

Innovation Management

Summary

| | | |
|---|--|--|
| <p>Why the topic is material</p> | <p>The Daigas Group views technology as the foundation for its corporate competitiveness and views research and development as one of its most important strategies for differentiating itself from the competition. We also recognize that proactively leveraging digital technology for our business, creating innovative services, evolving data management, and reforming business processes will lead to improved business competitiveness.</p> <p>While providing a stable supply of city gas in the Kansai region, the Group has expanded its business into peripheral areas and developed together with the region by working on research, development, and practical application of various new technologies that lead to comfortable lives and development of business for our customers.</p> <p>To attain sustainable development and growth that address the needs of the environment and society, the Group will create new value and provide a wider range of services and new technologies to customers in collaboration with various stakeholders.</p> | |
| <p>Promoting business transformation with DX</p> | <p>Items to be addressed</p> <ul style="list-style-type: none"> • Data management evolution • Practicing innovative service creation • Operational process innovation | <p>Specific initiatives</p> <p>Policy and promotion system</p> <p>We aim to become a “corporate group capable of keeping on changing” to continue providing value amid rapid change in society and the work environment as well as changes in customer values. We will proactively leverage digital technology, which is progressing rapidly, for our business and accelerate innovative service creation, data management evolution, and operational process innovation.</p> <p>In April 2022, we established the DX Strategy Department at the Corporate Planning Headquarters, and the DX Committee, a corporate committee, performs cross-organizational coordination and promotion of DX for the entire Daigas Group.</p> <hr/> <p>Initiatives undertaken in FY2023.3</p> <ul style="list-style-type: none"> • Transforming value for customers • Building systems and structures that take advantage of Group’s collective strength • Transforming employee value through “Daigas X (Daigas Transformation)” • Human resources development |
| <p>Research and development/ intellectual property</p> | <ul style="list-style-type: none"> • Research and development of technologies that contribute to achieving carbon neutrality • Technology development to ensure stable energy supply and safety • Research and development for the creation of new businesses • Securing and utilizing intellectual property rights | <p>Policy and promotion system</p> <p>In line with the Medium-Term Management Plan 2023, the Carbon Neutral Vision, and Energy Transition 2030 (ET2030), we aim to realize a low-carbon, decarbonized society and promote research and development of technologies to ensure a stable energy supply and safety as well as to create new businesses. Based on the rules and regulations related to technological development, we make decisions on the implementation of technological development, allocate appropriate budgets according to the importance of the theme, and follow up on progress at the time of implementation.</p> <hr/> <p>Initiatives undertaken in FY2023.3</p> <ul style="list-style-type: none"> • Promoted research and development, including that of methanation, to achieve carbon neutrality • Continued to promote technological development to ensure and improve safety, and research and development to create new businesses • Secured and utilized intellectual property rights in conjunction with business and technology development strategies • Promoted open innovation activities that actively integrate and utilize technologies owned by Osaka Gas and those owned by external parties |

Promoting Business Transformation with DX

Principle and Outline

We aim to become a “corporate group capable of keeping on changing” to continue providing value amid rapid change in society and the working environment as well as changes in customer values. We will proactively leverage digital technology, which is progressing rapidly, for our business and accelerate innovative service creation, data management evolution, and operational process innovation.

We will change our business operations to enable them to respond rapidly and flexibly to any changes to enhance productivity dramatically to create value sustainably for realizing Medium-Term Management Plan 2023 and Long-Term Management Vision 2030.

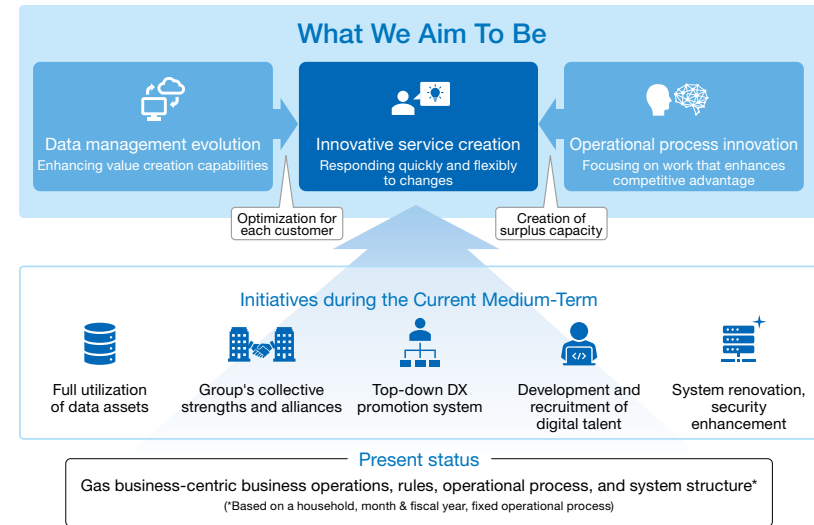
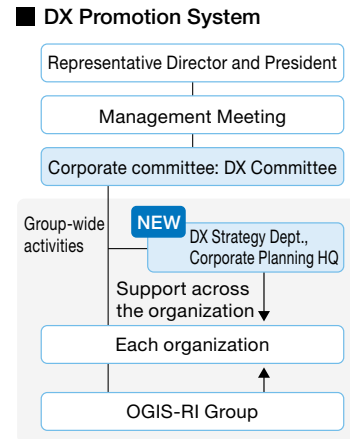
In the new age in which both our customers and services rapidly change, we will aim for transformation of the business itself and for innovation as a corporate group that can keep on changing by revising constantly and flexibly our business model, operations, rules, and systems, which used to be taken for granted.

To make a major transformation to realize our vision, we will work on building a promotion system driven by top management, strengthening human resources development, demonstrating the comprehensive strength of the Daigas Group, including OGIS-RI Co.,Ltd., and building alliances with our partner companies.

DX Promotion System

In April 2022, to realize “what we aim to be” and accelerate business transformation (creation of new businesses/sophistication of existing businesses/operational process innovation) and system transformation, we established the DX Strategy Department under the Corporate Planning Headquarters as an organization consolidating the Information/Communication Systems Department and the DX Promotion Office.

We also established the DX Committee as a company-wide committee to perform cross-organizational coordination and promotion of DX (business transformation utilizing digital technology) for the entire Daigas Group from the perspective of alignment with the business, IT and financial strategies, etc., and we aim to realize the group-wide vision and transform the business.



DX Strategy

Practicing innovative service creation

We will offer various services with higher value by incorporating trends and the diverse needs of customers without delay. This does not only refer to the development of new businesses and new services, but also leads to increasing sophistication in existing businesses, resulting in an increase in customer accounts, business opportunities, and net sales as well as raising business operations to the next level. In rapidly changing times, it is important to “accelerate the trial and error cycle.” We will acquire skills through practice, innovate the system itself and foster customs and mindsets across the entire Group, which enable the Group to move forward with new initiatives aggressively and quickly.

Operational process innovation

We will thoroughly review our internal operations from “the perspective of customers.” We will also focus on merging and abolishing operations as well as standardizing and aggregating different procedural operations among organizations to broadly redesign the entire operational process. Furthermore, we will reduce the workload for remaining operations with digital technologies such as AI and RPA.

Through these transformations, employees in the Group will be able to generate extra power to work on more non-routine and discretionary operations, as well as operations that require higher expertise and judgment, in a comfortable working environment. This will allow employees to devote more energy to providing better value to customers.

Data management evolution

The Group has been leading efforts to utilize data, placing an internal “Business Analysis Center” at its core. In the future, utilizing valuable assets such as data as our strengths is the key to value creation and growth strengths. For example, if we can catch customer’s needs from data, we can offer services optimized for each customer. We will continue to create new value in customer experiences and our supply chain by developing our initiatives in the past and evolving data management further.

Key Initiatives

Transforming value for customers

We are giving a concrete form to what we aim to be in 2030. To achieve this goal, we have started to transform our business activities to keep providing value to customers. Under the key phrase of “All for everyone’s smile,” Osaka Gas Marketing Co., Ltd., which conducts business for residential customers, aims to create a future where not only customers but also business partners and Group employees are smiling. The Group will continue to provide optimized experiences tailored to each customer by taking advantage of digital technologies and transforming services and communication in accordance with customer and societal needs. Helping customers achieve a safe and secure, comfortable and convenient, and energy-saving and eco-friendly lifestyle, we aim to be a “housing and lifestyle partner.”

Transforming employee value through Daigas X (Daigas Transformation)

In FY2023.3, we launched an initiative to evolve how we work and operate, so that we can keep producing a virtuous cycle of employee and company value creation in unprecedented, rapidly changing times.

In FY2024.3, the initiative was named “Daigas X (Daigas Transformation),” and shared with all employees via the intranet along with specific measures and what we aim to be. Daigas X rolls out activities that aim to enable diverse human resources to take on challenges, keep learning, and grow, as well as to let us speedily explore and deepen our understanding of unprecedented changes. Simultaneously, we are creating environments and systems that support the initiative. Each organization considers what they aim to be and what action they take to that end, based on the reality in the organization and on the frontline. In parallel, the company is developing internal mechanisms, such as the introduction of chat tools to stimulate communication, and the expansion of learning opportunities for employees to encourage autonomous career development.*

*Please see □□ P.66 for information on measures for voluntary career development.

■ Offering Information on the Intranet



Building systems and structures that take advantage of Group’s collective strength

Under the DX promotion system built in FY2023.3, we are building group-wide systems and structures from FY2024.3 to accelerate DX promotion, with stronger collaboration with OGIS-RI Co., Ltd. in charge of the Information Solutions Business. Specific initiatives include the launch of “DX Practical Training,” a consulting service that works together with each organization to help resolve their issues. This aims to support Group employees to improve business operations and take on the challenge of transformation. In collaboration with OGIS-RI Co., Ltd., we are also taking advantage of the Group’s collective strength in working on Daigas X and the transformation of customer value in the residential energy business.

Human resources development

To focus on the development of human resources who can integrate business with digital and draw and promote what we aim to be, we are promoting systematic training by job level.

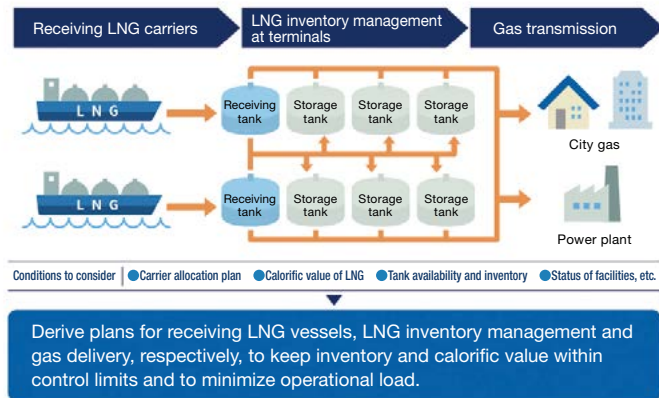
In FY2023.3, we invited external experts for monthly lectures and dialogues for the management, which featured case studies of corporate reforms, trends in the shift of customers’ values, and other topics. The contents were shared with employees as well. We also develop core human resources who take advantage of digital technologies for operational reform and new business planning. After defining the skills necessary for core human resources, we implemented a development program that includes lectures, OJT, and feedback interviews. As of April 2023, a total of approximately 120 employees have undergone the development program. For all employees, we offered e-learning, as well as courses for obtaining qualifications, and enhanced reskilling support. From FY2024.3, our initiatives will target managers as well. We thus aim to build a system where top-down and bottom-up approaches create synergy

■ Development Program by Job Level

| Target | Development program |
|----------------------|---|
| Management | <ul style="list-style-type: none"> Lectures by and dialogues with external experts held about once a month (approx. 20 participants) |
| Managers | <ul style="list-style-type: none"> Launch initiatives in FY2024.3 |
| Core human resources | <ul style="list-style-type: none"> Development program including lectures, OJT, and interviews (targeting approx. 120 employees) |
| All employees | <ul style="list-style-type: none"> E-learning, courses for obtaining qualifications Share lectures for the management Enhance reskilling support |

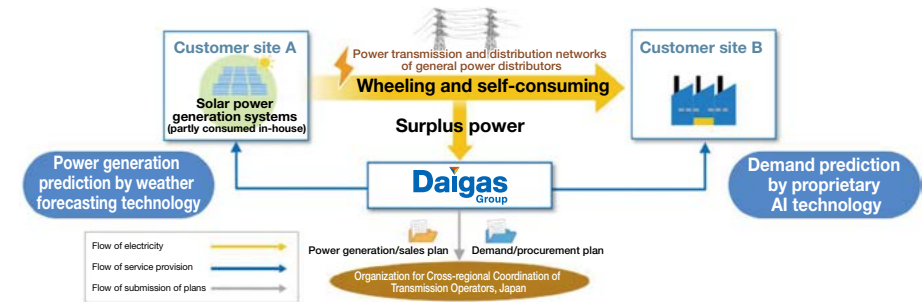
DX in Gas Production Business—Optimization of LNG Tank Operation Planning

Once LNG is delivered to a manufacturing plant, it is stored in tanks and then delivered according to demand, which requires appropriate heating value management and inventory control. The formulation of the tank operation plan requires expertise of skilled personnel since complex equipment configurations, operational constraints, city gas demand and various other factors need to be considered. We are working to optimize tank operation planning, using this expertise and mathematical programming.



AI-Based Self-Wheeling Scheme for Renewable Electricity —Starting supply and demand management service for self-wheeling, using a solar power generation system—

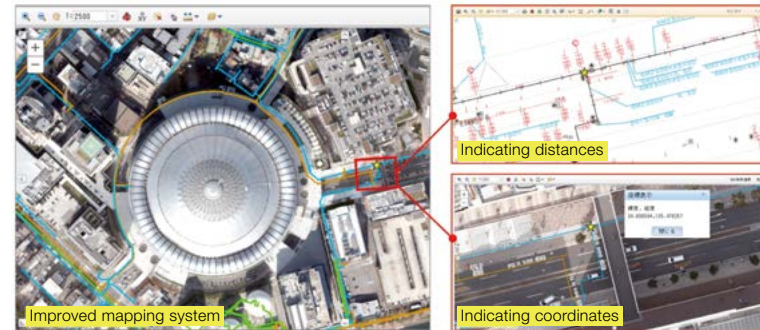
As one of our low-carbon and decarbonization solutions for corporate customers, we have started proposing a new electricity scheme using renewable energy, which is greatly affected by weather conditions, by using the weather forecasting technology and AI developed independently by Osaka Gas for output and demand prediction to improve accuracy.



Digital Utilization in Gas Supply Equipment Management

Since the gas supply business involves a great deal of on-site work, including gas pipe installation, maintenance and management, and safety monitoring, and involves an extremely large number of employees and partner companies, we are promoting the use of digital technology for the purpose of future efficient business operation, improvement of safety quality, and securing of technology and expertise.

We are operating a mapping system that displays and manages information on gas supply equipment on a map, including the location of approximately 60,000 km of gas pipes and the history of past gas works and works accepted from other companies, and using this information as the basis for various operations related to gas supply. By managing absolute coordinates based on latitude and longitude coordinates, we increased the accuracy of information on the location of gas pipes, which was previously handled based on relative distances to buildings and other structures.



Research and Development/Intellectual Property

Principle and Outline

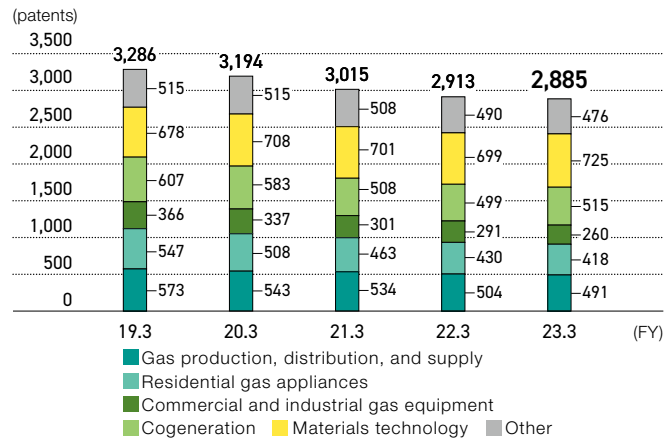
The Daigas Group consider research and development to be one of the most important growth strategies for the Group. In addition to ensuring and improving safety, we are conducting research and development aimed at improving operational efficiency and reducing equipment-related costs through the use of digital technology, improving customer convenience, and enhancing the sophistication of existing services. We are also engaged in research and development for the creation of new businesses and research and development that contributes to the realization of carbon neutrality.

Furthermore, we regard intellectual property rights as an important management resource and are actively working to secure and utilize the rights in conjunction with our business and technology development strategies. We are also actively promoting open innovation activities to accelerate and streamline development and create new technologies and products by actively integrating the Group's proprietary technologies with those of external parties and utilizing them.

Patent Portfolio by Business Type (Group)

Fiscal year ended March 31, 2023

2,885 patents



Reward System for Inventors

Osaka Gas has an invention achievement reward system in which inventors who have made significant contributions to its business are rewarded in order to motivate employees to invent and encourage intellectual property activities.

We disclose the results of the review of achievement rewards on the internal portal site, and respond to inquiries and opinions from employees regarding the results of the review, in an effort to operate the system in a fair and transparent manner.

Open Innovation Activities



Open innovation refers to an efficient approach used to seek solutions outside the company to technology development problems that Osaka Gas is unable to solve independently and to speed up technological development for higher efficiency. Osaka Gas has pioneered this approach since 2009. Our efforts have led to the building and expansion of a network of partnerships (Open Innovation Platform) with universities, public research institutes, small enterprises, large corporations, ventures and overseas companies.

To find outside partners to work with, we have revealed details of our technology to-do list, something we have rarely done in the past, in order to solicit promising technical ideas from outside parties. After we launched full-fledged open innovation activities in FY2010.3, we have achieved many matchmaking opportunities. Some cases have actually led to commercialization and practical applications.

For example, gas pipe patrols using technology that automatically recognizes the part requiring construction with an on-board AI camera, and the use of drone technology in facility inspections are examples of value-added products created by combining our technology with external technologies.

The task ahead is to introduce some of the efficient technologies that we obtained externally, and together with our alliance partners, actively promote the creation of new R&D themes and creation of new businesses through the Open Innovation Platform.

How Open Innovation Works

