Attendance at Board of Directors meeting 18/18 (100%)</li></ul>	 <p>Director, Senior Executive Officer, Chief Financial Officer <b>Kensuke Waki</b></p> <ul style="list-style-type: none"><li>• Term of office for Directors 5 years</li><li>• Attendance at Board of Directors meeting 17/18 (94.4%)</li></ul>
 <p>Outside Director Independent Officer <b>Masami Tashiro</b></p> <ul style="list-style-type: none"><li>• Term of office for Directors 8 years</li><li>• Attendance at Board of Directors meeting 18/18 (100%)</li></ul> <div><div>1976</div><div>Joined the Hibiya Branch, Mitsui Bank (currently Sumitomo Mitsui Banking Corporation)</div><div>2001</div><div>General Manager, International Banking Unit, Credit Department Sumitomo Mitsui Banking Corporation</div><div>2002</div><div>General Manager, Singapore Branch, Sumitomo Mitsui Banking Corporation</div><div>2003</div><div>Executive Officer, Singapore Branch, Sumitomo Mitsui Banking Corporation</div><div>2006</div><div>Director, Taiyo Oil Co., Ltd</div><div>2010</div><div>Vice President, SMBC International Business Co., Ltd.</div><div>2012</div><div>President, SMBC International Business Co., Ltd</div><div>2013</div><div>Auditor (part-time) ACKG Ltd. (currently Oriental Consultants Holdings)</div><div>2015</div><div>Outside Director, Toyo Engineering Corporation (Present)</div><div>2016</div><div>Outside Director, Oriental Consultants Holdings (Present)</div></div>	 <p>Outside Director <b>Reijiro Yamamoto</b></p> <ul style="list-style-type: none"><li>• Term of office for Directors 4 years and 4 months</li><li>• Attendance at Board of Directors meeting 18/18 (100%)</li></ul> <div><div>1984</div><div>Joined Mitsui Bank (current Sumitomo Mitsui Banking Corporation)</div><div>2000</div><div>Participated in Unison Capital, Inc.</div><div>2004</div><div>A Founding Partner, GCA Corporation</div><div>2005</div><div>Representative Director, Mezzanine Corporation</div><div>2006</div><div>Representative Director &amp; Partner, Integral Corporation (Present)</div><div>2013</div><div>Auditing Officer, Yohji Yamamoto Inc. (Present)</div><div>2016</div><div>Outside Director, Itokin Co., Ltd. (Present)</div><div>2017</div><div>Outside Director, Aderans Company Limited (Present)</div><div>2019</div><div>Outside Director, Toyo Engineering Corporation (Present)</div><div>Outside Director, Sanden Retail Systems Corporation (Present)</div><div>2020</div><div>Director, K2TOP Holdings Corporation (current Mamezo Digital Holdings Co., Ltd.) (Present)</div><div>2021</div><div>Chairman &amp; Director, Skymark Airlines Inc. (Present)</div></div>	 <p>Outside Director Independent Officer <b>Tatsuya Terazawa</b></p> <ul style="list-style-type: none"><li>• Term of office for Directors 2 years and 11 months</li><li>• Attendance at Board of Directors meeting 17/18 (94.4%)</li></ul> <div><div>1984</div><div>Entered the Ministry of International Trade and Industry</div><div>2001</div><div>Industrial Researcher, JETRO New York</div><div>2004</div><div>Director, Northeast Asia Division, Trade Policy Bureau</div><div>2006</div><div>Director, Finance Division, Small and Medium Enterprise Agency</div><div>2008</div><div>Director, Economic Policy Unit, Minister's Secretariat</div><div>Director, Economic and Industrial Policy Division, Economic and Industrial Policy Bureau</div><div>2011</div><div>Executive Secretary to the Prime Minister</div><div>2012</div><div>Deputy Director-General, Economic and Industrial Policy Bureau, Ministry of Economy, Trade and Industry</div><div>2013</div><div>Councilor, Commerce Distribution and Industrial Safety Policy Group (Industrial Safety Section), Ministry of Economy, Trade and Industry</div><div>2015</div><div>Director-General, Trade and Economic Cooperation Bureau, Ministry of Economy, Trade and Industry</div><div>2017</div><div>Director-General, Commerce and Information Policy Bureau, Ministry of Economy, Trade and Industry</div><div>2018</div><div>Vice-Minister for International Affairs, Ministry of Economy, Trade and Industry</div><div>2019</div><div>Advisor, Ministry of Economy, Trade and Industry</div><div>2020</div><div>Outside Director, Toyo Engineering Corporation (Present)</div><div>2021</div><div>Special Advisor to the Cabinet Office</div><div>Chairman and CEO, The Institute of Energy Economics, Japan (Present)</div></div>	 <p>Outside Director Independent Officer <b>Sayoko Miyairi</b></p> <ul style="list-style-type: none"><li>• Term of office for Directors 2 years and 11 months</li><li>• Attendance at Board of Directors meeting 18/18 (100%)</li></ul> <div><div>1979</div><div>Joined Hitachi, Ltd.</div><div>1982</div><div>Joined Bank of America, N.A., Asia Headquarters</div><div>1986</div><div>Joined Pasona Inc. and seconded and then transferred to Edu Consult Co., Ltd. (current Scholar Consult Co.,Ltd.)</div><div>2000</div><div>Partner of Scholar Consult Co.,Ltd. (Present)</div><div>Assistant Professor of Nihonbashi Gakkan University (current Kaichi International University)</div><div>2005</div><div>Partner of Scholar Consult Co.,Ltd. (Present)</div><div>2008</div><div>Professor, Nihonbashi Gakkan University (current Kaichi International University) (Present)</div><div>2019</div><div>Outside Director and Nomination and Remuneration Committee Member, KH Neochem Co., Ltd. (Present)</div><div>2020</div><div>Outside Director, Toyo Engineering Corporation (Present)</div><div>2022</div><div>Professor emeritus, visiting professor, Kaichi International University (present)</div><div>Outside Director, NIHON SEIKAN K.K. (present)</div></div>	

Audit & Supervisory Board Members

 <p>Audit &amp; Supervisory Board Member <b>Toshihiko Nemura</b></p> <ul style="list-style-type: none"><li>• Term of office for Audit &amp; Supervisory Board Member 1 years</li><li>• Attendance at Board of Directors meeting 14/14 (100%)</li><li>• Attendance at Audit &amp; Supervisory Board meeting 14/14 (100%)</li></ul>	 <p>Audit &amp; Supervisory Board Member <b>Chihiro Ubukata</b></p> <ul style="list-style-type: none"><li>• Term of office for Audit &amp; Supervisory Board Member 4 years</li><li>• Attendance at Board of Directors meeting 18/18 (100%)</li><li>• Attendance at Audit &amp; Supervisory Board meeting 20/20 (100%)</li></ul>	 <p>Outside Audit &amp; Supervisory Board Member Independent Officer <b>Hideki Matsuo</b></p> <ul style="list-style-type: none"><li>• Term of office for Audit &amp; Supervisory Board Member 1 years</li><li>• Attendance at Board of Directors meeting 14/14 (100%)</li><li>• Attendance at Audit &amp; Supervisory Board meeting 14/14 (100%)</li></ul>	 <p>Outside Audit &amp; Supervisory Board Member Independent Officer <b>Takako Miyoshi</b></p> <ul style="list-style-type: none"><li>• Newly Appointed</li></ul> <div><div>1981</div><div>Joined Mitsui Toatsu Chemicals, Inc. (current Mitsui Chemicals, Inc.)</div><div>2000</div><div>Director, Plant Manager, MITSUI BISPHENOL SINGAPORE PTE LTD</div><div>2006</div><div>President, SHANGHAI SINOPEC MITSUI CHEMICALS, CO.,LTD</div><div>2009</div><div>Senior Director, Mitsui Chemicals, Inc. General Manager Planning &amp; Coordination and License Division, Basic Chemicals Business Sector</div><div>2010</div><div>Senior Director General Manager, Planning &amp; Coordination Division, Petrochemicals Business Sector</div><div>2013</div><div>Executive Officer General Manager, Production &amp; Technology Center</div><div>2016</div><div>Director/Senior Executive Officer General Manager, Production &amp; Technology Center</div><div>2018</div><div>Representative Director; Senior Executive Officer (CTO)</div><div>2020</div><div>Representative Director; Executive Vice President (CTO)</div><div>2022</div><div>Special Advisor</div><div>Chairman, Japan Industrial Safety Competency Center (JSCC) (Present)</div><div>2022</div><div>Outside Audit &amp; Supervisory Board Member, Toyo Engineering Corporation(Present)</div><div>2023</div><div>Outside Director, RYODEN CORPORATION (Present)</div></div>	<div><div>2001</div><div>Registered as Attorney at Law (Dai-ichi Tokyo Bar Association)</div><div>2003</div><div>Member of Consumer Affairs Committee, Dai-ichi Tokyo Bar Association</div><div>2008</div><div>Member of the Intellectual Property Law Research Committee of the General Legal Research Institute, Dai-ichi Tokyo Bar Association (Present)</div><div>2010</div><div>Member of Environmental Protection Committee, Dai-ichi Tokyo Bar Association (Present)</div><div>2011</div><div>Partner, Okamura Sogo Law Office (Present)</div><div>2017</div><div>Member of the Special Committee on Civil Litigation Issues, Dai-ichi Tokyo Bar Association (Present)</div><div>Member of the Advisory Council on the Management of Civil Litigation, Tokyo District Court and Tokyo Sankai (Present)</div><div>2023</div><div>Outside Audit &amp; Supervisory Board Member, Toyo Engineering Corporation (Present)</div></div>
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## Strengthening Toyo's governance and achieving sustainable growth

Chairman Haruo Nagamatsu and Toyo's four Outside Directors have gathered to discuss various topics, centered on how to strengthen Toyo's governance and achieve sustainable growth.



Sayoko Miyairi  
Outside Director

Reiji Yamamoto  
Outside Director

Haruo Nagamatsu  
Chairman

Masami Tashiro  
Outside Director

Tatsuya Terazawa  
Outside Director

### Governance

**Q Chairman Nagamatsu, you have recently been appointed chair of the Board of Directors. Going forward, how do you intend to lead the Board?**

**Nagamatsu** One of the roles of the Board of Directors is to monitor and keep the executive functions of our company in check. In carrying out my duties as Chairman of the Board of Directors, I intend to keep the idea of separation of executive and supervisory functions in mind at all times, and maintain a proper distance from our executives. I will also work to foster an environment and atmosphere that facilitates more lively discussions that are broader in scope and higher in quality.



**Q What is your assessment of Toyo's governance?**

**Tashiro** Toyo has a history of strengthening its governance dating back to 2003, when it first introduced its executive officer system.

In 2015, it formulated its Corporate Governance Guidelines, and appointed three Outside Directors. It was at this time that I myself was appointed. It was an extremely difficult time for Toyo, with the company right in the middle of its restructuring plans and its financial condition continuing to deteriorate.

When considering how the company could recover, one of the Outside Directors proposed deliberating the issue not only at Board of Directors' meetings, but also at more casual discussion meetings. After a number of these discussion meetings, the Directors began to understand each other better, and I believe that communicating opinions from an outside perspective helped strengthen governance. The business environment remained bleak for some time afterward—there was a downturn in the market, for example, and this was followed by the coronavirus pandemic. Yet since fiscal 2019, Toyo has recorded four consecutive years of profit. There is a tendency in the engineering industry that, when things are difficult, companies force themselves to accept orders for projects that perhaps they shouldn't. But compared to the past, I have witnessed first-hand that Toyo's corporate governance is now more effective at preventing this from happening. Strengthening governance is very much an on-going process at Toyo, and I hope to continue contributing in my role as an Outside Director.

**Nagamatsu** Before Toyo adopted a system of three Outside Directors, the majority of decisions were made at the management meetings that took place before the Board of Directors' meetings. Expert Outside Directors provide feedback and make various suggestions from entirely different points of view. This not only creates a desirable tension, but also helps the Board of Directors function so that Toyo can achieve its goal of sustainable growth.

**Yamamoto** Toyo has fully learned the lessons of its failures, and its governance has improved as a result of overcoming difficulties.

Challenging questions and issues are raised at both Board of Directors' meetings and at management meetings; I feel the desire of the executive management to strengthen governance has played a large role in the progress we have made today.

**Terazawa** The day before a Board of Directors' meeting, an advance briefing is held. There, Directors acquire a full understanding of the agenda items, and pose questions; the executive side then does its homework on these questions, and prepares responses in time for the Board meeting the following day. If you include discussions on the day of the meeting, we spend around five hours on each Board of Directors' meeting. Thanks to the briefing the day before, everyone participates in the Board of Directors' meeting having fully understood the topics on the agenda; for this reason, at the meeting itself we can engage in heated yet focused discussions. We all share the same goal. My hope is that, by carrying out thorough discussions with an appropriate level of tension, we can contribute to the company's results and its further growth.

### The appointment of a new President

**Q Eiji Hosoi, the former Executive Vice President, has been appointed President of Toyo Engineering. Can you provide an overview of the appointment process?**

**Terazawa** Perhaps the most important role of the Nomination and Remuneration Advisory Committee is selecting the Chief Executive Officer and, as a member of the Committee, I felt the burden of responsibility that had been entrusted to me by our shareholders. I was not particularly familiar with Hosoi, and so initially I felt I was not in a position to recommend him with full confidence. For almost two hours, therefore, I quizzed him on his ideas and approaches; I also asked him to set aside time so that I could get to know his character better. Following our interactions, I concluded that here was a person to whom I could entrust the future of Toyo—in terms of his career, his character, and his ideas. When the next Nomination and Remuneration Advisory Committee meeting was held, I declared my support for appointing Hosoi as our next President. The fact that the Committee was able to discuss the matter fully until all parties were satisfied is, I believe, a sign that Toyo's governance is working effectively.

**Miyairi** As head of a company, it is vital that you can inspire your employees to work together with you. From my unique vantage-point as an Outside Director, I considered the



company's employees and its shareholders, and I asked various questions regarding Hosoi's personality and his ideas for Toyo's future. Hosoi's responses satisfied me that he was the right candidate for the job. I feel that the Nomination and Remuneration Advisory Committee is gradually functioning more effectively. But when thinking about future succession plans, I believe we ought to consider not only the next generation, but the generation after that. The spread of COVID-19 meant I had few opportunities to interact with Toyo employees or visit Toyo worksites. However, the company agreed to hold Business Report Debrief meetings—which were distinct from our Board of Directors' meetings—and also created opportunities for me to interact with frontline employees. As a consequence, I now enjoy more opportunities to get to know managerial-level employees.

### Medium-term management plan

**Q This is the third year of the current medium-term management plan. What is your assessment of the company's progress so far?**

**Yamamoto** When we first began discussions on formulating the medium-term management plan, we primarily focused on strengthening Toyo's EPC business. After that, we incorporated strategies regarding new technologies and new business development—which centered on the field of carbon neutral. Finally, we decided our goal should be to achieve sustainable growth by combining the two. It was a creative process. But while the aims of the medium-term management plan are commendable, achieving them will be no easy task. This is particularly true when it comes to the digital transformation of Toyo (DXoT)—it will take time for the initiatives we have taken to bear fruit.

I believe that by improving productivity and opening up new business fields, in the near future DXoT will bear fruit in the form of improved profitability.

**Terazawa** I agree that we managed to draw up an excellent plan—but, as you indicate, it is imperative that our initiatives soon bear fruit. DXoT will take time. But instead of seeing what happens after five years, now that we are at the half-way point we must carefully examine whether or not there are any issues. Carbon neutral is also of great importance. The U.S. recently passed the Inflation Reduction Act (IRA), as a result of which carbon neutral initiatives are progressing



there with great pace. In fact, all over the world, countries are making the move from demonstrating technologies to commercializing them. In contrast, Toyo is still in the early FS and FEED stages. As a matter of urgency, we must begin to implement projects and make our new business fields profitable. When it comes to carbon neutral, Toyo of course has a responsibility reduce its own greenhouse gas emissions; but we should also recognize that our plants are making a positive difference to the global environment. The idea of Avoided Emissions—which results in reductions in CO<sub>2</sub> emissions—is becoming more widespread in the services we provide. Toyo must promote the fact that it can make a positive impact on the global environment through its technologies.

**Tashiro** The first one or two years of the medium-term management plan are a period of evolution, and I believe we have made a strong start. As we enter the penetration phase and work toward achieving the numerical goals outlined in our medium-term management plan, we must secure an appropriate number of orders, complete construction via proper project management, and ensure we do everything we can to improve profitability—such as eliminate unnecessary costs.

**Nagamatsu** As you all note, Toyo must achieve the numerical goals it set out in its medium-term management plan as swiftly as possible. We must also execute our mission of “Engineering for Sustainable Growth of the Global Community,” and contribute to the realization of a carbon neutral society. I will carefully fulfill my responsibilities to ensure this happens.

## Human resources

**Q In the light of your growth strategy, what type of human resources should Toyo recruit and nurture?**

**Miyairi** The key is whether the engineering industry—and Toyo in particular—is an attractive proposition for job-seekers. Wages are important, but I believe many people join Toyo out of a desire to benefit society. We must learn how to identify people who wish to dedicate their lives to the engineering industry, even in this day and age. I think we have to think about recruiting personnel from overseas as well. Toyo is a supporter of the Japanese Business Foundation’s goal of increasing the percentage of female executive to 30% or more by 2030. Diversifying our human resources can lead to changes in work approach and management, and it is an opportunity to encourage change via a domino effect. Today, companies

cannot survive without diverse human resources. I would like Toyo to use this fact as a motivation to change and to achieve the goals of its medium-term management plan.

**Nagamatsu** We have identified female advancement in the workplace as one of our key issues. In recent years, Toyo has assigned a female employee to the role of project manager for large-scale projects, while at our overseas subsidiaries, a large number of women occupy executive positions. In Japan, women now make up 30% of our graduate recruits and, going forward, I believe this will continue to rise.

For the new business fields we are currently focused on, we require a new type of human resource—they must have speed and flexibility of thought, and the ability to act based on hypotheses and correct their actions where necessary. As such, we intend to combine various methods of securing the appropriate human resources—including nurturing our existing workforce, head-hunting, recruiting specialists, and collaborating with other companies; we will act with speed, and make these new business fields profitable as quickly as possible. If we wish talented job-seekers to view Toyo as an attractive company, we must engage in work that benefits people and society—and, through this work, we must generate suitable profits. Indeed, by posting strong results, we can reassure talented job-seekers. I hope new management system lead by President Hosoi shows the path to greater profitability.

## Global management

**Q Your consolidated subsidiaries and equity method affiliates now account for an increasing proportion of your revenues. What are the keys to effective global management?**

**Tashiro** Toyo’s biggest strength is that it has so many independent overseas affiliates. However, it is important the company conducts careful governance; rather than waiting passively, Toyo must actively gather critical information, and continue to maintain and strengthen its data-based fixed-point measurements.

**Yamamoto** Toyo is one of Japan’s leading global companies. It respects the business methods of its affiliates around the world, and it has established systems for managing these affiliates. However, precisely because Toyo has a long history of global management, there are aspects in which the quality



of its management is deteriorating. The officers and employees engaged in global management are not newcomers but experienced professionals. For this reason, it is vital that instead of leaving things entirely up to our affiliates, and being confident that the systems we have in place will function as intended, we ensure that our global management professionals pay careful attention to our affiliates, check whether there are any points of potential failure, and ensure our governance remains effective.

**Nagamatsu** Toyo-Japan management meetings are attended by the heads of our overseas affiliates as well; as such, we all have a shared understanding of Group-wide management issues and the measures implemented to resolve them. In addition, Toyo-Japan deliberates key projects of our affiliates during the proposal stage. After an order has been confirmed, Toyo-Japan then regularly monitors the results of the project. Employees are frequently assigned between Toyo-Japan and its affiliates, while there are also times when we execute projects together. In this way, we are making resourceful use of the human and financial capital of the entire Toyo Group in executing our projects.

## Hopes for Toyo’s future

**Q What hopes and expectations do you have for Toyo’s future?**

**Tashiro** First, I would like Toyo to expedite the achievement of its medium-term management plan goals. I also believe the Group must unite in anticipation of the future that lies beyond this plan, which ends in fiscal 2025. Following his appointment, President Hosoi has introduced a new management system, and this makes me extremely excited for Toyo’s future.

**Yamamoto** There is no doubt that, through its business, Toyo will contribute to the realization of a sustainable global community. As an engineering company, I want to see Toyo innovate and make significant contributions both to preserving the global environment and to carbon neutral—and I would like these activities to support the sustainable growth of Toyo as well. Finally, we must resume dividend payments at the earliest opportunity.

**Miyairi** When developing its carbon neutral business, Toyo must revise its entire engineering business model. In new markets, instead of accepting orders only after all the plans have been ironed out, it is vital we attract potential customers

with proposals for project structuring. At present, it feels as if Toyo is directing its antenna in a predetermined direction, and succeeding in receiving signals from there. However, we must take a more expansive approach, extending our network to encompass fields that are new for us—and in this the management must take the lead. There is a mountain of information around us. We have to develop the capacity to collect the appropriate information, no matter which direction it comes from.

**Terasawa** There are not many companies so clearly capable of contributing to Japan, the earth, and to society as a whole as Toyo. Perhaps for this reason, Toyo’s commitment to making money has in the past been less than steadfast. To take a baseball metaphor, Toyo frequently makes one-base hits—but rarely strings them together and turns into runs. We are a team that earns a small number of runs—but then at some point we concede a whole heap of runs, and victory eludes us. Going forward, we must convert these one-base hits into two-base hits, and ensure we put runs on the board. We must share risks appropriately with our customers, provide services with high added value, and make sure we are properly compensated—this is how we can win the game. At the same time, if we wish to avoid conceding large numbers of runs, we must ensure that we do not shoulder excessive risk at the proposal stage. Instead, it is critical we engage in careful risk management, and ensure any risks are reflected in suitable contract conditions.

In the field of carbon neutral, there is a lot of attention on ammonia—which is one of Toyo’s strengths. Carbon neutral comprises a wide range of other fields and technologies, such as carbon capture and storage (CCS) and methanol. But these are all areas in which Toyo is capable of leveraging its technologies and expertise. We must therefore identify areas in which we can make a difference, and work together with our partners to create value. Toyo’s future is bright—I have no doubt it will go on to make even greater contributions to society. We all share the same goals—as an Outside Director, I intend to participate in debates at Board of Directors’ meetings with the right amount of tension.

**Nagamatsu** Toyo’s workforce of engineers and specialists possess the integrity to excel on the global stage. As members of the Board of Directors, it is our responsibility to supervise the execution of business by this workforce. The current medium-term management plan runs until fiscal 2025—we have now concluded the two-year period of evolution, and we are entering the penetration phase. Toyo is fully committed to and fully intends to achieve the KGIs in the medium-term management plan. We have positioned 2025–2030 as a breakthrough period—and the Board of Directors has a responsibility to ensure Toyo is well-placed to achieve major growth.

I would like to thank our four Outside Directors for their valuable insights. Going forward, let us further strengthen our governance, and provide transparent explanations to all our stakeholders. As Toyo seeks to achieve sustainable growth, I very much look forward to your insight and advice at future Board of Directors’ meetings.

TOYO's mission is "Engineering for Sustainable Growth of the Global Community.", and we aim to achieve both sustainability as a company and improved corporate and shareholder value in the medium- to long-term. We are also working on fleshing out our corporate governance, which we consider the foundation for achieving the above. More specifically, we are doing everything in our power to establish and run a corporate governance system, implement suitable risk-taking management, ensure thorough compliance, actively disclose information, and maintain a dialogue with our stakeholders.

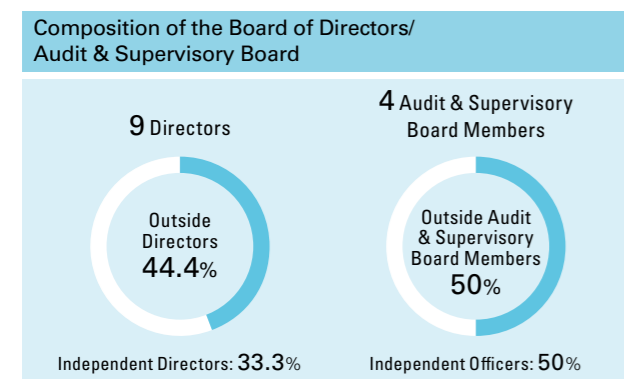
## Initiatives to Strengthen Governance

### Appointing Outside Directors

We appoint Outside Directors who possess superb insight and abundant experience in various fields, including management of global corporations, accounting and finance, human resources management, and legal affairs. They are able to take an overview of our entire management and provide practical and objective opinions and advice from the perspective of diverse stakeholders. In line with the criteria for the independence of outside directors prescribed by the Tokyo Stock Exchange, three of our four Outside Directors are Independent Officers.

### Ensuring the diversity of the Board of Directors/Audit & Supervisory Board

In fiscal 2020, we appointed a female Director, and, in fiscal 2023, we appointed a female Audit & Supervisory Board Member. Going forward, we will continue our efforts to ensure the diversity of the Board of Directors, including aspects such as gender, nationality, career history, and age.

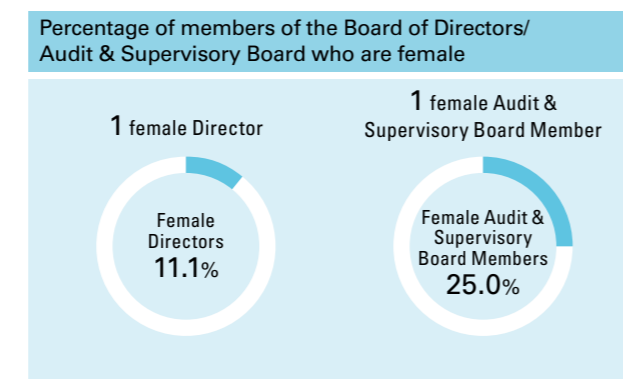


### Appointing Outside Auditors

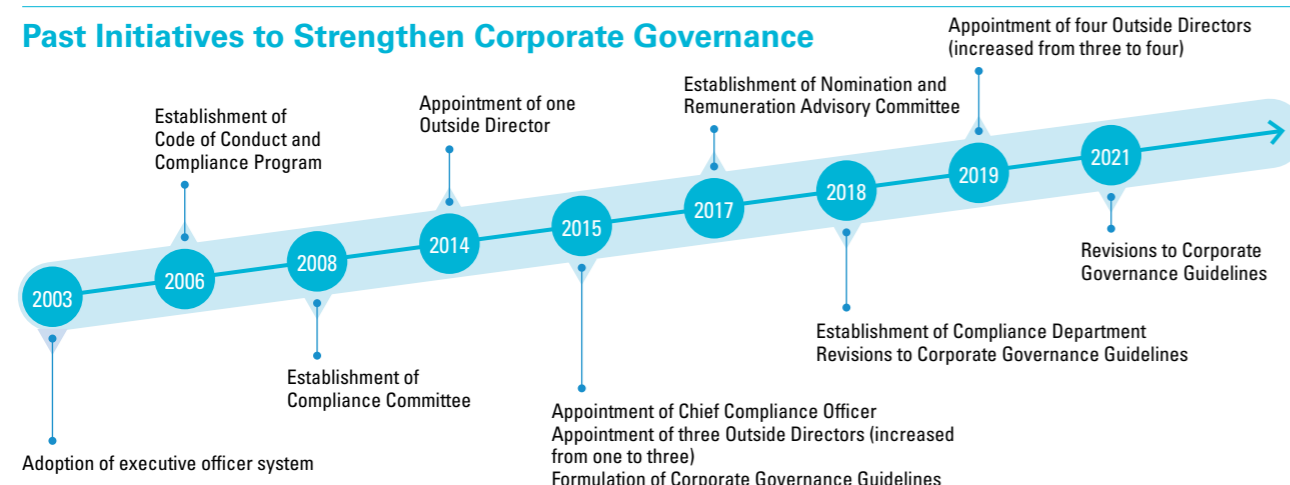
We appoint Outside Auditors who possess superb insight and abundant experience in various fields. They are able to take an overview of our entire management and properly audit the adequacy of the work and business execution of our Directors.

### Outside Officer System

Our Outside Officers provide opinions from the perspective of external stakeholders, and we believe this both helps ensure the accountability of our corporate executives and contributes to management transparency. Considering the business content and structure of our company, we are confident that our current Outside Officer system is effective in ensuring our corporate governance functions as intended. In addition, to make sure that our Outside Officers provide effective supervision for our corporate management, we provide explanations of agenda items in advance of Board of Directors meetings, with the goal of elevating the quality of meeting discussions.



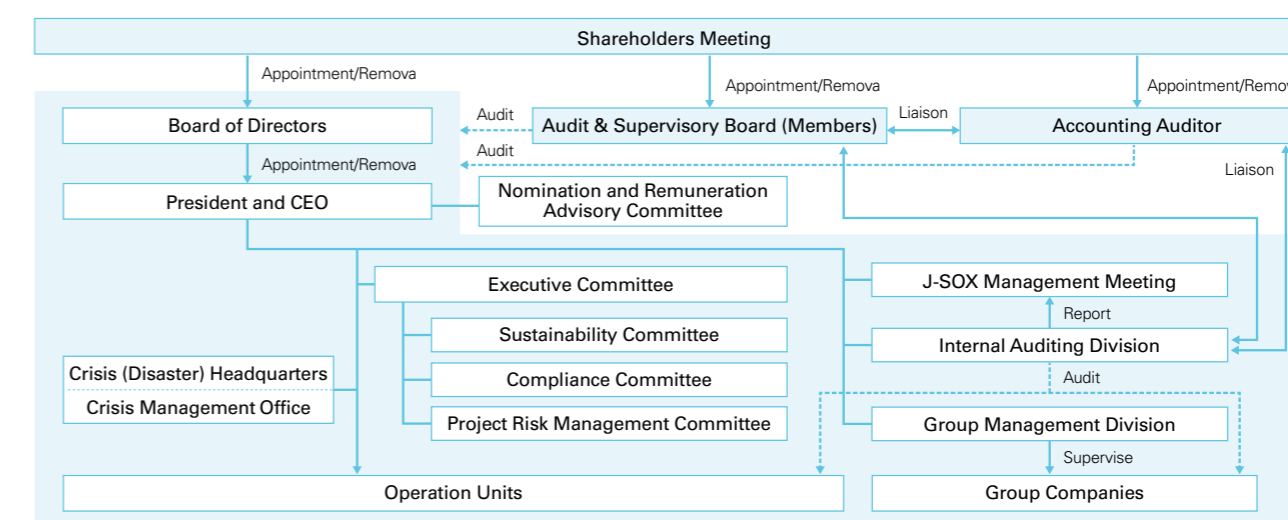
## Past Initiatives to Strengthen Corporate Governance



## Corporate Governance System

TOYO recognizes the importance of ensuring transparency and fairness in management decision making in gaining the trust of its stakeholders, including shareholders and customers, and fulfilling our corporate social responsibilities. We have established the following corporate governance system and are working to further expand its operation. The Board of Directors comprises nine Directors, including four Outside Directors, who deliberate and determine all important matters related to management and execution of operation, and also monitor and supervise one another with respect to the execution of duties. We also employ an executive officer system for the purpose of guaranteeing a swift and efficient business execution system. Executive Officers are appointed by the Board of Directors and, under the CEO's directions, execute the duties they have been delegated. The Executive Committee serves as an advisory body to the

President & CEO and consists of Executive Officers with specific roles (Senior Executive Officers or above) and the heads of key divisions. The Executive Committee reports on and deliberates important matters related to the execution of operation. The Nomination and Remuneration Advisory Committee also serves as an advisory body to the President & CEO—its members comprising the President & CEO and Outside Officers. The Committee serves to ensure fair and transparent officer appointments and remuneration by providing opinions to the President & CEO. The Audit & Supervisory Board consists of four members, two of which are Outside Auditors. They report and deliberate on the execution of duties by Directors, the establishment and implementation of internal controls, internal audit guidelines for quarterly and year-end results, and the details and results of audits.



## Internal Controls

Based on the recognition that internal controls serve as the foundation of corporate governance, the Directors establish, maintain, and evaluate an appropriate internal control system. They conduct ongoing inspections and make improvements to the system and periodically review their basic policy for internal controls. Given that internal controls ensure the reliability

of compliance, risk management, and financial reports, we also pay sufficient attention to the effectiveness and efficiency of operations. The establishment of this system enables the Board of Directors to make decisions based on appropriate information and subsequently, the execution of business.

## Auditing by Internal Auditing Division and Audit & Supervisory Board Members

TOYO has established an Internal Auditing Division that is directly controlled by the President. Internal Auditing Division assesses the legality and rationality of Company operations, and provides advice and counsel regarding the operational effectiveness and efficiency of the Company. Additionally, it independently assesses the maintenance and operation of internal controls related to financial reports, and these results are reported to the J-SOX Committee, the organization immediately under the President. Audit & Supervisory Board Members audit Directors' execution of duties through attending important meetings, including those of the Board of Directors, interviewing Directors,

Executive Officers, and employees on the status of operations and the execution of duties, and investigating the progress of the Company's operations and finances. The Audit & Supervisory Board, Accounting Auditors, and the Internal Auditing Division conduct their auditing in cooperation, while giving full consideration to the independence of one another. Auditing is implemented through close communication such as explaining the observations related to the Company's operations, and exchanging opinions on various topics including their respective yearly auditing plans and critical audit items, auditing methods, inspection and quality control systems, and audit results.

Skill Matrix

Name	Positions	Global corporate management	Accounting/finance	HR/labor	Legal and regulatory	Technology/R&D	Project Management	Sales marketing	Industry knowledge	Knowledge of other industries
Haruo Nagamatsu	Chairman	●				●	●		●	
Eiji Hosoi	Representative Director, President & Chief Executive Officer	●					●	●	●	
Masayuki Yoshizawa	Representative Director, Executive Vice President	●						●	●	●
Noriyoshi Torigoe	Director, Executive Vice President, Chief Compliance Officer		●		●				●	●
Kensuke Waki	Director, Senior Executive Officer, Chief Finance Officer		●	●					●	
Masami Tashiro	Outside Director	●	●							●
Reijiro Yamamoto	Outside Director	●	●							●
Tatsuya Terazawa	Outside Director				●					●
Sayoko Miyairi	Outside Director			●						●
Toshihiko Nemura	Audit & Supervisory Board Member					●	●		●	
Chihiro Ubukata	Audit & Supervisory Board Member		●						●	
Hideki Matsuo	Outside Audit & Supervisory Board Member	●				●			●	●
Takako Miyoshi	Outside Audit & Supervisory Board Member				●					●

Note: the table above shows the specialized knowledge and experience held by Directors and Audit & Supervisory Board Members. (The maximum is four per person.)

Reasons for selecting each skill matrix item

In order for TOYO—which does business around the world and for which the percentages of net sales and total employees outside of Japan are both high—to achieve its mission of providing "Engineering for Sustainable Growth of the Global Community," global corporate management skills are vital. In addition, project management knowledge and experience are important in order to manage and supervise TOYO's main business, which involves implementing various projects at the same time. Finally, it is important to have both technical/R&D knowledge and knowledge of other industries to develop and

integrate new technologies and elemental technologies and then socially implement them as production facilities (plants) in various business fields.

Therefore, TOYO has set up a skill matrix of not only basic items required of its corporate management, including accounting/finance, HR/labor, legal and regulatory, sales marketing, and industry knowledge, but also global corporate management, project management, technology/R&D, and knowledge of other industries.

Discussions by the Board of Directors

The primary topics of discussion by TOYO's Board of Directors are: medium- and long-term management plans and financing plans; and basic policies and risk management for priority issues, which take TOYO's unique characteristics as an engineering company into consideration.

Agenda items

Important matters related to corporate management, including officer appointment and basic policies for priority issues

Reported items

Mainly the situation of new orders, progress of projects, situation of Group companies, internal control system and compliance implementation situation, etc.

Evaluation of Effectiveness of the Board of Directors

In order to improve the efficacy of the Board of Directors, TOYO regularly evaluates and analyses the Board of Directors and discloses a summary of the procedures and results thereof. In December 2022, we conducted a survey of all of the Directors and Audit & Supervisory Board Members that make up the Board of Directors. The Board of Directors received a

report of the results from the Director in charge of evaluating the efficacy of the Board of Directors. Analysis, discussion, and evaluation based on these results were conducted in the January 2023 regular Board of Directors meeting. Below are the main points of those results.

Fiscal 2020

Improvements made in response to issues raised in fiscal 2019:

- Appointed female Directors, and worked to ensure diversity of Board of Directors
- Completed shift to paperless (digitalization) for Board of Directors meeting materials
- Achieved swift distribution of electronic materials

Issues requiring improvement:

- The impact of COVID-19 has reduced opportunities for face-to-face meetings, resulting in lower frequency of communication
- Board of Directors meetings are excessively long

Fiscal 2021

Improvements made in response to issues raised in fiscal 2020:

- Increased opportunities for officers to exchange information and share opinions through the use of video conferencing systems and, as circumstances allow, the gradual incorporation of face-to-face discussions
- Some improvements made to the length of Board of Directors meetings, through advance explanations of agenda items and careful time management by the Chairman

Issues requiring improvement:

- Inspections of overseas construction sites have not been carried out, and opportunities for communicating with these project sites have diminished
- Further discussions are required regarding successor development and further utilizing the Nomination and Remuneration Advisory Committee

Fiscal 2022

Improvements made in response to issues raised in fiscal 2021:

- Implemented on-site inspections both within Japan and abroad to create opportunities to communicate with sites
- Revitalized Nomination and Remuneration Advisory Committee discussions by setting up opportunities for Outside Officers, General Managers, managers in charge, and other top executives to exchange opinions with each other

Issues requiring improvement and future initiatives:

As a result of this fiscal year's effectiveness evaluation, we concluded that there is room for improvement regarding the items below, so we will share this view and consider improvement plans for further improving the functions of the Board of Directors and revitalizing its discussions.

1. Fleshing out dialogue with investors and shareholders as well as Board of Directors discussions related to media public relations

It is necessary for us to promote dialogue with investors and shareholders and to flesh out media public relations. Therefore, we must create more opportunities than before for the Board of Directors to discuss such matters from the perspective of improving our corporate value. Based on the recent opinion, we will promote dialogue with stakeholders while also implementing various initiatives to improve TOYO's corporate value.

2. Fleshing out opportunities to provide information related to TOYO's business to Outside Officers as well as communication with executive members

Our Outside Officers continue to express the opinion that we should flesh out opportunities for communication with executive members as well as opportunities to provide information aimed at deepening the Outside Officers' understanding of both the details of TOYO's business and how it is conducted, so we will flesh out such opportunities to start revitalizing discussions by the Board of Directors and Nomination and Remuneration Advisory Committee.

Policies on Remuneration Amounts and Determining Calculation Methods for Directors and Audit & Supervisory Board Members

Remuneration for TOYO's Directors (excluding Outside Directors) is intended to be suitable, fair, and balanced and to increase their motivation to maximize the Company's corporate value while ensuring medium- to long-term profit for shareholders. More specifically, this remuneration consists of a fixed portion—determined according to each Director's position—and a performance-linked portion. The performance-linked remuneration is calculated based on the current net profit attributable to owners of the parent—which is considered the most suitable indicator that reflects the Group's business performance—and is determined by the President & CEO according to the level of contribution of each Director. Furthermore, in order to

set appropriate remuneration levels for Directors and Audit & Supervisory Board Members and strengthen accountability, the ratios for both fixed and performance-linked remuneration as well as the calculation formula for performance-linked remuneration shall be decided by the Board of Directors based on the findings of the Nomination and Remuneration Advisory Committee—which consists of the President & CEO and Outside Officers—after discussing any revisions deemed necessary by the President & CEO. Remuneration for Outside Directors and Audit & Supervisory Board Members is fixed and not linked to business performance in light of their roles and independence.

(FY2022)

Officer Classification	Total Remuneration (¥ million)	Total Remuneration by Type (¥ million)				Number of Eligible Officers
		Fixed Remuneration	Performance-Linked Remuneration	Retirement Benefits	Non-Monetary Remuneration, etc. Included on the Left	
Directors (excluding Outside Directors)	147	147	—	—	—	5
Audit & Supervisory Board Members (excluding Outside Audit & Supervisory Board Members)	41	41	—	—	—	3
Outside Officers	36	36	—	—	—	7

Nomination and Remuneration Advisory Committee

TOYO established the Nomination and Remuneration Advisory Committee as an advisory body to the President & CEO, with the goal of ensuring transparency in various areas: the nomination of Director and Executive Officer candidates; the appointment and dismissal of the Representative Director; the appointment and dismissal of executives; and the systems and decision-making processes for the remuneration of Directors

and Executive Officers. The Nomination and Remuneration Advisory Committee meets once per year in principle, with additional meetings held as required.

The Nomination and Remuneration Advisory Committee comprises a total of four members: the President & CEO, who is Committee chair, and three Independent Outside Directors.

Items discussed by the Nomination and Remuneration Advisory Committee

I) Items related to Nominations

- Director appointment and dismissal proposals submitted to the General Meeting of Shareholders
- Appointment and dismissal of the Representative Director
- Appointment and dismissal of executives: Chairman, President, Vice President, Senior Executive Officers, CEO, CFO, CCO, and CTO
- Developing successors to the President & CEO and other Directors and to Executive Officers
- Inquiries from the President & CEO regarding the nomination of Directors and Executive Officers: the selection process for officer candidates, eligibility requirements for officers, evaluation criteria, etc.

II) Items related to Remuneration

- The remuneration system for Directors and Executive Officers
- Breakdown of compensation, including compensation amounts, for individual Directors and Executive Officers
- Inquiries from the President & CEO regarding the remuneration system for Directors and Executive Officers: remuneration methods, calculation methods, remuneration tables, etc.

Basic Policy on Compliance

The Group's Basic Policy on Compliance requires that every member of our workforce not only comply with national and international laws, regulations, and rules, but also abide by the spirit of these rules in the execution of their day-to-day work; it further requires that employees improve the integrity and ethical values of the Company by acting in conformance with our Corporate Philosophy and by acting with social decency.

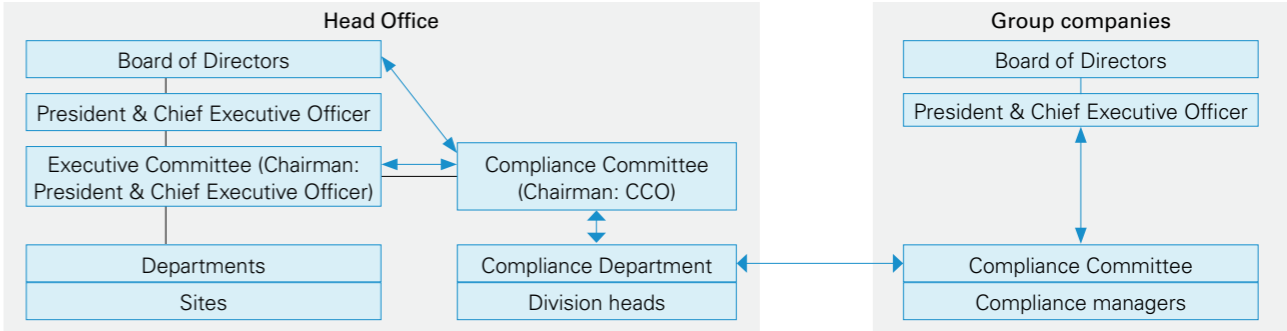
Commitment by the Top Management

Based on our recognition that the commitment by the top management toward the maintenance and strengthening of compliance is important, our President and CEO annually issues a message that emphasizes the importance of compliance to Directors and employees of all group companies.

Codes and Manuals

The Group has established TOYO's Code of Conduct, a Compliance Manual, and other related rules, strives to raise the awareness of compliance among executives and employees, and ensures that laws and regulations are followed. In addition, we have our executives and employees submit written oaths once per year to follow the above rules.

Compliance System



We have established a Compliance Committee chaired by our Chief Compliance Officer (CCO), and we endeavor to operate and monitor the educational and promotional campaigns on compliance and the compliance system.

More specifically, (1) our Compliance Committee devises awareness-raising and promotion activities, (2) our Compliance Department—which serves as the Secretariat of the committee—and division heads lead the way in implementing the above activities, (3) the committee confirms and evaluates the implementation situation, and (4) our CCO regularly reports the results to the Board of Directors and the Executive Committee. The Board of Directors conducts one management review per year.

In addition, to ensure more unified Group-wide compliance activities, we have built a system under which Compliance Committees and managers are set up at group companies and regularly exchange opinions and share information with our Compliance Department.

Internal Whistleblowing System

We have developed an internal whistleblowing system concerning compliance, including the violation of laws, regulations, etc., as a system to ensure appropriate reporting to the Board of Directors and the Audit & Supervisory Board. For this purpose, we establish points of contact for consultation and internal whistleblowing within and outside of the Company for executives and employees of all group companies (including hotlines set up through third-party organizations, etc. and the possibility of anonymous whistleblowing), and we strictly prohibit any disadvantageous treatment of those who provided such information.

Training on Compliance

We implement the following initiatives in an effort to raise awareness of and promote compliance: (1) Compliance-related group training, (2) new-employee training, (3) e-learning, (4) mini compliance tests, (5) compliance newsletter distribution, and (6) in-house lectures

Fiscal 2022 compliance management report

Number of cases of serious compliance violations	0
Number of cases of whistleblowing <sup>*1</sup>	21
Number of compliance e-learning participants (for new recruits and employees yet to complete the program) <sup>*2</sup>	76
Total number of mini compliance test participants <sup>*2</sup>	2,479

<sup>\*1</sup> Non-consolidated and consolidated subsidiaries <sup>\*2</sup> Non-consolidated

Approach to the Bribery Risk

The Group strictly prohibits bribery as well as unlawfully providing, offering, or promising money or any other benefit to foreign public officials, etc., and we strive to make all of our executives and employees aware of the need to follow laws that include the Unfair Competition Prevention Act, the US Foreign Corrupt Practices Act (FCPA), and the UK Bribery Act while also educating them accordingly.

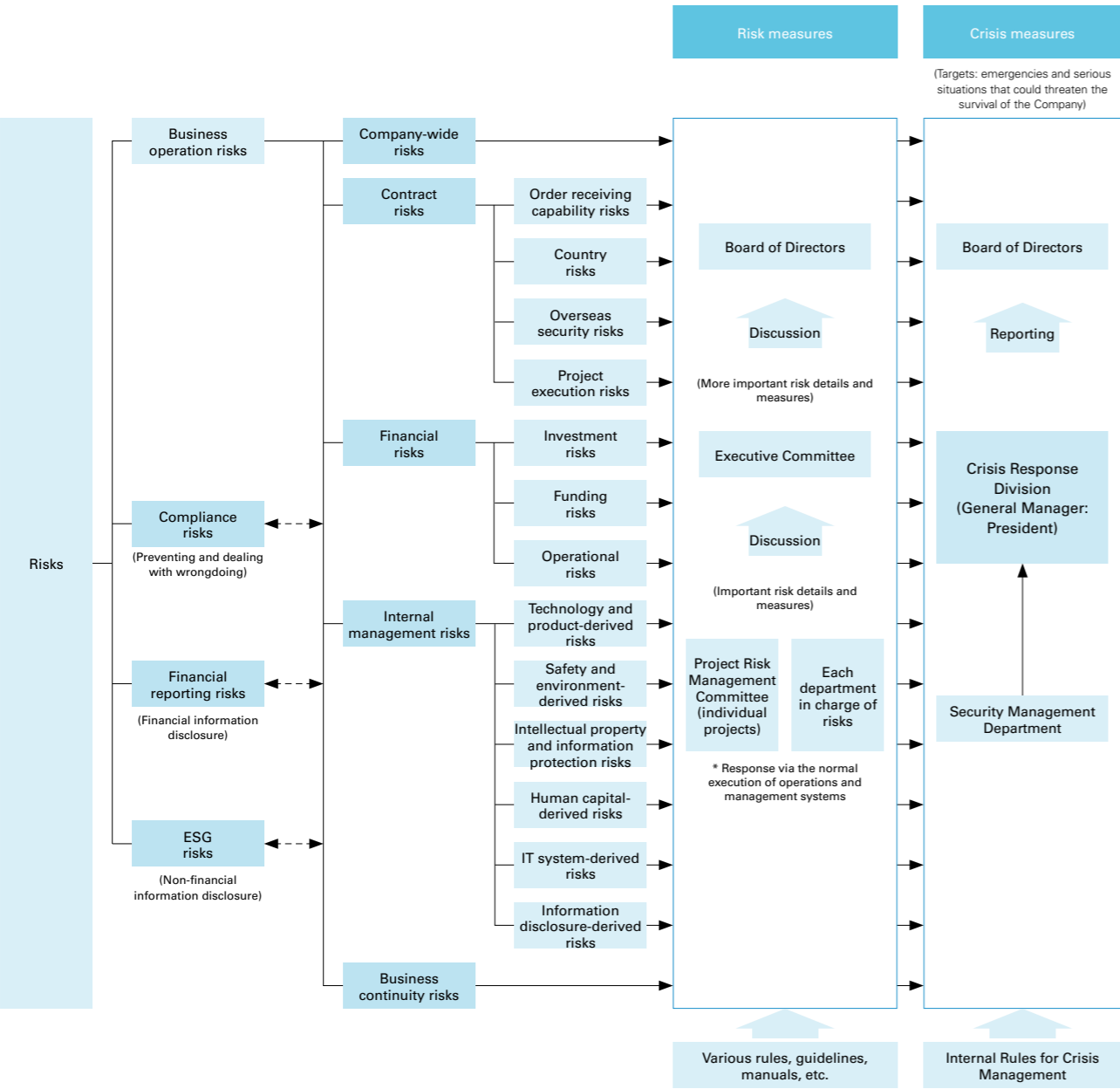
We will continue to enhance and expand our program for preventing the bribery of foreign public officials, make it mandatory to apply for and obtain approval before providing gifts, business entertainment, etc. in particular, and strive to prevent corruption.

Basic Policy on Risk Management

At TOYO, we believe that appropriate risk-taking and effective risk management are essential for improving corporate value. For this reason, we identify potential risks—such as changing business environments—in all our business processes. We clearly define which processes we use to classify, analyze, assess, and respond to these risks, which departments are tasked with overseeing these processes, and which relevant regulations we adhere to. To understand and respond to latent risks as quickly as possible, we regularly review our risk management processes, identify priority risks, and manage these risks accordingly. As an engineering company, we intend to continually build on our past experiences to enhance our risk management capabilities and handle risks in an appropriate manner.

Risk Classification and Basic System

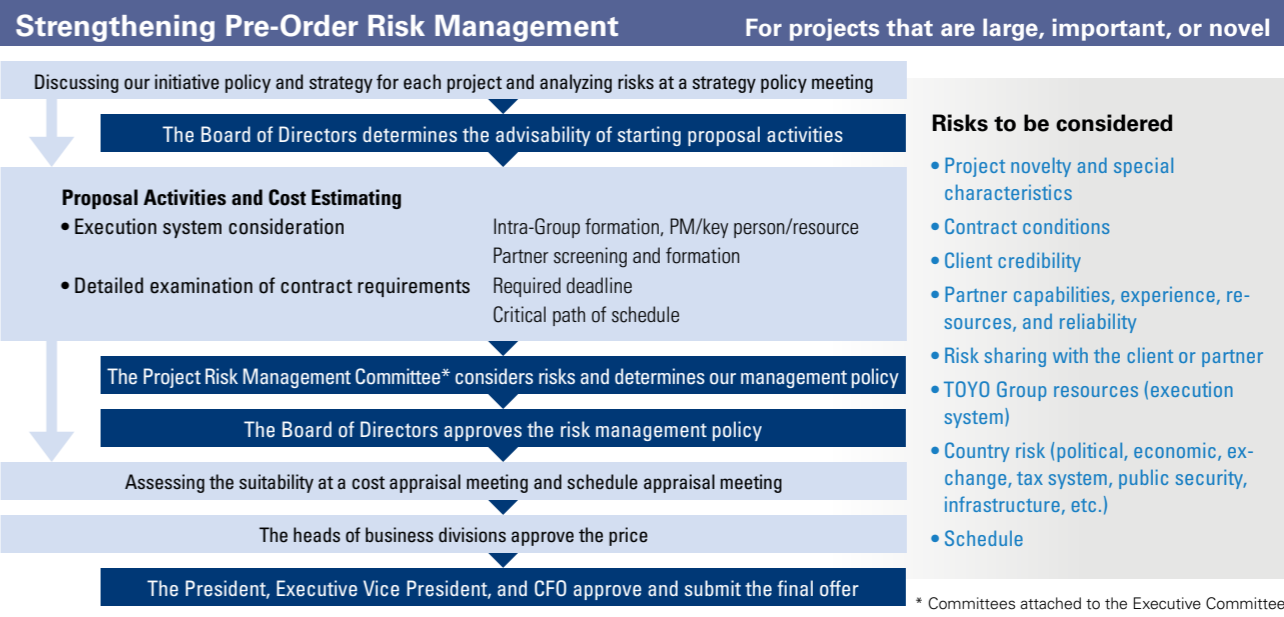
In terms of our management, we classify various risks that affect the normal execution of our operations from various perspectives. At the same time, we consider each event from different perspectives, including compliance risks (preventing and dealing with wrongdoing), financial reporting risks (financial information disclosure), and ESG risks (non-financial information disclosure), thereby using a multifaceted risk classification approach for our development and operations.



Project Risk Management

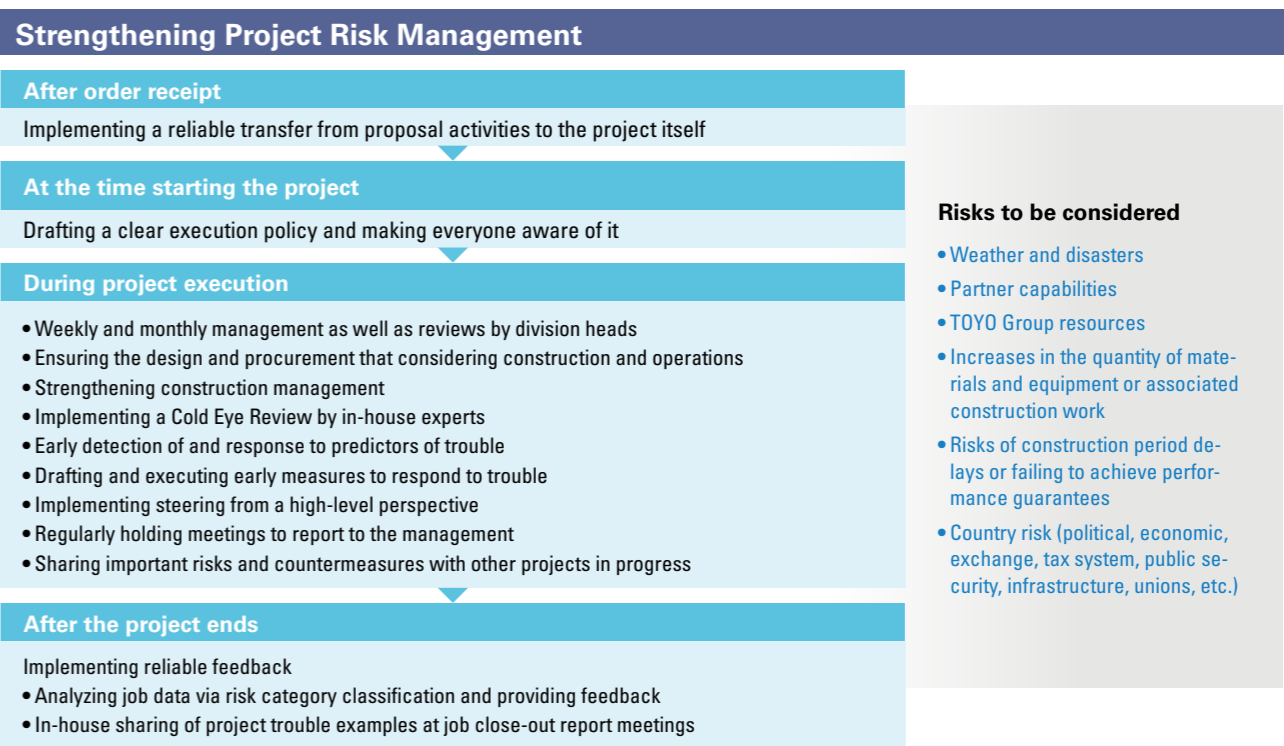
Pre-order (proposal selection and estimation stages)

For each project we undertake, we examine the technologies and work involved, we understand and assess the risks involved, we consider the potential impact and probability of occurrence of these risks, and we draw up rational countermeasures. To facilitate the above risk management initiatives, to ensure they are formulated in a transparent manner, and to verify the efficacy of their risk control functions, we have established and operate the system outlined below.



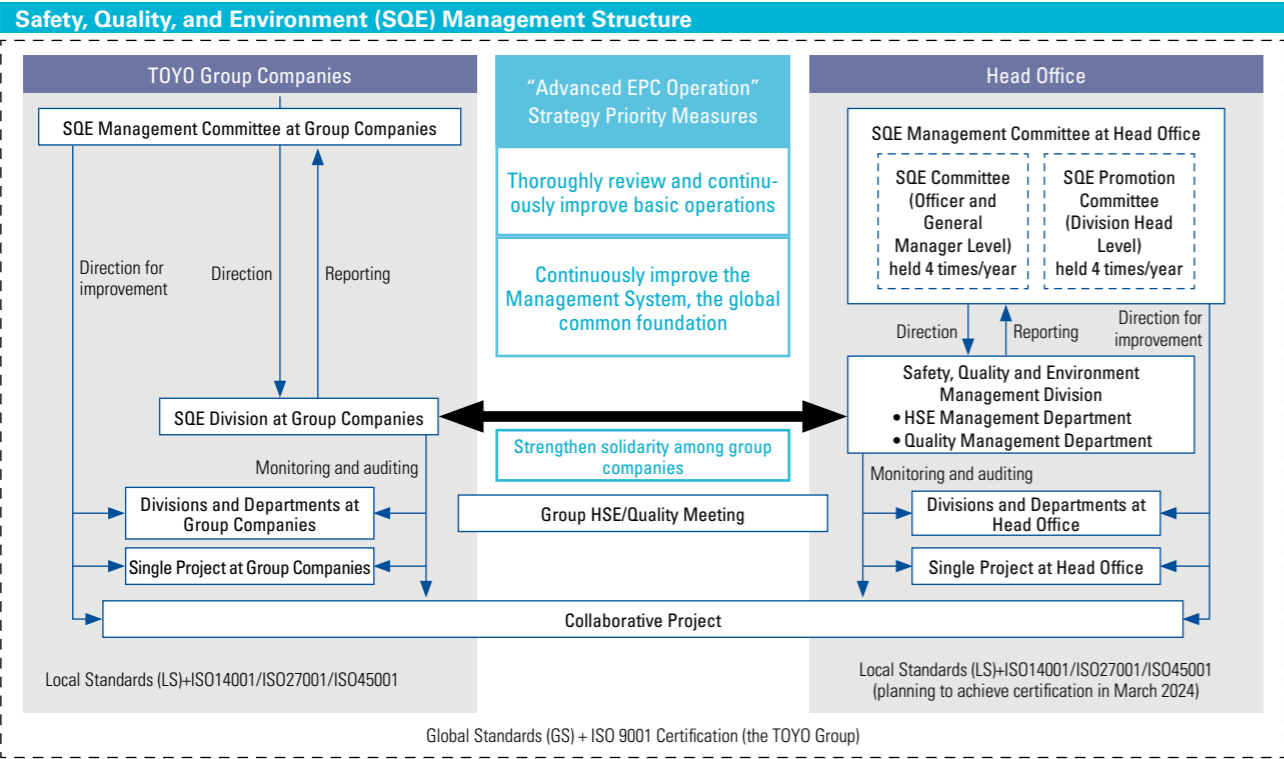
Post-order (project execution stage)

Our project risk management comprises two main components: first, the approval of project execution policies which, as part of their risk control systems, incorporate risk assessments and preconditions from the pre-order proposal stage; second, the maintenance and improvement of project profitability through the implementation of appropriate risk control systems, including regular reporting and monitoring throughout the duration of the project. To this end, we have established and operate the system outlined below.



Basic Policy

Toyo has established a basic policy (<https://www.toyo-eng.com/jp/en/company/policy/safety/>) based on the recognition that compliance with laws and regulations related to HSE and quality as well as meeting the requirements of customers and society, is an indispensable prerequisite for operating business and fulfilling our social responsibilities as a company and have pursued the realization of the policy under the following management structure.



ISO9001: Quality Management System, ISO14001: Environmental Management System, ISO27001: Information Security Management System, ISO 45001: Occupational Health and Safety Management System  
\*Global Standards and Local Standards: Standards used by the entire TOYO Group were unified as Global Standards in 2008 so that all group companies would operate using the same management criteria. TOYO Group obtained ISO9001 group certification for its unified group operation in 2013 and still maintains it. On the other hand, Local Standards are applied as work standards for individual group companies when they execute domestic projects based on the laws, regulations, etc. of the country the company is located.  
\*Group HSE/Quality Meeting (strengthening solidarity among group companies): A meeting that brings the HSE/quality managers of the various group companies together under one roof to build a consensus and promote improvements through lively communication. Group companies actively make proposals, which leads to better management.

Quality

Initiatives to reduce quality-related loss costs through systems integrated into AWP

In fiscal 2021, we introduced two systems: the New Feedback Knowledge Management System, which automatically collects and stores information on different issues and feedback, enabling this information to be easily used; and the AI-based ITB Review System, which helps detect risks and prevent oversights in estimate request forms. By applying these two systems to our project proposals, we are able to read large volumes of ITBs in a short time, and improve the efficacy of our risk detection. This fiscal year, we intend to use DX and to fundamentally change our work flows as a means of lowering high-level risks detected during the proposal stage. To this end, we have implemented a new AWP-based quality management system that enables us to respond effectively to risks while projects are in progress. Using DX, we now visualize the state of risk management on a dashboard, and the new quality management system is coordinated with our schedule management software; this helps ensure that risks are continually reduced, and helps prevent oversights in risk response. Using these new systems, we can transform individual experience into organizational knowledge, and hence lower organizational risks; in this way, we can improve both the accuracy of our plans and the reproducibility of our execution. We have set ourselves a goal of reducing quality-related loss costs compared to fiscal 2019 levels by fiscal 2025.

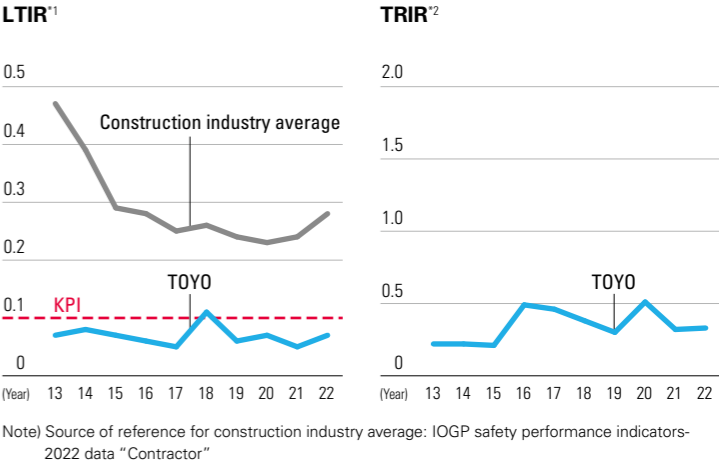
Health and Safety

To ensure occupational health and safety, the foundation of business activities, TOYO has simply and honestly undertaken various efforts over the years, and these have included strengthening health and safety-related leadership of management, fostering a culture of health and safety, and formulating and adhering to health and safety standards. For example, as we strive to have zero occupational accidents, we continue to work to improve safety activities while using lost time incident rate and total recordable incident rate as management indicators. As a result, TOYO has maintained some of the lowest lost time incident rates and total recordable incident rates in the industry. The following is safety record data for the past ten years, which includes overseas group companies.

TOYO's safety record over the last 10 years  
(ILO basis: Incidence rate per million hours worked)

Year	Man-hours (A)	Total fatalities and lost time incidents (B)	Total recordable incident (B + Medical treatment) (C)
2013	105,164,018	7	23
2014	89,777,237	7	20
2015	67,308,769	5	14
2016	52,540,748	3	26
2017	76,493,784	4	35
2018	102,817,669	11	38
2019	46,642,608	3	14
2020	44,895,756	3	23
2021	59,524,567	3	19
2022	82,244,375	6	27

\*1 Lost time incident rate (LTIR) = (B) x 1,000,000 / (A) (B) = Fatalities + Lost time incidents  
\*2 Total recordable incident rate (TRIR) = (C) x 1,000,000 / (A) (C) = (B) + Medical treatment



Preventing Disasters by Raising Levels of Safety Awareness

We seek to ensure that sayings such as “safety above all else” and “safety is the foundation of all corporate activities” are put into action. To this end, we carry out risk assessments of all our construction processes, and we work to ensure that the creation of construction guidelines, operational procedure checks at pre-construction toolbox talks, and risk prediction activities are meaningful and not mere formalities. We strive to foster greater awareness of safety, and we endeavor to ensure that the entire Group—including its bases—unites in demonstrating leadership in safety. Compared to 2022, in 2023 Toyo construction sites have unfortunately seen an increase in occupational accidents; as such, we are working to further strengthen the concrete measures listed in the box to the right. Through the implementation of these Group-wide measures, we are striving to prevent further disasters.

- Implementing safety training for all Group employees—including those engaged in design and office work—with a view to improving awareness and establishing a culture of safety that is shared by the entire Group
- Sharing lessons learned from serious accidents to all construction sites
- Checking and carefully implementing construction-related safety measures from the project estimation stage
- Controlling overtime at construction sites, in anticipation of the application of the Act to Promote Work Style Reform to the construction industry
- Acquiring ISO45001 certification, an international standard for occupational health and safety management systems

Feedback from a safety manager at Toyo's overseas bases

“Fostering a resilient culture of safety”

We do not know when an event like COVID-19 will strike next. If we wish to effectively manage occupational health and safety at construction sites in the post-COVID era, the concept of “resilience engineering” and the adaptive systems it seeks to understand is indispensable. If our project members can understand what they need to do to recover from setbacks like the coronavirus pandemic, they will be well-placed to respond swiftly in times of emergency, and to minimize any adverse effects. We intend to carefully improve occupational health and safety not only by regularly sharing knowledge, but also by implementing training programs and continually revising and improving our behavior.



Wildan Ramdan Nurhud  
IKPT  
SHES Department Manager

Environment					
	Fiscal 2018 (fiscal year ended March 31, 2019)	Fiscal 2019 (fiscal year ended March 31, 2020)	Fiscal 2020 (fiscal year ended March 31, 2021)	Fiscal 2021 (fiscal year ended March 31, 2022)	Fiscal 2022 (fiscal year ended March 31, 2023)
Industrial waste recycling rate (Domestic construction sites)	91%	91%	90%	88%	94%
Construction site industrial waste volume (domestic)	10,160t	10,262t	9,992t	8,717t	17,697t
Construction site industrial waste volume (overseas)*11	35,698t	13,805t	37,963t	6,557t	10,318t
Industrial waste volumes (Domestic Head Office)	129t	95t	58t	63t	70t
No. of toxic material leaks (Domestic/overseas construction sites)	0	0	0	0	0
GHG emissions for TOYO Group (Scope1&2) *2	—	9,025t	9,430t	11,804t	13,656t
(Scope1)*2	—	1,224t	1,244t	3,226t	3,910t
(Scope2)*2	—	7,801t	8,186t	8,579t	9,746t
Emission intensity (per employee) (Scope 1 & 2)*2	—	1.64t/person	1.60t/person	1.87t/person	2.17t/person
Electricity usage at domestic and overseas offices*3	10,571MWh	10,438MWh	9,375MWh	9,757MWh	10,316MWh
Electricity usage at domestic and overseas construction sites*1	—	2,852MWh	6,882MWh	8,649MWh	7,177MWh
Renewable energy usage included in the electricity usage at domestic and overseas construction sites*1	—	—	—	—	3,960MWh
Water use (Domestic Head Office)	27.8 thousand m³	27.2 thousand m³	18.5 thousand m³	18.2 thousand m³	21.7 thousand m³
Rainwater use (Domestic Head Office)	2.9 thousand m³	4.4 thousand m³	3.1 thousand m³	4.0 thousand m³	3.9 thousand m³
Purchase volume of printing paper (wood-free paper) (Domestic Head Office)	29.6t	28.8t	18.2t	16.9t	16.1t

Governance					
	Fiscal 2018 (fiscal year ended March 31, 2019)	Fiscal 2019 (fiscal year ended March 31, 2020)	Fiscal 2020 (fiscal year ended March 31, 2021)	Fiscal 2021 (fiscal year ended March 31, 2022)	Fiscal 2022 (fiscal year ended March 31, 2023)
Compliance Risk Management Reports					
Number of serious violations of compliance	0	0	0	0	0
Internal reporting*4	16	8	4	9	21
No. of compliance e-Learning participants (for new recruits and employees yet to complete the program)*5	62	33	66	69	76
Total no. of mini compliance test participants*5	961	790	2,298	2,404	2,479
Information security promotion initiatives					
Serious information security incidents	0	0	0	0	0
Governance-related data					
Directors	5	5	5	5	5
Outside Directors	4	4	4	4	4
Audit & Supervisory Board Members	2	2	2	2	2
Outside Audit & Supervisory Board Members	2	2	2	2	2
Average attendance ratio of Directors and Audit & Supervisory Board Members at meetings of the Board of Directors	95.6%	96.7%	99.6%	98.8%	98.6%

\*1 Calendar year (January to December) \*2 Group companies, including domestic and overseas construction sites (calendar year) \*3 For fiscal 2018, the total for the domestic Head Office (fiscal year) and overseas group companies (calendar year); for fiscal 2019 and after, calendar year \*4 Non-consolidated and consolidated subsidiaries \*5 Non-consolidated \*6 Excluding temporary employees \*7 Main EPC companies, which include equity method companies \*8 Number of managers with a position equivalent to team manager or general manager \*9 Lost time incident rate (LTIR) = total lost time incidents x 1,000,000 / man-hours \*10 Total recordable incident rate (TRIR) = number of recordable incidents x 1,000,000 / man-hours \*11 As of June 1 of each fiscal year, and percentage of disabled persons hired includes special-purpose subsidiaries \*12 Excluding employees on long-term assignments overseas, employees on temporary assignment, mid-year recruits, employees on long-term sick leave, and employees on extended leave

Social

	Fiscal 2018 (fiscal year ended March 31, 2019)	Fiscal 2019 (fiscal year ended March 31, 2020)	Fiscal 2020 (fiscal year ended March 31, 2021)	Fiscal 2021 (fiscal year ended March 31, 2022)	Fiscal 2022 (fiscal year ended March 31, 2023)	
Consolidated	No. of employees*6*7	3,950	4,204	4,425	4,625	5,730
	Male	3,370	3,566	3,749	3,888	4,752
	Female (%)	580(15%)	638(15%)	676(15%)	737(16%)	978(17%)
	No. of engineers*7	2,811	2,815	2,824	3,087	3,265
	Male	2,533	2,529	2,537	2,745	2,873
	Female (%)	278(10%)	286(10%)	287(10%)	342(11%)	392(12%)
	No. of managers*7*8	1,081	1,119	1,112	1,150	1,163
	Male	1,027	1,065	1,055	1,090	1,099
	Female (%)	54(5%)	54(5%)	57(6%)	60(5%)	64(6%)
	Man-hours*1	102,817,669 hours	49,642,608 hours	44,895,756 hours	59,524,567 hours	82,244,375 hours
	Fatalities*1	1	0	0	0	1
	Lost time incidents*1	10	3	3	3	5
	Lost time incident rate**9	0.11	0.06	0.07	0.05	0.07
	Medical treatment*1 (no lost time)	27	11	20	16	21
	Total recordable incident rate**10	0.37	0.30	0.51	0.32	0.33
Non-consolidated	No. of employees*6	973	998	968	989	974
	Male	804	817	790	809	800
	Female (%)	169(17%)	181(18%)	178(18%)	180(18%)	174(18%)
	No. of engineers	735	757	738	754	744
	Male	693	709	687	703	694
	Female (%)	42(6%)	48(6%)	51(7%)	51(7%)	50(7%)
	No. of managers*8	558	583	569	573	564
	Male	539	561	543	548	536
	Female (%)	19(3%)	22(4%)	26(5%)	25(4%)	28(5%)
	No. of foreigners in managerial roles (%)	—	—	—	28(5%)	35(6%)
	No. of mid-career hires in managerial roles (%)	—	—	—	126(22%)	138(25%)
	No. of foreign employees	47	48	50	60	61
	No. of disabled persons hired**11	18(2.2%)	21(1.8%)	21(2.1%)	24(2.5%)	28(2.8%)
	No. of male employees taking childcare leave	4	4	5	10	14
	Percentage of male employees taking childcare leave	—	—	—	31.3%	43.8%
	Average length of paternity leave	—	—	—	58.2 days	61.4 days
	No. of female employees taking childcare leave	9	3	7	12	5
	No. of persons taking paternity leave	39	21	25	28	25
	No. of persons working shorter hours for childcare reasons	14	14	15	12	10
	No. of persons working shorter hours for nursing care reasons	2	1	1	1	0
	No. of persons taking family care leave	102	96	81	101	144
	No. of persons taking nursing care leave	0	0	0	1	1
	Percentage of annual leave used**12	62.0%	61.9%	57.6%	54.7%	61.2%
	Wage gap between men and women	—	—	—	69.3%	71.1%

Ten-Year Financial Highlights

Toyo Engineering Corporation and Consolidated Subsidiaries  
Years ended March 31

	2014/3	2015/3	2016/3	2017/3
Financial Highlights				
Net sales	230,124	311,454	299,813	431,917
Gross profit (loss)	25,155	17,214	30,513	15,971
Gross profit margin (%)	10.9	5.5	10.2	3.7
SG&A expenses	24,699	24,570	19,426	17,980
Operating income (loss)	455	(7,356)	11,087	(2,009)
Ordinary income (loss)	4,942	(25,280)	3,873	1,603
Profit (loss) attributable to owners of parent	967	(20,965)	3,038	1,472
Comprehensive income	4,088	(25,534)	8,492	1,066
New orders	365,137	470,369	443,537	116,790
Backlog of contracts	538,023	659,005	823,066	492,682
Total assets	257,480	261,609	321,836	317,089
Total net assets	74,831	44,979	51,036	51,331
Interest bearing debt	44,797	31,918	32,645	31,844
Net debt	(52,137)	(58,543)	(91,480)	(90,858)
Equity ratio (%)	28.5	17.2	15.8	16.2
Operating activities cash flows	21,244	(4,192)	46,376	18,984
Investing activities cash flows	(1,638)	9,587	(11,776)	(16,650)
Financing activities cash flows	3,167	(14,341)	1,099	(1,548)
Dividends per share (annual) (yen)	3.0	4.0	4.0	2.0
Earnings per share (EPS)*1 (yen)	25.23	(546.72)	79.24	38.42
Book value per share (BPS)*1 *2 (yen)	1,913.07	1,170.99	1,329.60	1,337.40
Price earnings ratio (PER)	93.9	—	18.5	36.3
Return on equity (ROE) (%)	1.4	(35.9)	6.3	2.9

\*1 The company conducted a one-for-five reverse stock split of common shares effective October 1, 2017. “Book value per share” and “Earnings per share (loss)” have been calculated on the assumption that this reverse stock split had been conducted at the beginning of the fiscal year ended March 31, 2013.

\*2 “Book value per share” for the fiscal year ended March 31, 2019 and after is calculated after deducting residual assets attributable to class A preferred stocks issued in March 2019 from total net assets.

\*3 The company applied “Partial Amendments to Accounting Standard for Tax Effect Accounting” (The Accounting Standards Board of Japan (“ASBJ”) Statement No. 28, February 16, 2018), etc. from the beginning of the fiscal year ended March 31, 2019. The figures for the fiscal year ended March 31, 2018 are based on retrospective application.

\*4 “Accounting Standard for Revenue Recognition” (ASBJ Statement No. 29, March 31, 2020) has been applied since the beginning of the fiscal year ended March 31, 2022, and items such as management indicators for the fiscal year ended March 31, 2022 are those after applying this accounting standard and other items.

	2018/3*3	2019/3	2020/3	2021/3	2022/3*4	Millions of yen
						2023/3
	335,697	294,993	219,094	184,000	202,986	192,908
	(12,521)	10,636	18,765	18,557	20,838	24,268
	(3.7)	3.6	8.6	10.1	10.3	12.6
	20,429	16,250	16,875	16,941	17,875	19,504
	(32,951)	(5,613)	1,890	1,615	2,963	4,764
	(27,821)	3,426	2,467	2,781	3,126	3,888
	(26,846)	(818)	1,664	814	1,620	1,647
	(25,758)	(3,818)	(376)	4,097	4,485	4,547
	309,325	298,052	187,054	122,895	274,467	211,038
	448,629	426,373	389,236	310,691	381,954	399,192
	251,861	239,694	208,719	218,255	240,853	256,311
	25,176	36,357	35,980	40,077	44,562	49,105
	30,841	32,710	27,629	28,167	36,679	36,586
	(75,694)	(65,197)	(52,584)	(66,316)	(53,121)	(71,936)
	10.0	15.1	17.2	18.3	18.4	19.1
	(22,824)	(25,828)	(18,696)	17,753	(6,790)	15,591
	6,386	1,354	7,980	(2,712)	(7,851)	(9,469)
	(1,174)	16,768	(6,159)	(451)	7,608	(1,574)
	0.0	0.0	0.0	0.0	0.0	0.0
	(700.30)	(20.51)	28.40	13.91	27.65	28.11
	654.91	554.11	544.16	650.52	766.81	885.04
	—	—	11.4	56.2	23.0	20.1
	(70.3)	(2.7)	4.6	2.2	3.8	3.5

Corporate Data

Corporate Name	Toyo Engineering Corporation
Founded	May 1, 1961
Capital Stock	¥18,198 million
Number of Employees	6,686 (including consolidated and equity-method companies, current as of March 31, 2023)
Business Activities	Engineering and Construction for Industrial Facilities R&D support, design, engineering, procurement, construction, commissioning, technical assistancetechnical assistance for industrial facilities Business fields: Oil, gas, oil & gas development, petrochemicals, chemicals, water treatment, transportation systems, power plant, nuclear power, advanced production systems, pharmaceutical, fine chemical, logistic center, biotechnology, environment conservation and others

Affiliate Information

Domestic Affiliates	
	Tec Air Service Corp.
	TEC Business Services Corp.
	TEC Project Services Corporation
	Chiba Data Center Co., Ltd.
	Tec Accounting & Consulting LTD.
Overseas Affiliates	
Korea	Toyo Engineering Korea Limited
China	Toyo Engineering Corporation (China)
Indonesia	PT. Inti Karya Persada Tehnik
Malaysia	Toyo Engineering & Construction Sdn. Bhd.
India	Toyo Engineering India Private Limited
Singapore	Offshore Frontier Solutions Pte. Ltd.
Europe	Toyo Engineering Europe, S.r.l
Canada	Toyo Engineering Canada Ltd.
America	Toyo U.S.A., Inc.
Brazil	TS Participações e Investimentos S.A.

Stock Information

Stock Exchange Listing	Tokyo Stock Exchange	
Authorized Shares	Common Shares	100,000,000
	Class A Preferred Shares	25,000,000
Capital Stock Issued	Common Shares	38,558,507
	Class A Preferred Shares	20,270,300
Number of Shareholders	Common Shares	16,038
	Class A Preferred Shares	2
Securities code	6330	

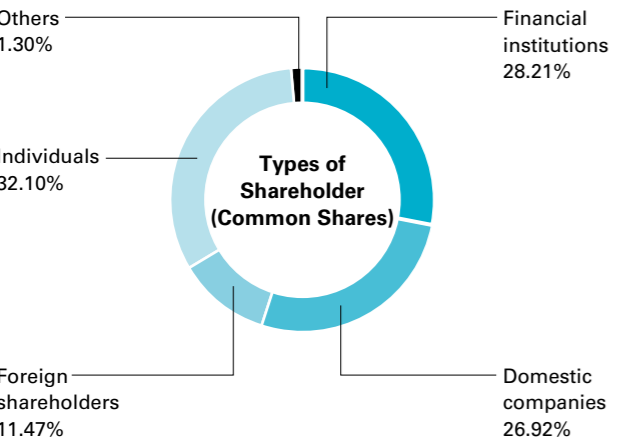
Major Shareholders

1. Common Shares			
	Number of shares (thousands)	Voting rights ratio (%)	Percentage of total (%)
Mitsui & Co., Ltd.	8,754	22.89	14.93
Custody Bank of Japan, Ltd. (Sumitomo Mitsui Trust Bank, Limited Re-trust Account, Mitsui Chemicals, Inc. Pension Trust Account)			
	5,140	13.44	8.77
The Master Trust Bank of Japan, Ltd. Trust Account	3,111	8.13	5.30
Taisei Corporation	1,000	2.61	1.70
JP JPMSE LUX RE NOMURA INT PLC 1 EQ CO	580	1.51	0.98
Custody Bank of Japan, Ltd. Trust Account	492	1.28	0.83
Sumitomo Mitsui Banking Corporation	470	1.22	0.80
NORTHERN TRUST GLOBAL SERVICES SE, LUXEMBOURG RE CLIENTS NON-TREATY ACCOUNT			
	427	1.11	0.72

2. Class A Preferred Shares			
	Number of shares (thousands)	Voting rights ratio (%)	Percentage of total (%)
Integral Team Limited Partnership	17,576	—	29.99
Innovation Alpha Team L.P.	2,693	—	4.59

Notes) 1. The shareholding ratio was calculated based on the exclusion of the 227,453 shares of treasury stock.  
2. Class A preferred stock do not have any voting rights.

Types of Shareholder (Common Shares)



IR Activities

Communication with Shareholders and Investors

TOYO promotes the timely disclosure of suitable information to its shareholders and investors while also aiming to increase its transparency. In addition, we will strive to engage in more comprehensive dialogues with our stakeholders, actively apply their valuable opinions to our management, and thereby improve our corporate value.

Main IR Activity Details

- Online financial result briefings for analysts and institutional investors
- Online explanatory meetings of the progress of our medium-term management plan for analysts and institutional investors
- Individual meetings with institutional investors
- Conferences organized by securities companies

WEBSITE

- Financial information
- Timely disclosed information
- Stock information/General Meeting of Shareholders
- Performance highlights

IR Information

For details, see the investor relations information on TOYO's website.  
<https://www.toyo-eng.com/jp/en/investors/>

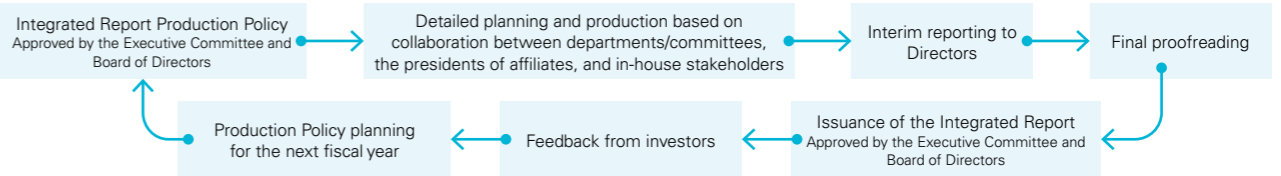


General Meetings of Shareholders

- Held in an in-person/online hybrid format

Production Policy

Production Flow



Editing Policy

The 2023 Integrated Report was prepared to provide stakeholders with a better understanding of TOYO's financial information (such as our management policies and financial results) and non-financial information (such as business environment and its connections to society). These are based on the Guidance for Collaborative Value Creation by the METI and the International Integrated Reporting Framework of IIRC (International Integrated Reporting Council).

Caution Concerning Forward-Looking Statements

This integrated report includes certain “forward-looking statements.” These statements are based on management's current expectations and are subject to uncertainty and changes in circumstances. Actual results may differ due to changes in economic, business, competitive, technological, regulatory, and other factors.

Editor's Note



Thank you for reading the 2023 Integrated Report. As we prepared this report, we did our best to introduce such topics as the significance of TOYO's purpose, our value creation process, the description of our business, and the direction of changes in our business fields and business model based on our medium-term management plan as clearly as possible. We hope that this report will help to deepen everyone's understanding of TOYO, give everyone reasons to expect future growth from us, and facilitate more effective dialogues. We will continue striving to disclose appropriate information in a timely manner as we conduct IR activities that lead to the further improvement of our corporate value.



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