

Sustainability Initiatives Begin on Site

—Promoting Sustainability Together with Subcontractors

Sustainability Morning Briefing (Vietnam)

In order to thoroughly instill sustainability management initiatives at worksites, we display posters and conduct sustainability training, and through Sustainability Morning Briefings and Sustainability Awards, we drive these initiatives engagement-wide, extending from POC Group executives and employees to subcontractor personnel working at our sites.

Sustainability Morning Briefings

We hold morning briefings on sustainability themes once a week at domestic and overseas sites to promote awareness and understanding of sustainability at worksites. We also craft posters introducing everyday examples on Materiality themes such as CO_2 reduction, environmental conservation, occupational health and safety, promotion of DE&I, and respect for human rights. This inspires each individual to grasp the significance of each theme and take practical action in their daily work.

September 2024:
Started at domestic sites
January 2025:
Expanded to sites of domestic Group companies
January 2026:
Started at overseas sites



Sustainability Morning Briefing Posters (Japan)



Communication to International Workers Using AI Translation Tools (Japan)

Sustainability Awards

We implement Sustainability Awards to recognise on-site sustainability initiatives and to foster their replication across other worksites. Past applications included highly creative worksite initiatives such as innovation in workplace communication, environment impact reduction, safety measures, and communication with local communities. Through presentations to executive management and the sharing of best practices, we drive the further evolution of these initiatives.

FY 3/25:
Started the first Sustainability Awards in Singapore to commemorate the 60th anniversary of our entry into Singapore
FY 3/26:
Expanded the Sustainability Awards to Japan and Hong Kong



Japan 1st Sustainability Awards Ceremony (February 2026)



Singapore 2nd Sustainability Awards Ceremony (December 2025)

Practising Sustainability Management ▶P33



Creation of a Society Where Diverse People Can Thrive

—No Corporate Growth Without Securing and Developing Diverse Human Resources

Active participation of young engineers at worksites

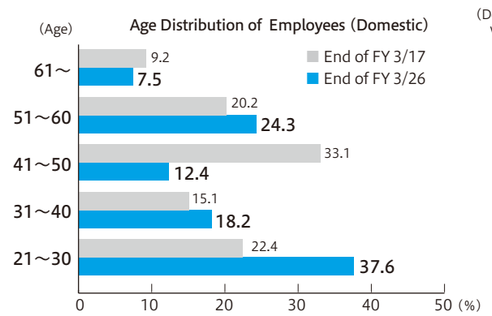
The Group aims to be "an organisation where diverse human resources respect one another, thrive in their work and grow personally and professionally", and aligns its recruitment and talent development practices accordingly. Through initiatives based on our human capital strategy, we contribute to sustainability management that we envision and embrace. By enhancing the satisfaction and engagement of each individual , we bring out their full potential, thereby working toward the medium- to long-term enhancement of our corporate value.

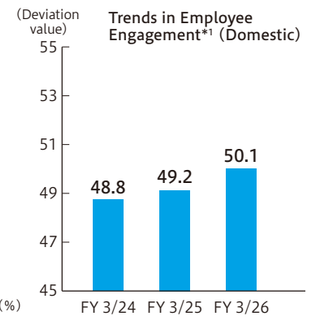
Securing and Developing Diverse Human Resources

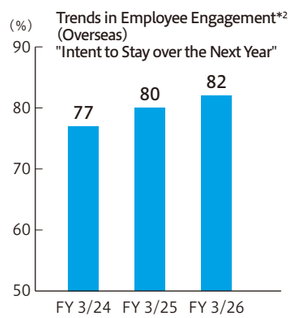
As the Group advances sustainability management, we have set forth the basic strategies both to fulfil our mission that "the greatest contribution to society is the construction of high-quality infrastructure" and to translate expansion of business volume into profit growth.
To that end, we believe that the multiplier effect of combining our mindset, actions, and strengths—"Front-loading × Technical capabilities × Risk management capabilities × Inter-departmental collaboration × Pioneering spirit"—is the source of our competitive edge and key point differentiation from other companies.
To support this strategy, we will attract diverse human resources through competitive compensation and the development of a supportive working environment, thereby fostering a vibrant organisation and driving talent development aimed at maximising our human capital.
With respect to diverse human resources, as a result of strengthening new graduate hiring from an early stage in anticipation of business expansion, we have shifted to a healthy pyramid-shaped workforce structure. We will continue to strengthen both new graduate and mid-career recruitment towards further business expansion.

Enhancement of Engagement

The Group regularly conducts engagement surveys to improve organisational strength over the medium term and to support the creation of a workplace environment where employees feel work engagement. The FY 3/26 survey results on employee engagement (a sense of unity and belonging to the organisation) for domestic staff further improved from the previous fiscal year and are at a favourable level compared with industry peers.
In the FY 3/26 engagement surveys of overseas staff as well, more than 80% expressed an intent to stay at Penta-Ocean Construction after one year, a figure that continues to rise year-on-year. This reflects a further improvement in the sense of unity with the Company through the pursuit of initiatives that heighten mutual understanding between supervisors and team members both corporate-wide and at worksites, including alignment with the corporate philosophy and vision, as well as work feedback.
In addition, as part of measures to enhance engagement, we are implementing various initiatives including the introduction of a stock benefit trust for employees (J-ESOP), enhancement of incentives for the employee stock ownership plan, and enrichment of various training programmes.







*1: Survey by Advantage Risk Management Co., Ltd. *2: Survey by the Company

Securing and Developing Diverse Human Resources ▶P48 Enhancement of Well-being ▶P50

Promotion of GX —Responding to Climate Change Issues



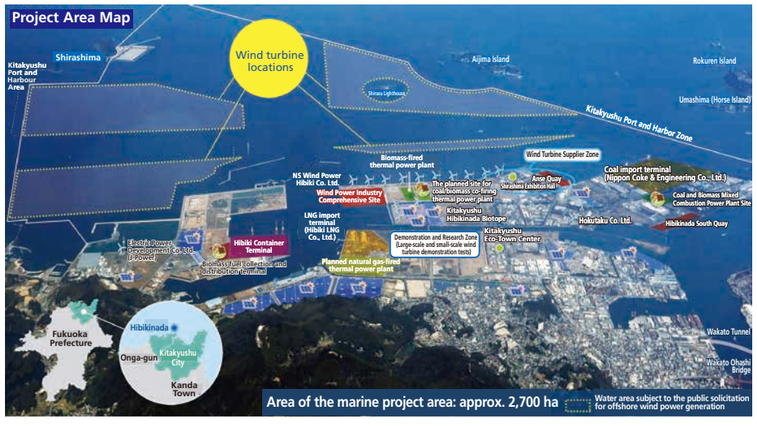
Panoramic View of Kitakyushu Hibikinada Offshore Wind Farm

A Front-runner in Offshore Wind Construction

The Kitakyushu Hibikinada Offshore Wind Farm Construction Project was Completed, and Commercial Operation Started in March 2026

The Kitakyushu Hibikinada Offshore Wind Farm Construction Project is a large-scale offshore wind construction project to install 25 wind turbines (9.6 MW class). The farm generates approximately 220 MW of output on an approximately 2,700 ha site, located in the port area of the Kitakyushu Hibikinada district. We signed an EPCI*1 contract for marine construction and other works ((1) offshore civil engineering works such as foundation work for wind turbines, installation of wind turbines, cable laying, etc., (2) construction of O&M*2 base port), and started the construction in March 2023 (project developer: Hibiki Wind Energy Co., Ltd.). Installation of the 25th wind turbine was completed on August 31, 2025, and commercial operation started in March 2026.

*1: EPCI: Acronym for Engineering, Procurement, Construction, and Installation *2: O&M: Operation & Maintenance



(1) Wind turbine foundation and marine works

In charge of marine civil works, including foundations and installation of 25 bottom-fixed-type wind turbines

Contractor

Penta-Ocean Construction Co., Ltd. and Nippon Steel Engineering JV

(2) O&M base port construction

Establishment of a base port for the operation and maintenance of the wind farm

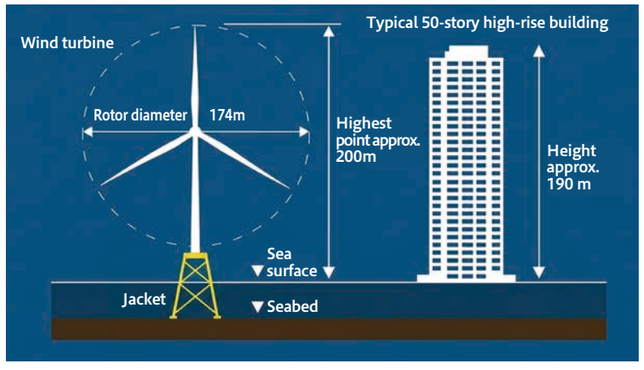
Contractor

Penta-Ocean Construction Co., Ltd. and Wakachiku Construction JV

Project outline
(Source: Hibiki Wind Energy Co., Ltd. website)



Wind Turbine Installation Work (CP-16001)



A Front-runner in Offshore Wind Construction in Japan

In Japan, aiming for the achievement of carbon neutrality by 2050, the Japanese government has set targets for the development of 10 GW of offshore wind power by 2030 and 30–45 GW by 2040. Offshore wind power is expected to increase its supply capacity as a major source of renewable energy, and in this context, the entire country is witnessing a surge in momentum for offshore wind construction.
Under these circumstances, as a "front-runner in offshore wind construction," we are actively promoting the establishment of a system to meet the growing demand for offshore wind power facilities.

Upgrades to Our Third Self-propelled Offshore Installation Vessel "Sea Challenger" Completed, Full-scale Operations Underway in Taiwan

Upgrades to the self-propelled Offshore Installation Vessel (OIV) "Sea Challenger," owned by Japan Offshore Marine (ownership ratio 51%), a joint venture between POC and Belgium-based DEME Offshore Holding NV—including an increase in crane lifting capacity (from 900 t to 1,600 t), widening of the vessel, and extension of the legs—were completed in December 2025. As a result, together with CP-8001 (completed in 2018, owned by POC) and CP-16001 (completed in 2023, owned by PKY Marine*3), we own three OIVs. We are the only construction company in Japan capable of constructing multiple offshore wind farms at the same time with our own fleet.
"Sea Challenger" operated from February to August 2026 on wind turbine installation work at Taiwan's "Hai Long 3 Offshore Wind Farm."

*3: PKY Marine: a joint venture of Penta-Ocean Construction, Kajima Corporation, and Yorigami Maritime Construction (ownership ratio: 65%)

Floating Offshore Wind Initiatives

Together with the University of Tokyo, we have established a Social Cooperation Program on Innovation for Construction, Operation and Maintenance of Floating Offshore Wind Energy System within the UTokyo International Collaborative Research Organization on Floating Offshore Wind Energy and Related Technologies (UT-FloWIND).
In order to overcome Japan's uniquely severe environmental conditions and to realise floating offshore wind power as a mainstay source of renewable energy, we will carry out scientific and systematic technology development. In this Social Cooperation Program, we will bring together the wisdom and technology of academia and industry and work on R&D and the development of highly skilled professionals on the following three themes related to design, construction, stable operation, etc.

- **Theme 1** System design to enhance overall construction efficiency and resilience, taking into account metocean conditions in Japanese waters
- **Theme 2** Optimal floating structure design based on an integrated perspective from construction through operation
- **Theme 3** Development of a digital twin model of metocean conditions in Japanese waters

These three research themes are closely aligned with the initiatives of the Floating Offshore Wind Construction System Technology Research Association (FLOWCON), approved by the Ministry of Land, Infrastructure, Transport and Tourism (MLIT), in which we participate as a member. Through collaboration with the University of Tokyo, we will advance research on the rationalisation of construction methods and the sophistication of operations for floating offshore wind. By promptly sharing cutting-edge research outcomes not only within our company but across the broader industry, we aim to contribute to the establishment of a rational construction system for the large-scale deployment of floating offshore wind.

Lineup of Offshore Wind Power-related Work Vessels

Offshore Installation

CP-8001



Completed in 2018
Non-self-propelled (800t lift) / Owned by POC

CP-16001



Completed in 2023
Non-self-propelled (1,600t lift) / Owned by PKY
* PKY Marine (a joint venture of POC, Kajima Corporation, and Yorigami Maritime Construction)

Sea Challenger



Completed in 2014, upgraded in December 2025
Self-propelled (1,600t lift) / Owned by JOM
* Japan Offshore Marine (a joint venture of POC and DEME Offshore)

Scour Protection and Work Support

CP-5001



Completed in 2012
Self-propelled (500t lift) / Owned by POC

Power Cable Laying

CLV (Cable Laying Vessel)



Scheduled for completion in 2028
Self-propelled (10,000t cable) / Owned by POC and Fuyo General Lease Co., Ltd.

Foundation Construction (Monopile Foundations)

HLV (Heavy Lift Vessel)



Scheduled for completion in 2028
Self-propelled (5,000t lift) / Owned by POC and Fuyo General Lease Co., Ltd.

Towing of OIVs and Work Support

Kaiko



Completed in 2021
Self-propelled (6,000 hp) / owned by KWS



Promotion of DX —Visualising the Future of Construction Sites 10 Years from Now

Global DX Centre

In April 2026, to further strengthen collaboration between domestic and overseas operations and accelerate DX utilising AI and robotics, we reorganised the former ICT Promotion Office and newly established the Global DX Centre.
While visualising the future of construction sites 10 years from now, we will promote on-site implementation of DX through AI and robotics. With the Global DX Centre at the centre of these initiatives, domestic and overseas operations will work together on construction DX (on-site automation through labour saving and productivity improvement), knowledge DX (operational efficiency through automatic creation of site documents using AI, etc.), and management DX (development of information infrastructure and timely construction management).

Roadmap for on-site automation

3 years later (2029)
Advance implementation of automation Level 2
- Automation of grab dredging
- Land works (Automatic construction of Backhoe and dump truck)

After 5 years (2031)
Automation Level 2 construction type expansion
- Automation and autonomy of work vessels and DX utilisation
- Automatic mountain tunnel construction
- Automatic installation and transport of shield segments underground
- Automation of rebar assembly

After 10 years (2036)
Widespread adoption of automation Level 3
Widespread adoption of robotics

Level 2 : Automating tasks (human operators provide instructions for optimal manoeuvres)
Level 3 : Automating determines optimal manoeuvres
(Conditional: Human support is required)

Initiatives for Productivity Improvement

Domestic Building Construction: Improvement of Construction Productivity Utilising ICT in Renovation Work

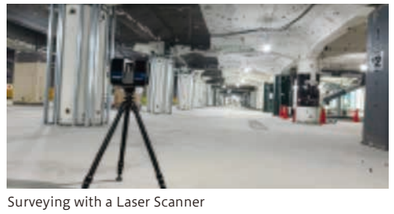
In renovation work on an old large commercial facility that has undergone multiple extensions and reconstructions, we resolved issues such as a lack of accurate drawings using point-cloud surveying with a laser scanner, resulting in a more sophisticated understanding of the current building shape and labour savings.

Issues

- Built several decades ago, with only handwritten drawings remaining
- Due to more than 10 changes of use and more than 20 extensions and reconstructions, the drawings did not reflect the current conditions
- Complex structural shape that is not level and square
- Vast work area

Effects

- Accurately captured complex structural shapes with lasers from the floor surface without installing scaffolding, and reduced surveying errors from manual work
- Eliminated work at heights involving climbing scaffolding, and improved safety during ceiling surveying, etc.
- Reduced surveying costs (reduced to 1/8 compared with conventional manual surveying)


Surveying with a Laser Scanner


3D Scan Results

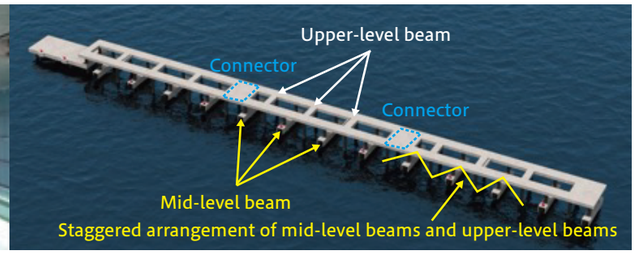
Domestic Civil Engineering: One-time Erection of PCa (Precast) Slabs of the Largest Scale in Japan

In the new pier construction project of Shuhou Mining Co., Ltd., we thoroughly integrated and enlarged pier PCa (precast) members while reducing the number of units to the utmost limit, thereby significantly improving productivity.

Integration of PCa Members

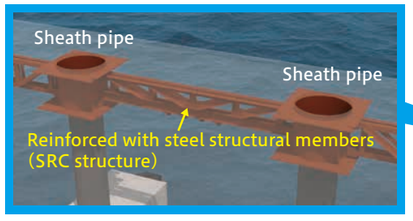
- Integrated the main pier and berthing dolphin, which had been independent structures in the existing pier, and changed them to a rational structure
- Newly installed mid-level beam PCa members and consolidated multiple functions such as the base for installing fenders, support of reaction force from the hull, and connection with the rear-row piles
- Adopted a staggered arrangement to eliminate mid-level beams in pile rows without fenders, resulting in a significant reduction in the number of PCa units

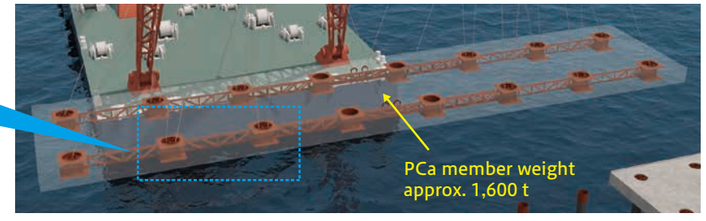




Enlargement of Members through SRC (Steel-renforced Concrete) Structure

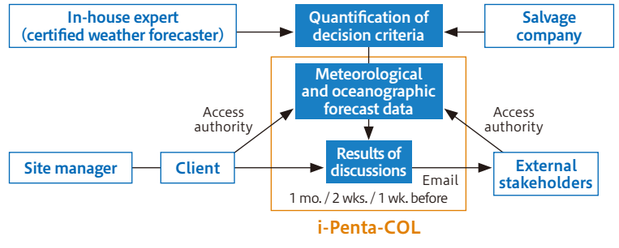
- Placed reinforcing steel inside the PCa to eliminate the risk of deformation and cracking during lifting by a floating crane





Swift Decision-making through an In-house Developed System

- Developed a meteorological and oceanographic forecast system that predicts at an early stage and with high accuracy the four consecutive calm days required for one-time erection of long PCa members
- Shared forecast data and decision criteria in real time with the client and external stakeholders through the Penta-Ocean Construction Data Gathering and Sharing System (i-Penta-COL)





Shuhou Mine Pier Extension Work


PCa slabs of the largest scale in Japan
(Length 53.8–58.4 m × width 11.5 m)