

**Engineering for  
Sustainable Growth**

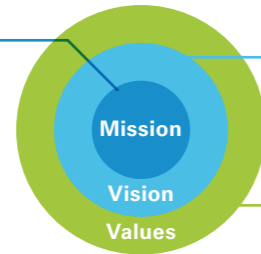


**of the Global Community**

## TOYO's MVV

Mission, Vision, Values

Engineering for Sustainable Growth of the Global Community



Global Leading Engineering Partner

Integrity, Creativity, Diversity, Learning, Team

# Engineering for Sustainable Growth of the Global Community

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

## Materiality and Our Commitment

### Environment

Aim to realize an environmentally-friendly society

### Social

Enrich people's lives

People of diverse backgrounds engage in active, meaningful work

### Governance

Establish an organization with integrity and discipline

## Corporate Slogans

# Your Success, Our Pride.

"Desire to make TOYO a company that clients are truly happy to have chosen"

"Desire to make TOYO into an attractive company that employees can take pride in among their families"

These TOYO corporate slogans express the uniform feelings of our employees.

## Contents

### Management Vision

- 02 President's Message
- 04 The Society TOYO Aspires to Be
- 06 The Chronicle of TOYO
- 08 TOYO's Engineering Business and Strengths
- 10 Dialogue: The roles and expectations of TOYO as an engineering company in realizing an environmentally-friendly society
- 16 Message from the CFO
- 18 Financial and Non-Financial Highlights

### Medium-term Management Plan

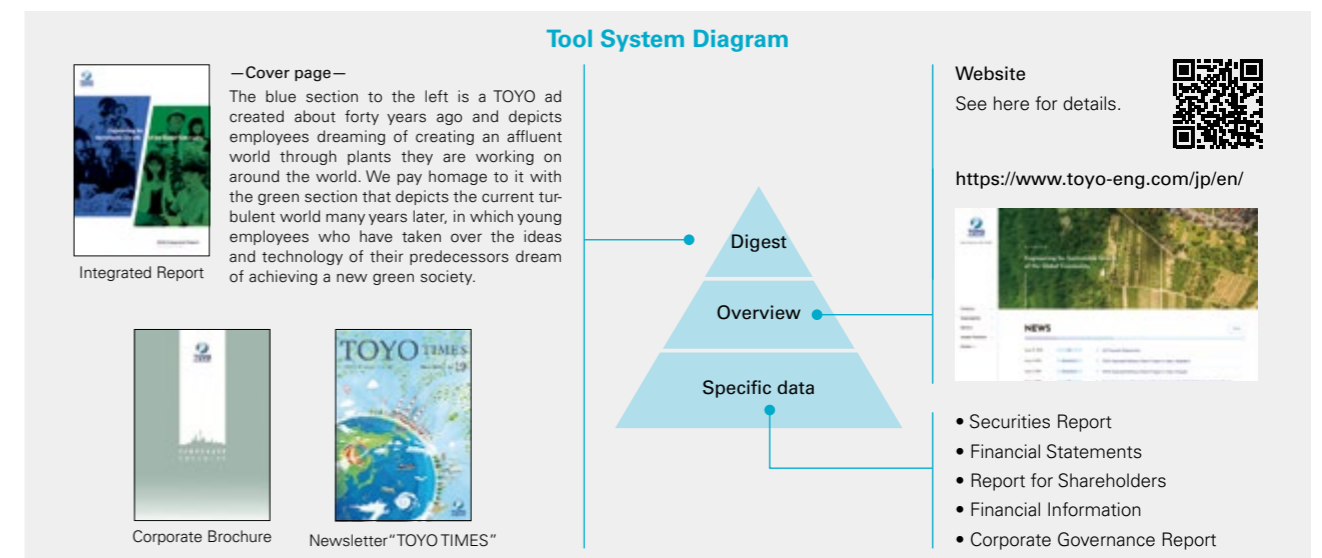
- 20 Outline of Medium-term Management Plan (FY2021–FY2025)
- 22 Market Environment and Priority Measures By Business Field
- 24 Strategy "Sustainable Technology and Business Development"
  - 24 Promoting Sustainable Technology and Business Development Strategy  
Balancing Environmental and Economic Considerations through Technology and Business Development
  - 26 ATB's Challenge—Solving social problems using technology developed for chemical engineering
- 28 Strategy "Advanced EPC Operation"
  - 28 India
  - 30 China
  - 32 Brazil
  - 34 Using DX to Improve TOYO's Project Execution

### Foundation for Sustainable Growth

- 36 Mission and Materiality
- 37 Sustainability Initiatives
- 38 E: Aim to Realize an Environmentally Friendly Society
  - 38 Addressing Climate Change (Disclosure Based on TCFD Recommendations)
  - 40 Environment
- 42 S: "Enrich people's lives" and "People of diverse backgrounds engage in active, meaningful work"
  - 42 Human Capital
  - 44 Social Contributions
- 46 G: Establish an Organization with Integrity and Discipline
  - 46 Directors and Audit & Supervisory Board Members
  - 48 Outside Director's Message
  - 50 Corporate Governance
  - 55 Compliance
  - 56 Risk Management
  - 58 Safety, Quality and Environment (SQE) Initiatives

### Data Section

- 60 ESG Data
- 62 Ten-Year Financial Highlights
- 64 Corporate Information / Stock Information





# Transformation is in TOYO's DNA

## Evolving with the times

Established in 1961, Toyo Engineering (TOYO) celebrated its 60th anniversary last year. Initially, our business centered on building plants for fertilizers such as ammonia and urea. Indeed, in our third year of business, we received an order for a fertilizer plant in India; this was not only the first plant we built overseas, it was also one of the largest fertilizer plants in the world at that time.

The plant engineering industry relies on orders from customers, and for this reason, it experiences ups and downs. However, by responding to the changing needs of the times—or, indeed, by proactively creating needs—we have both expanded and transformed the fields, regions and our customer base.

Over the last few years, the world has undergone astonishing change, exemplified by the rise and spread of COVID-19, by the drive for carbon neutrality, and by the Russian invasion of Ukraine.

## Committed to achieving our Medium-term Management Plan (FY2021-FY2025)

Today, countries around the world are accelerating their initiatives for realizing carbon neutrality. As such, there is a growing need for and an increasing attention on the use of ammonia as a fuel and the production of methanol from CO<sub>2</sub>—fields that we at TOYO have vast experience in. In these fields, we are utilizing the expertise and experience in engineering, procurement, and construction (EPC) we have acquired over the course of many years; we are also seeking to establish value chains that exceed the traditional EPC framework. As an engineering company, technological and project management skills lie at the very heart of what we do. We intend to refine these skills and leverage them in our attempts to develop new business fields, technologies, and business models and, in this way, continue to provide value to society.

After joining TOYO, I was first posted to one of our engineering departments. I was next transferred to the project management department, where I gained experience in the field of industrial plants—something that was not mainstream at TOYO at the time. Then, after being appointed president of our Malaysian subsidiary, I contributed to the launch and expansion of our infrastructure business, which encompassed power generation, transportation, and water treatment.

Looking back, I can say that I, too, experienced how TOYO responded to changes in the business environment and continually transformed itself in the light of new challenges. I learned about the faith, passion, and foresight of our predecessors; and about the attitude of our top management, who identified and sought to nurture their ambition.

Since assuming the presidency, I have called on TOYO employees not to fear failure but, instead, to boldly develop new methods and set lofty goals for themselves. This was the context in which the Medium-term Management Plan, which lays out a new path for TOYO, was born. The Plan has been discussed at department, section, and group levels, and employees are increasingly taking personal responsibility for its realization.

The Russian invasion of Ukraine has sparked a renewed awareness of the importance of energy security and led many countries to reconsider their energy transition strategies. The Medium-term Management Plan we formulated last year comprises two strategies: the Green Strategy “Sustainable Technology and Business Development” and the Blue Strategy “Advanced EPC Operation.” It is, I believe, exceptionally well suited to the current global situation.

We also intend to bolster our partnering strategies, tailoring them to the strengths of each of our companies, with the twin aims of resolving increasingly complex social issues and of developing our business with greater speed. In the second year of our Medium-term Management Plan, we are fully committed to steadily executing our strategies and achieving our goals.

## For the satisfaction of our stakeholders

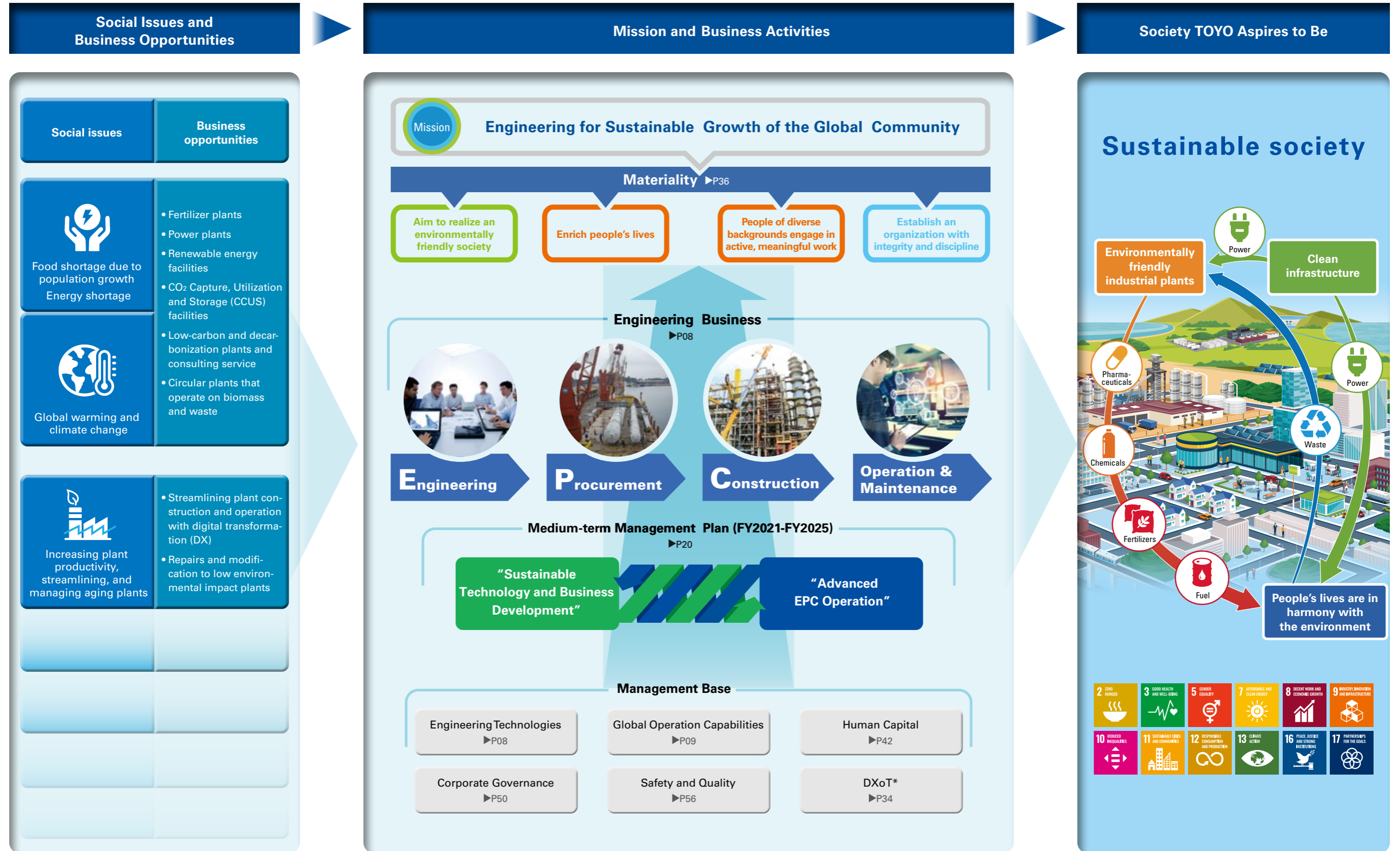
The TOYO Group employs a total workforce of about 6,000 people. When I was appointed president, I resolved to turn TOYO into a company that employees could talk to their families about with pride. I have a powerful desire to ensure that our employees are happy and motivated. And, enabling each employee to fully demonstrate his or her potential will help us provide society with services that are high in added value; this, in turn, will elicit the satisfaction and trust of our stakeholders.

I will lead the Group in our united and continuing efforts to achieve TOYO's mission: “Engineering for Sustainable Growth of the Global Community.”

Haruo Nagamatsu, President & CEO

# The Society TOYO Aspires to Be

We will leverage the high-tech application capabilities and expertise we have cultivated to provide optimal solutions, aiming to realize a society that enriches people's lives and is environmentally friendly.



\*Digital Transformation of TOYO

# The Chronicle of TOYO

## the 1960s

### Expanding Overseas and Establishing a Technical Foundation

- Received our first overseas order, an Indian fertilizer plant.

## the 1970s to the 1980s

### 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 up our global operation.

## the 1990s

### Diversifying Our Portfolio

- Diversified our portfolio to include pharmaceuticals and power plant fields due to more intense competition.

## the 2000s

### Establishing a Global TOYO Structure

- Promoted the utilization of overseas group companies and enhanced our solidarity.
- Started growing again due in part to the high price of crude oil.

## the 2010s

### Switching from Our Expansion Course

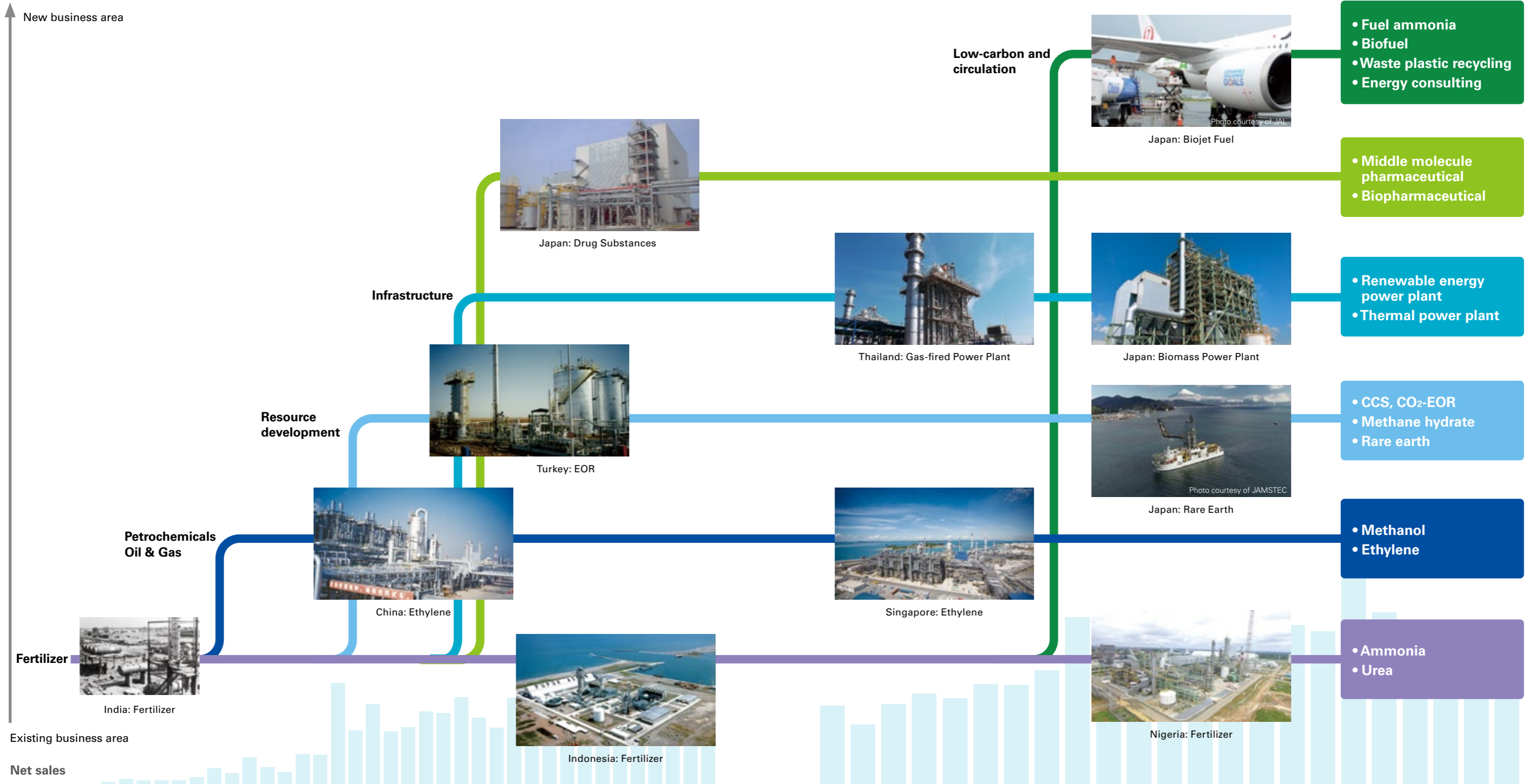
- Enhanced risk management and CHANGE!

## the 2020s

### Sustainable Technology and Business Development and Advanced EPC Operation

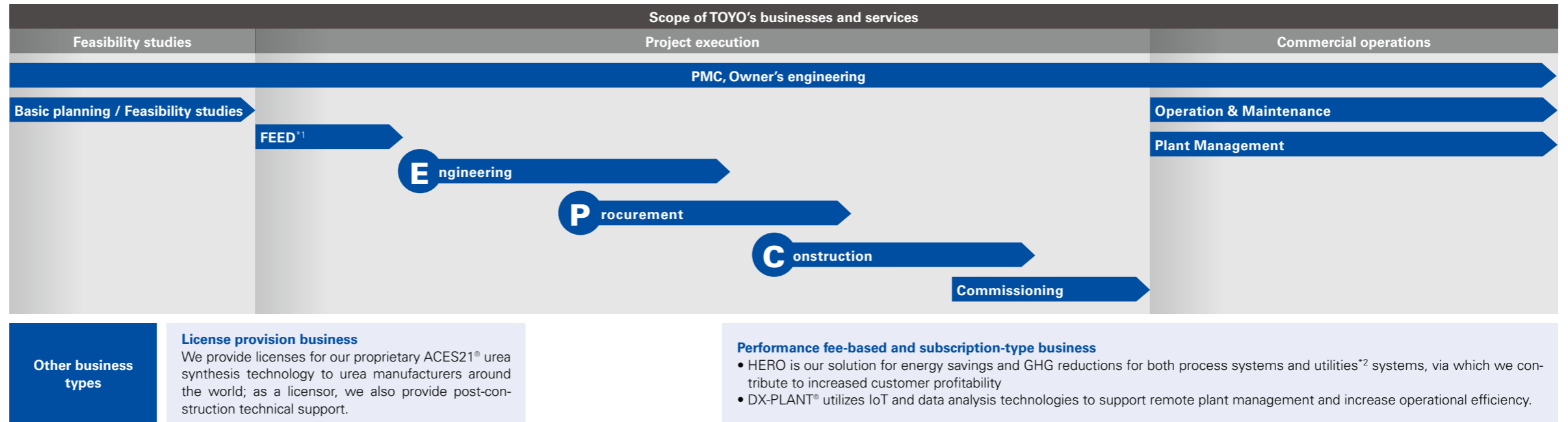
- Unveiled the Medium-term Management Plan (FY2021-2025)
- Promoting DX to increase productivity by six times

Established Group Companies	
1961 Toyo-Japan	1972 Toyo-Europe 1976 Toyo-India 1986 Toyo-Malaysia, Toyo-USA 1987 Toyo-Korea, TPS 1998 Toyo-Brazil 2004 Toyo-China 2010 Toyo-Canada 2011 IKPT (Indonesia)



# TOYO's Engineering Business

In conjunction with various partners around the world, TOYO provides meticulous engineering services tailored to the needs of its customers, from the initial planning stages to operational support, maintenance, and management at completed plants. In addition to our standard EPC business, we also engage in project management contracts (PMCs), through which we manage projects on behalf of our customers and owner's engineering. We are focused on our non-EPC businesses as well, such as the provision of licenses as a technology licensor and various performance fee-based and subscription-type businesses.



\*1 Front End Engineering Design (basic plans carried out after the feasibility study or concept design stage)  
\*2 Water, steam, electricity, etc.

## TOYO's Strengths

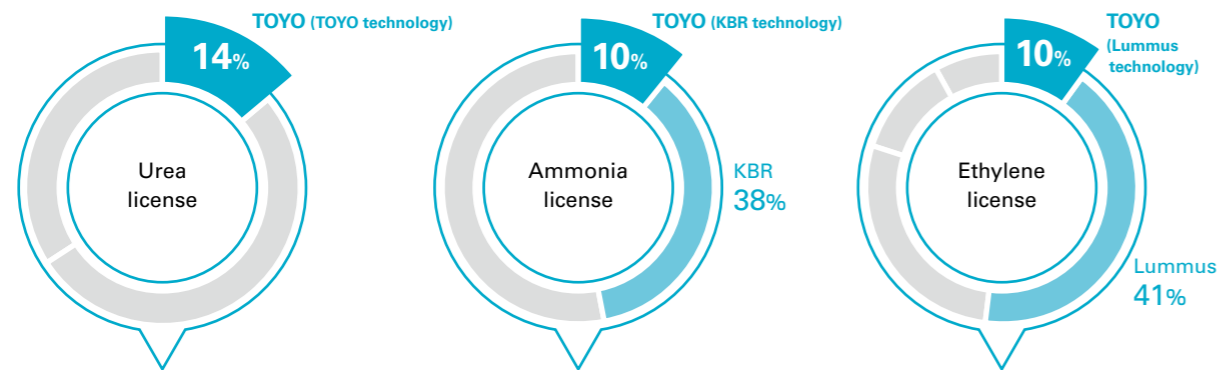
At TOYO, our competitiveness is rooted in two key strengths: our technological capacity to solve challenges; and our global EPC execution capabilities, which draws on the strengths of our numerous overseas Group companies. Based on these dual strengths, we provide high-quality engineering services to customers around the world.

### Engineering Technology

TOYO's history has been accompanied by changes in technological development, especially regarding proprietary technologies and technologies offered in partnership with licensors. We have expanded our product fields and business areas by improving our energy-saving and environmental technologies. Now, in an effort to contribute to the societal need to realize carbon neutrality, we will leverage the high-tech application capabilities, expertise, experience, and partnership skills that we have cultivated thus far to make a circular society a reality.

#### EPC by license global share (from 2001 onwards)

Intellectual property rights for process technologies are essential for constructing and operating plants. "Licenses" provide parties with the right to use these technologies, while the owners of the licenses are called "licensors." Since our foundation, at TOYO, we have owned proprietary licenses and collaborated with other licensors over the course of more than half a century in the plant engineering and construction industry.



- Proprietary license
- Energy-saving urea synthesis technology
- Completed more than 100 projects over more than 50 years

- Collaboration with KBR, a major U.S. licensor, for more than 50 years
- Completed more than 80 projects
- Utilizes expertise for the social implementation of fuel ammonia

- Collaboration with Lummus, a major U.S. licensor, for more than 60 years
- Completed more than 40 projects

### Global Operations

#### Areas of expertise of TOYO group companies

By concentrating its expertise in engineering technology at various Group companies, TOYO has refined global operations. Since the 1990s, it has set the TOYO standard that underpins our Group's quality, and ensured compliance among all Group companies. Currently, the engineering capabilities of our Group companies are our greatest competitive strength.

<b>Toyo-India</b> Urea, Ammonia, Ethylene, FPSO*, LNG regasification facilities, Refineries 	<b>Toyo-China</b> Chinese investment projects from Japan, Europe and the USA 	<b>TEC Project Services</b> Pharmaceuticals, Fine chemicals, Environment, Petrochemicals 	
<b>Toyo-Korea</b> Polymers (Polyethylene, Polypropylene, etc.) 	<b>IKPT (Indonesia)</b> Renewable energy power generation 	<b>Toyo-Malaysia</b> Petrochemicals, Specialty Chemicals 	<b>TSPI (Brazil)</b> FPSO* 

\*FPSO: Floating Production, Storage and Offloading

# The roles and expectations of TOYO as an engineering company in realizing an environmentally-friendly society

## Contributing to decarbonization worldwide as a project leader grounded on technology



Masaru Nakaiwa

Emeritus Researcher  
National Institute of Advanced  
Industrial Science and Technology

Haruo Nagamatsu

President & CEO

TOYO's mission statement is "engineering for sustainable growth of the global community." In keeping with this objective, the entire Company is united on promoting initiatives with the aim of realizing an environmentally-friendly society, one of the items of materiality positioned in our Medium-term Management Plan (2021–2025). We therefore invited Professor Masaru Nakaiwa to meet with President & CEO Haruo Nagamatsu in order to discuss the roles and expectations of TOYO as an engineering company helping to bring about an environmentally-friendly society. Professor Nakaiwa has long participated in industry-government projects in the environment and energy fields and held important posts at the New Energy and Industrial Technology Development Organization (NEDO)\*1 and the National Institute of Advanced Industrial Science and Technology (AIST)\*2.

\*1 National research and development agency tasked with facilitating innovation by promoting the technological development required to bring about a sustainable society.  
\*2 One of Japan's largest public research organizations that focuses on the creation and practical application of technologies useful to Japanese industry and society and on "bridging" the gap between innovative technological seeds and commercialization.

**Nagamatsu** For more than 60 years since TOYO was founded, our principal business has been plant EPC work (engineering, procurement, and construction). With the international community taking bold steps towards the long-term goal of decarbonization, we are once again questioning the significance of our existence as an engineering company. With this in mind, we released our five-year medium-term management plan at the end of March 2021. We are currently implementing this plan with a double spiral approach that comprises a "green strategy" of new technology and business development in the focus areas of environment and energy, and a "blue strategy" aimed at reinforcing EPC through the evolution of Group operations and digital transformation.

Particularly in terms of transformation, I believe the green strategy holds the key to what we can actually achieve. In the green strategy we are focused on providing unique solutions to help realize a carbon-neutral society, especially in such areas as the development of technology for producing sustainable aviation fuel (SAF\*3), the CO<sub>2</sub> recycling chain, and the fuel ammonia value chain. In fiscal 2021, the first year of the medium-term management plan, we assiduously sowed the seeds of these solutions and also accelerated the pace of our initiatives by establishing the Carbon Neutral Business Division.

While it was a few years ago, Professor Nakaiwa actually helped us develop *SUPERHIDIC*\*4, our energy-saving distillation system. We are currently expanding the scale of service business to customers considering the installation of such equipment or to customers that have already done so in an effort to ramp up our non-EPC businesses. We are now fielding more enquiries from within and outside Japan regarding HERO\*5, our energy-saving and GHG emission-reduction consulting service.

In a nutshell, that is how our medium-term management plan is progressing. I'd now like to hear what Professor Nakaiwa thinks the role of an engineering company in realizing an environmentally-friendly society.

\*3 Aviation fuel manufactured from biomass and other sustainable feedstocks characterized by low CO<sub>2</sub> emissions, in the process from procurement of raw materials to production.

\*4 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.

\*5 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.

### Having a mastery of both state-of-the-art carbon-neutral technology and effective energy-saving measures is key

**Nakaiwa** No longer is there any room to discuss the pros and cons of such a global movement as carbon neutrality. There is also no doubt that it presents considerable business opportunities to engineering companies because decarbonization will require the retrofitting of plant facilities in the energy and resources sector, as well as in heavy manufacturing industries\*6 that consume large amounts of energy, such as petrochemicals. That said, everybody is talking about the shift from fossil fuels to renewable energy as if it is nothing out of the ordinary, but the fact of the matter is, even the showpieces of carbon-neutral technology, like hydrogen and fuel ammonia that do not produce CO<sub>2</sub> when burned, present numerous challenges in terms of technological development and the establishment of value chains, so there is no way society can simply switch to renewable energy in a single bound. While we have no choice but to still rely on fossil fuels for most of our energy needs during the transition phase, we also cannot sit idly by and wait for the adoption of groundbreaking energy technology in society, which is why we must keep pushing ahead with a low-carbon approach by conserving energy consumption.

In other words, I believe it is extremely important that we incrementally roll out effective measures based on the recognition that we will remain in a carbon neutrality transition phase up until 2050. Going forward, the world must simultaneously propel new initiatives for carbon neutrality—some would say disruptive innovation—alongside energy-saving efforts that are an extension of existing measures whilst taking into account time horizons and efficacy. I believe this is



**Masaru Nakaiwa**  
Emeritus Researcher,  
National Institute of Advanced Industrial Science and Technology

- 1980 Researcher, Chemical Technology Research Center, Agency of Industrial Science and Technology, Ministry of International Trade and Industry
- 2001 Head of Thermochemical Systems Group, Research Laboratory on Environmentally-conscious Developments and Technologies, National Institute of Advanced Industrial Science and Technology
- 2008 Head of Environmental Chemistry Research Institute, National Institute of Advanced Industrial Science and Technology
- 2012 Deputy Head of Department of Environment and Energy, National Institute of Advanced Industrial Science and Technology
- 2014 Chief Researcher, New Energy and Industrial Technology Development Organization
- 2017 Director-General, Fukushima Renewable Energy Institute, National Institute of Advanced Industrial Science and Technology
- 2021 Emeritus Researcher, National Institute of Advanced Industrial Science and Technology  
Professor of Industry-Academia Collaboration, Research Institute of Yamagata University
- 2022 Research Supervisor, Japan Science and Technology Agency

an area in which the reasons for existence and differences in added value of engineering companies can come to the fore.

\*6 Refers to mainly heavy and chemical industry sectors. Also includes iron and steel, cement, non-ferrous metal, shipbuilding, chemical engineering, and their related process industries.

**Nagamatsu** One of the fundamental roles of an engineering company, which is neither a construction firm nor a manufacturing company, is to bring together elemental technologies and undertake project management to reliably execute EPC work. For example, we are taking steps to combine the FT synthesis technology\*7 of US-based Velocys Inc. with our own technology in order to actually deploy in real-world settings the technology to produce SAF from woody biomass and CO<sub>2</sub>. Also, recently in Thailand we started developing the technology to turn mixed waste plastic into petrochemicals, which is actually the initiative of a partner company to augment the scale of its pilot plant technology into a commercial operation. These initiatives can be given tangible shape and form because we have mastered the technology to do so, so in that sense I believe we must further bolster and distinguish ourselves as an engineering company founded on technology.

\*7 Fischer-Tropsch (FT) synthesis is a technology that synthesizes liquid hydrocarbon from synthesis gas (gas mixture of CO and H<sub>2</sub>) with the use of catalysts.

**Nakaiwa** On the topic of project engineering, I certainly think the most important thing an engineering company can do to bring to bear its competitive advantage is to fully mobilize the technology and accumulated knowledge at its disposal and practically and effectively manage projects in order to achieve stated objectives.

The very nature of the industrial structure is currently changing from one that sought to achieve prosperity by consuming large amounts of energy to one that now seeks prosperity for as little energy consumption as possible. At the same time, the number of problems being solved with the use of technology continues to swell. That said, the most impressive type of innovation for realizing an environmentally-friendly society is the kind that sharply reduces energy use through a clever combination of existing technologies, instead of just innovative technology developed from scratch. In that sense, I think the added value of an engineering company should rest on its ability to be a good judge of technology and its capacity to social implementation, rather than the innovative qualities of the technology itself.

What impressed me the most about TOYO when we were developing *SUPERHIDIC*<sup>®</sup>, which President Nagamatsu mentioned earlier, was the Company's real understanding of the technology and its exceptional judgement. In its medium-term management plan, TOYO aims to expand its non-EPC businesses, but I think that wouldn't be possible if it didn't have a solid understanding of the technology underpinning those businesses. I should also add that the Company's superior judgment of technology has been honed from many years of experience in the plant engineering industry, which is something it should probably take great advantage of.

**Nagamatsu** Thank you very much for your kind words. Engineering companies that quietly undertake EPC work merely in a coordinating capacity will struggle to stabilize earnings and grow in a sustained manner when the competition is fierce. We have always maintained a heightened sense of crisis in this regard. Of course, we possess proprietary technologies in certain fields, like urea for example, which in itself is one of our strengths, but unlike other companies that purely rely on research and development, we are in a position where various technologies intersect, so I think the fact that we are capable of social implementation is our lifeline because we are not an engineering company that undertakes projects simply as a coordinator.

## Expectations for high-caliber project management know-how

**Nakaiwa** In terms of what I expect from an engineering company like TOYO, I already mentioned the fact that it should be well versed in a broad array of technologies, both old and new, but another point I'd like to make, which applies to all other engineering companies as well, is that project management skills of an even higher caliber than before are now being demanded by the market. Particularly in fields that are contributing to carbon neutrality, most of the projects are not being carried out by a single company, but by large-scale joint undertakings in which a whole host of stakeholders come together to build a value chain. One company needs to assume the extremely difficult role of facilitator for such large undertakings, which is where I think an engineering company with knowledge and experience can seize the initiative.

The road to carbon neutrality is littered with uncertainties, including advancements in technology and changes in social circumstances. What is needed, therefore, is a project leader that can marshal all the other members of the consortium by flexibly responding to project situations as a competent navigator on the assumption of various scenarios, such as future technological developments. For this reason, an engineering company backed by a track record and boasting extensive technical knowledge fits the bill perfectly.

**Nagamatsu** Given the growing importance of technical knowledge, when I'm asked what TOYO can offer, one of my answers is always "project management grounded on technology." In last year's integrated report, Professor Bunro Shiozawa—who has

made significant progress on developing the technology behind the practical application of fuel ammonia—said that he hopes TOYO can be like the conductor of an orchestra, leading the relevant parties on a spirit of "we" not "I." And now Professor Nakaiwa's comments about how we need to paint a bigger picture by skillfully incorporating existing technologies, not just new ones, makes me realize once again that such high-caliber project management capabilities are being demanded of us.

**Nakaiwa** Japan's vision for a carbon-neutral society by 2050 calls for a power generation mix of 50%–60% from renewable energy sources such as solar, wind, hydro, geothermal, and biomass, around 10% from hydrogen and fuel ammonia, and 30%–40% from nuclear power and carbon capture-based thermal power generation. However, these are ultimately reference values. Furthermore, electrification is advancing at a rapid rate and demand for electricity is expected to increase by 30%–40% by the year 2050. I think engineering companies will be expected to play the very important role of leading various projects to deploy as many different types of renewable energy as possible and seize upon the many options available to contribute to carbon neutrality, including hydrogen, ammonia, CCUS\*8, and carbon recycling.

\*8 Carbon dioxide Capture, Utilization and Storage

**Nagamatsu** However, if we hastily go about building a carbon neutral value chain, sound economic reasoning stands in the way as a major barrier because the major premise of energy in the first place is stable supply and low costs. On this point, we are very welcoming of the support the ¥2.0 trillion Green

## TOYO possesses high-tech application capabilities to deploy social implementation

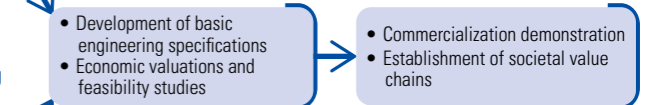
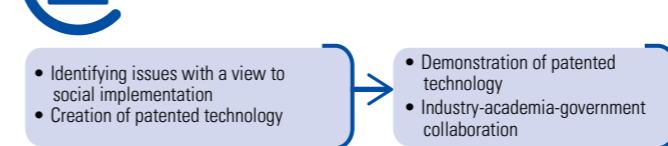
Deploying new technologies in society is one of TOYO's missions



**Co-creation engineering**  
Opening up value chains with partners based on technological development know-how cultivated in EPC and R&D



**Proprietary development technology**  
Solving social issues based on chemical engineering







Innovation Fund (GI Fund) that was set up at NEDO will continuously provide over a period of around 10 years to areas where government policies will have the biggest impact with a view to social implementation, or in other words, entry points to commercialization. Particularly in energy-related industries, the GI Fund will focus on the priority growth fields of hydrogen and fuel ammonia, offshore wind, solar, and geothermal, and next-generation thermal energy. TOYO too hopes to actively participate in joint public-private sector projects in these fields.

**Nakaiwa** The GI Fund asks companies to commit to certain goals as management issues so that projects can actually be implemented in society instead of ending at the R&D stage. It is hoped that the ¥2.0 trillion fund will have a pump-priming effect and induce ambitious innovation investments worth some ¥15.0 trillion in the private sector. However, because government support by way of the GI Fund is directed towards projects or teams instead of just one company, I think strong project leaders are needed more than ever before to

successfully forge relationships with government agencies and other stakeholders. I also think the expectations placed on engineering companies is enormous because the GI Fund aims to support not just the development of technology, but also social implementation.

**Nagamatsu** While we continue to steadily secure projects pertaining to mainly energy saving, we are also looking to enter a period of rapid progress on innovative carbon-neutral initiatives targeting fiscal 2030. For some projects implemented earlier, we intend to produce results in succession during the period of the current medium-term management plan. In particular, we recently formed an alliance with industry peer JGC Holdings Corporation in the field of fuel ammonia plants. Accordingly, we intend to swiftly meet anticipated global demand for fuel ammonia as a decarbonized fuel for use in mainly power generation and shipping by combining TOYO's world-class track record of 86 ammonia production plants and JGC's extensive plant construction accomplishments at potential fuel ammonia plant construction sites in mainly the Middle East and Australia. Our respective strengths in this Japanese alliance will enable us to deliver sophisticated proposals and competitive advantages.

### Leading the worldwide decarbonization movement by leveraging global operational know-how

**Nakaiwa** I think there will be a steady increase in enquiries up ahead regarding decarbonization projects, even though

natural conditions, social constraints, and various other hurdles must be overcome in Japan and other countries that lack energy resources, as well as in emerging countries in Asia primarily where demand for energy is expected to grow stronger. I'd like to see TOYO bind together the cutting-edge technologies it developed in Japan with other global technologies to actively support effective decarbonization efforts according to the circumstances in each country.

**Nagamatsu** We have group companies in India, China, South Korea, Indonesia, Malaysia, Brazil, and elsewhere and we have hitherto undertaken EPC projects in approximately 60 countries. Although Toyo-Japan has exported its know-how to overseas markets, one of TOYO's major strengths now is the capacity of each group company with strong ties to the local community to execute global operations.

Particularly Toyo-India—which was established more than 40 years ago to fulfil an order for a fertilizer plant as TOYO's first overseas project—has now grown into an engineering company boasting foremost experience even by global standards.

There is a healthy pipeline of projects in the Indian market, including oil refinery plants, LNG gasification facilities, petrochemical plants, and specialty chemicals. Toyo-India is also fielding more and more enquiries about projects related to carbon neutrality, such as CO<sub>2</sub> recycling, bio ethanol, and hydrogen/fuel ammonia. For example, we are currently handling the basic engineering of a pilot plant to synthesize methanol from CO<sub>2</sub> and hydrogen using TOYO's proprietary g-Methanol<sup>®</sup> process. We have high hopes that this project can be expanded in the future to neighboring countries, including markets in the Middle East and Africa.

**Nakaiwa** India is the world's third largest consumer of energy and there are indications that its primary energy consumption will rival that of the United States by 2040. However, some 70% of that consumption will likely be fossil-fuel based, such as oil and natural gas, so there appears to be considerable demand for energy-saving projects, not just carbon neutrality. Accordingly, having a local subsidiary with not only technological expertise, but also the ability to tap market demand with maneuverability and well-informed views of the local conditions is a wonderful asset. Meanwhile, orders for biomass-fired power plants are also growing in Japan, aren't they?

**Nagamatsu** Partly owing to the introduction of the feed-in tariff (FIT) system in Japan, we have taken orders for 12 biomass-fired power plants in total since 2017. We also completed work for an order for a high-purity ethylene production

pilot plant that uses ethanol derived from municipal waste. Also, some chemical companies are looking to drastically reduce CO<sub>2</sub> emissions by using bio-naphtha as a feedstock in ethylene plants, which is a development we are keeping a close eye on from the perspective of the circular economy<sup>\*9</sup>.

<sup>\*9</sup> According to the website of Japan's Ministry of the Environment, in addition to conventional "3R" efforts to reduce, reuse, and recycle, a circular economy aims to minimize the amount of resources used and consumed, to make effective use of existing stock, and to facilitate economic activity that generates added value through services and the like, which in turn maximizes the value of resources and products, minimizes the consumption of resources, and reduces the volume of waste generated.

**Nakaiwa** As fiscal 2030 draws closer, heated debate will probably surface again with regard to the government's milestone target of a 46% reduction in greenhouse gas emissions and what action is required to achieve carbon neutrality by 2050 in light of the actual transition to carbon neutral and advancements in technology. In recent times, the shift from coal-fired power generation to natural gas and renewables has been shrouded in uncertainty as a result of Russia's invasion of Ukraine and there are mounting concerns that the decarbonization movement will lose traction. Despite the myriad of uncertainties, I certainly hope to see TOYO remain fully attentive to decarbonization trends and take a leading role in delivering solutions to the global issues of energy reduction and carbon neutrality.

**Nagamatsu** Thank you very much for your wide-ranging comments today. I get the feeling that the objectives of our medium-term management plan have been given a fresh endorsement. TOYO's ideal corporate vision is to be a global leading engineering partner and our corporate philosophy is to become the most reliable partner for our customers by constantly honing our strengths of high-tech application capabilities, the ability to social implementation, project management skills, and global reach. Today, I certainly saw the significance of this objective in a new light. Business is currently picking up again in anticipation of an end to the COVID-19 pandemic and demand for oil refinery, fertilizer plants, and other facilities in our existing business domains is recovering, but we also intend to open up new business fields centering on carbon neutrality and the circular economy, optimally fuse together our blue and green strategies, and keep a tight rein on our approach going forward. At the same time, the TOYO corporate slogan of "**Your Success, Our Pride**" reflects our desire to hear our customers say they are glad they chose TOYO and to be a company where employees find their work rewarding and can make their families proud. That is the kind of company we want to be.

#### Examples of joint public-private projects

Business	Partners	Relevant agency
Feasibility study for green fuel ammonia production utilizing existing fertilizer plants (Indonesia)	—	METI
Implementation study for green ammonia production technology to deliver stable operations during times of volatility in renewable energy output (Chile)	Mitsui & Co., Ltd.	NEDO <sup>*1</sup>
Practical use of ammonia fuel in a naphtha cracker	Mitsui Chemicals, Inc., Maruzen Petrochemical Co., Ltd., Sojitz Machinery Corporation	NEDO
SAF pilot production by biomass gasification FT synthesis and supply chain establishment	JERA Co., Inc., Mitsubishi Heavy Industries, Ltd., Itochu Corporation	NEDO
Regional CO <sub>2</sub> resource utilization study of electrolysis using artificial photosynthesis technology	Toshiba Energy Systems & Solutions Corporation, Toshiba Corporation, Idemitsu Kosan Co., Ltd., Japan CCS Co., Ltd., All Nippon Airways Co., Ltd.	Ministry of the Environment
Feasibility study for electrification of ethylene cracker to reduce CO <sub>2</sub> emissions to zero (Thailand)	—	NEDO
Study on technical development for designing an excavation testing machine for cobalt-rich crust in connection with a 2021 study on ocean mineral resources	—	JOGMEC <sup>*2</sup>
Building of dredging and pumping equipment for the recovery of rare-earth mud	—	Cabinet Office SIP <sup>*3</sup> JAMSTEC <sup>*4</sup>

<sup>\*1</sup> New Energy and Industrial Technology Development Organization    <sup>\*2</sup> Japan Oil, Gas and Metals National Corporation  
<sup>\*3</sup> Cross-ministerial Strategic Innovation Promotion Program    <sup>\*4</sup> Japan Agency for Marine-Earth Science and Technology

# Message from the CFO

To achieve sustainable growth of TOYO, I as the CFO will thoroughly screen proposals and manage project accounts from a finance and accounting perspective, and contribute to fulfilling the medium-term management plan.

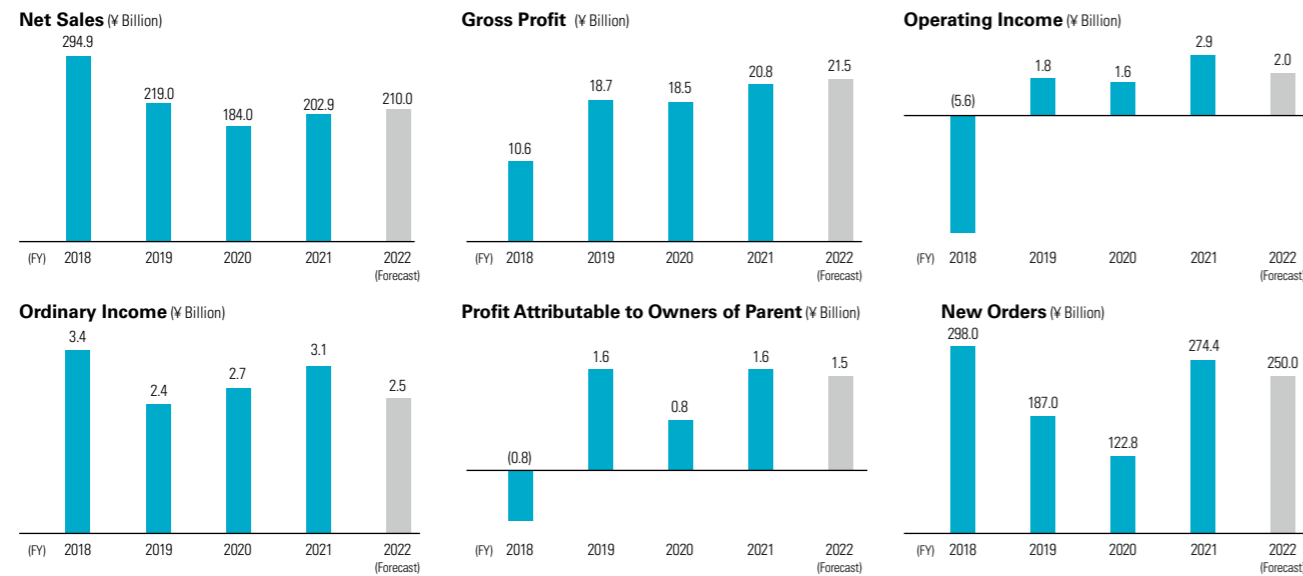
**Kensuke Waki**  
Director, Senior Executive Officer  
Chief Financial Officer (CFO)



## Fiscal 2021 Summary

Consolidated results in fiscal 2021 were affected by the sluggish order volume in previous years attributed to factors such as COVID-19, as well as by the Russia-Ukraine situation through the end of the fiscal year. Despite this, net sales and operating income increased from the previous year and were positive for the third consecutive year. Net sales was ¥202.9 billion, operating income ¥2.9 billion, and net income ¥1.6 billion. We have been meticulously managing project risks since launching the revitalization plan, and are no longer engaged in projects that generate major losses. The gross profit margin exceeded the 10% level following on from the previous fiscal year.

We have set our annual orders estimate at around ¥300 billion based on a standard income and expenditure model. In fiscal 2019 and fiscal 2020, however, orders grew at a sluggish pace due to a combination of factors, including the global decline in investment demand for petrochemical plants and COVID-19. In fiscal 2021, investment plans for petrochemical plants resumed, and inquiries for biomass projects increased. Against this backdrop, we received orders in the amount of ¥274.4 billion (¥290.4 billion including the orders of our equity method affiliates), exceeding ¥250 billion for the first time in three years. We expect net sales to gradually pick up from fiscal 2022.



## Fiscal 2022 Outlook

We will need to closely monitor the business environment impacts of the COVID-19 pandemic and the prolonged Russia-Ukraine situation. Soaring material and equipment costs and transportation costs, supply chain delays, and exchange rate fluctuations are anticipated to affect the progress of new orders and existing projects, and we are taking measures by diversifying procurement sources and coordinating contract terms with clients.

Considering these uncertainties, we forecast that the Company's gross profit, operating income, and net income

will be on a par with those in the previous fiscal year. The contribution of increased orders in fiscal 2021 to net sales is expected to fully manifest itself in fiscal 2023 and beyond. Although we have a contract backlog of approximately ¥30 billion for two petrochemical projects underway in Russia, our outlook does not include the revenues from these projects, taking into account the situation in Russia. We expect that investments in DXoT and business development will be about the same as those in the previous fiscal year.

By priority region, we aim to increase orders for renewable

energy projects and pharmaceutical plants in Japan. We plan to increase orders for oil refinery and petrochemicals in India, for petrochemicals and high performance chemicals in China, where foreign companies have entered the market, for value chain projects related to gas-fired power generation, FPSO,

and oil refinery in Brazil. There are many projects that are not significantly affected by the Russia-Ukraine situation, and we expect to receive ¥300 billion in orders, including the ¥50 billion by our equity method affiliates, and plan to secure a stable volume of orders for the second consecutive year.

## For Fulfilling the Medium-term Management Plan

### (1) Attract a steady volume of orders and strengthen profitability

Our fiscal 2021 financial results indicate that we are halfway to achieving the KGIs for net income and ROE set in our medium-term management plan. The main reason is the sluggish order intake over the past two years. As such, attracting a steady volume of orders will be key to achieving our KGIs.

However, we do not want to repeat our bitter experience with increasing EPC project orders haphazardly. We will therefore conduct thorough risk screening of proposals, focus on the gross profit margin on contracted projects, and increase opportunities for non-EPC project orders including orders for low risk solution services. Furthermore, we will leverage DXoT and Group operations to improve our price competitiveness and EPC execution capabilities, aiming for appropriate increases in the volume of orders and the gross profit margin on orders.

The Group will not only work alone in attracting a steady volume of orders. For each plant product, we will also work in alliance with a variety of companies, such as Nippon Steel Engineering, Taisei, JGC, and MODEC, to ensure a continuous order intake while complementing each other's resources, technical expertise, and regional insight.

### (2) Plant seeds for the future and accelerate monetization

Investments and operating costs for DXoT and ICT are expected to amount to ¥4–7 billion each fiscal year from fiscal 2021 onwards, and are projected to total ¥28 billion over the five-year period up to and including fiscal 2025, the final fiscal year of the medium-term management plan. We expect that these investments and operating costs will advance our mainstay EPC business and gradually contribute to our profit. To expand our business in new domains, we also plan to invest ¥8 billion over five years in R&D and business development.

We are making steady progress in transitioning to non-EPC businesses, with non-EPC projects already making up 39%

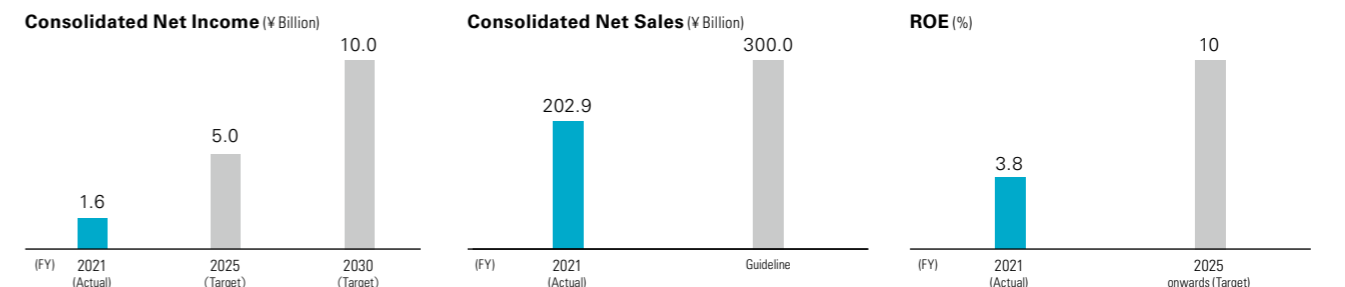
of the gross profit composition in fiscal 2021. The gross profit composition of new businesses is 18% compared to our fiscal 2025 target of 25%. Under the medium-term management plan, we intend to allocate a portion of our revenue from existing businesses to investments in R&D and business development in new domains, including carbon neutrality, as well as to DXoT investments. We will seek to launch new businesses and make them profitable at an early stage and create a virtuous cycle between existing and new businesses to grow the overall revenue of our businesses.

The business environment is complicated by uncertainties. As the person responsible for finance and accounting, I will do my part to fulfill the medium-term management plan. On the macro level, I will focus on stabilizing the revenue of existing businesses and establishing new business areas by optimizing the Group's fixed costs and taxes, managing the portfolio of business revenue, securing and allocating human resources, and allocating funds. On the micro level, I will screen individual orders and investment projects and manage project account risks from a finance and accounting perspective.

### (3) Capital adequacy and resumption of dividend payments

Although the Company is no longer engaged in past unprofitable projects, we still need to accumulate profits for a while longer before we can resume dividend payments. The Company has not paid dividends for five consecutive fiscal years to the present, and we sincerely apologize to our shareholders. Our immediate priority is to raise our consolidated equity ratio, which was 18.4% in the end of fiscal 2021, to at least the 25% level and increase equity capital to the ¥60–70 billion range or higher. We intend to remain on track to realizing this goal and resume dividend payments as early as possible during the medium-term management plan. We ask for the continued understanding and support of our stakeholders.

## KG I

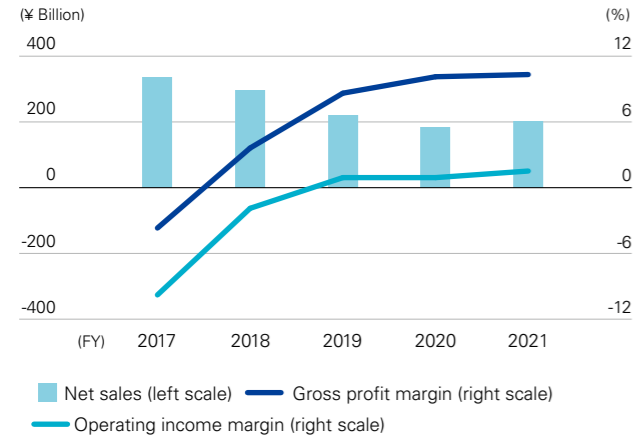


# Financial and Non-Financial Highlights

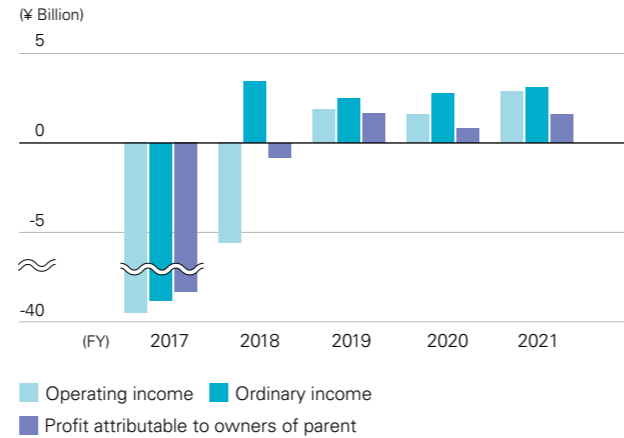
Please go to the ESG Highlights on P.60-61 and Financial Highlights on P.62-63 for more information.

## Financial Highlights

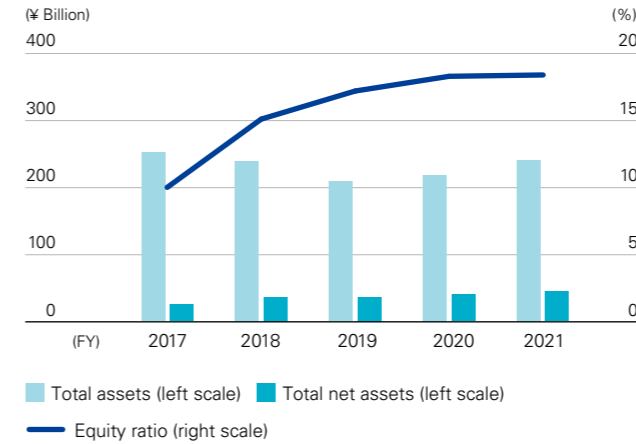
### Net Sales, Gross Profit Margin, and Operating Income Margin



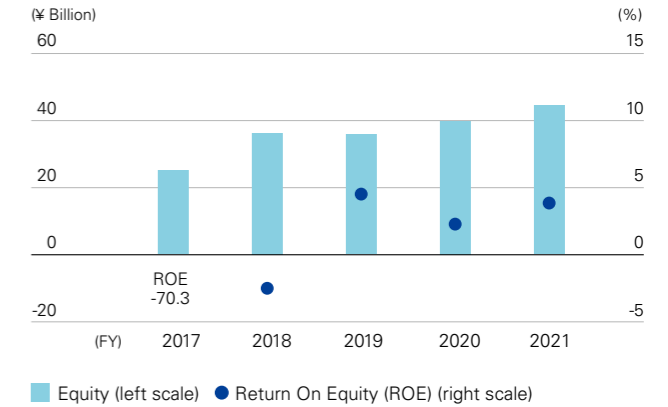
### Operating Income, Ordinary Income, and Profit Attributable to Owners of Parent



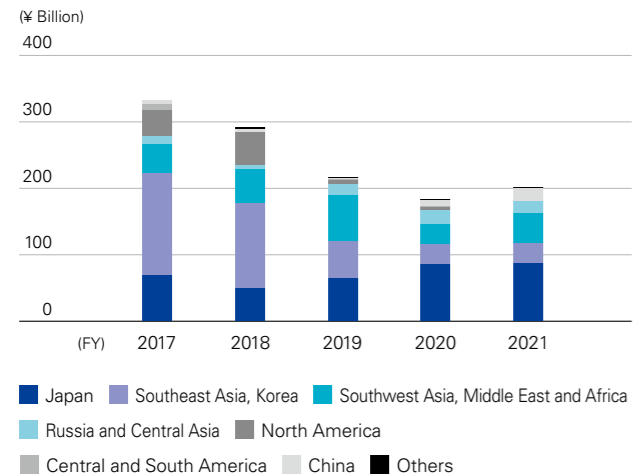
### Total Assets, Total net Assets, and Equity Ratio



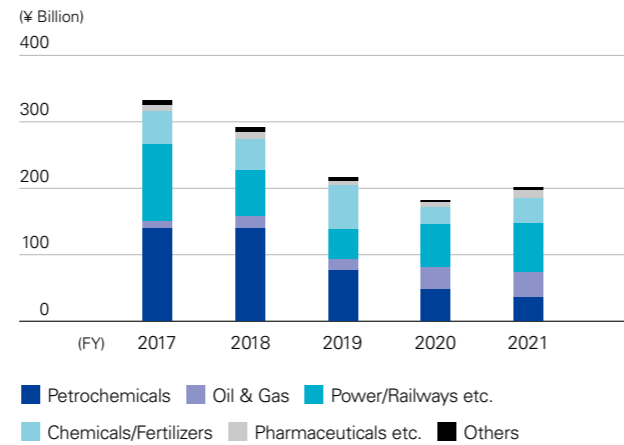
### Equity, Return On Equity (ROE)



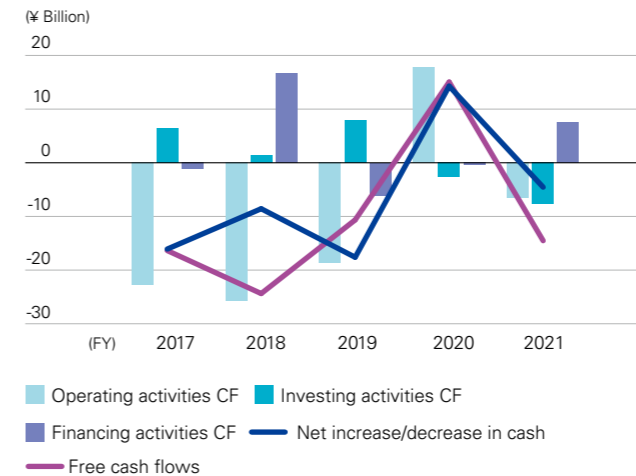
### Net Sales by Region



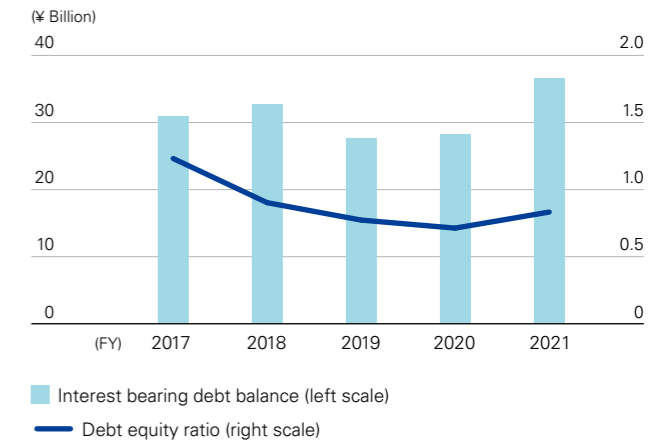
### Net Sales by Product



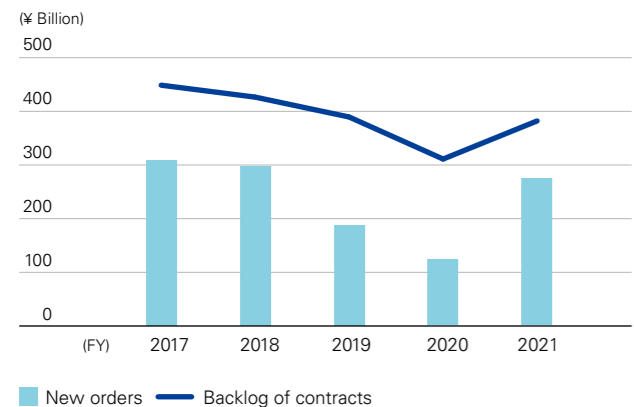
### Cash Flows



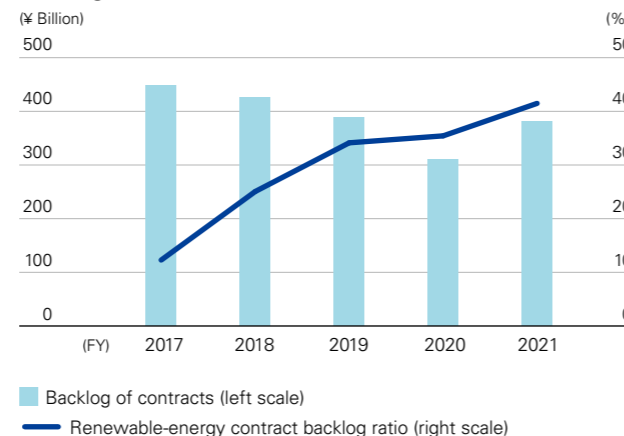
### Interest Bearing Debt, Debt Equity Ratio



### New Orders, Backlog of Contracts

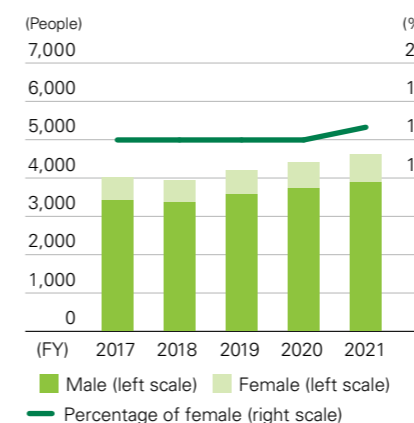


### Backlog of Contracts, Renewable-Energy Contract Backlog Ratio

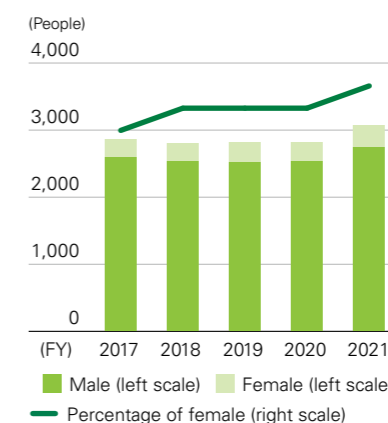


## Non-Financial Highlights

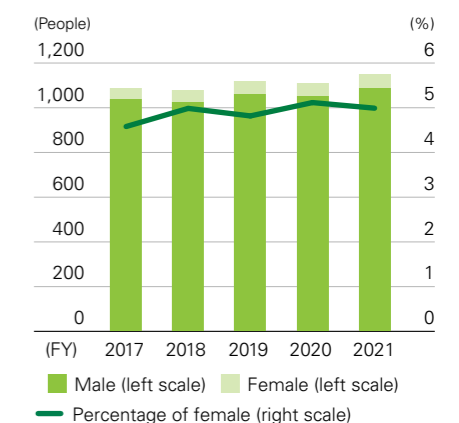
### No. of employees (consolidated)



### No. of engineers (consolidated)



### No. in managerial roles (consolidated)



Note: Total of major EPC companies including equity method companies. Excludes temporary employees.

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

## Making progress through double spiral strategies of “Sustainable Technology and Business Development” and “Advanced EPC Operation”

In this Medium-term Management Plan, the first year of which was fiscal 2021, TOYO clarified an approach so that it can contribute to “achieving a sustainable, better world,” a common issue for all humanity, and compiled them into a growth strategy. By moving forward with the strategy indicated here, TOYO will contribute to creating a society that balances “harmony with the environment” and “economy and convenience” while aiming to achieve TOYO’s further growth.



### “Sustainable Technology and Business Development” (green strategy)

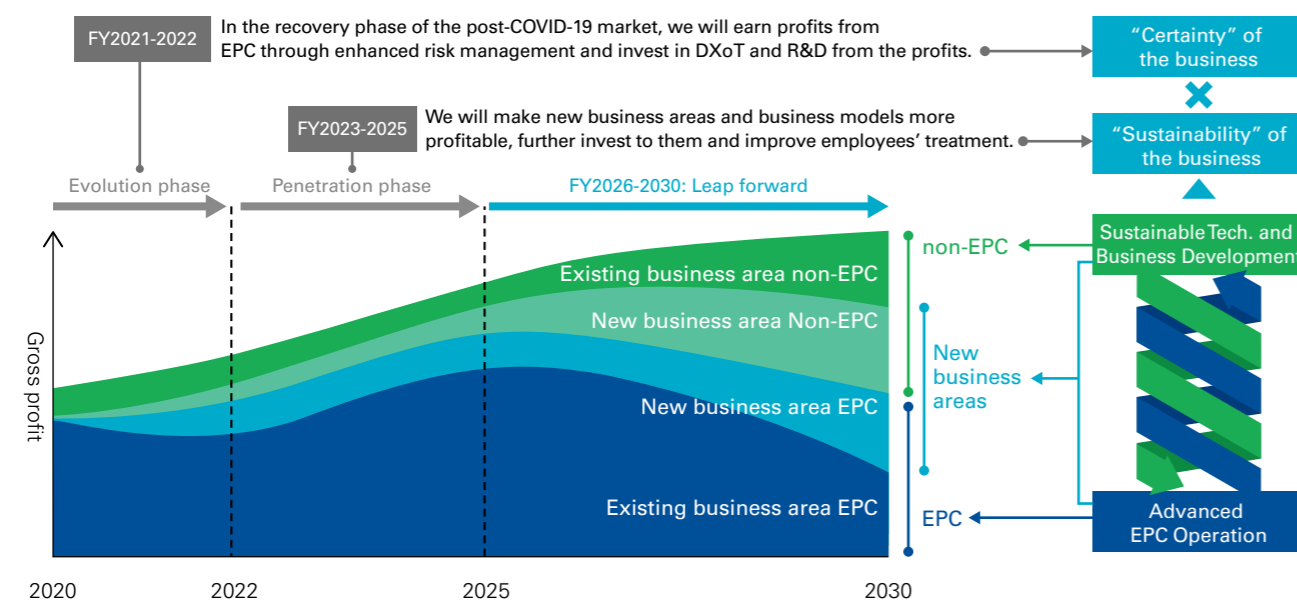
Develop the following five priority business fields using CCUS knowledge and experience and synthesis gas technology as core

- (1) Circulating and Low environmental impact
- (2) CO<sub>2</sub> utilization, Energy conservation
- (3) Next generation energy
- (4) Resource and energy security
- (5) Quality of Life (Pharmaceuticals and high performance chemicals)

### “Advanced EPC Operation” (blue strategy)

- (1) For existing fields, have the group company rooted in the local community take the lead in executing this by leveraging the EPC execution capabilities they have developed since the 1960s
- (2) Improve productivity and quality through DX

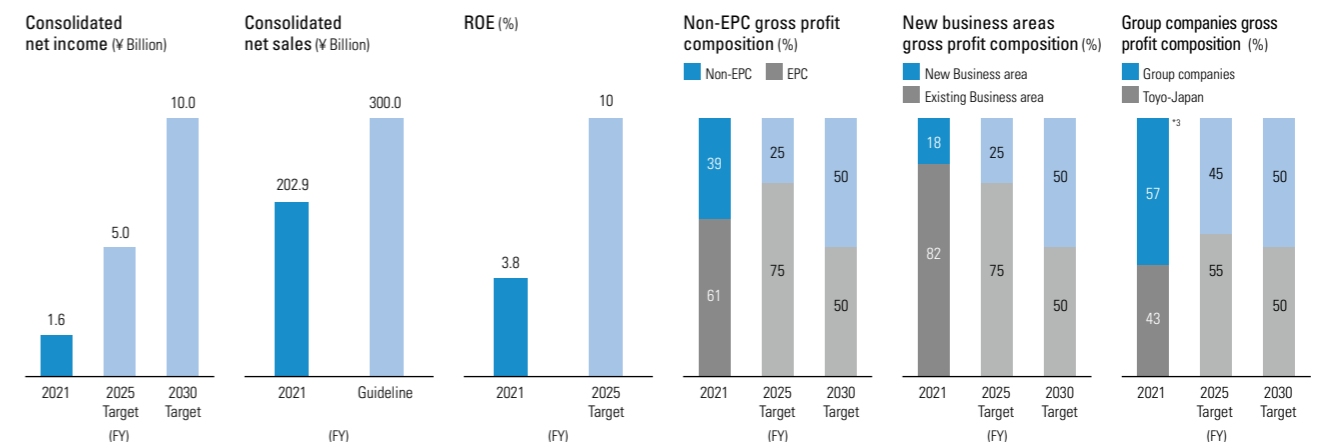
## Targets: Average net income of ¥5 billion or higher (FY2023–2025) and ROE of 10% or higher (FY2025)



## KGI and KPI

KGI (Key Goal Indicator)		KPI (Key Performance Indicator)	
Target	FY2021	Target	FY2021
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%	39%
Consolidated net sales • Emphasis on profit over net sales • Net sales target: ¥300 billion	¥202.9 billion	Gross profit composition (new business areas) • FY2025: 25% or higher • FY2030: 50%	18%
ROE • FY2025: 10% or higher • Thereafter: Stably 10% or higher	3.8%	Gross profit composition (6 main Group companies) • FY2025: 45% or higher*2 • FY2030: 50%	57%
Dividends • Aim to resume dividend payments during period of plan	—	Employee’s satisfaction • Improved from the previous year level	3.63 on a 5-point scale (3.37 previously)
		No. of employees Japan: Double number engaged in sustainable technology and business development Other Group companies: Increase/decrease according to demand	About 100 now (slight increase) Maintain group-wide size of 5,500

\*1 Non-EPC = non-EPC/EP Lump Sum projects  
\*2 TSPI (Brazil) is not included as an equity method affiliate



## Fiscal 2021 review

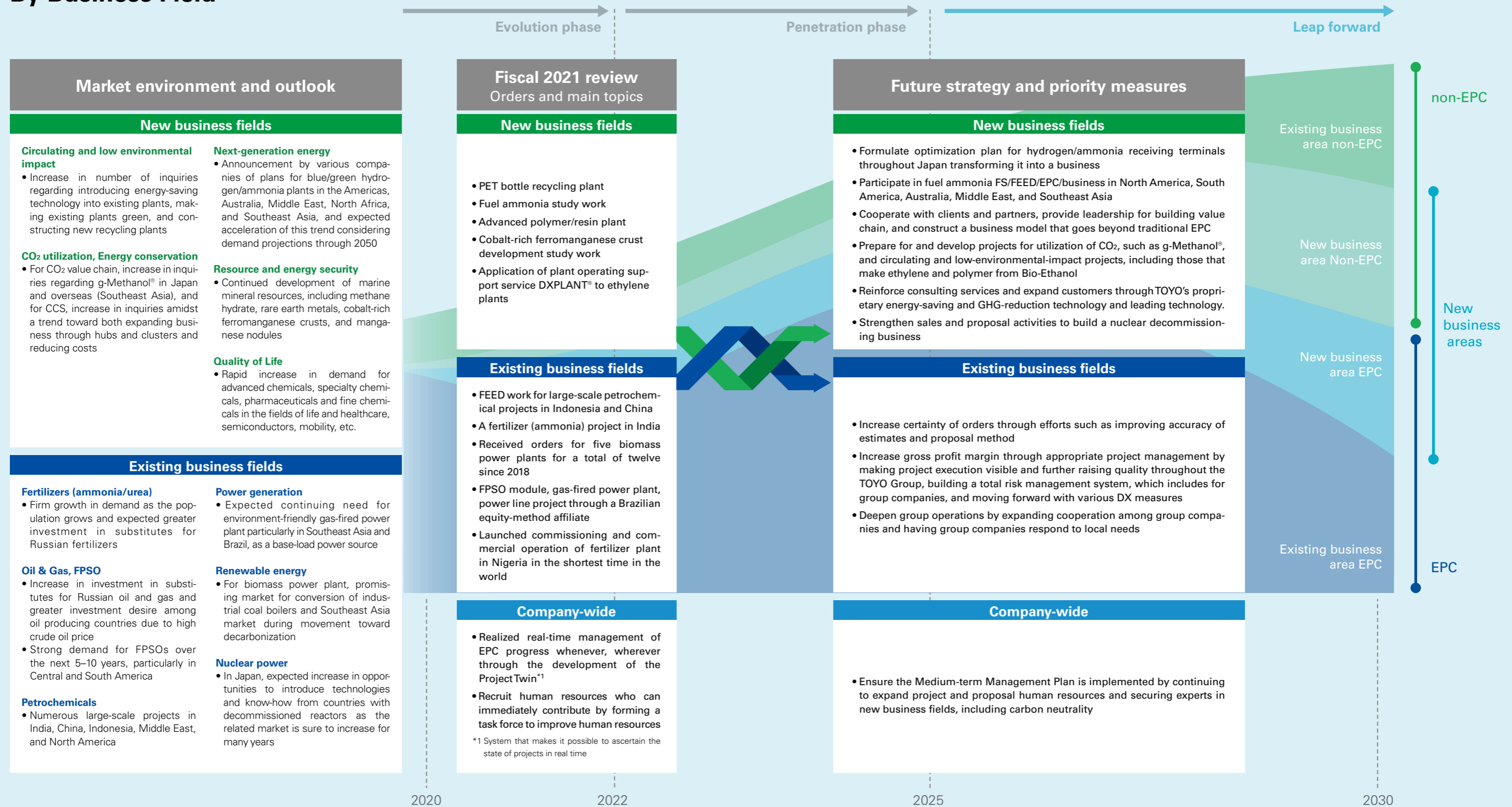
- (1) Moved forward with strengthening the group’s operation capabilities and risk management for group companies’ independent projects
- (2) Non-EPC gross profit accounted for 39% of total gross profit, surpassing medium-term management plan target
- (3) Group company gross profit accounted for 57% of total gross profit, surpassing medium-term management plan target
- (4) Fruits of co-creation with partners
  - Joint order for a biomass power plant with Nippon Steel Engineering Co., Ltd.
  - Order for biopharmaceutical plant facilities with Taisei Corporation
- (5) Moved forward with various initiatives in new business fields, particular those related to carbon neutrality
- (6) Achieved 20% progress of increasing productivity six-fold through DXoT
- (7) Established Sustainability Committee

## Future priority measures

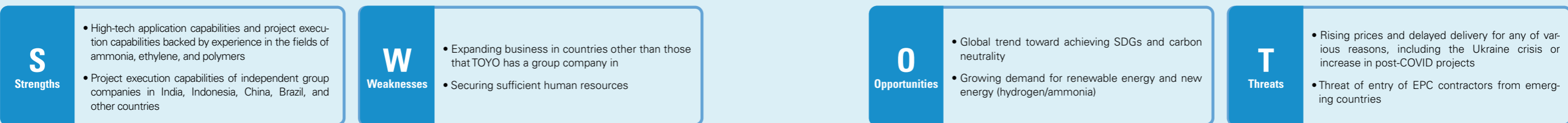
- (1) Focus on growth markets where TOYO has a group company  
India, China, Brazil
- (2) Further evolve group operations  
Transform Toyo-India into the core of EPC operations for all of TOYO
- (3) Promote carbon neutral business
  - Realize projects, centered on Carbon Neutral Business Division, which was upgraded from the former strategy team
  - Participate in building value chain addition to winning orders for EPC projects
- (4) Further raise productivity by moving forward with DXoT-based work improvements, system development, and application to projects
- (5) Undertake TCFD\*4-based disclosure and move forward with efforts so TOYO becomes carbon neutral by 2050

\*4 Task Force on Climate-related Financial Disclosures

# Market Environment and Priority Measures By Business Field



## SWOT analysis



# Promoting Sustainable Technology and Business Development Strategy

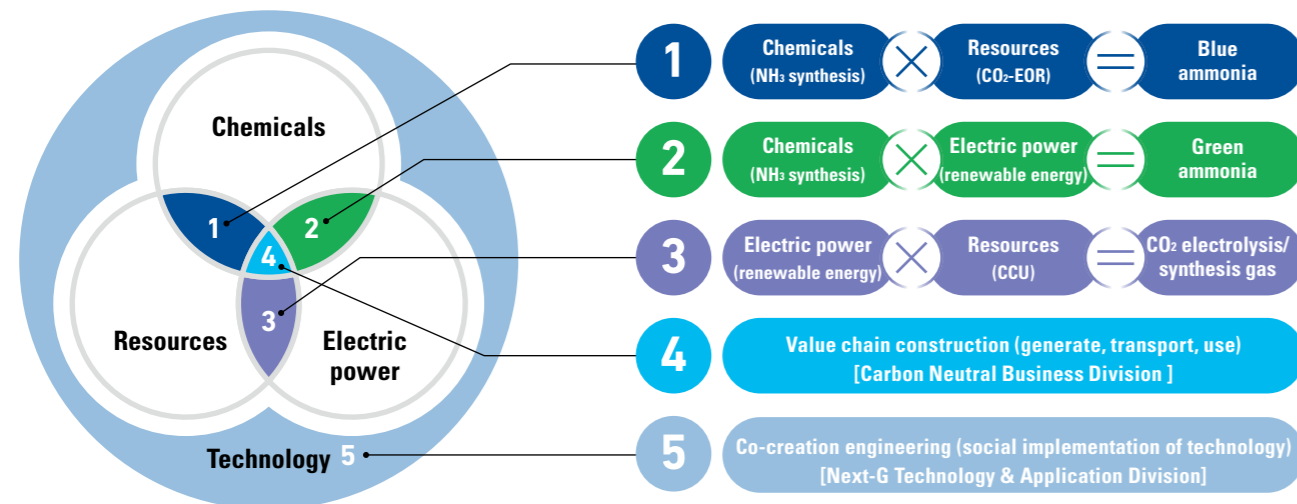
## Balancing environmental and economic considerations through technology and business development

### Carbon Neutral Business Division established to provide leadership both inside and outside the company and promote business development

In the three business fields that TOYO is focusing on to achieve a carbon neutral society ((1) fuel ammonia, NH<sub>3</sub>), (2) SAF (sustainable aviation fuel), and (3) CO<sub>2</sub> value chain), we are taking on the challenge of tackling the social issue of balancing environmental and economic considerations, and it will be necessary to marshal the knowledge that individual in-house divisions possess by overcoming barriers between those divisions to achieve social implementation

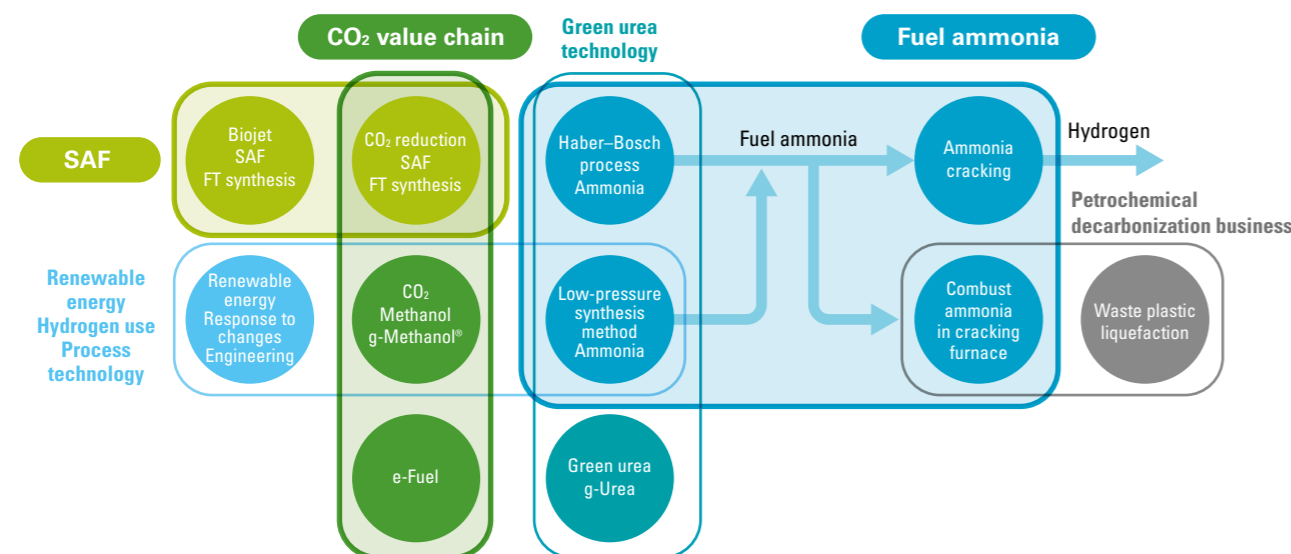
and generate profits. In addition, in line with the trend among clients and partner companies to merge carbon neutrality-related divisions, TOYO established the Carbon Neutral Business Division in April 2022 by integrating related divisions to serve as the face of TOYO and offer quick and smooth communication, not having the each division responsible for a particular business or project handle the response.

#### TOYO's priority business fields to achieve carbon neutrality



### Promoting commercialization through technology development from points to lines and then from lines to surfaces

Connecting the technologies (points) that TOYO possesses and is developing and those possessed by partners (startup companies, producers, trading companies, etc.) to form a business chain (lines/surfaces), we stress the connection between technology and business and aim to increase the efficiency of return on development.



**Satoshi Okajima**  
Research Engineer  
Next-G Technology & Application Division (TNext) Engineering and Technology Unit

**Minami Hayashi**  
Business Producer  
Carbon Neutral Business Division Plant Solution Business Unit

**Azusa Okazaki**  
Research Engineer  
Next-G Technology & Application Division (TNext) Engineering and Technology Unit

**Koji Kanamaru**  
Business Producer  
Carbon Neutral Business Division Plant Solution Business Unit

### Three main initiatives

#### Fuel ammonia

#### Aim for earnings from EPC in 2024 and business investment return in 2027

##### Fiscal 2022 priority measures

- Create/stimulate demand for fuel ammonia
- Optimize partnering and portfolio

With blue ammonia, it is possible to reduce carbon emissions by collecting and storing CO<sub>2</sub> emitted during the process of synthesizing ammonia from natural gas, and because the required elemental technologies have already been commercialized, blue ammonia can be adopted in society relatively quickly and at lower cost compared to green ammonia or other items. Discussions regarding the definition of blue (CO<sub>2</sub> recovery volume/percent) and policy issues such as a fuel price index (whether it is possible to have different prices for the same chemical, etc.) are moving forward, and it is expected that once the policies are set, movement toward final investment decisions (FID) regarding projects under development throughout the world will be accelerated. Back calculating from fuel ammonia

import targets for 2030 touted by various countries, it appears that EPC work will start by around 2024, construction will take 3-4 years, and commercial operation will commence in the second half of the 2020s.

On the other hand, for green ammonia, because hydrogen is produced using a water electrolyzer powered by renewable energy, there are several economic issues that need to be solved, and these include (1) reducing electricity costs (renewable energy costs), which account for about 70% of costs, (2) building a large-scale water electrolyzer (space per cost), and (3) adapting the ammonia synthesis process to changes in renewable energy. As for social implementation, it appears that small-to medium-scale projects based on local production and local consumption will start from the second half of the 2020s, and large-scale projects that make full use of green ammonia as a fuel may be economically viable before and after 2030.

#### SAF

#### Aiming for business investments and EPC orders by 2025

##### Fiscal 2022 priority measures

- Strengthen relationship with partner companies
- Move forward with development and initiatives related to projects that can quickly be undertaken
- Undertake branding and develop partners

As for SAF, last year, we worked with partners to research and develop SAF manufacturing technology that melds wood biomass gasification technology and FT synthesis technology as phase 1 of the New Energy and Industrial Technology Development Organization (NEDO) demonstration project, and on June 17, 2021, Japan's first commercial flight using this fuel took place between

Haneda and New Chitose airports. We are now moving forward with phase 2 with a partner to commercialize the technology. By using the technology gained from experience in phase 1 and overcoming business issues, we are aiming to make business investments and launch EPC work by 2025, and then commercialize and recover investment in the second half of the 2020s. Furthermore, in terms of technology, we are working with partners on researching and developing CO<sub>2</sub> electrolysis and FT synthesis (Power to Liquid), next generation technology to follow gasification and FT synthesis. In preparation for the coming SAF market expansion, we are also working so that we can handle any of several technical scenarios.

#### CO<sub>2</sub> value chain

#### Focus on gaining experience with CCU and aim to quickly participate in CCS business

##### Fiscal 2022 priority measures

- CCU: quickly build experience
- CCS: formulate a strategy for building new development/advanced projects

The CO<sub>2</sub> value chain business consists of carbon dioxide capture and utilization (CCU) and carbon dioxide capture and storage (CCS), and we are aiming to generate profit using CO<sub>2</sub> as a resource. To achieve that, it is necessary to create a system for carbon pricing (carbon tax, incentives, etc.) in each country and for the whole world, and the development of a large number of CO<sub>2</sub> value chain projects by companies throughout the world is progressing quicker than initially expected.

TOYO's CCU business is centered on its proprietary technology

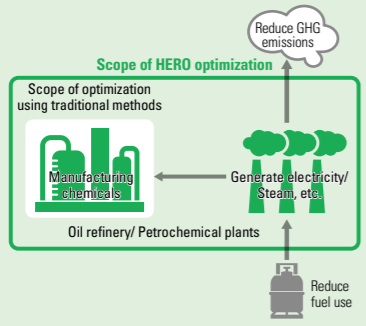
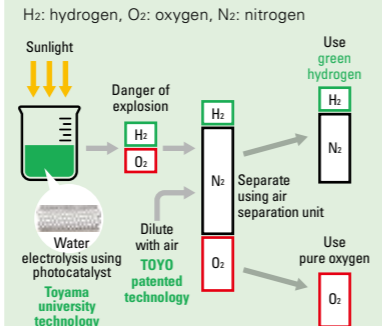
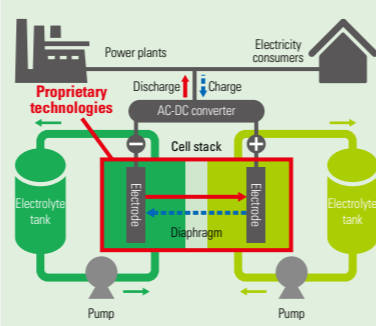
g-Methanol<sup>®</sup>. In addition to winning an order for pilot plant facilities in India last year, we have received numerous other inquiries. Having acquired experience with demo plants and working with clients and partners, we are aiming to be involved in various ways, from commercialization to project participation and EPC, while keeping an eye on the relevant government's policy trends and when related markets in these countries will fully launch. As for CCS, large-scale commercial projects are ongoing mainly in Europe, the US by several companies. We are aiming to participate in business as a joint partner with our strengths related to various aspects including owner's engineering and project management by utilizing the CCS/CO<sub>2</sub>-EOR technology, knowledge, and experience that we have gained since the 1980s.

## ATB’s Challenge—Solving social problems using technology developed for chemical engineering

### Advanced Technology Business (ATB) Department’s mission

To solve social problems and secure stable profits, TOYO will create new non-EPC business by developing universal technology that can be used in a wide range of fields and obtain related patents.

### ATB’s priority business fields

Priority business fields	Energy saving	Energy creation	Energy storage
<b>1 HERO/ SUPERHIDIC®</b>	<b>2 Manufacture hydrogen using artificial photosynthesis</b>	<b>3 Redox flow batteries</b>	
<p>Services and energy-efficient distillation system to save energy and reduce GHG*1 emissions for overall processes and utilities**2</p>  <p>Scope of optimization using traditional methods</p> <p>Generate electricity/Steam, etc.</p> <p>Oil refinery/ Petrochemical plants</p> <p>Reduce GHG emissions</p> <p>Reduce fuel use</p>	<p>Use patented technology to safely separate mixed hydrogen/oxygen gas obtained through water electrolysis that uses photocatalyst and offer a stable supply of CO<sub>2</sub>-free hydrogen</p> <p>H<sub>2</sub>: hydrogen, O<sub>2</sub>: oxygen, N<sub>2</sub>: nitrogen</p>  <p>Sunlight</p> <p>Danger of explosion</p> <p>Use green hydrogen</p> <p>Water electrolysis using photocatalyst</p> <p>Toyama university technology</p> <p>Dilute with air</p> <p>TOYO patented technology</p> <p>Separate using air separation unit</p> <p>Use pure oxygen</p>	<p>Batteries that offer a stable supply of electricity generated with renewable energy</p>  <p>Power plants</p> <p>Electricity consumers</p> <p>Proprietary technologies</p> <p>Discharge</p> <p>Charge</p> <p>AC-DC converter</p> <p>Cell stack</p> <p>Electrolyte tank</p> <p>Electrodes</p> <p>Diaphragm</p> <p>Pump</p>	
<b>Merits</b>	<ul style="list-style-type: none"> <li>Proposal of modifications in line with customer demands after combining a large number of operating/design requirements and constraints</li> <li>Electrification of energy sources and dramatic reduction in energy consumption in the distillation process</li> </ul>	<ul style="list-style-type: none"> <li>Highly efficient because a wide range of wave lengths of sunlight can be used</li> <li>Avoid risk of explosion and make safe production possible</li> </ul>	<ul style="list-style-type: none"> <li>Long life with outstanding lifecycle costs</li> <li>Little risk of fire</li> <li>Compatible with photovoltaic power plant</li> <li>Structure similar to plant</li> </ul>
<b>Progress</b>	<p><b>HERO</b></p> <ul style="list-style-type: none"> <li>Received consulting orders for major petrochemical companies in Southeast Asia</li> <li>Developed simple computational algorithm</li> <li>Generated HERO/SH sales promotion synergies</li> </ul> <p><b>SUPERHIDIC®(SH)</b></p> <ul style="list-style-type: none"> <li>Certified advanced facilities/systems within SII subsidies**3</li> <li>Concluded sales promotion and EPC partnership agreements for European market</li> </ul>	<ul style="list-style-type: none"> <li>Check compatibility between partner’s photocatalyst and TOYO patent</li> </ul>	<ul style="list-style-type: none"> <li>Verification of patent technology with bench scale equipment</li> </ul>
<b>Future priority initiatives</b>	<p>(1) Increase the number of clients by expanding target applications and conducting simplified examinations based on continuing technology development</p> <p>(2) Develop European market jointly with sales promotion partners</p>	<p>(1) Verify patented technology using bench scale equipment</p> <p>(2) Expand development consortium</p>	<p>(1) Establish production method for mass production</p> <p>(2) Form development consortium to verify performance using pilot equipment**4</p>

\*1 Greenhouse gas \*2 Water, steam, electricity, etc. \*3 Advanced Energy Saving Investment Promotion Support Program being undertaken by the Sustainable open Innovation Initiative  
\*4 Test equipment for semi-commercial plant scale

### Roadmap to Commercialization

	2020	2021	2022	2023	2024	2025	2026~	2030~
<b>HERO/ SUPERHIDIC®</b>	Commercialization and sales promotion activities							
<b>Manufacture hydrogen using artificial photosynthesis</b>	File for patent and confirm technical principles	Verify using bench scale equipment	Form/expand development consortium	Verify using pilot equipment	Commercialization and sales promotion activities			
	Improve catalyst performance							
<b>Redox flow batteries</b>	File for patent and conduct verification test	Check manufacturing method	Form development consortium	Verify using pilot equipment	Commercialization and sales promotion activities			



Toshihiro Wakabayashi  
General Manager

Yohei Otomo  
Chief of SUPERHIDIC®

Tatsuya Fukuda  
Chief of R&D

Hiroshi Takase  
Chief of HERO

### Non-EPC business models, such as licensing sales and performance fee

**Wakabayashi** Although our business is centered on EPC, TOYO has formulated a strategy to expand its non-EPC business that appears in the current Medium-term Management Plan.

**Takase** HERO/SUPERHIDIC® is truly a leading example of that. With HERO, we ascertain the possibility of reducing energy use and GHG emissions through plant modifications based on consulting regarding minimizing costs. The business model is based on earning a set percentage of actual reduced operating costs as a performance fee for a set period of time. We also propose SUPERHIDIC®, a distillation system that can be expected to dramatically save energy and reduce GHG emissions, as a key technology, and this, too, is part of our licensing business, not EPC.

**Fukuda** We are currently in the process of developing the technology to manufacture hydrogen using artificial photosynthesis, and our goal is to develop a related licensing business and hydrogen sales business as non-EPC business in the future. Having filed patents for proprietary technologies effective for safely splitting hydrogen, which used to be an issue for hydrogen produced using artificial photosynthesis, we are building a safe and effective process that makes use of this technology.

**Wakabayashi** We are also currently developing the technology for redox flow batteries, but because it is a system with a structure similar to a plant, we will make use of the knowledge and experience we have gained in the technology development. For this, in addition to licensing sales, we are considering various possibilities, including investing in business entities that sell electricity using storage batteries.

### Developing technology with an eye toward commercialization

**Wakabayashi** Under the belief that the value TOYO provides lies in solving social problems based on unique patentable technology, the department that was the predecessor of ATB was launched in 2019 and moved forward with technology development and new business construction.

**Takase** TOYO’s strength is that as an engineering company, we can propose technology-based solutions because we possess various processes and plant know-how. We are able to get an overview

of the technology and ascertain what aspect of technology development focus should be placed on in order to commercialize it.

**Fukuda** For example, in response to the issue of safely splitting hydrogen when manufacturing hydrogen using artificial photosynthesis, we are examining applying air separation technology that is widely used in existing industries. When we find industries that possess air separation devices and that are highly compatible with TOYO’s technology, and select technology to apply, I feel that we fully demonstrate the knowledge as an engineering company.

**Wakabayashi** Focusing on the business fields of (1) energy saving, (2) energy creation, and (3) energy storage, we are moving forward with three initiatives in areas that we can offer solutions to problems by leveraging the chemical engineering knowledge that we are good at and obtaining patents.

**Fukuda** This department is unique in that it commercializes technology developed by itself and handles all aspects, including the business model, sales promotion strategy, sales, and executing projects. Therefore, I feel that we are able to efficiently move forward with examinations that extend to adoption in society because we have our eye on the exit—that is, commercialization—and search and develop ideas that could become new technologies.

**Takase** For example, many engineers move forward with developing technology based on the idea of increasing efficiency from 20% to 50%. The problem with that method, however, is that it takes time and money. We think about things by back calculating from the goal of commercialization; therefore, we are happy with 20% efficiency and focus on other aspects, and this approach leads to patents.

**Otomo** TOYO’s innovative energy-saving distillation system SUPERHIDIC® was developed with consecutive processes and normal and pressurized systems in mind, but when talking with various clients, I learned that there was a need for non-consecutive processes and reduced pressure systems, and we made improvements each time. Another distinguishing aspect of TOYO is how nimble we are—that is, we immediately respond to client feedback through technology development.

**Wakabayashi** We are very particular about moving forward with technology development with an eye toward commercialization, being attached to our own technology, and persisting until we commercialize an idea. To become carbon neutral, an issue for society, we want to offer clients our technology and generate results, which means we earn fair profits.



## Large-scale investments expected in Indian market

India boasts a population of about 1.4 billion people, the second largest in the world, but saw its GDP contract by 6.6% in fiscal 2020 because of the COVID-19 pandemic. It is, however, expected to record a V-shaped recovery and grow by 8.7% in fiscal 2021 and then continue to grow at a robust pace in fiscal 2022 and after.

India's population is also projected to continue to grow. Touting its promise to make the country the world's third-largest economic superpower, the Indian government is working to attract overseas investment and strengthen various types of manufacturing industries. Since 2014, these efforts have been centered on the "Made in India" manufacturing industry promotion policy in order to reduce the country's chronic

trade deficit. In 2020, the government also formulated its Atmanirbhar Bharat (independent India) policy, an economic incentive policy that aims to transition its industrial structure to that which does not rely on imports.

As a result of these government policies, investments continue to be made in a range of sectors, including manufacturing, oil, petrochemicals, fertilizers (ammonia and urea), chemicals, and infrastructure. Until now, investments have been made to expand capacity in the fields of oil and gas to meet growing demand, but large-scale investments are now also expected in downstream petrochemical fields to meet changing client preferences and respond to growing per-capita consumption.

## Toyo-India's history and future growth strategy

TOYO established a local base in India in 1963 when it received an order for a fertilizer plant project based on yen-loans. In 1976, Toyo-India was founded by expanding that local base, which was done to make effective use of Indian employees in India and the Middle East. Since then, the company has executed large-scale EPC projects in India, increased the number of employees from around 30 at the time it was founded to the current approximately 2,000, and grown dramatically into one of the top comprehensive engineering companies in India

by executing various types of projects including ones related to fertilizers, oil refinery, LNG regasification, petrochemicals, power generation, and FPSOs.

For global plant projects outside of India that TOYO executed in the 2000s, Toyo-India was responsible for engineering, procurement, and construction management. At the peak time, each year 50 Indian engineers (a total of 250 over almost eight years) worked with Japanese engineers at the Toyo-Japan office, where they learned engineering and quality

management methods. Many of those engineers are now contributing as Toyo-India managers, and TOYO standards, which were imprinted in them like DNA, are the foundation of Toyo-India's competitiveness.

In 2021, a DXoT support team and Construction Planning Center were launched to increase work efficiency and strengthen construction execution capabilities through work innovation and digitalization, which in recent years have grown more important to ensure the execution of projects that are

becoming larger and more complex. Collaboration with TOYO group companies has raised the project execution capabilities of the whole group.

Having accumulated experience with plant projects of various sizes and types over its 45-year history, Toyo-India aims to expand its business to fields such as chemicals and specialty chemicals while maintaining its core business in the gas and petrochemical industries as demand is projected to increase as India's population grows.

## Potential of the carbon neutrality field and Toyo-India's initiatives

At the 26th Session of the Conference of the Parties to the United Nations Framework Convention on Climate Change (COP 26) held in November 2021, the Indian government announced that it aims to become carbon neutral by 2070, and in response, a number of major state-owned enterprises and private-sector companies have announced business plans related to biofuels, green hydrogen, green ammonia, green methanol, and carbon recovery/reuse. In India, TOYO received an order for a pilot plant project to produce green

methanol from CO<sub>2</sub> and completed the design in 2021. It can be expected that there will be several large-scale projects related to green ammonia for both domestic use and export, and there are high hopes for this as it is a field that makes use of KBR technology, which TOYO is strong in. TOYO aims to solve social problems in the field of carbon neutrality and expand its business in India, too.

## Global operation example: ammonia and urea plant

### Jumping-off place for TOYO's growth

In 2018, TOYO received an order from Hindustan Urvarak & Rasayan Limited (HURL) for a fertilizer plant (daily production capacity of 2,200 tons of ammonia and 3,850 tons of urea) to be built in the city of Gorakhpur, India, a jumping-off place for our growth where we undertook our first overseas project. After overcoming several obstacles, such as suspension of construction due to the COVID-19 pandemic and delays in facilities that clients were responsible for, the plant finally launched operation in March 2022.

from Japan to India and their involvement and we executed the project operation and completed it successfully. I feel that this was the product because of efforts to transfer know-how from Toyo-Japan for a long time.



**Taku Shigematsu**  
Project Manager

### Two significant aspects of this project

#### (1) Deepened group operations

While projects of a certain scale were previously executed through collaboration between Toyo-Japan and Toyo-India, this time, we touted a policy of Toyo-India taking the lead in project execution, and immediately after the project was launched, we located the project office in Mumbai, India, and Toyo-India handled the majority of the work. By limiting Toyo-Japan's scope of work to overall project management, basic engineering, and procurement of some equipment, it was possible to minimize the dispatch of employees

#### (2) Made active use of DX

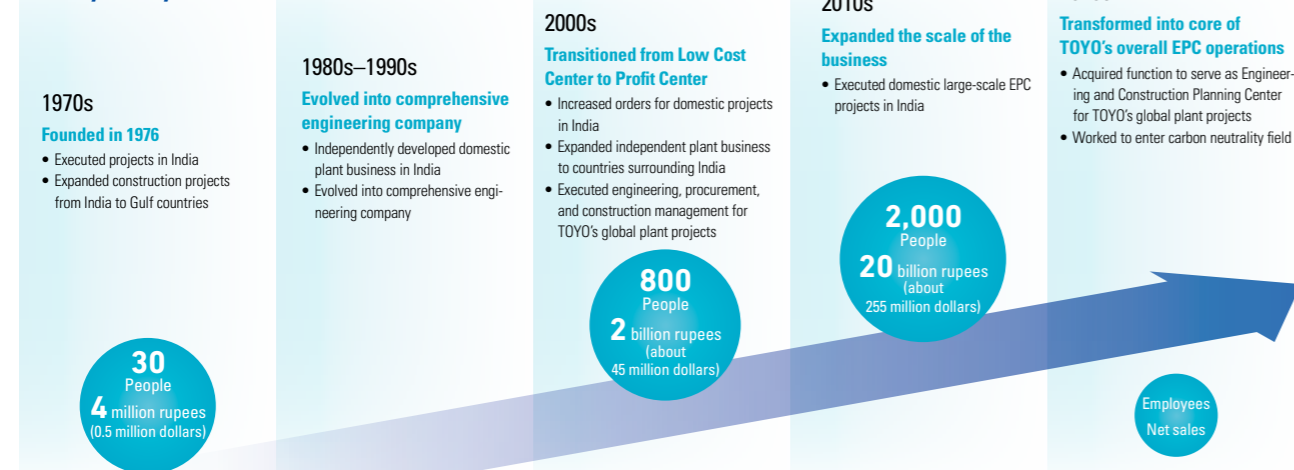
This was the first project that TOYO introduced advanced work packaging (AWP) from the construction stage although on a limited scope. This made it possible to issue more detailed work instructions to Indian construction companies appropriate for the status of drawing issuance, materials, and preceded construction, which resulted in more efficient pipe welding work, fewer construction material losses, and efficient use of materials. By expanding the scope of application, it will probably be possible to manage projects more efficiently.

### Becoming a core base for global operations while meeting local needs

Because of its experience in independently executing projects in domestic projects and the success of this project, I think that Toyo-India can now fully execute large-scale EPC projects in India with minimal or no involvement of Toyo-Japan. I also feel that Toyo-India will grow into a more important core base for global projects.



## History of Toyo-India's Growth







## China

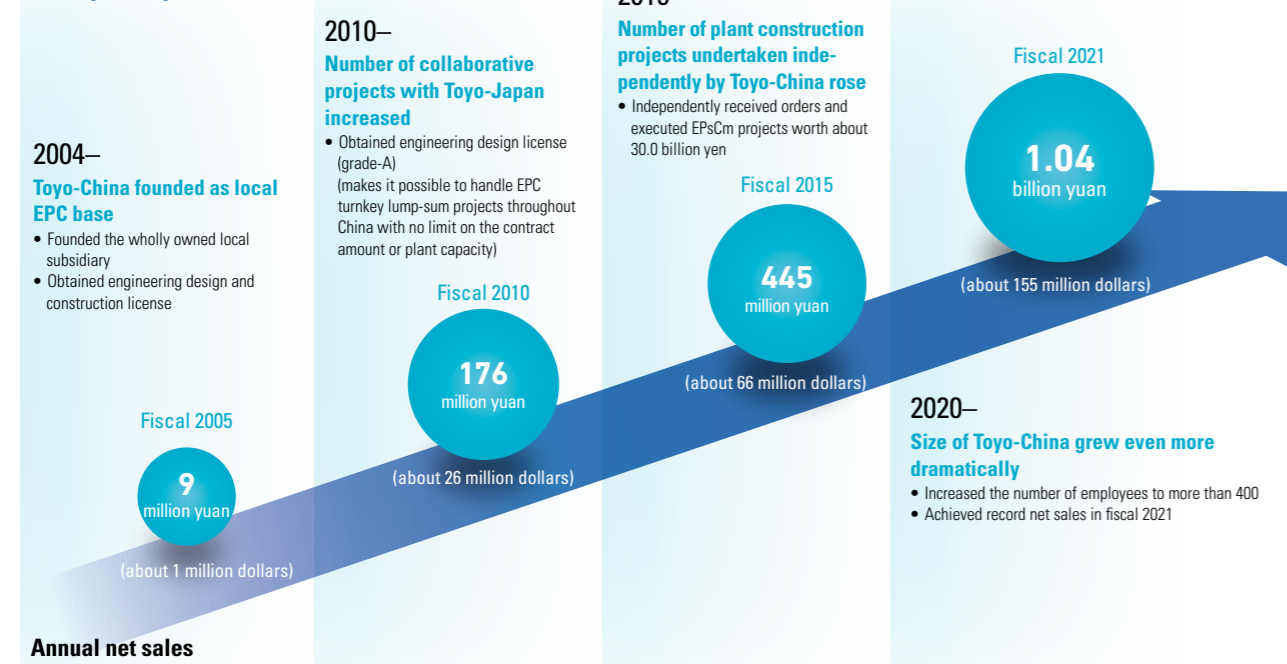
### Massive Chinese Market and Toyo-China's Growth

With a population of about 1.4 billion, China boasts one of the world's largest markets. TOYO entered the Chinese market in 1972, the year that Japan and China normalized diplomatic relations. In the 1970s and 1980s, TOYO worked on both ethylene plants and fertilizer plants for Chinese state-owned enterprises throughout China, making major contributions to the development of China's petrochemical and chemical industries. Furthermore, starting in the second half of the 1990s, investment in East China (the area around Shanghai, Jiangsu Province, and Zhejiang Province) by foreign companies accelerated, and TOYO established Toyo-China as its local EPC (engineering, procurement, and construction) base in 2004 to handle the strong demand. Toyo-China obtained a Chinese government-certified grade-A engineering design license, a first for a foreign-owned engineering company, in 2011, and this makes it possible to execute any size

of EPC turnkey lump-sum projects. As of 2022, the company has grown in size to more than 400 employees and has been involved in excess of 260 TOYO projects in China since 1972.

In recent years, the trend among foreign companies in China is to make strong investments in the field of fine chemicals, such as materials for semiconductors and lithium-ion batteries. In terms of region, investments have expanded from the coastal area of the Yangtze River to the Daya Bay region (area around Guangdong Province). This is because there has been a shift away from traditional construction investment to meet domestic demand to construction investment in Southern China, which is well located for Southeast Asia and the Indian Ocean, for larger production bases (complexes) to capture demand from throughout Asia, and this shift has been accompanied by an increase in the total amount of investment.

#### History of Toyo-China's Growth



### Providing world-class engineering and project management services

Toyo-China's competitiveness comes from various factors, including possessing a Chinese government-certified engineering design license that makes it possible to execute large-scale projects, having extensive experience with projects for foreign companies, including Japanese companies, and offering world-class engineering services and smooth project management services on account of employees' ability to speak

Japanese and English. The company is unique in that it has won a large percentage of repeat orders from existing clients by completing projects in a manner that highly satisfies clients. To further improve the quality of services and cost competitiveness, Toyo-China aims to reward clients with shorter construction periods and lower costs by accelerating work innovation related to project execution and introducing DXoT.

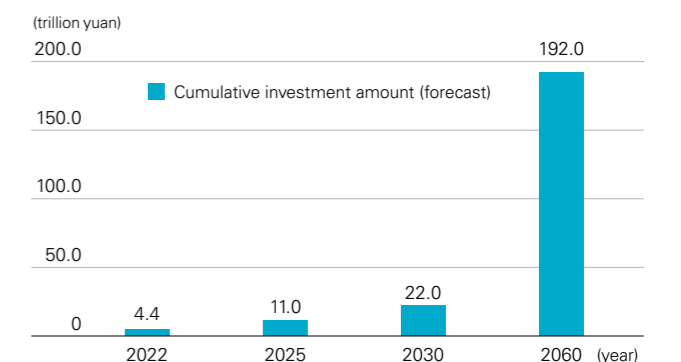
#### Main projects record in China (number)



### Potential offered by carbon neutrality-related fields

China is the world's largest source of CO<sub>2</sub> emissions, but when it released its 14th five-year plan in March 2021, the Chinese government officially announced its carbon emissions would peak in 2030, and the country is aiming to become carbon neutral by 2060. In response to this, both state-owned enterprises and foreign companies have been rapidly accelerating carbon neutrality-related investments. TOYO will participate in projects targeting foreign companies in China in fields related to carbon neutrality, a main global trend, while focusing on traditional EPC projects in the field of petrochemicals and chemicals.

#### Carbon neutrality-related investments in China (forecast)



Source: Standard Chartered Bank, Trading of Carbon Emissions

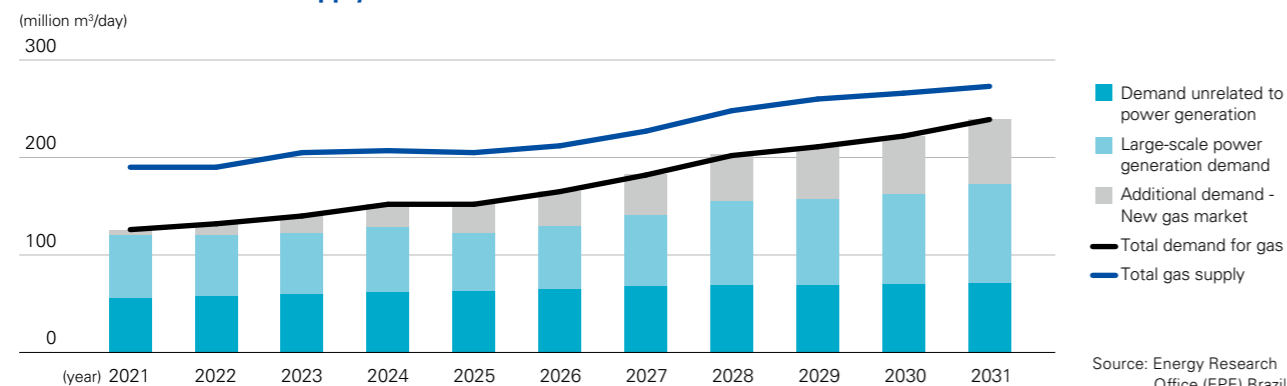


**Primarily oil and gas but also renewable energy projects expected in Brazilian market**

Brazil, the fifth largest country in the world in terms of area, possesses a vast amount of potential not only through its own development but also as a target of foreign investment because of its abundant resources and massive size. This year, 2022, is a presidential election year. In election years, economic growth usually slows because of uncertainty about the economic outlook due to the possibility of changes in

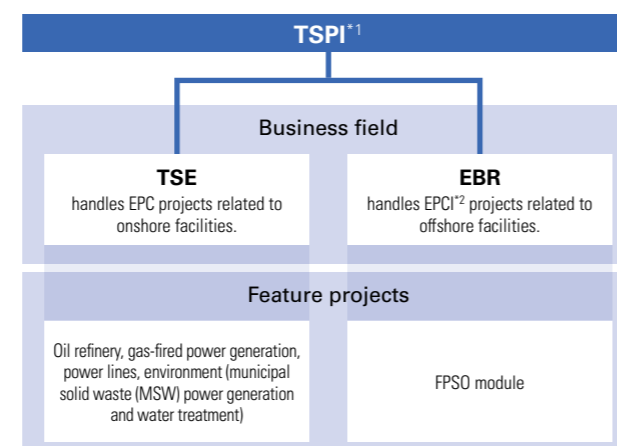
government policy, but this year, Brazil's economy is continuing on a recovery trend. The business environment is good for various reasons, including the continuing growth in investments by Brazil's state-owned oil company Petróleo Brasileiro S.A. (Petrobras), the strong development of power sources and auctions related to power line projects due to robust electricity power demand, and investments in renewable energy.

**Total Gas Demand and Supply Forecasts for Brazil**



**TOYO entered Brazilian market in the 1960s**

TOYO entered the Brazilian market in the 1960s with Petrobras as its main client. Various other foreign companies have entered and left the market over the years, but starting in the 1990s, TOYO has continued to win orders for and execute projects related to various types of plants. In addition, we established, together with the Brazilian engineering company, TS Participações S.A. (TSPI) in 2012 to further increase our presence, and this year, we marked the tenth year since the company launched operations as our local subsidiary. TSPI has two wholly owned subsidiaries, TSE and EBR. In Brazil, there are many cases when projects have local content requirements that require the hiring of Brazilian companies for at least a certain percentage of the work order, which makes possessing a local subsidiary advantageous. In addition, because we have conducted



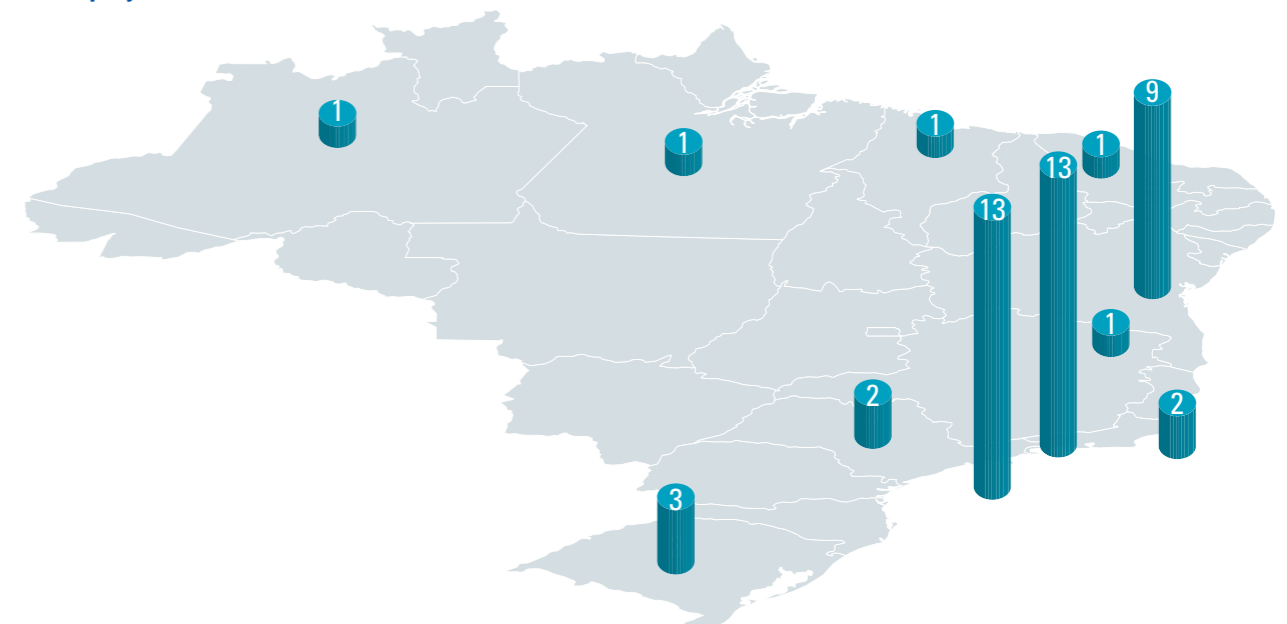
\*1 Equity-method company that TOYO has a 50% stake in  
\*2 Engineering, Procurement, Construction, and Installation

business in Brazil for many years, we are able to make effective use of our knowledge and know-how, such as familiarity of the complex local tax system and labor practices.

After overcoming an economic recession that started in 2015 and lasted for several years and the COVID-19 pandemic, we have currently received orders from not only Petrobras but also Brazilian and foreign private-sector companies on account of the good market conditions and are in

the midst of executing projects that required 2,000 people in total. We are also reinforcing risk management and governance by increasing key employees from Japan involved in management, projects, engineering, and sales. We will move forward with winning additional orders and steadily executing projects with an eye toward entering the field of carbon neutrality.

**Main projects record in Brazil (number)**



**Main projects in progress**

Products	Year of orders	Construction site	Client	Expected completion
Oil refinery	2022	State of São Paulo	PETROBRAS	2025
Power lines	2021	State of Minas Gerais	Terna	2023
FPSO module	2021	Off the coast Brazil	Saipem	2024
Gas-fired power generation	2021	State of Maranhão	ENEVA	2024



Overview of existing refinery (from Petrobras website)



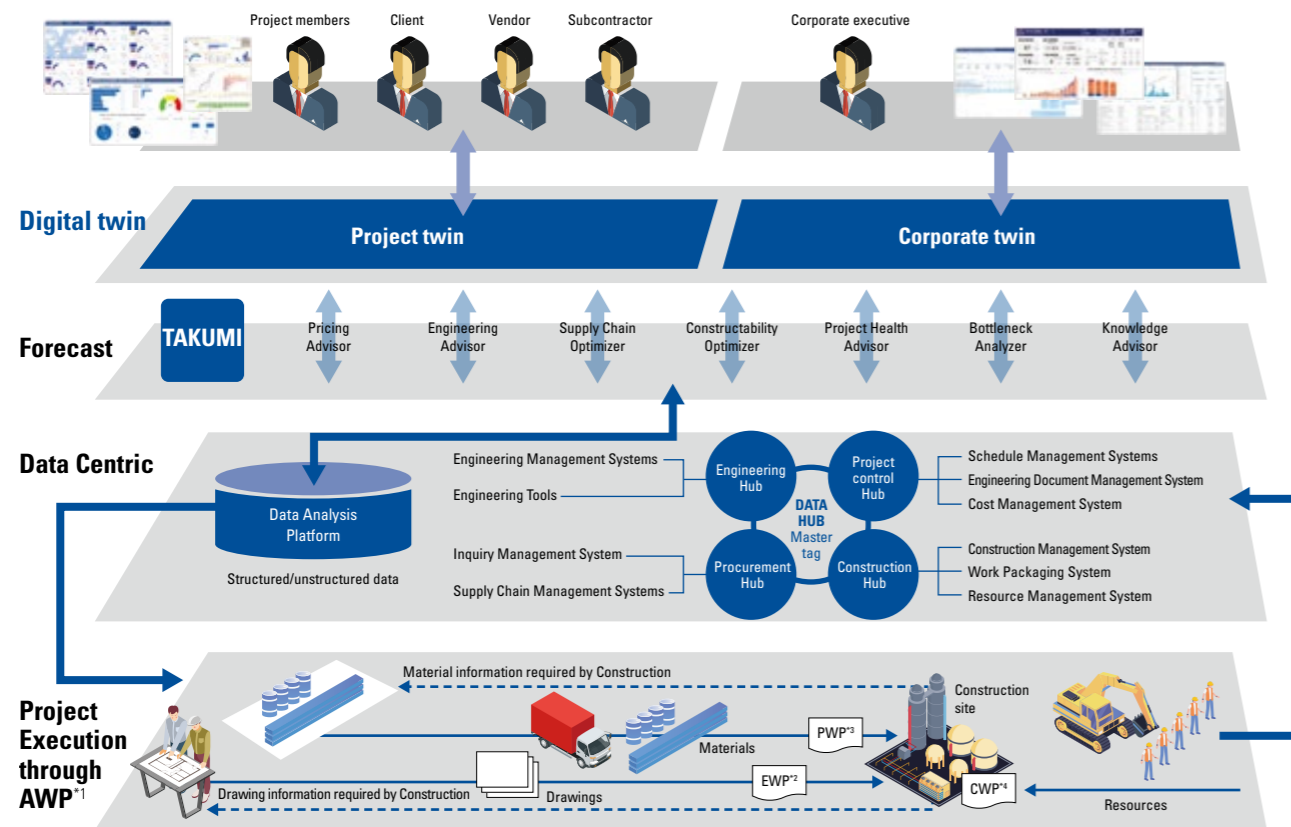
Completed FPSO

# Using DXoT to Improve TOYO's Project Execution

In DXoT strategy, which is one of two pillars in the medium-term management plan, TOYO states that the productivity on projects will be boosted up by 6 times by fiscal year2025 through "Advanced EPC operation," powered by DXoT. In fiscal 2021, the first year of the plan, we achieved 20% progress toward 6 times productivity improvement.

## Digital Twin

Undertaking advanced project management that minimizes damage in the face of imminent risks using simulations in virtual spaces and taking preventive action upfront in real world



### CC Driven Engineering<sup>\*5</sup>

#### Improvement of project adaptability and resilience

- Digitalization of EPC execution
- Integrated Project Schedule Management by backcasting from construction
- JIT\* of Engineering information, Materials, and Resources

\*JIT: just-in-time delivery

### Proactive Corporate Management

#### Improvement of quality and speed of communication that makes proper management decisions possible

- Visualization of business resource information in real time
- Improvement of forecast precision for various plant project information
- Advanced profit management based on a high-speed PDCA cycle

### Data Leverage

#### Reinforcement of rescheduling capability and resilience to shorten project periods

- Productivity improvement of individual activities through digital innovations
- Project scheduling using optimization technology
- Data-driven project management execution

\*1 Advanced Work Packaging (a process driven by construction planning and method for digitalized project execution managing work packages throughout project)

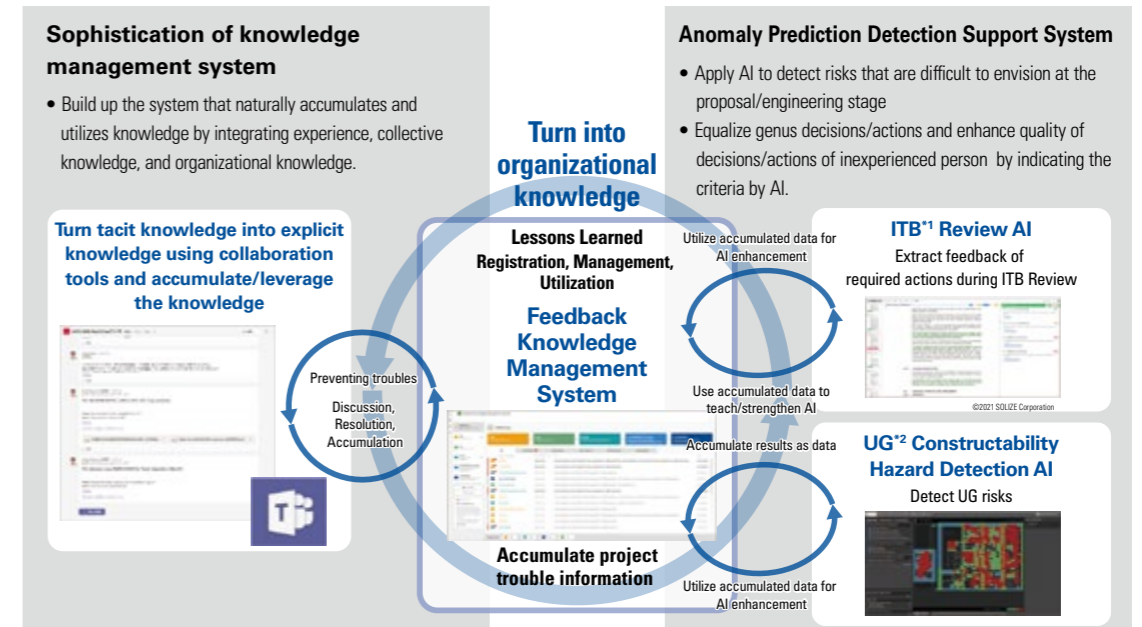
\*2 Engineering Work Package \*3 Procurement Work Package \*4 Construction Work Package

\*5 New business process to optimize engineering and procurement by back calculating from commissioning and construction

## Reduction of quality-related loss by knowledge management system

### Enhancement of project management with centralized Lessons Learned

In addition to the Feedback Knowledge Management System, Establishment of Anomaly Prediction Detection Support System, such as ITB review assisting and underground construction risk detection, enable identification of root cause and prevention of reoccurrence against the troubles and increased cost.

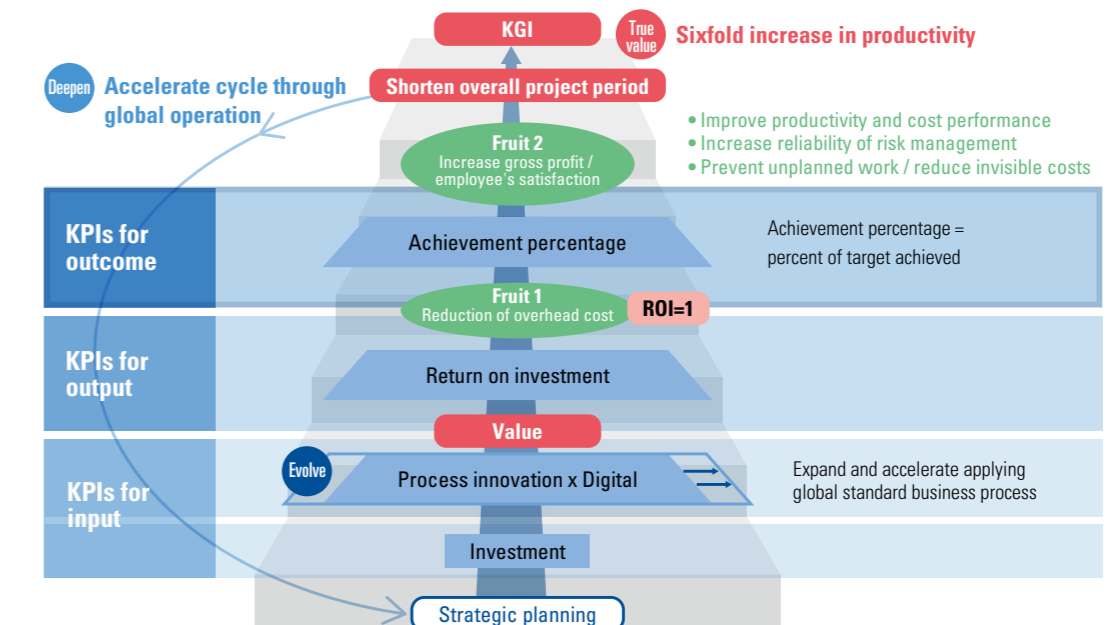


\*1 Invitation to Bid \*2 Underground

## DXoT Return on Invested Capital measurement model

### Measuring DXoT Return on Invested Capital using three-level KPIs and managing progress to increase productivity sixfold

Through this model, one can see a chain of values of achieving advanced EPC operation (sixfold increase in productivity) in the medium-term management plan by improving the business process through the investment.



# Mission and Materiality



# Sustainability Initiatives

## Message from the Chair of the Sustainability Committee

Over the last few 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 Sustainable Development Goals (SDGs).

To realize our mission of "Engineering for sustainable growth of the global community," we have defined four "materialities"—or priority management issues. Through our Basic Policy for Sustainability, we also intend to carry out our societal duty as an engineering company.

At TOYO, our Code of Conduct forms the cornerstone of our business management, as we endeavor to maintain and improve our integrity. Having signed up to the UN Global Compact (UNGC) in December 2021, we now also engage in management that conforms to the Ten Principles of the Global Compact, related to human rights, labor, the environment, and anti-corruption.

When it comes to sustainability, we recognize climate change to be of particular importance. For this reason, in November 2021, we expressed our support for the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD), and in June 2022, we made disclosures and announcements in line with these recommendations.

As part of our efforts to contribute to the realization of the Paris Agreement, we have established targets of reducing our own greenhouse gas (GHG) emissions by 30% by 2030 and of achieving net zero 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.

We have incorporated strategies based on various scenario analyses into the Green Strategy of "Sustainable Technology



**Noriyoshi Torigoe**  
Director, Senior Executive Officer

and Business Development" in our current Medium-term Management Plan, which runs from 2021–2025.

To oversee our Group-wide sustainability initiatives, in November 2021, we established the Sustainability Committee\*1 as an advisory body to the Executive Committee. The Sustainability Committee considers, promotes, and monitors Group-wide sustainability initiatives and is supervised by the Board of Directors.

TOYO is an organization that possesses integrity and that employs a diverse and motivated workforce. To retain the trust we have earned from society and from our stakeholders, we intend to fulfill our unique duties as an engineering company and to contribute to the sustainable development of the international economic community.

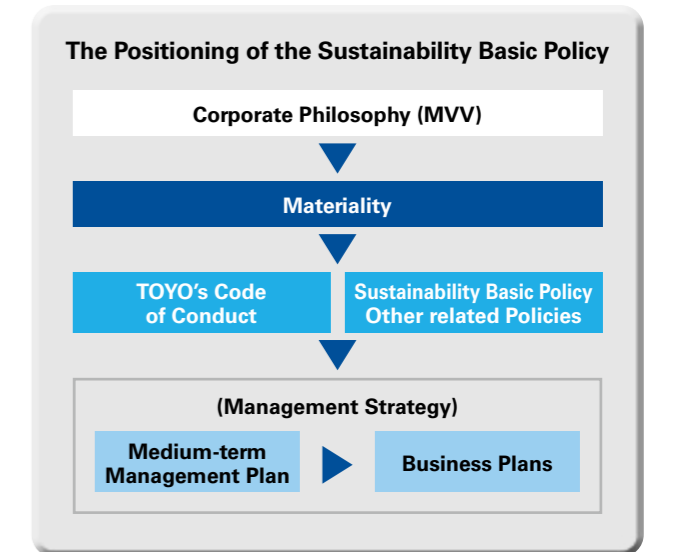
\*1 The Sustainability Committee is composed of the CCO (compliance), CTO (technology), the General Manager of the Corporate Strategy Division (strategy), the General Manager of the SQE Management Division (safety, quality, and the environment), the General Manager of the Finance and Accounting Division (finance and accounting), the General Manager of the Corporate Administration Division (organization and human resources), and the General Manager of the Corporate Communications Department. The Committee coordinates and collaborates with business divisions, EPC divisions, technology divisions, etc.—both on Group-wide sustainability and on business- or field-specific sustainability—and promotes sustainability initiatives across the entire Group.

**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."



# 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 human-kind. 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 that addressing sustainability issues such as climate change is a crucial management issue which does not only reduces risks but also leads to business opportunities. From the perspective of raising corporate value over the medium to long-term, we have set up the Basic Sustainability Policies, and established the system for the Board of Directors to properly supervise these initiatives. The climate change-related matters are examined, promoted and monitored by Sustainability Committee, an advisory committee to the Executive Committee. The basic policies and important matters are discussed and authorized at Board of Directors after deliberation by the Executive Committee.

(For more information about “Corporate Governance,” see p50)



## 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 p56)

## Risks and Opportunities/Scenario Analyses and Strategies from Climate Change

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 schemes, increased energy savings and resource circulation)</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
<b>Transition risks</b> (primarily for 1.5°C temperature rise scenario) <ul style="list-style-type: none"> <li>Policies, laws and regulations: Carbon pricing scheme</li> <li>Technologies: Licenses and support systems, New technologies, Energy savings and optimization</li> <li>Markets: Change in energy mix, demand, power configuration, and key products, Supply chains</li> <li>Reputation: Initiatives for and contributions to fighting climate change</li> </ul>	<ul style="list-style-type: none"> <li>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</li> <li>Insufficient responses to more stringent environmental permit requirements may result in reduced orders, missed business opportunities, and increased costs</li> <li>Delays in developing new technologies may result in lost orders and missed business opportunities</li> <li>Delays in responding to energy savings may result in decreased opportunities for new construction projects and modification projects</li> <li>Reduced demand for fossil fuels and transitions to alternative fuels may result in reduced demand for conventional plants</li> <li>The realization of geo-economic risks may increase pressure on energy supplies, while energy transitions may result in volatile fossil fuel prices</li> <li>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</li> <li>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</li> <li>Increasingly severe natural disasters (acute: typhoons and flooding; chronic: long-term heat waves and rising sea-levels) may adversely impact construction work, procurement, transportation and productivity, and may also lead to increased occupational safety costs</li> </ul>	<ul style="list-style-type: none"> <li>Appropriate introduction of carbon pricing schemes may lead to increased orders and business opportunities for renewable power generation and non-conventional plants and to improved competitiveness due to low-carbon procurement of raw materials and equipment</li> <li>Use of government assistance may facilitate the development, verification, and implementation of new technologies</li> <li>The development, verification, and implementation of CCUS and new low-carbon and decarbonized fuel technologies may lead to the acquisition of orders and business opportunities and facilitate transition to a circular economy</li> <li>Increased opportunities for energy savings and optimization</li> <li>Development of renewable power generation and new technologies may lead to increased orders and business opportunities centered on alternative fuels</li> <li>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</li> <li>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</li> <li>Differentiation and increased opportunities due to better or more established reputation</li> <li>Maintenance and expansion of business due to: risk management, insurance coverage, contract conservation, and cost reductions at eligible worksites; supplier diversification and identification of alternative suppliers; modularization and use of remote technologies; implementation of business continuity plans</li> </ul>

### Risks, Opportunities, and Impacts on TOYO's Business Fields (Business fields impacted by climate change in particular)

Materiality	Field	Business environment (market)			Key Transition Risks (▲) and Opportunities (●)
		Example business fields	Rise of 2.6°C (Medium- and long-term (to 2050))	Rise of 1.5°C (Medium-term (to 2030) / Long-term (to 2050))	
Energy	Next-generation energy	—	Start implementation	Full-scale commercialization	▲ (Long-term) Reduced opportunities for conventional oil and gas plants due to transition to clean fuels; however, short- and medium-term opportunities will increase during transition ● Increased orders and business opportunities on the back of expertise and experience in ammonia, hydrogen and syngas technologies, and CO <sub>2</sub> recycling. In particular: the use of ammonia as a power generation fuel, shipping fuel, and hydrogen carrier; SAF as an aircraft fuel; hydrogen fuel and fuel cell batteries; CCS-EOR; resource circulation and environmentally friendly initiatives
	Oil and gas	→	Transition	Significant reduction in oil	
Infrastructure	Renewable energy	→	→	→	▲ (Long-term) Reduced orders and business opportunities for gas-fired power plants due to the transition to clean electricity; however, short- and medium-term opportunities will increase during transition ● Increased orders and business opportunities for overseas projects and large-scale domestic projects, on the back of abundant expertise and experience in renewable energy ● Increased orders and business opportunities for ammonia co-firing in existing thermal power plants
	Gas-fired power generation	→	Transition	Reduction in fossil fuel-types	
Chemical	Circular economy	→	→	→	▲ (Long-term) Reduced orders and business opportunities due to decreased demand for conventional fossil fuel plants ● Increased orders and business opportunities due to the gradual implementation of non-conventional (CCUS implementation and green) plants and to conversions to alternative fuels at existing plants ● Increased opportunities in circular economy fields such as energy savings, waste plastics, and recycled plastics and in high-performance material fields
	Petrochemicals	→	Strong growth in emerging countries	Gradual transition to and implementation of non-conventional plants	

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

### Strategies and Initiatives

Green initiatives and policies (For further information, please see the “Solutions” section of the company website)	
Next-generation energy	◆ Promotion—including co-creation partnerships—of EPC, non-EPC (pre/post-EPC, technological development, and business development), and value chain construction, for the initiatives listed below.
Transition measures and green electricity	■ Carbon-free fuels: ammonia and hydrogen fuel; decarbonized power-generation fuels; ■ e-fuels including SAF, synthetic methane, etc.; renewable and green electricity ■ CCUS and green petrochemicals: blue petrochemicals; CO <sub>2</sub> -derived petrochemical feedstock and fuel; EOR; DAC
Low-carbon, new production methods, renewable energy, and recycling	■ Energy savings and more efficient resource use ■ Recycling and circular economy: recycling of waste plastics

## Metrics and Targets

TOYO has set the following targets to reduce GHG emissions.

Scope 1&2	Scope 3
<ul style="list-style-type: none"> <li>Achievement net zero emissions by 2050</li> <li>Reduce emissions 30% by 2030 compared to 2021 (based on GHG emissions per employee)*</li> </ul>	<ul style="list-style-type: none"> <li>We will contribute to the reduction of emissions by cooperating with stakeholders and providing technologies, products, and solutions (through the above strategies and initiatives).</li> </ul>

\*The amount of emissions (Scope1&2) in 2021 was approximately 12,800 tons (1.71 tons-CO<sub>2</sub>/person), and we will strive to achieve this goal.

# Environment



## Basic Policy and Principles on the Environment

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

Recognizing the preservation of the global environment and preventing global warming as issues facing all of humankind, TOYO has also established “aim to realize an environmentally friendly society” as a materiality, and carries out its business based on the basic philosophies stated on the right.

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

To achieve this philosophy, we will continue actively striving to resolve the environmental issues of customers.

## Environmental Management

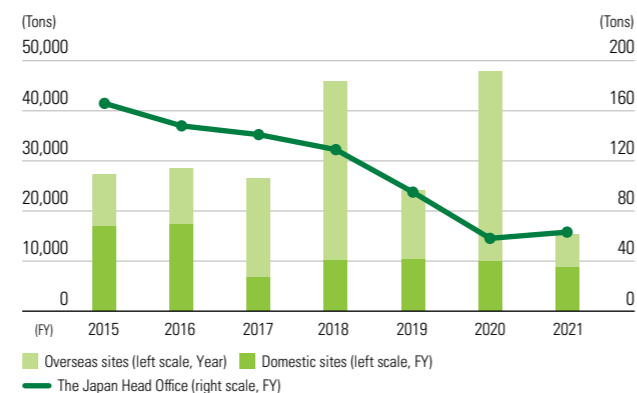
In line with ISO14001 certification standards, TOYO takes the environmental management actions stated on the right when executing projects in Japan and within related divisions. We also confirm that these actions are effectively implemented through internal audits.

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 environmental measurements at and monitor construction sites

## Reducing waste at construction sites in Japan and overseas and at the Japan Head Office

In addition to thoroughly separating waste at not only construction sites in Japan and overseas but also the Head Office in Japan, we safely dispose of hazardous substances and manage contaminants. Since obtaining ISO 14001 certification in 2004, we have maintained zero environmental accidents. Even at construction sites in Japan, we work to limit the volume of waste and have maintained a recycling rate of more than 88%.

Waste Generation Amount at Domestic and Overseas Construction Sites and the Japan Head Office from 2015 to 2021 (Seven Years)



Note: For overseas waste, the scope was expanded to include all group companies starting in fiscal 2018.

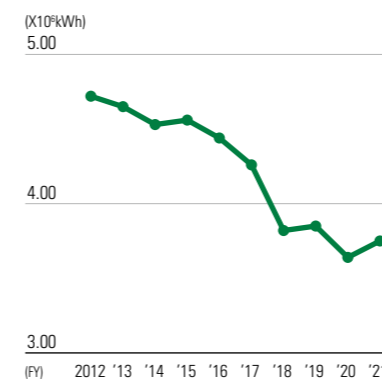
## Reduction of Environmental Impact from offices

Having established an Energy & Resource Saving Council and so-called green meeting headed by supervising officers, TOYO conducts an annual review of reductions in the environmental impact of the Head Office in Japan and examines activities for the following fiscal year. We also raise the environmental awareness of employees through activities such as switching to LED lights, using rainwater captured on the roof of the Chiba Head Office to flush toilets, turning off lights during break times, and opening

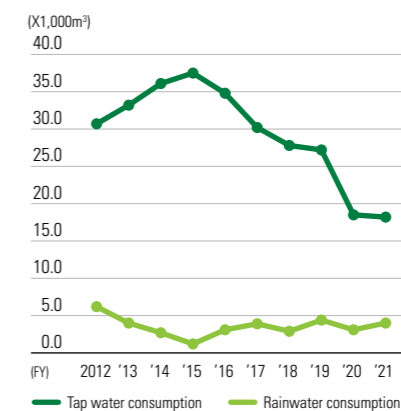
and closing blinds. Since 2020, a battery system was added to the power receiving system in order to reduce peak load at times when the power supply is strained nationally.

Electricity consumption, tap water and rainwater consumption, and purchase volume of printing paper at the Head Office in Japan are shown in the following graphs. In fiscal 2020 and fiscal 2021, the number of employees working from home grew, which resulted in a relative decline compared to previous years.

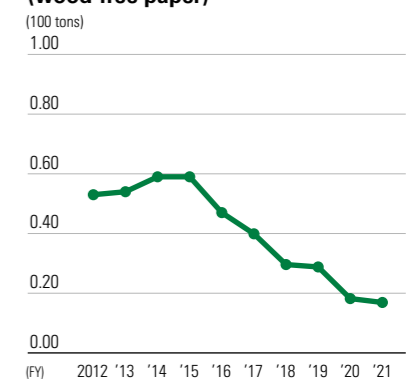
Electricity Consumption



Tap Water and Rainwater Consumption



Purchase volume of printing paper (wood-free paper)



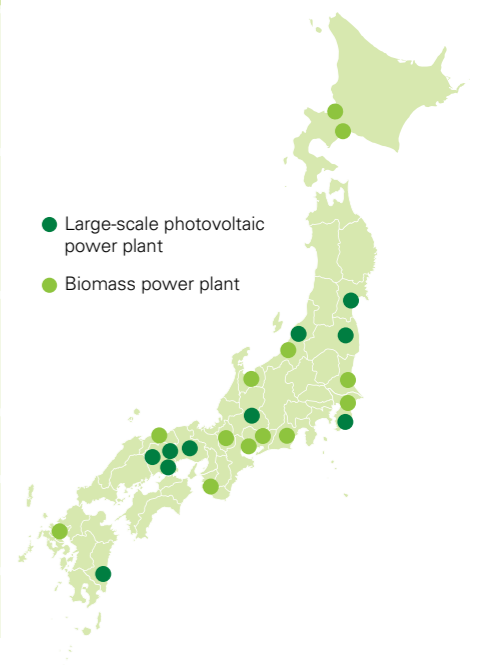
## Pursuing low-environmental-impact plants and contributing to achieving a circular economy

TOYO contributes to the creation of an environmentally friendly society through its involvement in numerous projects related to technology development, engineering, and construction of circular and low-environmental-impact plants, centered on energy savings

at plants. In addition to the following initiatives that have already been practically implemented and adopted in society, we are moving forward with technology development and feasibility studies related to carbon neutrality, such as CO<sub>2</sub> value chain.

Exemplary initiatives	
Target product/service	Details
Urea process ACES21® Spout-Fluid Bed Type Granulation Process	These are core products since its founding that TOYO has made repeated improvements to as a licensor and that provide energy-saving urea synthesis technology and spout-fluid bed type granulation process technology to clients throughout the world.
Distillation system SUPERHIDIC®	This is technology for a broad range of oil refinery and petrochemical plants that promotes energy savings. The technology offers strong economic benefits while maintaining traditional maintainability through the use of existing distillation technology without the need for special equipment.
Energy saving / GHG reduction Consulting service HERO	This is a consulting service that involves a comprehensive analysis of overall processes and utilities using numerical optimization technology to achieve energy saving and GHG reduction for the overall plant.
PET bottle recycling factory	A PET bottle recycling factory that also handles low-grade waste PET bottles is currently being constructed.
Biomass power plant	As of June 2022, we have received twelve plant construction orders with a total output of about 650 MW, which we are executing one after another.
Large-scale photovoltaic power plant	As of June 2022, we had completed ten construction projects with a total output of about 700 MW.

Large-scale photovoltaic power plant / Biomass power plant project results



## Human Capital

Expand human capital to advance the medium-term management plan by reforming our human capital system and strengthening human capital development

A new human capital system was introduced in April 2021 to realize the Blue Strategy (Advanced EPC Operation) and Green Strategy (Sustainable Technology and Business Development) of the medium-term management plan. We have established the following human capital development policy, based on rotation, to hone a variety of skills, including professional skills, interpersonal skills, and problem-solving skills.

### Development of blue human capital (Advanced EPC Operation)

Conventional EPC business will be shifted from Toyo-Japan to our group companies more than ever before to strengthen EPC through the advance group operations and DXoT. Accordingly, Toyo-Japan employees will be involved in more challenging projects to ensure competitiveness. Specifically, we must develop human capital with advanced skills, such as technical supervisors who can provide technical guidance and project managers who can organize teams consisting of diverse members.

For this reason, we continue to provide younger employees with on-the-job training. In recent years, we have taken on a large number of domestic projects; this has enabled younger employees to experience on-the-job training in fields where opportunities to visit actual sites and encounter actual objects had been dwindling. Going forward, we will give mid-level employees with opportunities for growth by providing them with management experience through participation in stand-alone projects at TOYO Group companies. Experience of executing conventional EPC workflows is vital both for taking advantage of DX-inspired reforms, and for implementing continued improvements going forward.

### Promoting Women’s Participation and Advancement in the Workplace

At TOYO, we operate a system to enable female employees who join the company as non-career employees to transfer to positions with opportunities for promotion; this system is intended to encourage female employees to embark on career challenges. Starting in fiscal 2022, we have changed our human capital system for non-career employees from a seniority-based system to a system aligned to the difficulty of the employee’s job.

Here, we hear from Yuki Tadano, a female employee who joined TOYO as a non-career employee and switched to a career position employee.

When I joined TOYO, I was assigned the role of project secretary. I had a number of opportunities to visit our project sites, to act as a receptionist at groundbreaking or completion ceremonies, and through these visits, I developed an interest in working on-site—and the Environment and Infrastructure Project Division gave me the opportunity to do so.

I was appointed project engineer for a domestic biomass power plant project. However, I am a sociology graduate, and I was unable to understand what the people around me were saying. At the beginning, I struggled immensely. I didn’t know how to read drawings and specifications, I couldn’t understand what was being discussed at meetings so I couldn’t write minutes, and I was unable to fully comprehend what was being explained to me. This state of

### Development of green human capital (Sustainable Technology and Business Development)

Sustainable technology and business development areas require different kinds of human capital compared to EPC implementation. In particular, essential requirements include, among other things, the ability to think quickly and flexibly, and the trait of being able to act without fear of failure.

We also need dynamic human capital with the capacity to build hypotheses in unknown fields, and to act on these hypotheses without being constrained by past experiences. We will cultivate a variety of skills, including the power to explore and implement new business models, the ability to evaluate technologies, and the quality to build external networks to enable open innovation. We believe that recruiting human capital with the potential to perform in new business areas, providing them with opportunities to take on new challenges, and having them gain experience in real business environments will enhance the quality of our human capital over the medium to long term. When developing new technologies and businesses, it is vital we utilize the initiative and new ideas of our employees, give them time to focus on the tasks at hand, and allow them to make mistakes. For this reason, we intend to work on establishing rules and fostering an organizational culture that allows employees to continue working at their tasks until they achieve their end-goals.

affairs continued for a while.

I was then tasked with making on-site arrangements for domestic transportation with an equipment manufacturer. I was unable to conclude the discussions satisfactorily, and I ended up inconveniencing various parties. However, I collected information from the equipment manufacturer about the products we had ordered, and I did my best to ensure that we would receive the products smoothly.

Later, when I went to the site in question, I saw with my own eyes that the equipment I had arranged had arrived as planned and was being installed. It taught me how different jobs were interconnected—and of course, I was extremely pleased to see that such a large piece of equipment had been successfully installed.

Since joining TOYO, I have learned that not fearing change and, instead, being willing to undertake new challenges can be extremely enjoyable. I realized that if I took the first step, I would open myself up to many more possibilities. I also experienced first-hand that TOYO has a system that encourages and provides support for such challenges.



**Yuki Tadano**  
Environment and Infrastructure Business Unit  
Environment and Infrastructure Project Division

Tadano joined TOYO in 2017 as a non-career employee and switched to a career position employee in 2021.

### Promoting the development of human capital by type through rotation

Under the new human capital system, rotation has been added to the promotion requirements for younger and mid-level employees to provide them with multiple perspectives and experience

in a wide range of fields. For each of the following types, we clearly state the transfer purpose and promote proactive career development.

Type	Purposes
Digitally focused	Base in any field. As the need grows, gain digital insights, strengthen professionalism, and explore careers.
Specialized	Acquire different perspectives and relevant knowledge to strengthen their own targeted expertise.
Career grasping	Gain the knowledge and viewpoints necessary to become the ideal image of human capital in the future.
Project manager	Have a specialty through experience in engineering and construction. Learn skills to cover a wide range of areas after transferring to the project department.
New business	Experienced in EPC business, then transferred to a trading company or a venture company to acquire knowledge and know-how that was not available within the TOYO Group, so that employees can develop the skills to promote new businesses.
Career seeking	Experience different areas of the business to determine their own aptitudes and specialization.

To date, we have utilized the outside transfer of employees as a way to strengthen business relationships and gain a wide range of experience unavailable within TOYO. Going forward, we plan to further expand the number of companies to which our human

capital will be seconded, such as venture companies and specialized agencies, to create an environment where diverse experiences are possible.

### Group-wide DX Skill Improvement Seminars

In the field of DX, we carry out individual initiatives with specific topics; however, in order to improve the DX capabilities of the entire Group, we also held DX Skill Improvement Seminars for all Group employees. Our new recruit training covers topics that are almost identical to those covered in these seminars. After

employees understand how to use DX tools, it is imperative they use these tools to bring about work process reforms. Going forward, we plan to provide regular opportunities for employees to learn new skills and also focus on how they can utilize them.

Course	Eligible employees	Date	Seminar Style
Teams (elementary)	All executives and employees	December 2021 January and February 2022	Hands-on
Teams (intermediate)	All executives and employees	January 2022	Teams
SharePoint Online	All executives and employees	February 2022	Teams live event
Power BI Viz Reader	All executives and employees	January 2022	Teams live event
Goldfire	All executives and employees	January and February 2022	Video-> lecture to check employee understanding
Power Automate/Power Apps (Overview seminar)	All executives and employees	January 2022	Teams live event
Power Automate/Power Apps	Employees nominated by their departments • Employees who will be primarily responsible for using these tools	January and February 2022	Teams
Bluebeam	All executives and employees at the Engineering and Technology Unit All executives and employees at the Construction Division Employees at other departments who carry out reviews and mark-ups of engineering drawings	November 2021	Teams
Bluebeam (English version)	Non-Japanese employees	February 2022	Teams
TeamBinder	Engineering and Technology Unit Plant Solution Business Unit Environment and Infrastructure Business Unit Procurement Division Construction Division Proposal Division	December 2021 January 2022	Video-> lecture to check employee understanding
Alteryx	Employees nominated by their departments • Future department CoE candidates • Employees who have an interest in data processing, analysis, and visualization • Employees who feel limited by Excel when handling large volumes of data • Employees who have used Power BI, but who have not used Alteryx • Employees who do not have the Alteryx Advanced Certificate	February and March 2022	Teams

## Social Contributions

### Toyo-India: Social contribution activities in India in fiscal 2021

Toyo-India puts a lot of energy into corporate social responsibility (CSR) every year.

It has been seven years since the company launched efforts in a wide range of fields, including healthcare promotion, disaster prevention, education promotion, female empowerment, and environmental sustainability. The following are the main activities undertaken in fiscal 2021. Toyo-India also built educational facilities and implemented various healthcare initiatives to offer health-care services to the poor.

#### Barmer, Rajasthan, India

Constructed ICT classrooms and libraries in local schools near project sites



#### Gorakhpur, Uttar Pradesh, India

Provided ICU ambulances, dialysis equipment, and various equipment for operations to hospitals near project sites



#### Thane, Maharashtra, India

Constructed four classrooms and a laboratory at a school in the city of Thane, a suburb of Mumbai



#### Kodinar, Gujarat, India

Provided oxygen concentrators for hospital use to treat people with COVID-19, pharmaceuticals, and small clinical equipment to facilities near project sites

### IKPT: COVID-19 vaccination program

Prevention of COVID-19 transmission is the Company's priority in order to create a safe and healthy work environment. For Indonesian subsidiary IKPT continued to implement a strict health protocol in order to maintain employee health during activities both at site projects and Jakarta office. On August 27th, 2021 at Wisma IKPT Jakarta, the Company

held vaccination program for employees through the Mutual Cooperation (called “Gotong Royong”) Program. The program is provided for the employees and their family members. IKPT fully support the national vaccination program to accelerate the economic recovery.



### Toyo-Japan: UNICEF foreign coin donation activity

Since 2020, Toyo-Japan has taken part in the UNICEF foreign coin donation and, within Japan, calls for donations of unused foreign coins and bills that remain from overseas business trips or travel.

UNICEF makes various appeals for donations and support, and one of these is this foreign coin donation, in which collected foreign coins and bills are separated by currency and then used to support children throughout the world.

For example, with four dollars, ten doses of a measles vaccine can be purchased, and with five dollars, one hundred disposable syringes (5 ml) can be purchased, making it possible for children to receive vaccinations with safe equipment.

At Toyo-Japan, which is involved in plant construction projects in countries throughout the world, many employees spend years at construction sites in various countries and often use local currencies. Over the years, the company has collected 30 kg of currencies from a total of 28 countries, particular those in Asia but also those in the Middle East, Africa, and Central and South America. Knowing that lives can be saved with the foreign currency people have with them, we support UNICEF, which undertakes activities to protect the lives and health of children throughout the world, and will continue to participate in this activity as a volunteer activity that anyone takes part in.



©Japan Committee for UNICEF





# Directors and Audit & Supervisory Board Members (As of July 1, 2022)

## Directors



Chairman  
**Tomohisa Abe**

Term of office for Directors 6 years  
Attendance at Board of Directors meeting 19/19 (100%)

**Reasons for appointment**

Mr. Tomohisa Abe, having been engaged in the plant sales and marketing divisions of the Company for many years, possesses ample experience and deep insights related to planning sales and marketing strategies. Mr. Abe has served the Company as Representative Director, Senior Executive Director, and Unit Director of the Plant Business Unit; in his role supervising the overall sales activities of the Group, he has been responsible for the management of the Company. Mr. Abe assumed office as Chairman in April 2020 and, as Chairman of the Board of Directors, ensures proceedings are carried out properly.



Representative Director,  
President & Chief Executive Officer  
**Haruo Nagamatsu**

Term of office for Directors 5 years  
Attendance at Board of Directors meeting 19/19 (100%)

**Reasons for appointment**

Mr. Haruo Nagamatsu, having served the Company as Unit Director of the Infrastructure Business Unit, as a representative of the Company's overseas subsidiaries, and as project manager for numerous projects, possesses ample experience and deep insights related to project and corporate management. Since assuming office as Representative Director, President, and Chief Executive Officer in April 2018, Mr. Nagamatsu has demonstrated outstanding leadership.



Representative Director,  
Executive Vice President  
**Masayuki Yoshizawa**

Term of office for Directors 7 years  
Attendance at Board of Directors meeting 19/19 (100%)

**Reasons for appointment**

Mr. Masayuki Yoshizawa, having served at a general trading company for many years, possesses ample experience and deep insights related to the business of the Company, including investments in energy and infrastructure, the EPC business, and the management of overseas corporations. Mr. Yoshizawa was appointed Director and Senior Executive Officer at the Company in 2015, Representative Director in 2016, and Executive Vice President in April 2019. In his role overseeing business reforms and project management, he is responsible for the management of the Company.



Director, Senior Executive Officer,  
Chief Compliance Officer  
**Noriyoshi Torigoe**

Term of office for Directors 1 years and 11 months  
Attendance at Board of Directors meeting 19/19 (100%)

**Reasons for appointment**

Mr. Noriyoshi Torigoe has many years of experience working at a quasi-public lending institution, and possesses ample experience and wide-ranging insights related to infrastructure businesses. Mr. Torigoe assumed office as Director in August 2020 and, by proactively voicing his opinions and making suggestions regarding management strategy proposals and agenda items, he is responsible for the management of the Company.



Director, Senior Executive Officer,  
Chief Financial Officer  
**Kensuke Waki**

Term of office for Directors 4 years  
Attendance at Board of Directors meeting 19/19 (100%)

**Reasons for appointment**

Mr. Kensuke Waki, having served the Company as head of the finance and accounting divisions, possesses ample experience and deep insights related to finance and accounting. Mr. Waki was appointed Chief Financial Officer in April 2017, and Director and Senior Executive Officer in 2018. In his role overseeing the finance and accounting departments, he is responsible for the management of the Company.

## Outside Directors



Outside Director  
Independent Officer  
**Masami Tashiro**

Term of office for Directors 7 years  
Attendance at Board of Directors meeting 18/19 (94.7%)

**Reasons for appointment**

Mr. Masami Tashiro has many years of international experience working at financial institutions and possesses ample experience and deep insights as a corporate manager. By taking an independent standpoint, and by communicating precise recommendations and opinions from a global perspective concerning all aspects of the Company's management, Mr. Tashiro properly supervises the Company's management.



Outside Director  
**Reijiro Yamamoto**

Term of office for Directors 3 years and 4 months  
Attendance at Board of Directors meeting 19/19 (100%)

**Reasons for appointment**

Mr. Reijiro Yamamoto, who serves as the corporate manager of an investment fund management company and has served as the corporate manager of various business companies, possesses ample experience and deep insights related to finance and corporate management, and properly supervises the Company's management.



Outside Director  
Independent Officer  
**Tatsuya Terazawa**

Term of office for Directors 1 years and 11 months  
Attendance at Board of Directors meeting 19/19 (100%)

**Reasons for appointment**

Mr. Tatsuya Terazawa, having served in the Ministry of Economy, Trade and Industry (METI) for many years, possesses ample experience and deep insights related to public policies, mainly in terms of trade policy and trade promotion. By utilizing his experience and insights, and by communicating fair and precise recommendations and opinions from an independent standpoint, Mr. Terazawa properly supervises the Company's management.



Outside Director  
Independent Officer  
**Sayoko Miyairi**

Term of office for Directors 1 years and 11 months  
Attendance at Board of Directors meeting 18/19 (94.7%)

**Reasons for appointment**

Ms. Sayoko Miyairi possesses ample business and management experience related to her consulting company work as well as professional knowledge and broad insight as a university professor. By utilizing her experience and insights, and by communicating fair and precise recommendations and opinions from an independent standpoint, Ms. Miyairi properly supervises the Company's management.

## Audit & Supervisory Board Members



Senior Audit & Supervisory Board Member  
**Toshihiko Nemura**

Newly Appointed

**Reasons for appointment**

Mr. Toshihiko Nemura has spent many years working in the Company's engineering departments and has also served as Director at overseas companies, and as head of the Mechanical Engineering Division, Solution Marketing Department, and Internal Auditing Division; he possesses ample experience and deep insights related to technology, management, and internal audits.



Audit & Supervisory Board Member  
**Chihiro Ubukata**

Term of office for Audit & Supervisory Board Member 3 years  
Attendance at Board of Directors meeting 19/19 (100%)  
Attendance at Audit & Supervisory Board meeting 19/19 (100%)

**Reasons for appointment**

Having spent many years working as the head of the Company's finance division, Mr. Chihiro Ubukata possesses ample experience and deep insights related to finance and accounting.



Outside Audit & Supervisory Board Member  
Independent Officer  
**Kiyohito Uchida**

Term of office for Audit & Supervisory Board Member 7 years  
Attendance at Board of Directors meeting 19/19 (100%)  
Attendance at Audit & Supervisory Board meeting 19/19 (100%)

**Reasons for appointment**

Mr. Kiyohito Uchida possesses ample experience and extensive knowledge gained as a lawyer.



Outside Audit & Supervisory Board Member  
Independent Officer  
**Hideki Matsuo**

Newly Appointed

**Reasons for appointment**

Mr. Hideki Matsuo has engaged in management in the chemical industry, with which the Company has strong connections, for many years, and possesses ample experience and deep insights related to management.

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

Note: the table above shows the specialized knowledge and experience held by Directors and Audit & Supervisory Board Members

## Outside Director's Message



**Focusing on reinforcing corporate governance throughout the TOYO Group**

**Masami Tashiro**  
Outside Director

One of the pillars of the "Advanced EPC operation" strategy in the medium-term management plan is "the further advanced group operations." One KPI is increasing group companies' share of consolidated gross profit to 50%, but of course, it is important to spread governance to group companies as efforts are made to increase earning. To further invigorate the business of overseas group companies, a traditional strength of TOYO, we are not only strengthening various organizations and systems every year but also gradually developing the direct approach on them through the Board of Directors. In particular, we are increasing opportunities for the local top management to participate via the Internet in Board of Directors meetings at which the group company is a topic of discussion.

We do all that we can to use these opportunities to directly communicate the message of corporate governance for the whole TOYO group, not simply the pros and cons of a particular project.

As global issues, such as COVID-19, arise one after another, I am confident that we can contribute to international society and play an active role through world-class technology by having independent group companies capture local needs and fully taking group governance into consideration.



**Helping increase corporate value by capturing a period of massive changes while paying attention to project risk management**

**Reijiro Yamamoto**  
Outside Director

TOYO is recognized by many people as not only an association of professionals with many years of experience in projects but also a global engineering company knowledgeable of international society and culture. As for the global trend toward sustainability and ESG, there are growing expectations that TOYO will contribute to the realization of carbon neutral society.

Under these conditions, all projects entail risks, and thus, a governance system is extremely important. At Board of Directors meetings, there are lively debates during which the following types of questions are asked. Are projects that make use of TOYO's strengths related to technology, regions, and clients strategically selected? Are there examinations and negotiations regarding schemes and agreements so that TOYO does not take on an amount of risk that it cannot bear? Is there appropriate technical, financial, and legal management and supervision while projects are being executed? Are the terms of tie-up and collaboration agreements and the corresponding executing entity managed?

Having served as an outside director for three years, I work to collect information both inside and outside the company and am confident that I will make contributions through my advice provided by opportunities such as in-house lectures and in-house magazines. I expect that TOYO will make use of this period of massive changes in the industry and continue to grow and increase its corporate value.



**Responding to the mandate of all shareholders and being aware of asking pointed questions**

**Tatsuya Terazawa**  
Outside Director

The duty of outside directors is to supervise business execution as a proxy for shareholders. Therefore, it is important to "ask pointed questions." In addition to asking about points that are of interest to shareholders, I ask questions regarding important management decisions to confirm that "points that should be pushed are pushed." If I receive convincing answers to my questions, I vote for the resolution, but if I do not, I demand that a necessary response be taken.

I truly feel that because the Board of Directors includes outside directors with diverse backgrounds, various perspectives are presented and there is a lively debate at meetings. This process makes it possible to limit major risks. Furthermore, in addition to checks that limit negative developments, the issue now is positive contributions that result in a stronger system and added value provided by new businesses.

I expect that TOYO will contribute to ESG through products such as ammonia. In addition to that, I consider it my role to further draw out TOYO's latent powers. I want to work even harder to meet the mandate of shareholders.



**Focusing on management processes without being constrained by conventional wisdom within the industry**

**Sayoko Miyairi**  
Outside Director

Even for specialized, technical content and items that have already been thoroughly debated by bodies such as the management meeting, I do not hesitate to ask questions about points of concerns and state my opinion regarding items such as basic questions, even if they are conventional wisdom within the industry, and evaluations from an investor perspective. In particular, I am interested in the management process so that the medium-term management plan and objectives of related measures are properly communicated to employees and the plan can be implemented with a sense of understanding. As much as possible, I also observe activities such as in-house explanatory meetings.

I recognize that TOYO's corporate governance guidelines and governance system have been built up over the years within a particularly historical context, and I think that issues are sufficiently debated at each stage and from various perspectives, which is particularly true for risks, and that deliberations to form agreement are carefully undertaken without worrying about sending issues back.

As for ESG management, a shift to technical fields that can be expected to contribute to the overall industry through environmental and TCFD-related initiatives is extolled in the medium-term management plan. Regarding governance, the opinions of outside directors are seriously listened to the Board of Directors run in an open manner. Human resource development and improving the work-engagement are issues that need to be deal with in the future.

# Corporate Governance

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

In fiscal 2020, we appointed a new female Director. 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.

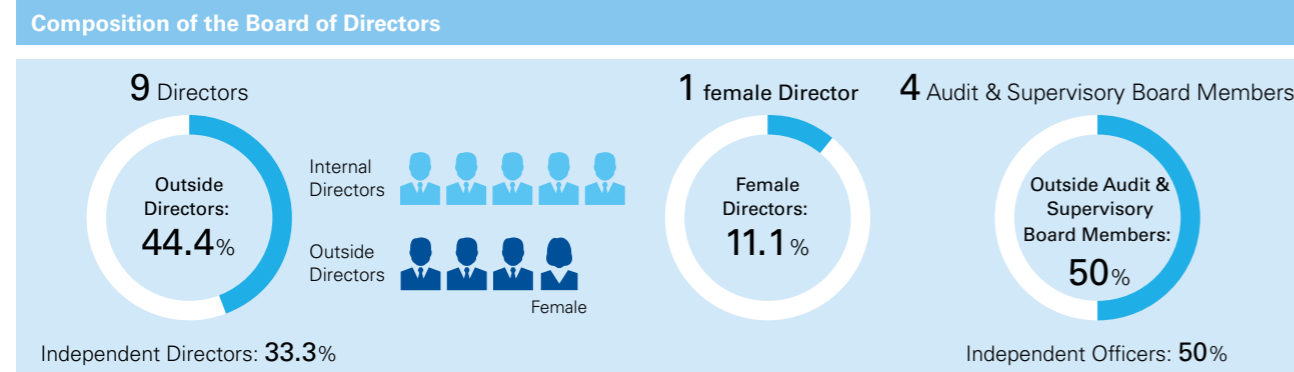
### Appointing Outside Auditors

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.

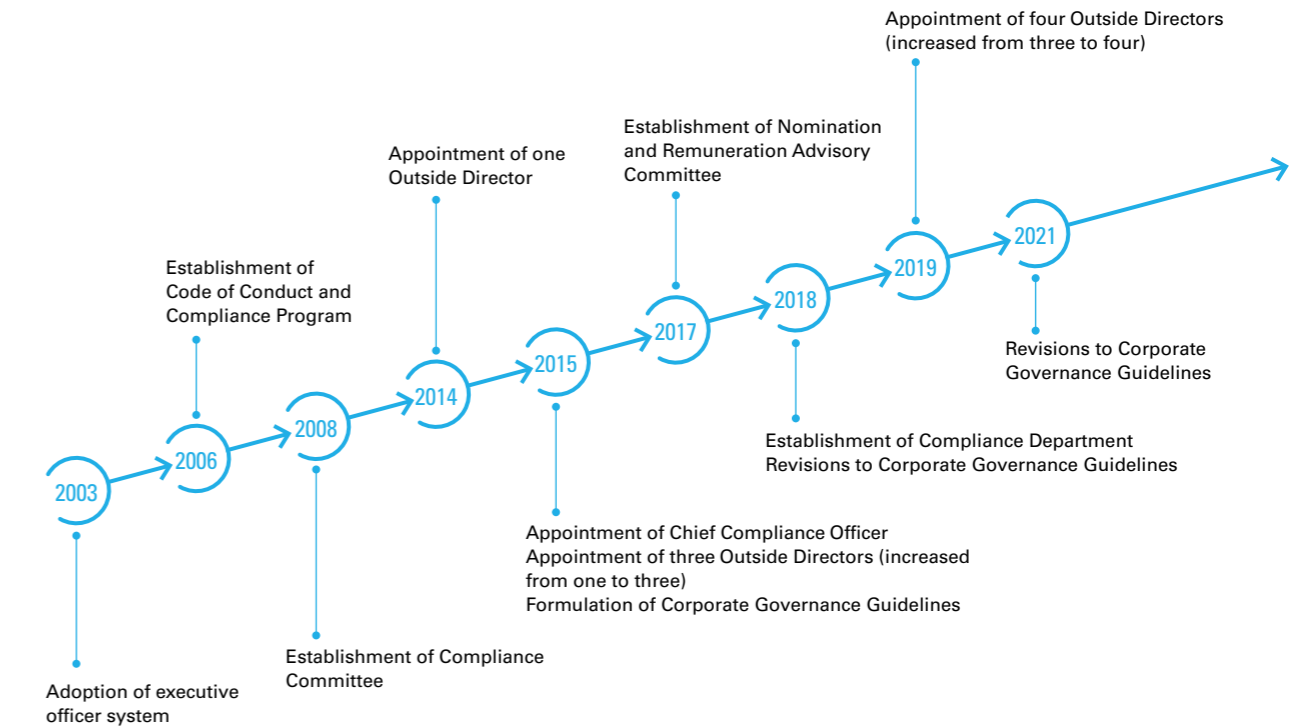
Corporate Governance Structure (as of July 1, 2022)						
	Total	Internal Directors	Outside Directors (of which, Independent Officers)	Audit & Supervisory Board Members	Outside Auditors (of which, Independent Officers)	Chair
Board of Directors	13	5	4(3)	2	2(2)	Chairman of the Board of Directors
Audit & Supervisory Board	4	—	—	2	2(2)	Senior Audit & Supervisory Board Member
Nomination and Remuneration Advisory Committee	4	1	3(3)	—	—	President & CEO



Form of organization	Company with an Audit & Supervisory Board
Adoption of an executive officer system	Yes
Voluntary committee of the Board of Directors	Nomination and Remuneration Advisory Committee
Number of Board of Directors meetings*	19 Average attendance rate of Outside Directors 97.3% Outside Audit & Supervisory Board Members 97.3%
Number of Audit & Supervisory Board meetings*	19 Outside Audit & Supervisory Board Members 100%
Remuneration for Directors and Audit & Supervisory Board Members	Directors (excl. Outside Directors): fixed remuneration and performance-linked remuneration Outside Directors and Audit & Supervisory Board Members: fixed remuneration
Audit firm	Ernst & Young ShinNihon LLC

\*FY2021

## Past Initiatives to Strengthen Corporate Governance



## 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

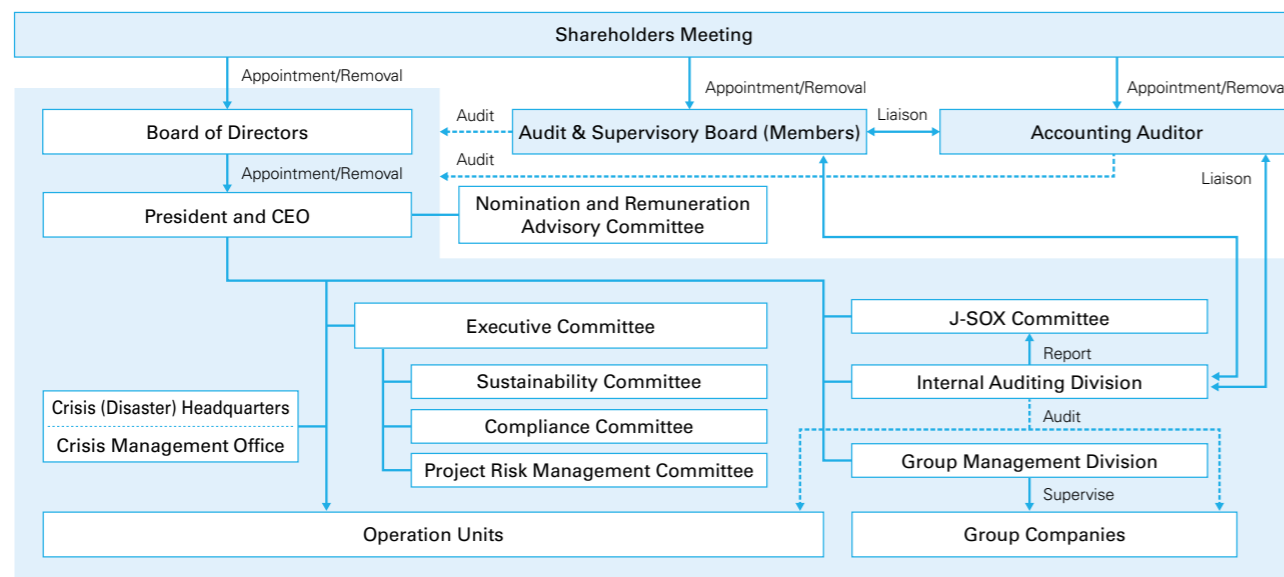
reliability of compliance, risk management, and financial reports, we also pay sufficient attention to the effectiveness and efficiency of operations. The establishment of this system enables the Board of Directors to make decisions based on appropriate information and subsequently, the execution of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

## 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.



### 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.

### 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.

### 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 2021, 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 February 2022 regular Board of Directors meeting. Below are the main points of those results.

#### Issues requiring improvement in fiscal 2019 and before

- The future appointment of female and non-Japanese officers ought to be discussed
- The shift to paperless (digitalization) for Board of Directors meeting materials ought to be promoted

#### 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 worksites 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

##### Future initiatives:

- If COVID-19 allows, we will provide opportunities to inspect project sites at overseas Group companies; we will also work to create opportunities for active exchanges of opinions at various levels, including at project sites
- We will review the content of Nomination and Remuneration Advisory Committee meetings and enhance opportunities to provide information regarding human capital to Committee members

## Corporate Governance

### 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.

(FY2021)

Officer Classification	Total Remuneration (¥ million)	Total Remuneration by Type (¥ million)		Number of Eligible Officers
		Fixed Remuneration	Performance-Linked Remuneration	
Directors (excluding Outside Directors)	130	130	—	5
Audit & Supervisory Board Members (excluding Outside Audit & Supervisory Board Members)	38	38	—	2
Outside Officers	36	36	—	6

### 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

##### a) Items related to Nominations

1. Director appointment and dismissal proposals submitted to the General Meeting of Shareholders
2. Appointment and dismissal of the Representative Director
3. Appointment and dismissal of executives: Chairman, President, Vice President, Senior Executive Officers, CEO, CFO, CCO, and CTO
4. Developing successors to the President & CEO and other Directors and to Executive Officers
5. 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.

##### b) Items related to Remuneration

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

## Compliance

### Basic Policy on Compliance

TOYO's stated mission is "Engineering for Sustainable Growth of the Global Community." We believe that realizing this mission is the best way of fulfilling our corporate social responsibility. To this end, our Basic Policy on Compliance requires that every member of our workforce not only complies with national and international laws, regulations, and rules, but also abides 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.

Through the initiatives outlined below, we will strengthen the operation and monitoring of our management systems in line with this Basic Policy.

### Commitment by the Top Management

We recognize that the commitment by the top management toward the maintenance and strengthening of compliance is important. President and CEO annually issues a message that appeals the importance of compliance to Directors and employees of the whole Group Companies.

### Codes and Manuals

To ensure that the execution of duties complies with laws and regulations, we formulate Code of Conduct, Compliance Manual, and other related rules. Furthermore, all Directors, Executive Officers and employees annually submit written oaths and comply with them.

### Compliance Committee

We organize the Compliance Committee headed by Chief Compliance Officer (CCO), and endeavor to operate and monitor the educational and promotional campaigns on compliance and the compliance system in the following procedures.

- (1) The Compliance Committee plans the educational and promotional campaigns out, which is executed mainly by the Compliance Department, which is its Secretariat, and the division/department heads.
- (2) Division/Department heads arrange and confirm the laws and regulations to comply with in their execution of duties, develop and revise the work procedures and check lists, and strive to fully comply with them.
- (3) The Compliance Committee receives reports on compliance violation cases and reviews the situation to cope with them.
- (4) The Compliance Committee confirms and evaluates the state of execution of the above, and the CCO periodically reports the results to the Board of Directors and the Executive Committee. The Board of Directors, based on the reports, annually conduct a management review.

### Internal Whistleblowing System

We develop internal whistleblowing system concerning compliance such as the violation of laws, regulations and others 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 in and outside of the Company for executives and employees of all group companies, and also develop internal rules to strictly prohibit any disadvantageous treatment of those who provided such information.

### Training on Compliance

We endeavor to boost awareness about compliance with promotion activities by implementing group training, e-learning, mini tests and in-company lectures on compliance.

### Approach to the Bribery Risk

We are working to enhance and expand our program for preventing the bribery of foreign public officials. We establish Compliance Committees at respective group companies and assign their persons responsible to ensure the deployment of integrated compliance activities as TOYO Group, and establish a system to facilitate constant exchange of opinions with our Compliance Department.

### Compliance Audit

Audit & Supervisory Board Members audit the execution of duties by Directors regularly and from time to time, whether there is any major fact that violates any laws, regulations and the Articles of Incorporation, and whether the business decision made by the Board of Directors and others is fair from the viewpoints of good manager's duty of care and duty of loyalty of Directors or not. Audit & Supervisory Board Members and Internal Auditing Division also audit the situation of compliance of each department and report the results to the Board of Directors and others.

# Risk Management

## Basic Policy on Risk Management

At TOYO, we believe that appropriate risk-taking and effective risk management are essential to 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 that are tasked with overseeing these processes; and which relevant regulations we adhere to. In order to understand and respond to latent risks as quickly as possible, every fiscal year, we 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.

## Safety and Risk Management in Japan and overseas

As globalization progresses, so diverse risks are increasing in frequency. These include: COVID-19 and other infectious and non-infectious diseases, terrorism and other serious crimes, disorders and disturbances, natural disasters, and traffic accidents. We are working to minimize the adverse impacts of such risks on our operations by accurately understand conditions on the ground and carefully implementing safety measures and appropriate risk management for our employees and partners both in Japan and overseas. At TOYO, we operate on the principle of safety first. Our goal is to wholly eliminate incidents and accidents occasioning harm to any of our employees or partners. To this end, we are implementing appropriate safety measures and making preparations to swiftly and appropriately respond in case an emergency should materialize.

In order to achieve our goal of zero incidents or accidents occasioning harm, we are focused on providing instruction to our employees and partners in the form of educational activities and the provision of precautionary information, so that they recognize that they are ultimately responsible for their own safety.

## Business Continuity Planning

We have formulated the Internal Rules for Crisis Management to respond to crises that pose a risk to the continued existence of the Company. These Rules cover major earthquakes, natural disasters such as storms and floods, fires, terrorist acts, riots, disruptions to information systems, pandemic influenza, accidents, and infectious diseases. We have also formulated specific business continuity plans for global pandemics of infectious diseases and major earthquakes. Should such crises arise, we will establish systems capable of providing concrete instruction through the establishment of a Crisis Response Division, headed by the President & CEO, through the use of predefined criteria for selecting priority work processes and through the implementation of prearranged recovery plans.

## Information Security Risk Management

We recognize that it is our important responsibility to protect information that must be protected in accordance with laws and regulations, such as contracts with customers and business partners and the Personal Information Protection Law, as well as the

Group's important know-how. We have established a Basic Policies on Information Security and are working on it.

## Information Security Risk Management System

We have obtained ISO/IEC 27001 certification, the international standard for information security management systems, in 2006 and have maintained this certification until now. Based on this management system, we are implementing and improving information security.

## Protection of Personal Information

In accordance with Japan's Law Concerning the Protection of Personal Information, TOYO has established a Privacy Policy and appropriately handles the personal information it holds. We have also established the GDPR Privacy Policy and are working to comply with the GDPR (EU General Data Protection Regulation).

## Risk Management of Group Companies

We implement the risk management of the Group Companies through a series of activities as follows:

- (1) We establish Group Company Management Rules and clarify the authority and responsibilities of each of them. Based on the said Rules, we require the acquisition of prior approval or reporting from the Group Company to us on predetermined matters.
- (2) We develop and operate compliance systems of our Group as a whole, taking compatibility with local laws and regulations. With regard to efforts for ensuring the reliability of financial reports and full observation of security trade control system, the divisions and departments concerned cooperate for the achievement.
- (3) Group Companies establish their risk control systems and crisis control systems, respectively.
- (4) Group management and administration divisions require Group Companies to periodically report on their execution of business operations and financial conditions, and conduct the administration and control in a planned manner in cooperation with Internal Auditing Divisions, Finance and Accounting Divisions and Audit & Supervisory Board Members.
- (5) We establish an appropriate control system for equity-method affiliates in proportion to their equity and the responsibility to assume, and the Group Management and Administration Divisions carry out the administration.

## Project Risk Management

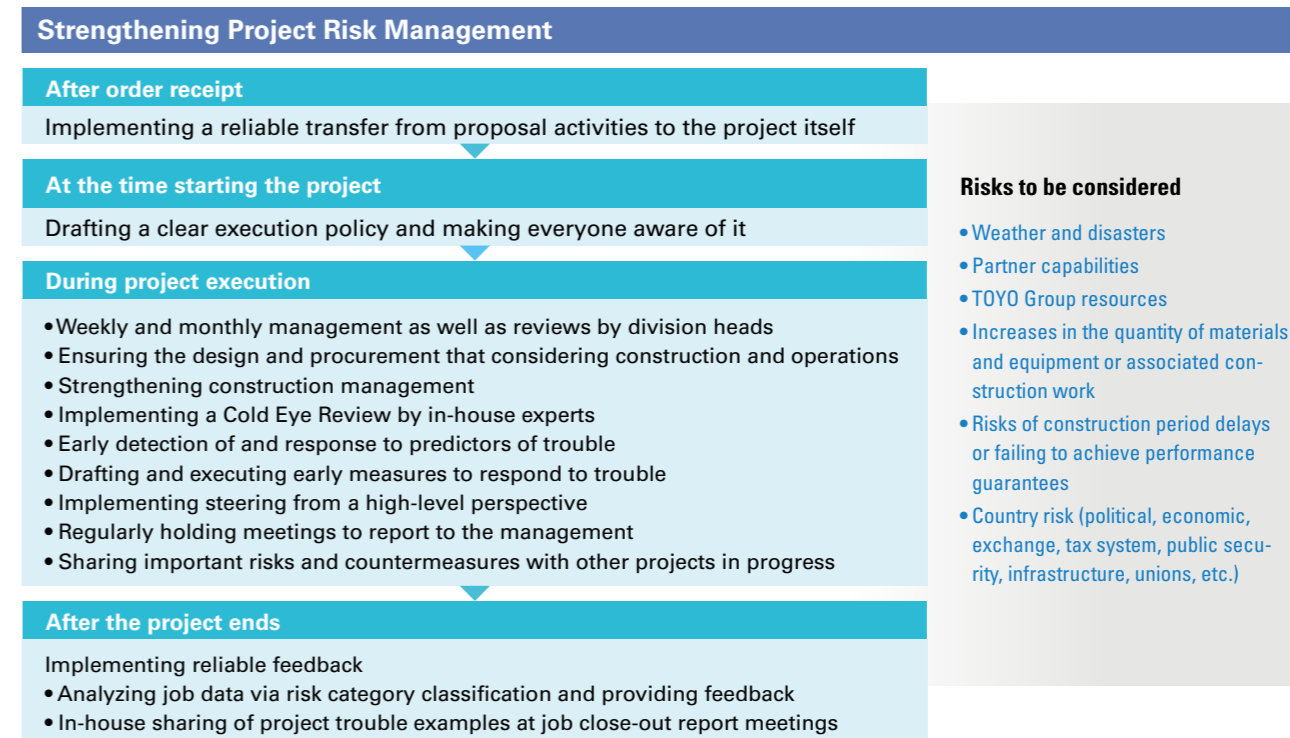
### Pre-order (proposal selection and estimation stages)

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)

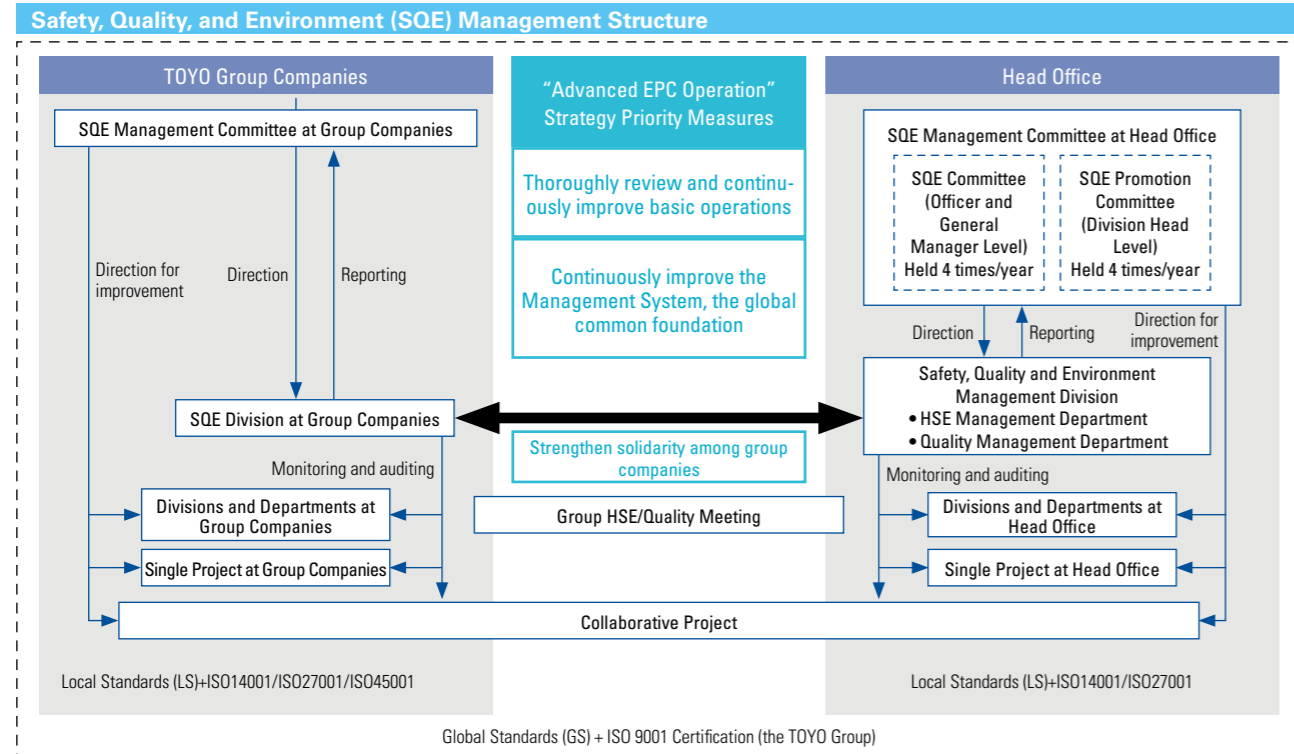
Our project risk management comprises two main components: first, the approval of project execution policies which, as part of their risk control systems, incorporate risk assessments and preconditions from the pre-order proposal stage; second, the maintenance and improvement of project profitability 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.



# Safety, Quality and Environment (SQE) Initiatives

## Basic Policy

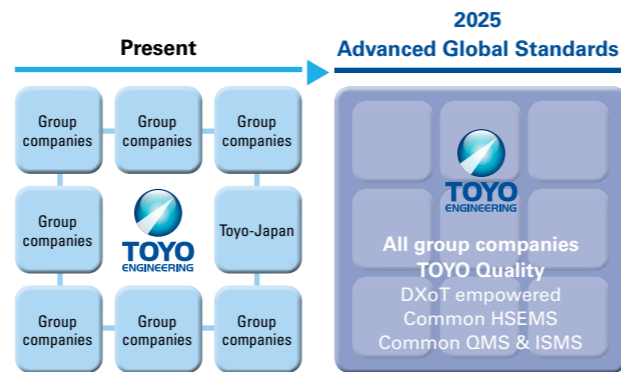
TOYO and its group companies have established the basic policy (<https://www.toyo-eng.com/jp/en/company/policy/safety/index.php>) based on the recognition that compliance with laws and regulations related to HSE and quality as well as meeting the requirements of customers and society, is an indispensable 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.



ISO 9001: Quality Management System, ISO 14001: Environmental Management System, ISO 27001: 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.

## Evolution to Advanced Global Standards through Collaboration with Various Group Companies

The medium-term management plan touts “advanced group operations,” and we are undertaking initiatives to create a system in which each group company plays a central role in executing EPC projects. The Safety, Quality and Environment Management Division touts (1) “thoroughly review and continually improve basic operations” and (2) “continuously improve the Management System, the global common foundation” as priority measures within the “advanced EPC operation” strategy, and particularly in regard to (2), the goal is the evolution to Advanced Global Standards through fundamental reforms to the workflow using DXoT. The Safety, Quality and Environment Management Division plays a leading role in this evolution by “strengthening solidarity among group companies,” and we are aiming to build mechanisms and systems that can ensure even greater HSE and quality at all group companies.



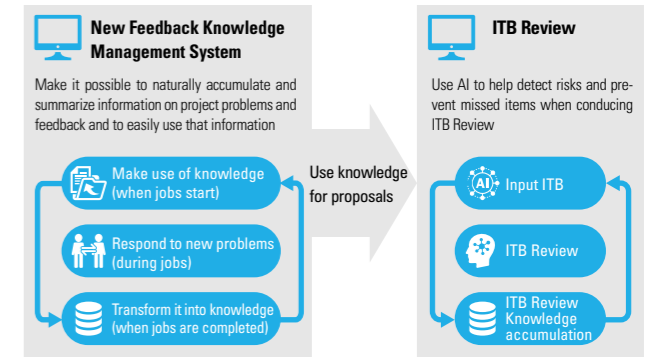
HSEMS : Health Safety Environment Management System  
 QMS : Quality Management System  
 ISMS : Information Security Management System

## Quality

### Initiatives to strengthen the quality management system in order to reduce costs of quality-related losses

Improving productivity for construction projects has been an issue for the industry for many years, and there are research reports that state 40% of investment costs are wasted. At TOYO, too, there is wasted work for various reasons, such as drawn-out negotiations, coordination of orders of equipment and other items, processing of claims, coordination at construction sites, and additional orders, and response to late delivery of equipment and materials.

“organization knowledge.” We are touting the goal of reducing fiscal 2025 quality-related losses by 50% compared to fiscal 2019 through these efforts.



To reduce wasted costs and time, we released and updated the following systems, which are some of the results for fiscal 2021, and worked to further strengthen the quality management system (evolution to Advanced Global Standards) by fundamentally reforming the workflow through DXoT. We will reduce unnecessary costs and time by implementing a cycle that continues to transform “personal experience” into

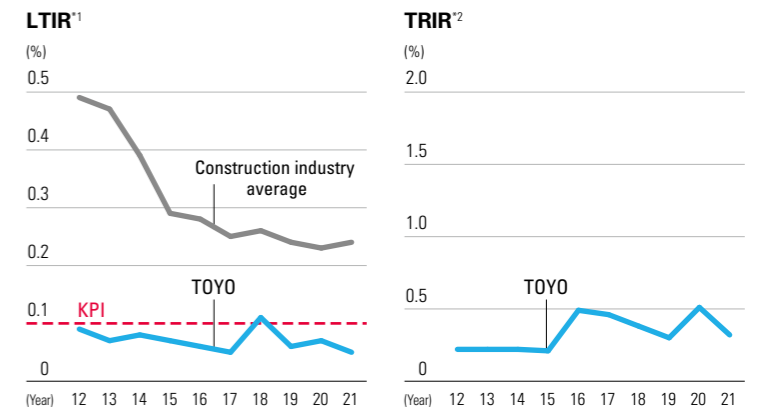
## Safety

To ensure safety, the foundation of business activities, TOYO has simply and honestly undertaken various efforts over the years, and these have included strengthening safety leadership of management, fostering a culture of safety, and formulating and adhering to 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.

**The TOYO Group'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)
2012	120,760,052	11	27
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
<b>2021</b>	<b>59,524,567</b>	<b>3</b>	<b>19</b>



\*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

Note) Source of reference for construction industry average: IOGP safety performance indicators- 2020 data "Contractor"

### Opinion of manager responsible for safety at overseas group companies

#### Overcoming COVID-19 and successfully completing projects through safety and quality management



COVID-19 has had a major impact on the safe and high-quality execution of our projects throughout the world. We will be sure to execute projects by ensuring robust safety and quality of the same level as that of before the pandemic by not only formulating response guidelines and health standards based on the abundant project experience and knowledge possessed by TOYO but also thoroughly implementing those at all locations, from construction sites to the Head Office. While there are various constraints, we will undertake advanced safety and quality management by applying the latest digital technology to all business activities, including remote quality management when manufacturing equipment and site safety audits and inspections using drones.



**Taramaraju Ponnusamy**  
 Toyo-Malaysia  
 GM Q-OSHE Division

# ESG Data

Toyo Engineering Corporation and Consolidated Subsidiaries

## Environment

	Fiscal 2017 (fiscal year ended March 31, 2018)	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)
Industrial waste recycling rate (Domestic construction sites)	96%	91%	91%	90%	88%
Industrial waste volumes (Domestic)	6,794t	10,160t	10,262t	9,992t	8,717t
Industrial waste volumes (Overseas) <sup>*1</sup>	19,608t	35,698t	13,805t	37,963t	6,557t
Industrial waste volumes (Domestic Head Office)	141t	129t	95t	58t	63t
No. of toxic material leaks (Domestic/overseas construction sites)	0	0	0	0	0
CO <sub>2</sub> emissions for TOYO Group <sup>*2</sup>	3,567t	4,518t	9,277t	10,068t	12,784t
Electricity usage at Head Office and overseas group companies <sup>*3</sup>	4,264MWh	10,571MWh	10,438MWh	9,375MWh	9,757MWh
Electricity usage at domestic and overseas construction sites <sup>*4</sup>	—	—	2,852MWh	6,882MWh	8,649MWh
Water use (Head Office)	30.2 thousand m <sup>3</sup>	27.8 thousand m <sup>3</sup>	27.2 thousand m <sup>3</sup>	18.5 thousand m <sup>3</sup>	18.2 thousand m <sup>3</sup>
Rainwater use	3.9 thousand m <sup>3</sup>	2.9 thousand m <sup>3</sup>	4.4 thousand m <sup>3</sup>	3.1 thousand m <sup>3</sup>	4.0 thousand m <sup>3</sup>
Purchase volume of printing paper (wood-free paper)	39.9t	29.6t	28.8t	18.2t	16.9t

## Governance

	Fiscal 2017 (fiscal year ended March 31, 2018)	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)
<b>Compliance Risk Management Reports</b>					
No. of compliance e-Learning participants (for new recruits and employees yet to complete the program)	—	62	33	66	69
Total no. of mini compliance test participants	—	961	790	2,298	2,404
Internal reporting	—	16	8	4	9
<b>Information security promotion initiatives</b>					
Serious information security incidents	0	0	0	0	0
<b>Governance-related data</b>					
Directors	7	5	5	5	5
Outside Directors	3	4	4	4	4
Audit & Supervisory Board Members	2	2	2	2	2
Outside Audit & Supervisory Board Members	2	2	2	2	2

\*1 Calendar year (January–December) \*2 For fiscal 2017, domestic Head Office (fiscal year); for fiscal 2018, the total for domestic Head Office (fiscal year) and overseas group companies (calendar year); for fiscal 2019 and after, the whole Group, including domestic and overseas construction sites (calendar year) \*3 Same as for fiscal 2018 and earlier \*2; calendar year for fiscal 2019 and after \*4 Began calculating in fiscal 2019 (calendar year) \*5 Excluding temporary employees \*6 Main EPC companies, which include equity method companies \*7 Number of managers with a position equivalent to team manager or general manager \*8 Lost time incident rate (LTIR) = total lost time incidents x 1,000,000 / man-hours \*9 Total recordable incident rate (TRIR) = number of recordable incidences x 1,000,000 / man-hours \*10 As of June 1 of each year, and percentage of disabled persons hired includes special-purpose subsidiaries \*11 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 \*12 Revised remote work system in July 2020 eliminating upper limit on times

## Social

	Fiscal 2017 (fiscal year ended March 31, 2018)	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)	
<b>Consolidated</b>	No. of employees <sup>*5*6</sup>	4,015	3,950	4,204	4,425	4,625
	Male	3,432	3,370	3,566	3,749	3,888
	Female (%)	583(15%)	580(15%)	638(15%)	676(15%)	737(16%)
	No. of engineers <sup>*6</sup>	2,866	2,811	2,815	2,824	3,087
	Male	2,601	2,533	2,529	2,537	2,745
	Female (%)	265(9%)	278(10%)	286(10%)	287(10%)	342(11%)
	No. of managers <sup>*6*7</sup>	1,090	1,081	1,119	1,112	1,150
	Male	1,040	1,027	1,065	1,055	1,090
	Female (%)	50(5%)	54(5%)	54(5%)	57(6%)	60(5%)
	Man-hours <sup>*1</sup>	76,493,784 hours	102,817,669 hours	49,642,608 hours	44,895,756 hours	59,524,567 hours
	Fatalities <sup>*1</sup>	2	1	0	0	0
	Lost time incidents <sup>*1</sup>	2	10	3	3	3
	Lost time incident rate <sup>*1*8</sup> (total of fatalities and lost time incidents)	0.05(4)	0.11(11)	0.06(3)	0.07(3)	0.05(3)
	Medical treatment <sup>*1</sup> (no lost time)	31	27	11	20	16
	Total recordable incident rate <sup>*1*9</sup> (total number of incidents)	0.46(35)	0.37(38)	0.30(14)	0.51(23)	0.32(19)
<b>Non-consolidated</b>	No. of employees <sup>*5</sup>	1,030	973	998	968	989
	Male	863	804	817	790	809
	Female (%)	167(16%)	169(17%)	181(18%)	178(18%)	180(18%)
	No. of engineers	790	735	757	738	754
	Male	748	693	709	687	703
	Female (%)	42(5%)	42(6%)	48(6%)	51(7%)	51(7%)
	No. of managers <sup>*7</sup>	578	558	583	569	573
	Male	561	539	561	543	548
	Female (%)	17(3%)	19(3%)	22(4%)	26(5%)	25(4%)
	No. of disabled persons hired <sup>*10</sup>	22(2.1%)	18(2.2%)	21(1.8%)	21(2.6%)	24(2.5%)
	No. of foreign employees	56	47	48	50	60
	No. of male employees taking childcare leave	1	4	4	5	10
	No. of female employees taking childcare leave	4	9	3	7	12
	No. of persons taking paternity leave	14	39	21	25	28
	No. of persons working shorter hours for childcare reasons	21	14	14	15	12
No. of persons working shorter hours for nursing care reasons	1	2	1	1	1	
No. of persons taking family care leave	94	102	96	81	101	
No. of persons taking nursing care leave	0	0	0	0	1	
Percentage of annual leave used <sup>*11</sup>	58.3%	62.0%	61.9%	57.6%	54.7%	
No. of persons working from home <sup>*12</sup>	71	184	207	960	All employees	



# Ten-Year Financial Highlights

Toyo Engineering Corporation and Consolidated Subsidiaries  
Years ended March 31

	2013/3	2014/3	2015/3	2016/3	2017/3	2018/3 <sup>*3</sup>	2019/3	2020/3	2021/3	Millions of yen 2022/3 <sup>*4</sup>
<b>Financial Highlights</b>										
Net sales	228,723	230,124	311,454	299,813	431,917	335,697	294,993	219,094	184,000	<b>202,986</b>
Gross profit (loss)	24,200	25,155	17,214	30,513	15,971	(12,521)	10,636	18,765	18,557	<b>20,838</b>
Gross profit margin (%)	10.6	10.9	5.5	10.2	3.7	(3.7)	3.6	8.6	10.1	<b>10.3</b>
SG&A expenses	22,606	24,699	24,570	19,426	17,980	20,429	16,250	16,875	16,941	<b>17,875</b>
Operating income (loss)	1,593	455	(7,356)	11,087	(2,009)	(32,951)	(5,613)	1,890	1,615	<b>2,963</b>
Ordinary income (loss)	4,032	4,942	(25,280)	3,873	1,603	(27,821)	3,426	2,467	2,781	<b>3,126</b>
Profit (loss) attributable to owners of parent	1,457	967	(20,965)	3,038	1,472	(26,846)	(818)	1,664	814	<b>1,620</b>
Comprehensive income	3,178	4,088	(25,534)	8,492	1,066	(25,758)	(3,818)	(376)	4,097	<b>4,485</b>
New orders	290,444	365,137	470,369	443,537	116,790	309,325	298,052	187,054	122,895	<b>274,467</b>
Backlog of contracts	410,492	538,023	659,005	823,066	492,682	448,629	426,373	389,236	310,691	<b>381,954</b>
Total assets	240,694	257,480	261,609	321,836	317,089	251,861	239,694	208,719	218,255	<b>240,853</b>
Total net assets	71,091	74,831	44,979	51,036	51,331	25,176	36,357	35,980	40,077	<b>44,562</b>
Interest bearing debt	40,087	44,797	31,918	32,645	31,844	30,841	32,710	27,629	28,167	<b>36,679</b>
Net debt	(31,588)	(52,137)	(58,543)	(91,480)	(90,858)	(75,694)	(65,197)	(52,584)	(66,316)	<b>(53,121)</b>
Equity ratio (%)	28.9	28.5	17.2	15.8	16.2	10.0	15.1	17.2	18.3	<b>18.4</b>
Operating activities cash flows	(18,986)	21,244	(4,192)	46,376	18,984	(22,824)	(25,828)	(18,696)	17,753	<b>(6,790)</b>
Investing activities cash flows	(1,587)	(1,638)	9,587	(11,776)	(16,650)	6,386	1,354	7,980	(2,712)	<b>(7,851)</b>
Financing activities cash flows	(532)	3,167	(14,341)	1,099	(1,548)	(1,174)	16,768	(6,159)	(451)	<b>7,608</b>
Dividends per share (annual) (yen)	5.0	3.0	4.0	4.0	2.0	0.0	0.0	0.0	0.0	<b>0.0</b>
Earnings per share (EPS) <sup>*1</sup> (yen)	37.99	25.23	(546.72)	79.24	38.42	(700.30)	(20.51)	28.40	13.91	<b>27.65</b>
Book value per share (BPS) <sup>*1 *2</sup> (yen)	1,815.75	1,913.07	1,170.99	1,329.60	1,337.40	654.91	554.11	544.16	650.52	<b>766.81</b>
Price earnings ratio (PER)	53.8	93.9	—	18.5	36.3	—	—	11.4	56.2	<b>23.0</b>
Return on equity (ROE) (%)	2.1	1.4	(35.9)	6.3	2.9	(70.3)	(2.7)	4.6	2.2	<b>3.8</b>

\*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.

## Corporate Data

<b>Corporate Name</b>	Toyo Engineering Corporation	<b>Stock Exchange Listing</b>	Tokyo Stock Exchange
<b>Founded</b>	May 1, 1961	<b>Authorized Shares</b>	Common Shares 100,000,000 Class A Preferred Shares 25,000,000
<b>Capital Stock</b>	¥18,198 million	<b>Capital Stock Issued</b>	Common Shares 38,558,507 Class A Preferred Shares 20,270,300
<b>Number of Employees</b>	4,037 (Consolidated, as of March 31, 2022)	<b>Number of Shareholders</b>	Common Shares 16,199 Class A Preferred Shares 2
<b>Business Activities</b>	Engineering and Construction for Industrial Facilities R&D support, design, engineering, procurement, construction, commissioning, technical assistance-technical 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		

## Major Shareholders

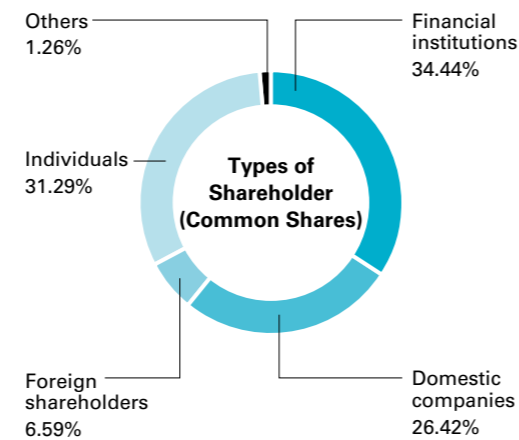
### 1. Common Shares

	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	3,746	9.79	6.39
Custody Bank of Japan, Ltd. Trust Account	2,742	7.17	4.68
Taisei Corporation	1,000	2.61	1.70
Sumitomo Mitsui Banking Corporation	470	1.22	0.80
BBH(LUX)FIDELITY FUNDS-JAPAN ADVANTAGE	303	0.79	0.51
BNP PARIBAS SECURITIES SERVICES LUXEMBOURG/JASDEC/ACCT BP2S DUBLIN CLIENTS-AIFM	283	0.74	0.48

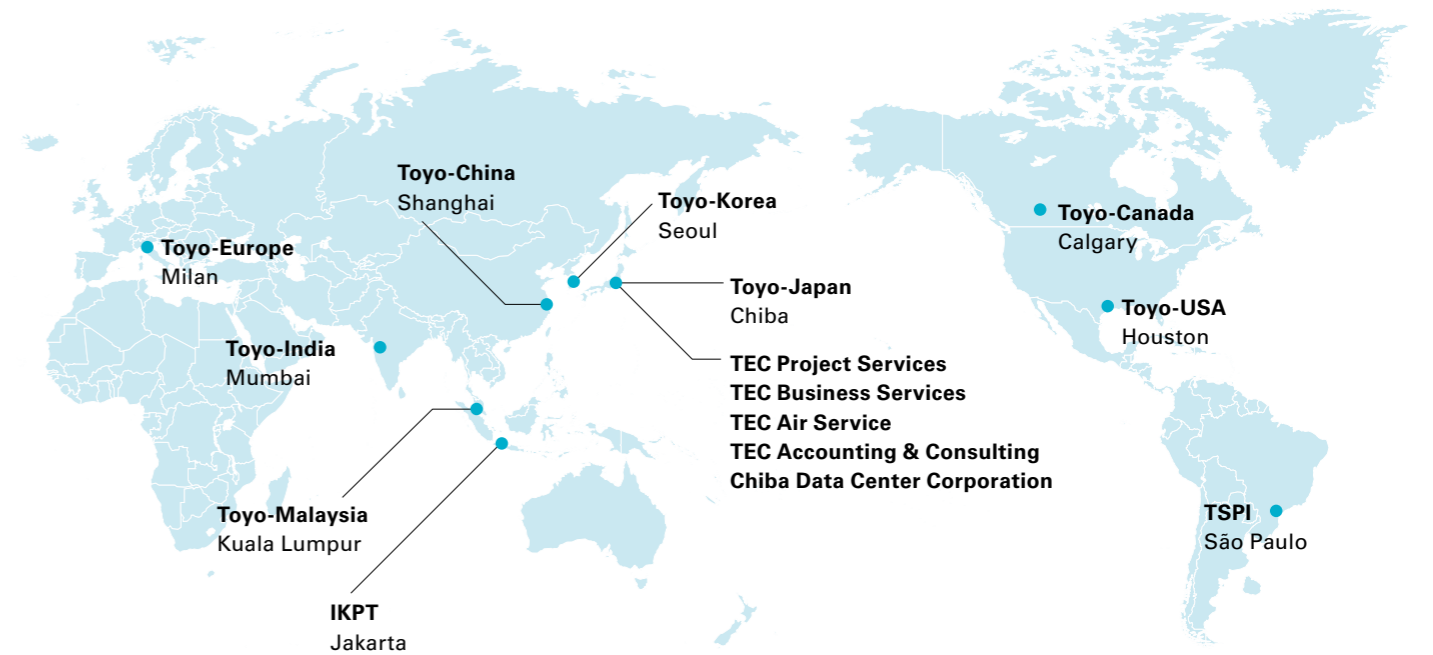
### 2. Class A Preferred Shares

	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 227,058 shares of treasury stock.  
2. Class A preferred stock do not have any voting rights.



## Global Network



## Editor's Note

Thank you for reading the 2022 Integrated Report.

We prepared this year's report with a focus on TOYO's roles and initiatives to achieve a sustainable society, progress as of the second year of the medium-term management plan and a future outlook, and a state of reinforcing both governance and disclosure based on TCFD recommendations. After obtaining approval for the proposed outline of the report at the management meeting, we moved forward with preparing the various sections of the report in collaboration with more than eighty related parties, and ultimately, the report was approved at both the management meeting and Board of Directors meeting. We hope that this helps our various stakeholders, particularly investors, gain a better understanding of TOYO Engineering.

All members of Corporate Communications Department  
Corporate Strategy Division  
Toyo Engineering Corporation

Planning & Production: **Toyo Engineering Corporation** (Securities code: 6330)  
<https://www.toyo-eng.com/jp/en/>

Production: IMC Branding, Inc. / Editor-in-chief: Izuru Kako / Editor: Hirotohi Konuma / Designer: Yoshinobu Iwai / Director: Toru Yamamoto Photography by Yasuo Mikome, ASAHIDO

Period covered by the report: Fiscal 2021 (April 2021–March 2022). However, the report also includes information on some matters that fall outside the period covered by the report.

### Editing Policy

The 2022 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.



**TOYO ENGINEERING CORPORATION**

2-8-1 Akanehama,  
Narashino-shi, Chiba 275-0024, Japan  
<https://www.toyo-eng.com/jp/en>