SECOND PARTY OPINION

OSAKA GAS CO., LTD.

Daigas Group

GREEN/TRANSITION FINANCE FRAMEWORK

Prepared by: DNV Business Assurance Japan K.K.

Location: Kobe, Japan

Date: 8 May 2024

Ref. Nr.: PRJN-333926-2022-AST-JPN-1_Rev2

This report was updated as Revision 2 in May 2024 through an additional assessment of the "Daigas Group Green/Transition Finance Framework" that was revised to add Transition-Linked Finance and the update of the CTFH, GLP, GBGLs, and GLGLs.
If there is any inconsistency between Japanese (original) and English texts, the Japanese text shall prevail.

Executive Summary

Osaka Gas Co., Ltd. (hereinafter, "Osaka Gas", including the Daigas Group) was established in 1897. Currently, the Daigas Group consists of three major business segments: Domestic Energy business, Overseas Energy business, and Life & Business Solutions business (LBS), mainly in the Kinki region.

The Daigas Group has formulated and published the “Daigas Group Carbon Neutral Vision” and the “Daigas Group Energy Transition 2030” to achieve carbon neutrality by 2050. Aiming to achieve both a stable and secure energy supply and carbon neutrality in energy, the Daigas Group aims to achieve carbon neutrality by 2050 by expanding the use of natural gas, which contributes to reducing CO_2 emissions in the entire society, decarbonizing gaseous energy through the introduction of e-methane[*1] using renewable energy and hydrogen, decarbonizing power sources through the introduction of renewable energy, and providing customers with solutions through these initiatives.

In addition, in the "Daigas Group Medium-Term Management Plan 2026" formulated in 2024, the Daigas Group positions the period covered by this plan (FY2025.3-2028.3) as a period to work to contribute to the transition period and to "embody its aspirations and build a bridge to the future," in which it establishes a foundation for the acceleration of carbon neutrality by 2050, utilizing both carbon neutrality and natural gas, and promotes the efforts towards the goals for FY2031.3 and 2051.3.

In promoting these efforts, Osaka Gas has formulated a "Roadmap to Carbon Neutrality". In order to achieve carbon neutrality, Osaka Gas will promote various research and development activities, demonstrations, and the introduction of technologies and facilities, and will also promote the reduction of CO_2 emissions through the use of low-carbon technologies in the medium term until practical application, and these efforts are in line with the concept of Climate Transition. The "Roadmap to Carbon Neutrality" is consistent with the Japan Gas Association's Carbon Neutral Challenge 2050 Action Plan and with the roadmaps for the gas and electricity sectors developed by Ministry of Economy, Trade and Industry in January 2022 to promote transition finance. In addition, it includes representative green projects as presented in the widely recognised international green finance framework.

Osaka Gas has revised the Daigas Group Green/Transition Finance Framework (hereinafter, the "Framework") to procure investment funds that contribute to the realization of the “Daigas Group Carbon Neutral Vision” and the “Daigas Group Energy Transition 2030” to be carried out in a manner that conform to the additional Transition-Linked Finance and various latest international frameworks updated in 2023.

DNV Business Assurance Japan K.K. (hereinafter, "DNV"), as an external reviewer, evaluated the eligibility of the framework.

Specifically, DNV provided the eligibility evaluation for frameworks against the following handbook, principle and guidelines which are widely recognized:

- **Climate Transition Finance Handbook 2023** (International Capital Market Association, hereinafter CTFH)
- **Basic Guidelines on Climate Transition Finance 2021** (Financial Services Agency, Ministry of Economy, Trade and Industry, Ministry of the Environment, hereinafter, CTFBG)

- **Green Bond Principles 2021** (International Capital Market Association, hereinafter GBP)
- **Green Loan Principles 2023** (Loan Market Association and others, hereinafter GLP)
- **Green Bond Guidelines 2022** (Ministry of the Environment, hereinafter GBGLs)
- **Green Loan Guidelines 2022** (Ministry of the Environment, hereinafter GLGLs)
- **Sustainability-Linked Bond Principles 2023** (International Capital Market Association, hereinafter SLBP)
- **Sustainability-Linked Bond Guidelines 2022** (Ministry of the Environment, hereinafter SLBGLs)
- **Sustainability-Linked Loan Principles 2023** (Loan Market Association and others, hereinafter SLLP)
- **Sustainability-Linked Loan Guidelines 2022** (Ministry of the Environment, hereinafter SLLGLs)

The following is a summary of the assessment results for each common element indicated in the above framework.

<CTF Eligibility assessment results>

CTF-1. Fundraiser's Climate Transition Strategy and Governance:

The transition strategy of the issuer Osaka Gas sets carbon neutrality by 2050 as a long-term goal consistent with the goals of the Paris Agreement set forth in the "Daigas Group Carbon Neutral Vision". This is in line with the pathway of the Japan Gas Association's Carbon Neutral Challenge 2050 Action Plan and the Ministry of Economy, Trade and Industry's roadmap for the gas and electricity sectors. Osaka Gas has set short- and medium-term goals towards the realization of the long-term goal. In addition, Osaka Gas's Transition Strategy will contribute to the realization of supply-side and demand-side carbon neutrality as a key initiative presented in various plans and strategies for decarbonization in Japan. In terms of governance and disclosure related to implementation of the finance, an internal structure and information disclosure process based on TCFD[*1] have been established. Furthermore, the fact that the study is not limited to the domestic market but also includes overseas in terms of technological innovation and the establishment of new supply chains etc. shows consideration for just transition, ensuring that substantial benefits are widely shared. These are disclosed in the Framework and other documents, and meet the disclosure elements of CTF-1. *1: Task Force on Climate-related Financial Disclosures

CTF-2. Business model environmental materiality:

The environmental materiality of Osaka Gas's business model is closely related to three initiatives related to the materiality identified as "climate change" under the Osaka Gas Charter of Business Conduct, "Contributing to the Sustainability of the Environment and Society": 1) achieving carbon neutrality, 2) the provision of clean energy and the expansion of the renewable energy value chain, and 3) the advanced use of natural gas and the promotion of environmental products.

Materiality is identified by using the GRI Standards[*1], ISO 26000, TCFD, etc., and scoring the materiality of the two aspects of social and environmental impact and the future financial impact of the Group, of which "climate change" is shown to be if high materiality. In addition, efforts to address environmental materiality include not only the reduction of CO_2 emissions from the company's own business activities, but also activities that contribute to Scope 3 and avoided emissions of other companies. In addition, the contribution to the SDGs (see below) is also taken into account. These are disclosed in the Framework and other documents, and meet the disclosure elements of CTF-2.

*1: Global Reporting Initiative (an international standard providing ESG-related reporting, management and analysis tools)

CTF-3. Climate transition strategy to be 'science-based' including targets and pathways:

Osaka Gas' Transition Strategy is defined by science-based targets and pathways. Specifically, it is consistent with the Carbon Neutral Challenge 2050 Action Plan of the Japan Gas Association and roadmaps for the gas and power sectors established by the Ministry of Economy, Trade and Industry (METI) as described in CTF-1, and in addition to reducing CO_2 emissions from the company's own activities, long-term and short- and medium-term goals that take into account Scope 3 and avoided emissions are indexed and quantified, and the process of achieving these goals is clarified. The consideration of utilizing CO_2 capture technology is also indicated. These are disclosed within the Framework, other documents and second party opinion, and meet the disclosure elements of CTF-3.

CTF-4. Implementation transparency:

Osaka Gas plans to invest a cumulative total of 2 trillion yen from FY2018.3-2031.3 in quality improvement, growth and M&A, including the implementation of its transition strategy. Osaka Gas plans to make carbon neutral investments of around 220 billion yen in the cumulative total for the period FY2025.3-2031.3, and in the three-year period FY2025.3-2027.3, it plans to invest approximately 100 billion yen in carbon neutrality areas and approximately 460 billion yen in priority growth areas such as thermal power sources, shale gas development, life and business solutions business, etc., which include projects implemented with green/transition finance. DNV has confirmed that the overall and individual investment plans to achieve the carbon neutral vision in the future will be implemented in accordance with the appropriate timeline, based on the internal management system and processes, taking into account CTF-1 to CTF-3, for the investments required to implement the transition strategy. Furthermore, Osaka Gas has been trying since FY2022.3 to understand the carbon impact of projects that have already invested by utilizing internal carbon prices, and has also been utilizing since FY2024.3 as a decision-making tool for new investment decisions in business areas with a large carbon impact. These are disclosed in the Framework and other documents and this second party opinion and meet the disclosure elements of CTF-4.

<GBP/GLP Eligibility assessment results>

GBP/GLP-1. Use of Proceeds:

Osaka Gas defines the eligible criteria for the use of proceeds as projects (green/transition projects) that contribute directly or indirectly to the realization of transition strategies and goals. Specifically, the eligible criteria are indicated by the eligible project categories classified into the initiatives 1) to 3) shown in Table-I, and the proceeds will be allocated to finance or refinance existing expenditures for one or more research and development, business development, construction, operation, refurbishment and other related expenditures. DNV has confirmed that these green/transition projects are consistent with the elements of CTF-1 to 4. Transition projects have been evaluated by Osaka Gas as having a clear environmental benefit on the transition strategy and are expected to contribute directly and indirectly to the SDGs. These processes are in line with GBP-1.

Table-I Osaka Gas Green/Transition Finance Eligibility Criteria and Project Overview
(Please see text for details)

Eligible Criteria			Eligible Criteria & Project Overview
1)	Decarbonization of gas energy	Hydrogen utilization	- Methanation, direct use (chemical looping combustion technology), etc.
		Biogas, biomethane	- On-site utilization of biogas and biomethane in domestic/global scale
2)	Decarbonization of power generation	Renewable power generation	- Solar power plants, onshore wind farm, offshore wind farm, biomass power plants, etc.
		Thermal power generation	- Use of carbon neutral fuels such as synthetic methane, hydrogen and ammonia, CCUS (Carbon Capture, Utilization and Storage), etc.
3)	Low-carbonization	Fuel Cell	- Enhancing efficiency and downsizing, etc.
		Advanced utilization of natural gas and CHP	- Support for converting fuel from oil and coal to natural gas - Demonstration of building micro grid - Use of carbon neutral LNG
		Advanced energy use	- VPP, smart energy systems, EVs, etc.
		Other (Reduction of CO_2 emission associated with own activities)	- Cryogenic power generation in the city gas production process, Cryogenic power generation facilities, energy efficiency renovation work of buildings, etc.

GBP/GLP-2. Process for Project Evaluation and Selection:

Osaka Gas will confirm that the transition project meets the GBP-1 eligibility project categories, and that potentially negative environmental and social considerations are taken into account, and the procedures such as facility certification, permits, and environmental assessments are appropriate in the region where the project is to be implemented. Specifically, eligible projects are made list by the Finance Department and finalized by the Finance Director after consultation with the Business Unit and Planning Department. These processes are in line with GBP-2.

GBP/GLP-3. Management of Proceeds:

The proceeds are managed by the Finance Department on an annual, project-by-project basis, using an internal system and dedicated ledgers. The proceeds are

managed in cash or cash equivalents in an amount equal to the unallocated proceeds until the full amount of the proceeds has been allocated.

GBP/GLP-4. Reporting:

Until the full amount of the proceeds is allocated to eligible projects, Osaka Gas will disclose the status of the allocation (allocated/unallocated amount, new/refinanced) on the Osaka Gas website. In addition, the overview of the projects that have been allocated and the environmental benefits will be disclosed on the Osaka Gas website to the extent practicable (for projects under construction, the progress and expected environmental benefits will be included). Furthermore, any changes to the transition strategy or pathway, or significant changes to the allocation plan or actual results will be reported in a timely manner or in reporting.

<SLBP/SLLP Eligibility assessment results>

SLBP/SLLP-1 to 5 are findings and opinions of DNV against the five requirements of SLBP, SLLP, SLBGLs, and SLLGLs for sustainable finance (Transition-Linked Finance) with general corporate purpose.

SLBP/SLLP-1. Selection of Key Performance Indicators (KPIs):

The KPIs for transitions defined by Osaka Gas (CO_2 emissions in the domestic supply chain of the Daigas Group (Scope 1, 2, and 3)) shown in Table-II are important indicators in achieving zero emissions by 2050, which is promoted as an innovative energy and service company. DNV has concluded that the selection of KPIs followed a rational process and that the KPIs are clearly defined, measurable, and verifiable, and are robust and reliable in accordance with the SLBP/SLLP.

SLBP/SLLP-2. Calibration of Sustainability Performance Targets (SPTs):

The SPTs of Osaka Gas shown in Table-II (5 million tonnes reduction in CO_2 emissions in the Daigas Group's domestic supply chain in FY2031.3 (compared to FY2018.3)) is meaningful and closely linked to Osaka Gas' broader sustainability (transitions) and business strategies and shows significant improvements according to a pre-defined timeline.

In contrast to the Ministry of Economy, Trade and Industry's Transition Roadmap in Gas Sector, which depicts a pathway where the gas industry will see an increase in the demand for natural gas as a result of society-wide fuel conversion, which will increase gas companies' CO_2 emissions (Scope 3) in the short term, Osaka Gas has set a target to reduce the absolute value of the domestic supply chain CO_2 emissions (Scope 1, 2, and 3) for 5 million tonnes by 2030, and the decarbonization awaiting the establishment of innovative technologies would be difficult to achieve with conventional approaches, due to the uncertainty of technological establishment and the significant costs that would be incurred in the transition to decarbonization even if it were achieved. Therefore, DNV has concluded that it is ambitious. DNV has also confirmed that the SPT level is broadly in line with the linear interpolation level from the baseline FY2018.3 results to 2050 carbon neutrality, taking into account the equivalent increase in domestic CO_2 emissions of the Daigas Group due to these efforts to avoid emissions.

DNV has confirmed that Osaka Gas decided not to set annual SPTs, but to promote medium- and long-term initiatives to achieve the FY2031.3 target as CO_2 emissions (Scope 1, 2, and 3) may fluctuate from year to year due to the significant influence of domestic energy demand and the status of individual projects, and that progress

towards this target will be verified annually by an external organization. Similarly, DNV has confirmed that milestone SPTs may be set separately from these SPTs, taking into account the financing period etc., and that in such cases they will be disclosed in the bond disclosure documents, the loan agreement documents, etc. each time of the implementation of finance.
Based on the respective documents provided by Osaka Gas, DNV has concluded that the SPTs were realistic, the plan was feasible, and the SPT targets outlined in the Framework were likely to be met.

SLBP/SLLP-3. Finance Characteristics:

The transition-linked finance with general corporate purpose implemented under the Framework will have financial and structural characteristics that change in line with the achievement of SPTs. Osaka Gas has an internal procedure to ensure that the trigger events and their scope of impact, with specific SPT measurement timing and performance requirements, are linked to the achievement of targets and changes in financial and structural characteristics each time of the implementation of finance. The details, including conditions, will be disclosed in the bond disclosure documents, the loan agreement documents, etc.

SLBP/SLLP-4. Reporting:

The progress of the SPTs against the KPIs required by the SLBP/SLLP will be disclosed on an annual basis on the website.

SLBP/SLLP-5. Verification:

Osaka Gas plans to have annual verifications by an external evaluation body etc. on the progress of the SPTs against the KPIs.

Table-Ⅱ Osaka Gas' KPIs and SPTs for green/transition finance

KPI	**CO_2 emissions in the Daigas Group's domestic supply chain (Scope 1, 2, and 3)**
Definition of KPI	Total CO_2 emissions in Scope 1, 2, and 3 calculated in accordance with the GHG Protocol, covering the Daigas Group's domestic supply chain
SPT	**Reduce CO_2 emissions in the Daigas Group's domestic supply chain by 5 million tonnes in FY2031.3 (compared to FY2018.3)**
Definition of SPT	Difference between the Daigas Group's domestic supply chain (Scope 1, 2, and 3) CO_2 emissions of 32.01 million tonnes in FY2018.3 and the Daigas Group's total domestic supply chain (Scope 1, 2, and 3) CO_2 emissions in FY2031.3

Based on an assessment of the framework and other relevant documents and information provided by Osaka Gas, DNV has confirmed that the Framework established by Osaka Gas meets the criteria required by the relevant framework CTFH, CTFBG, GBP, GLP, GBGLs, GLGLs, SLBP/SLBGLs, and SLLP/SLLGLs and is eligible. It was also confirmed that the transition finance to be implemented this time would be appropriately planned and implemented in accordance with the Framework.

Contents

Revision history

Revision number	Date of issue	Remarks
0	10 February 2022	Initial The initial version was prepared in the "Climate Transition Finance Model Project in FY2022.3 (Investigation of ideal way of Transition Finance)," which is a commissioned project by the Ministry of Economy, Trade and Industry.
1	1 August 2022	This version was updated as "Framework Master SPO," setting apart certain parts regarding eligibility assessment on the "44th Transition Bond" (bond for May 2022) stated in the initial version (the result of eligibility assessment on the framework remains unchanged).
2	8 May 2024	This version was updated with the addition of Transition-Linked Finance to the existing framework and the assessment against the revised existing framework, following the update of the CTFH, GLP, GBGLs, and GLGLs.

Disclaimer

Our assessment relies on the premise that the data and information provided by Issuer to us as part of our review procedures have been provided in good faith. Because of the selected nature (sampling) and other inherent limitation of both procedures and systems of internal control, there remains the unavoidable risk that errors or irregularities, possibly significant, may not have been detected. Limited depth of evidence gathering including inquiry and analytical procedures and limited sampling at lower levels in the organization were applied as per Scope of work. DNV expressly disclaims any liability or co-responsibility for any decision a person or an entity may make based on this Statement.

Statement of Competence and Independence

DNV applies its own management standards and compliance policies for quality control, in accordance with ISO/IEC 17021:2011 - Conformity Assessment Requirements for bodies providing audit and certification of management systems, and accordingly maintains a comprehensive system of quality control, including documented policies and procedures regarding compliance with ethical requirements, professional standards and applicable legal and regulatory requirements. We have complied with the DNV Code of Conduct1 during the assessment and maintain independence where required by relevant ethical requirements. This engagement work was carried out by an independent team of sustainability assurance professionals. DNV was not involved in the preparation of statements or data included in the Framework except for this Statement. DNV maintains complete impartiality toward stakeholders interviewed during the assessment process.

[1] DNV Code of Conduct is available from DNV website (www.DNV.com)

I. Introduction

i. About the Fundraiser

Osaka Gas Co., Ltd. (hereinafter, "Osaka Gas," including the Daigas Group) was established in 1897. Currently, the Daigas Group consists of three major business segments: Domestic Energy business, International Energy business, and Life & Business Solutions business (LBS), mainly in the Kinki region (west Japan, around Osaka area).

Domestic Energy Business: Gas	Production, supply and sales of city gas, sales of gas appliances, gas piping work, LNG sales, LPG sales, industrial gas sales
: Electricity	Power generation and sales of electricity
International Energy Business	**:** Development and investment related to natural gas and oil, energy supply, LNG transportation
Life & Business Solutions Business	**:** Development and leasing of real estate, information processing services, sales of fine materials and carbon products

ii. Fundraiser's Initiatives for ESG/SDGs

The Daigas Group aims to be a corporate group that powers "continuous advancement" in consumer life and business, and considers the creation of "Value for Customers" first and foremost, and the creation of "Value for Society," "Value for Shareholders," and "Value for Employees" to be the guiding principles of its business activities to fulfill its social responsibility. In addition, in the "Medium-Term Management Plan 2026," the Daigas Group has set the following three commitments as key strategies: Co-create value for a sustainable future (achieving carbon neutrality in energy, improving the resilience of customers and society, co-creating advanced and diverse solutions), Support employees to shine in their roles, and Evolve business foundation as a corporate group that "secure peace of mind today, build sustainable lifestyles for tomorrow" to conduct ESG-conscious management. These initiatives are linked to the materiality issues shown in Table-1, and the Daigas Group also aims to make a broad contribution to the achievement of the Sustainable Development Goals (SDGs) set by the United Nations.
Of these, the important issue (materiality) primarily relevant to Transition Finance is climate change (Value for a Sustainable Future: Achieving a Low Carbon/Carbon Neutral Society), as set out in the Daigas Group Charter of Business Conduct: "Contributing to the Sustainability of the Environment and Society."

Table-1: Relationship between the Daigas Group Charter of Business Conduct, Materiality and Creating Value for a Sustainable Future and the SDGs

Charter of Business Conduct		Important issues (Materiality)	Value for a Sustainable Future	Contribution to SDGs
I	Creating value for customers	Maintain and expand customer base	Establishing lifestyles and businesses adjusted to the new normal	
		Improvement of customer satisfaction and quality of services		
		Customer health and safety	Enhancing resilience of customers and society	
		Stable supply of services		
II	Contributing to the sustainability of the environment and society	Climate change	Achieving a low carbon/carbon neutral society	
III	Engaging with and contributing to society	Coexistence with local community	Building foundations that support the realization of value for a sustainable future	
IV	Respecting human rights	Supply chain management		
V	Complying with laws and regulations	Compliance		
VI	Providing work environment that supports employees' personal growth	Employee Engagement		
		Development of employee skills		
		Diversity and inclusion		

iii. Fundraiser's Environmental Initiatives

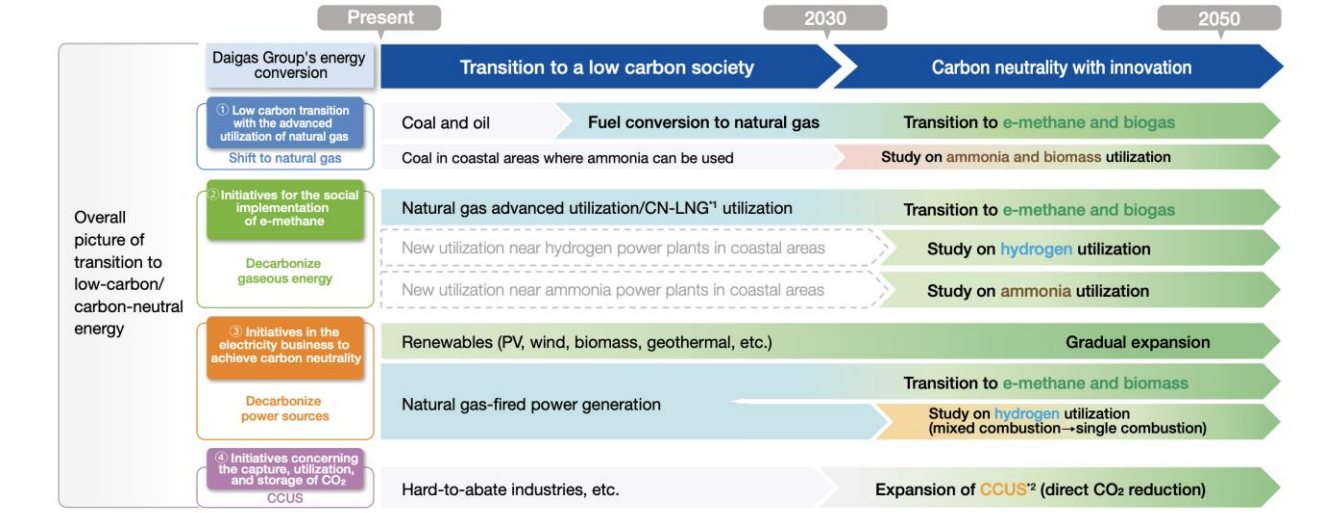
The Daigas Group has formulated the "Daigas Group Carbon Neutral Vision" in 2021 to demonstrate its efforts to achieve carbon neutrality by 2050. Under the "Daigas Group Carbon Neutral Vision", the Daigas Group, as an innovative energy services company, will provide solutions for the realization of a sustainable society by decarbonizing the raw materials for city gas and introducing renewable energy.

In addition, in the "Daigas Group Medium-Term Management Plan 2026" formulated in 2023, the period covered by this plan (FY2025.3-2027.3) is positioned as a "Connecting Ambitious Dreams" period to work on contributing to the transition period and to build a foundation for the acceleration of carbon neutrality in 2030 by both carbon neutrality and natural gas, promoting initiatives towards the goals for FY2031.3 and 2051.3.

As technological innovation and the construction of new supply chains to achieve carbon neutrality will take a lot of time and incur social costs, it is important to ensure a reliable low-carbonization until then. It is also important to select the most appropriate energy and supply system according to the customer's energy

use characteristics, such as the balance between electricity and heat use, location, etc. (see Figure-1)

These visions and plans approach not only the CO_2 emission reduction of Scope 1 to 3 towards carbon neutrality in the Daigas Group's businesses, but also avoided emissions contributing to the CO_2 emission reduction for society as a



whole (see Figure-2).

Figure-1 Daigas Group's CO_2 reduction roadmap and specific initiatives

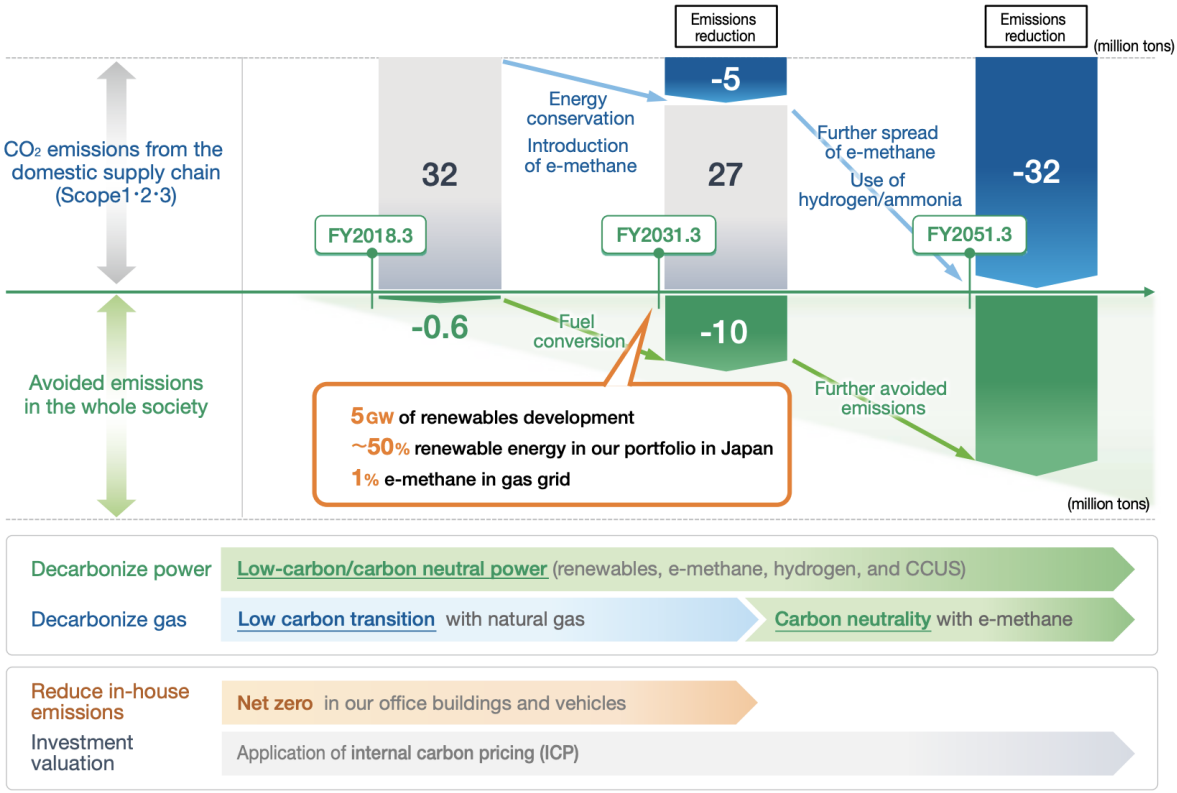


Figure-2 Daigas Group's CO_2 reduction roadmap and specific initiatives

Table-2 Daigas Group GHG emission results (Scope 1 to 3)

Source: Daigas Group website Environmental performance data (emissions to the atmosphere)

Target Scope	Results for FY2021.3	Results for FY2022.3	Results for FY2023.3	
Scope1	5,215,428 t-CO_2e	4,526,038 t-CO_2e	4,405,987 t-CO_2e	17%
Scope2	297,386 t-CO_2e	334,433 t-CO_2e	323,790 t-CO_2e	1%
Scope3 (product use)	22,270,832 t-CO_2e (17,142,830 t-CO_2e)	21,924,919 t-CO2e (17,089,540 t-CO_2e)	21,246,842 t-CO_2e (16,541,750 t-CO_2e)	82%
Total	27,783,646 t-CO_2e	26,785,390 t-CO_2e	25,976,619 t-CO_2e	(100%)

<Osaka Gas' approach to Scope 1 to 3 emissions>

Scope 1: Direct emissions from own operations (gas production, power generation, etc.) (e.g., combustion of gas for power generation)

Scope 2: Indirect emissions from own operations (gas production, power generation, etc.) (use of electricity supplied by other companies, etc.)

Scope 3: Indirect emissions from value chains other than Scope 1 and Scope 2 (e.g., fuel procurement, combustion of gas at destination)

In the "Daigas Group Medium-Term Business Plan 2026," the following targets were set for FY2027.3 as milestones towards carbon neutrality in energy (see Figure-3).

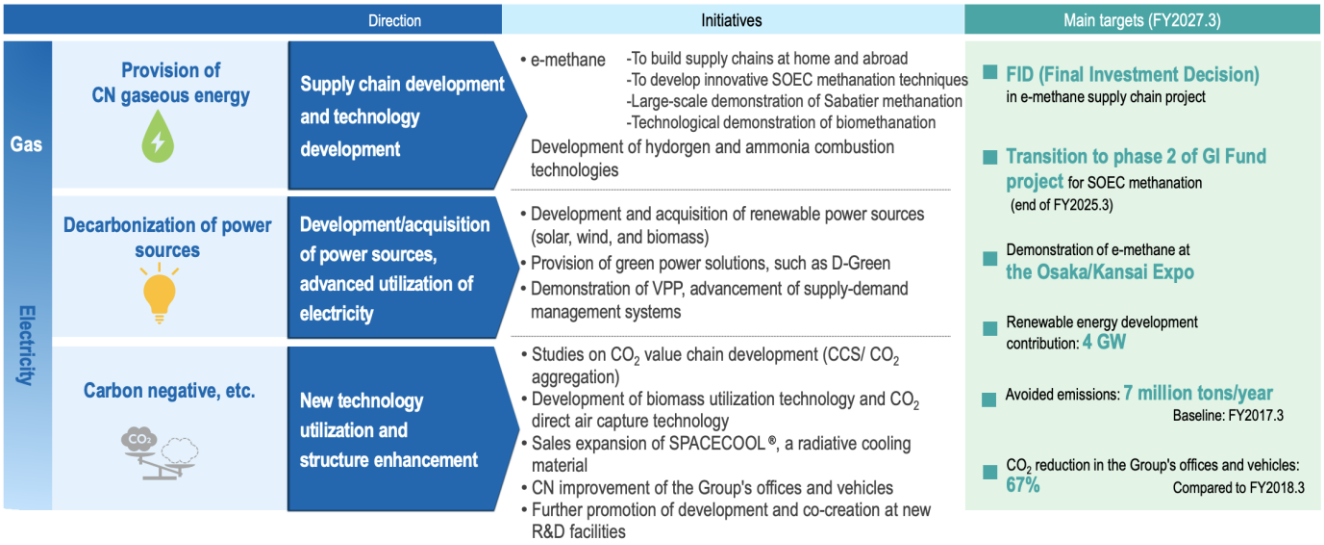


Figure-3 Milestones towards carbon neutrality in energy

Table-3 Osaka Gas's Participation in External Initiatives and Efforts

External initiatives		Osaka Gas' Efforts
UN Global Compact	WE SUPPORT UN GLOBAL COMPACT	In 2007, Osaka Gas became the first Japanese public interest company to join the UN Global Compact. Supporting the principles that we should work towards as a good member of the international community
Sustainable Development Goals (SDGs)	SUSTAINABLE DEVELOPMENT GOALS	(See Table-1) Declaration of proactive efforts to contribute to the achievement of the SDGs by promoting business activities aimed at realizing "Value for a Sustainable Future".
Task Force on Climate-related Financial Disclosures (TCFD)	TCFD TASK FORCE ON CLIMATE-RELATED FINANCIAL DISCLOSURES	Osaka Gas endorses the TCFD recommendations and will use them as a benchmark for verifying its response to climate change. Osaka Gas is also a member of the TCFD Consortium, which is discussing efforts to disclose information on climate change response in line with the TCFD recommendations.
Challenge Zero	Challenge Zero	Osaka Gas has decided to support "Challenge Zero (Challenge Net Zero Carbon Innovation)" which is a new initiative of Nippon Keidanren (Japan Business Federation) that strongly promotes and encourages the innovation actions that companies and organizations are taking on, both domestically and internationally, with the aim of realizing a "decarbonized society," which is the long-term goal of the Paris Agreement, the international framework for combating climate change. Osaka gas also participated in the "Companies Taking on the Zero-Emission Challenge" in 2021.

iv. About the Green/Transition Finance Framework

Upon promoting the environmental initiatives, Osaka Gas has established the Osaka Gas Green/Transition Finance Framework (hereinafter, the "Framework") in order to raise part of the funds necessary to realize the Carbon Neutral Challenge 2050[*1] set out by the Japan Gas Association (JGA) and the sector-specific technology roadmap[*2*3] set out by the Ministry of Economy, Trade and Industry (METI) through bonds or loans as transition finance with use of proceeds or transition-linked finance with general corporate purpose that is linked to the achievement status of KPIs/SPTs and financial and structural incentives or penalties, without specifying the use of proceeds, have a dialogue with investors and a wide range of market participants, and implement in a manner that conforms to the internationally recognized frameworks.

The framework which this Framework specifically refers to is described in (3) of Section II below.

*1: Japan Gas Association: Carbon Neutral Challenge 2050 on 24 November 2020 and Carbon Neutral Challenge 2050 Action Plan on 10 June 2021
*2: Ministry of Economy, Trade and Industry (METI): Technology Roadmap for "Transition Finance" in Gas Sector on February 2022
*3: Agency for Natural Resources and Energy, Electric Infrastructure Division: Transition Roadmap for Power Sector on February 2022

v. Fundraiser's Transition Strategy for Decarbonization

(1) Strategies by sector (industry) at the international/national/regional level

Figure-4 shows the scenarios for gas carbon neutrality set out in the "Carbon Neutral Challenge 2050" developed by the Japan Gas Association in November 2020. Figure-5 shows the technology roadmap by sector (gas) of the Ministry of Economy, Trade and Industry (METI).

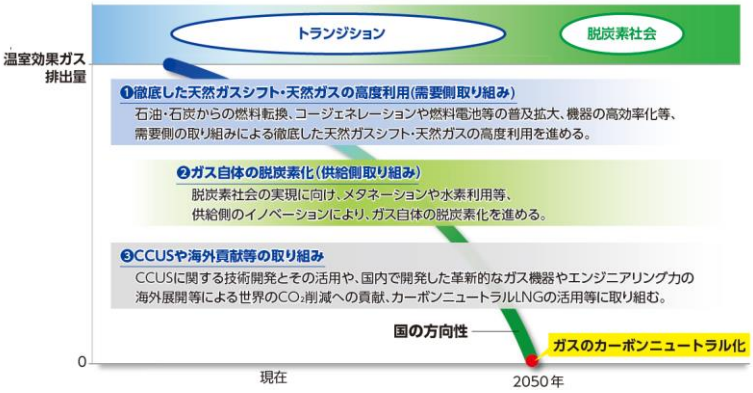


Figure-4 Scenarios for achieving gas carbon neutral (Japan Gas Association)

① **Shift to natural gas and advanced use of natural gas (demand side)**
- Conversion from coal and oil to natural gas
- Introducing cogeneration, fuel cell
- Introducing high efficient equipment

② **Decarbonization of Gas (supply side)**
- Synthetic methane and hydrogen utlilization
- Decarbonization of gas by innovation by supplier

③ **CCUS and overseas contribution**
- R&D and installation of CCUS.
- Expand innovative gas technology and engineering to global, use of carbon neutral LNG

The Japan Gas Association's scenario (Figure-4)/the METI's technology roadmap by sector (gas) (Figure-5.1 1/3) and Osaka Gas's roadmap (Figure-1) are well aligned, and it is designed to reduce CO_2 emissions throughout the entire gas supply chain, including demand-side, supply-side, CCUS and overseas contribution initiatives.

Fuel conversion from coal and oil to natural gas is one of the main ways avoiding CO_2 emissions in society as a whole in the gas sector, and is widely recognised as a typical transition project. According to METI's technology roadmap for the gas sector (Figure-5.1 2/3), the progress of fuel conversion in society as a whole will lead to an increase in gas demand (consumption and sales) for gas utilities, which in turn will lead to an increase in supply-side (gas utility) CO_2 emissions (increase in Scope 3) in the short to medium term.

In other words, while Osaka Gas is working to reduce CO_2 emissions in its gas business through the introduction of high-efficiency gas appliances and other measures (Figure-5.1 3/3), its Scope 3 CO_2 emissions are expected to increase due to the relatively large amount of natural gas supplied for fuel conversion. Osaka Gas is committed to reduce CO_2 emissions (avoid emissions) for society as a whole through the supply of gas for fuel conversion, etc., and the voluntary reduction of CO_2 emissions through the introduction of high-efficiency gas appliances, etc. (the introduction of technologies and equipment that will contribute to the reduction of the supply of low-carbon gas in the future) will also contribute to the reduction of Scope 3. In addition, fuel conversion is not only being implemented in the Kansai region, but also expanded into wider areas of the country and in Asia.

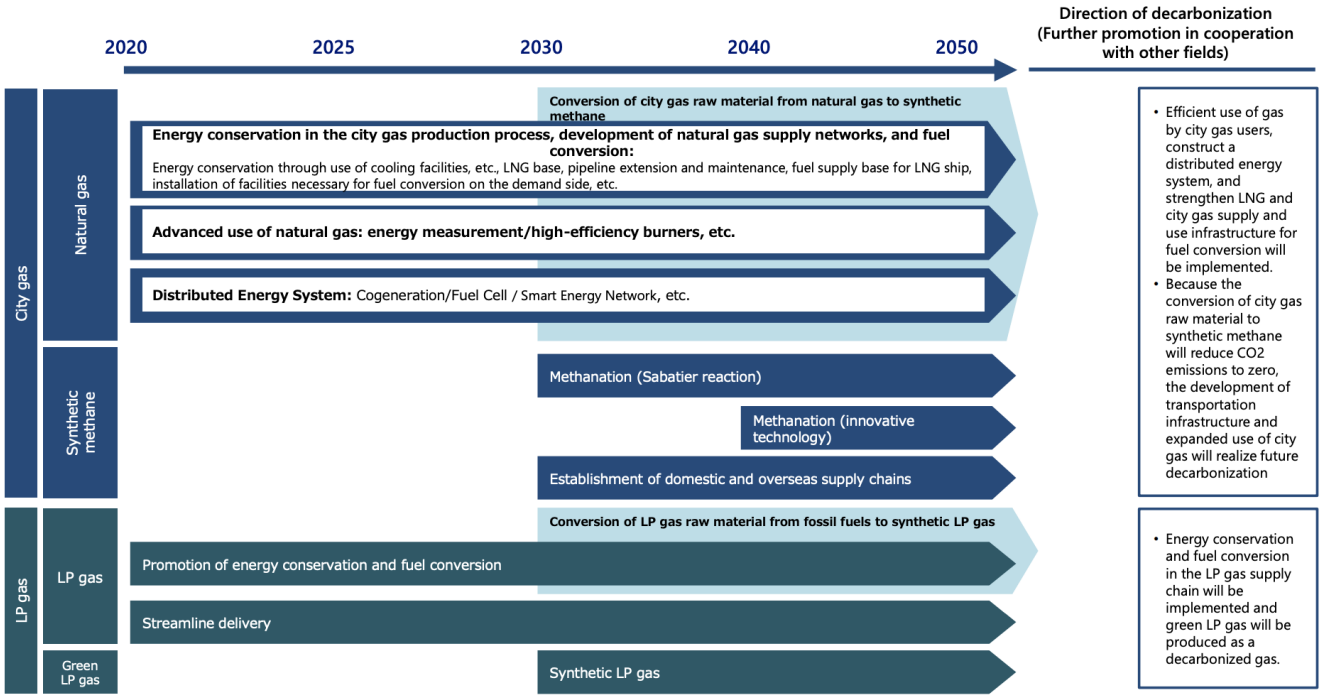
Furthermore, in addition to the gas business, Osaka Gas is actively involved in the electric power business as an innovative energy and service company. Osaka Gas recognizes the importance of building a system for supplying electricity from renewable energy sources until the technology necessary to achieve a decarbonized society is established, and is promoting the introduction of renewable energy sources, which is the green power infrastructure necessary for the future supply of green gas body energy through methanation, etc. (See Table-5 below and Figure-4.2 for details).

Osaka Gas's policy on renewable energy in its roadmap, as well as its contribution to the dissemination of renewable energy (4 million kW in FY2027.3 and 5 million kW in FY2031.3) and the renewable energy ratio (approximately 50% in FY2031.3[*] of the domestic electricity business provided by Osaka Gas) as set out in its FY2027.3 and 2031.3 targets, are considered to be closely related to the renewable energy of Ministry of Economy, Trade and Industry's transition roadmap for the electricity sector (Figure-5.2). These are being addressed in conjunction with initiatives to utilize power system storage batteries and VPPs, as well as the low- and decarbonization of thermal power plants, which are needed as a regulating force.

In order to accelerate the realization of a decarbonized society, Osaka Gas is accelerating its initiatives to decarbonize gaseous energy by introducing e-methane, which is synthesized from hydrogen produced by renewable energy sources and CO_2 (final investment decision in supply chain projects in FY2027.3, 1% of gas sales volume in FY2031.3), in addition to its renewable energy initiatives. The establishment of an overseas supply chain as well as domestic supply chain is also considered to be one of the most promising options for the full-scale introduction of e-methane from FY2031.3. Aiming for stable procurement in the future, Osaka Gas is narrowing down suitable production sites by focusing on North America, South America, Australia, the Middle East, and Southeast Asia, where existing natural gas and LNG facilities are available, and is also aiming to use and spread e-methane in Asia as a new destination (see Figure-6). Furthermore, e-methane is produced and supplied through methanation by reusing CO_2 emitted into the atmosphere (CCU[*1]/see Figure-1 Daigas Group's CO_2 reduction roadmap and specific initiatives). In addition, with a view to establishing a CO_2 value chain, joint studies on the capture, transport, and utilization of CO_2 emitted from domestic plants in the steel, cement, and chemical industries, where CO_2 emissions are difficult to reduce, and storage (CCS[*2]/see Figure-1 Daigas Group's CO_2 reduction roadmap and specific initiatives) in Japan and abroad.

*1: CCU: Carbon dioxide Capture and Utilization
*2: CCS: Carbon dioxide Capture and Storage

3. Technology Pathways to Decarbonization | ②Technology Roadmap (City gas and LP gas)



3. Technology Pathways to Decarbonization | ②Technology Roadmap (Common Technologies)

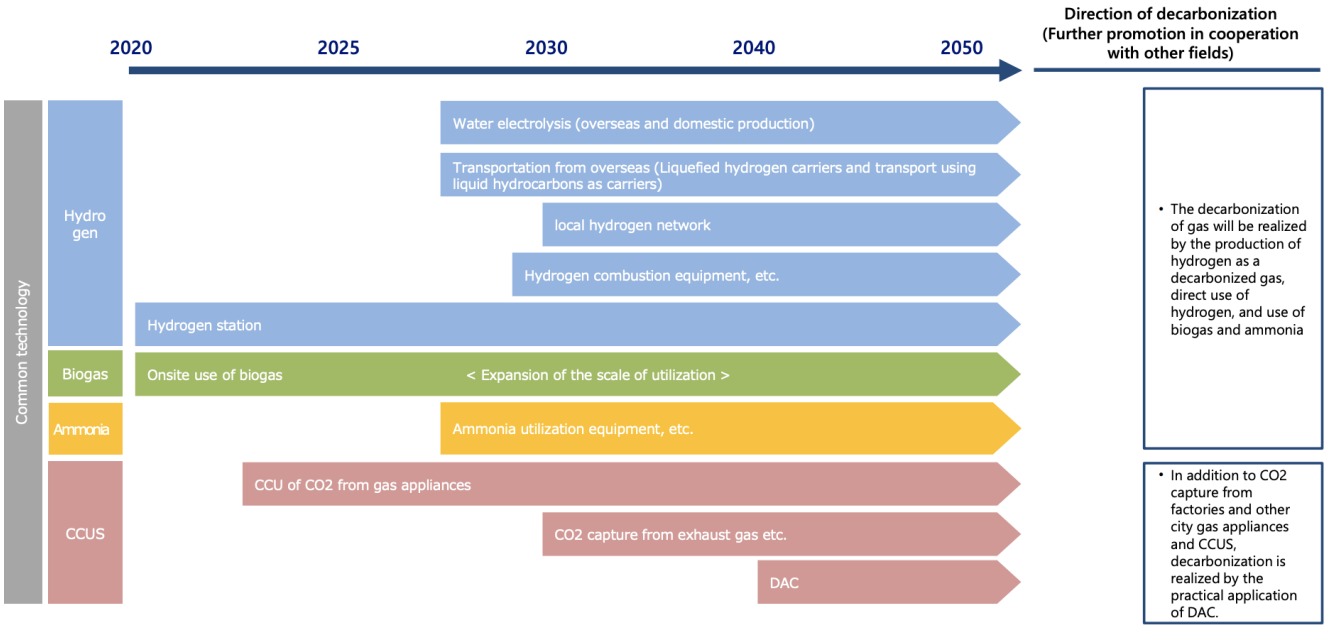


Figure-5.1 (1/3) Ministry of Economy, Trade and Industry Technology roadmap in gas sector (city gas, LP gas, common technologies)
Technology Roadmap for "Transition Finance" in Gas Sector on February 2022, Ministry of Economy, Trade and Industry

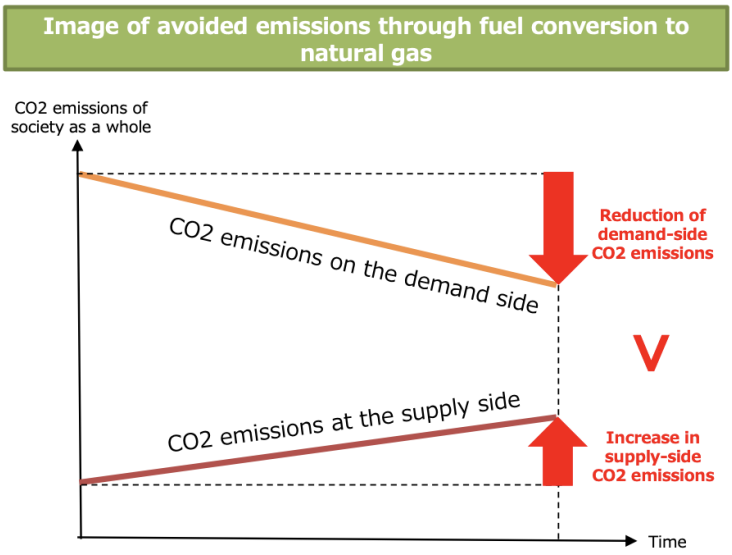


Figure-5.1 (2/3) Ministry of Economy, Trade and Industry Technology Roadmap for "Transition Finance" in Gas Sector (avoided CO_2 emission on demand-side)

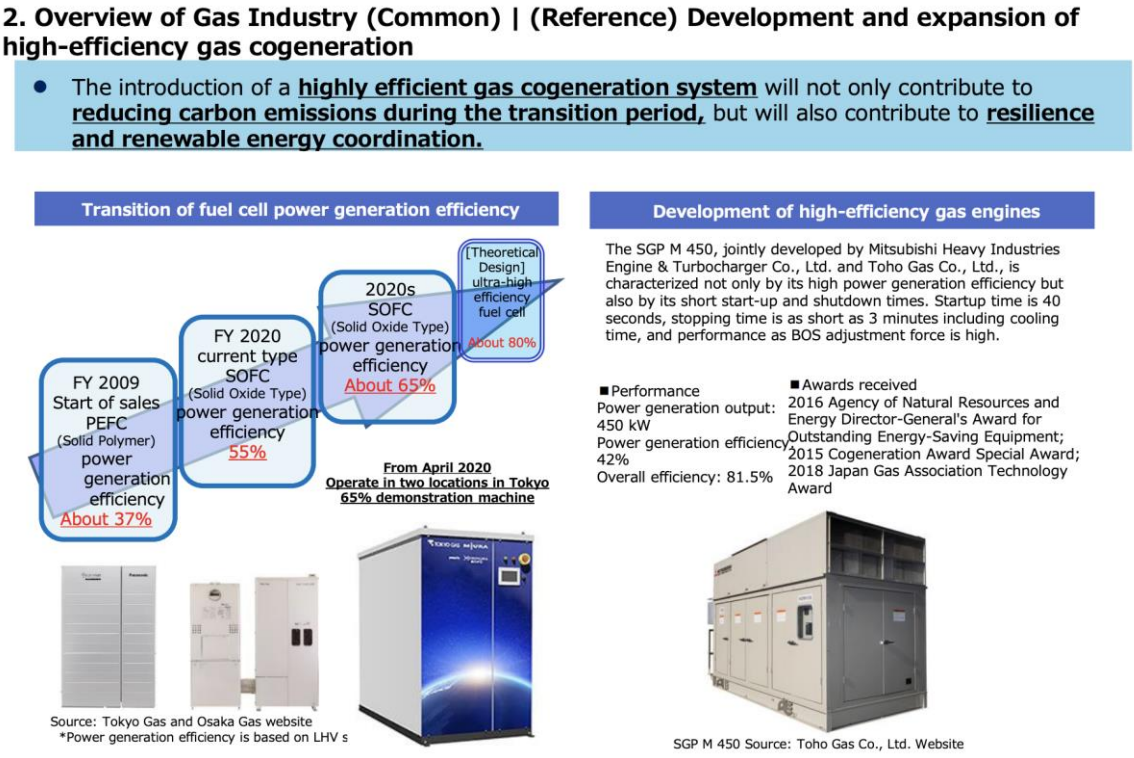
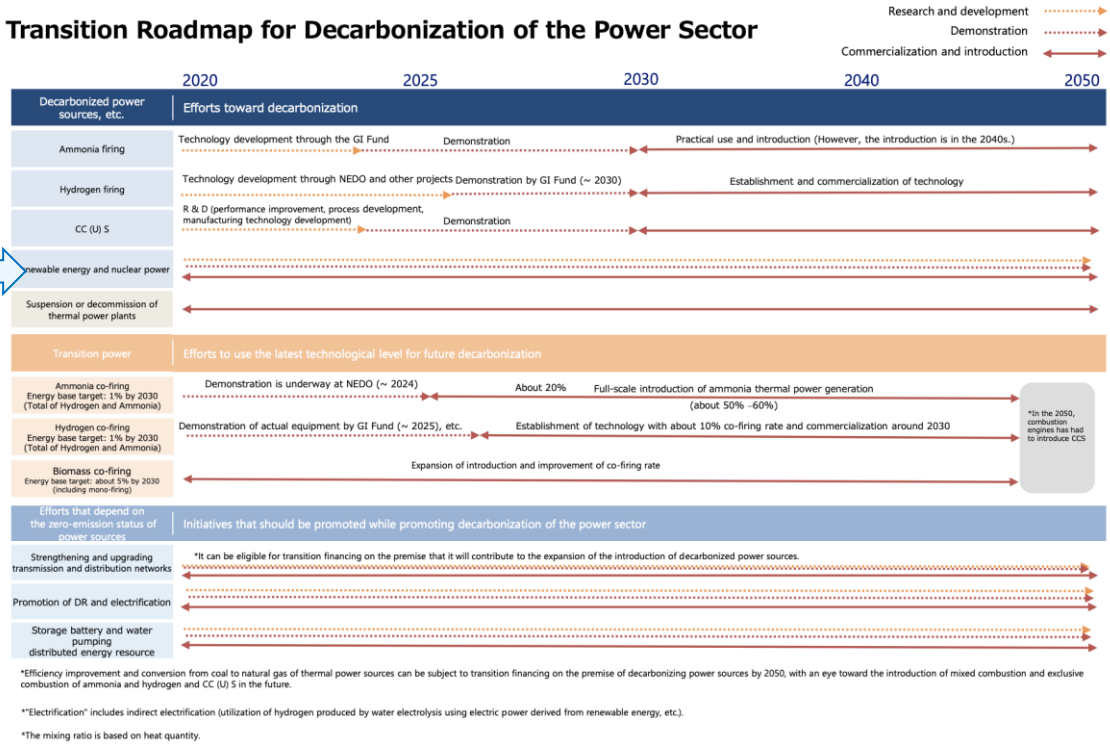


Figure-5.1 (3/3) Ministry of Economy, Trade and Industry Technology roadmap in gas sector (development and diffusion of highly-efficiency gas cogeneration)
Technology Roadmap for "Transition Finance" in Gas Sector on February 2022, Ministry of Economy, Trade and Industry



Renewable energy
Continuous introduction is required for the entire period up to 2050 (solid red line: practical application and introduction phase)

Figure-5.2 Ministry of Economy, Trade and Industry Technology roadmap for the electricity sector

Agency for Natural Resources and Energy, Electric Infrastructure Division
Transition Roadmap for Power Sector on February 2022

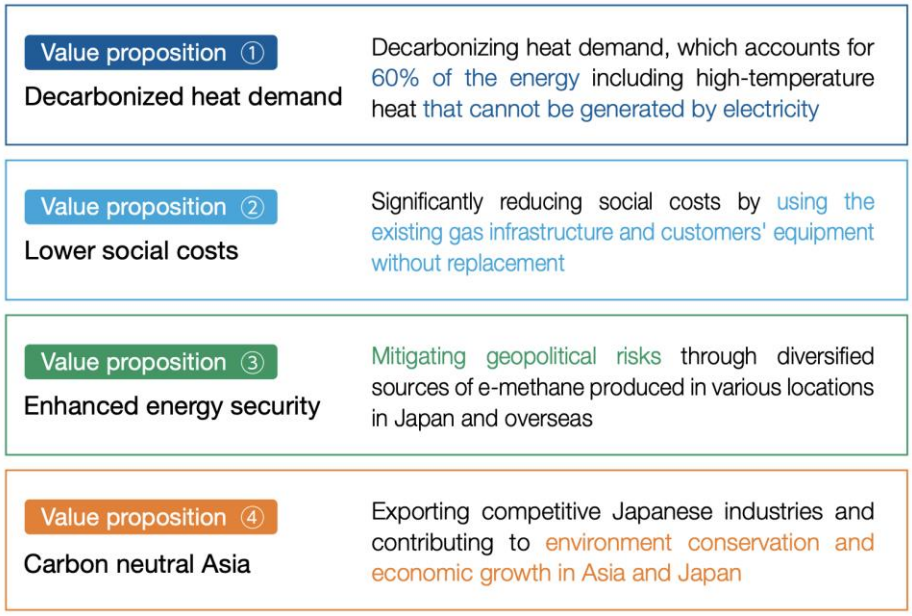


Figure-6 The four values provided by "e-methane"

(2) Fundraiser's transition strategy

Osaka Gas has positioned its transition strategy as a way to achieve its mid-term and long-term goals by embodying the transition initiatives outlined above by the Japan Gas Association and the Ministry of Economy, Trade and Industry, in line with the goals of the Paris Agreement, as well as the efforts to achieve carbon neutrality by 2050 as outlined in the "Daigas Group Carbon Neutral Vision" and Roadmap.

These targets will contribute to (and support) the achievement of supply-side and demand-side carbon neutrality as a key initiative outlined in Japan's various decarbonization plans and strategies.

Table-4 shows the Osaka Gas short- and medium-term transition targets, Figure-7 and 8 shows transition strategy overview and, specific initiatives and timelines for achieving medium-term targets and towards 2050, Figure-9 shows the concept of avoided emission, and Figure-10 shows the avoided emission results. In addition, Table-5 shows the main initiatives for achieving carbon neutrality.

Although the transition strategies of the Japan Gas Association and the Ministry of Economy, Trade and Industry (METI) do not set clear interim targets (base year, specific quantified reduction targets, etc.), Osaka Gas has set the short-, mid- and long-term targets required by the transition strategies from the perspective of its own activities and contribution to society, together with specific management strategies and business plans.

Table-4 Osaka Gas Transition Targets

Short- and medium-term targets	**FY2027.3**	Renewable development contribution[*1]: **4 million kW** Avoided CO_2 emissions: **7 million tonnes/year (baseline: FY2017.3)** CO_2 reduction rate in own offices and company vehicles: **67% (compared to FY2018.3)**
	FY2031.3	Renewable development contribution[*1]: **5 million kW** Power portfolio in Japan consisting of renewable energy[*1]: **Approximately 50%** Avoided CO_2 emissions: **10 million tonnes/year[*2] (baseline: FY2017.3)** CO_2 emission reduction: **5 million tonnes[*3] (compared to FY2018.3)** Introduction of e-methane: **1%[*4]** CO_2 reduction rate in own offices and company vehicles: **100%**
Long-term targets	**2050**	Carbon neutrality

1: Including solar, wind, biomass power sources which are eligible for the feed-in tariff (FIT) scheme
2: Equivalent to one third of the CO_2 emission currently produced in our business and by our customers (33 million tonnes/year)
3: CO_2 emissions in the Daigas Group's domestic supply chain (Scope 1, 2, and 3)
4: 1% of gas sales volume

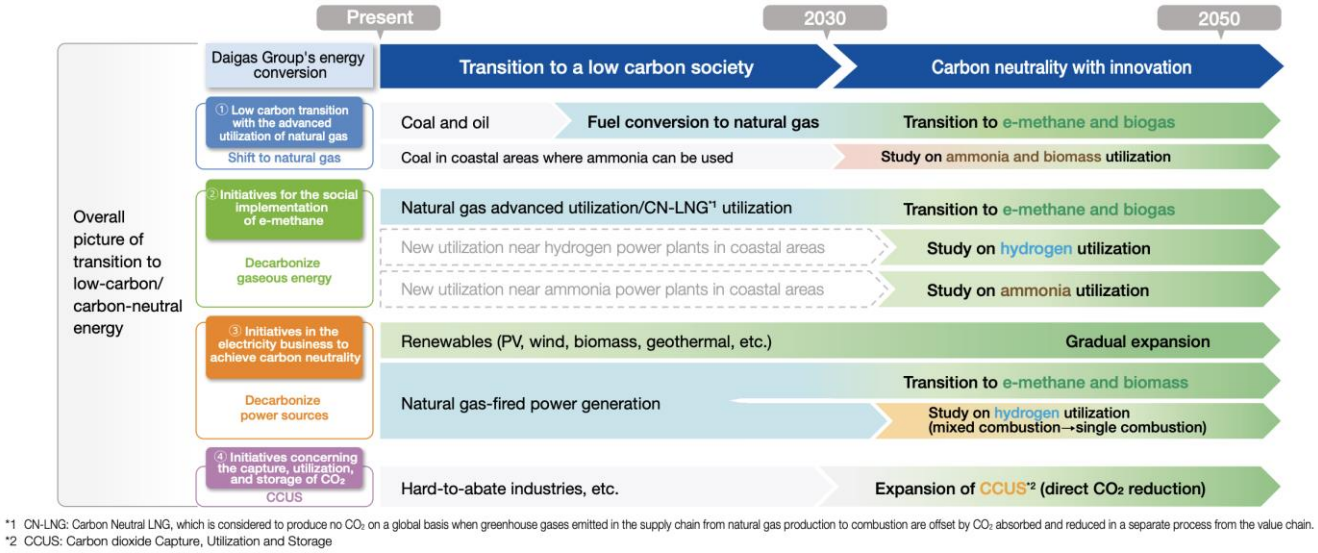


Figure-7 (repost of Figure-1) Daigas Group's CO_2 reduction roadmap and specific initiatives

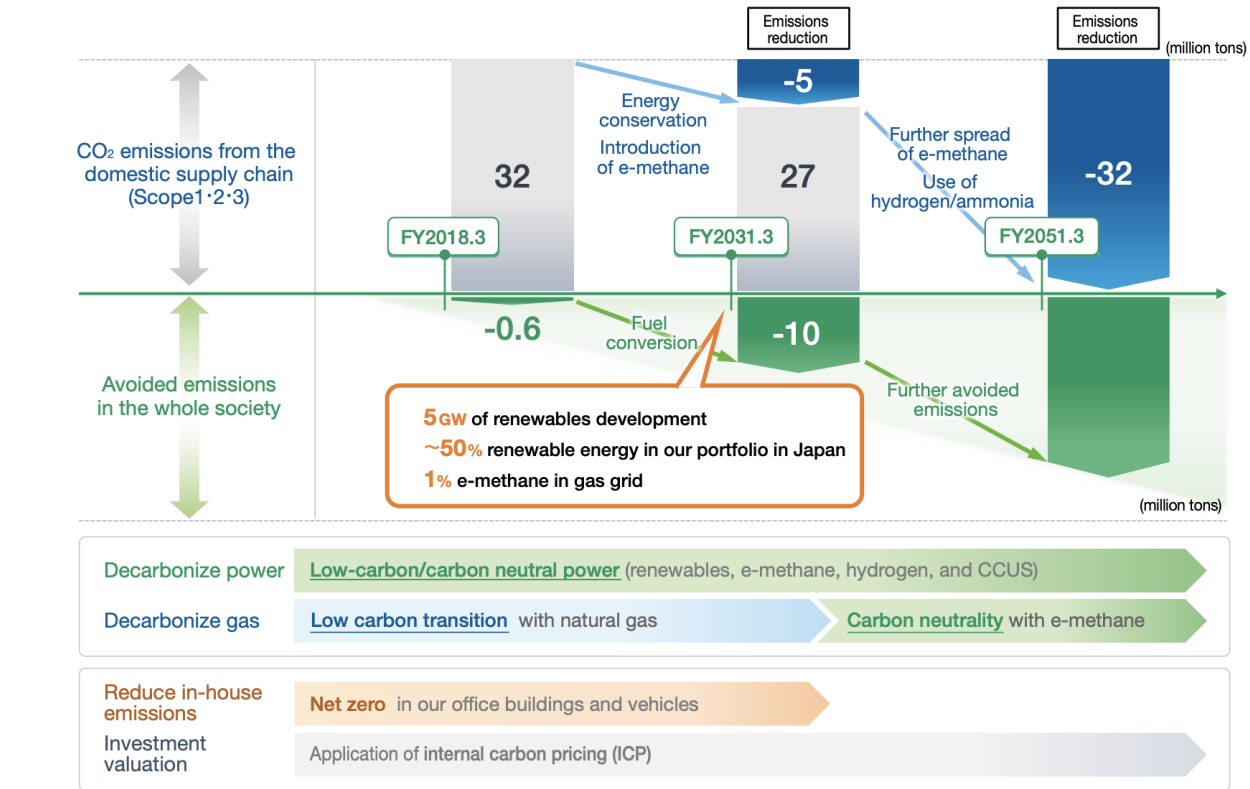


Figure-8 (repost of Figure-2) Daigas Group's CO_2 reduction roadmap and specific initiatives

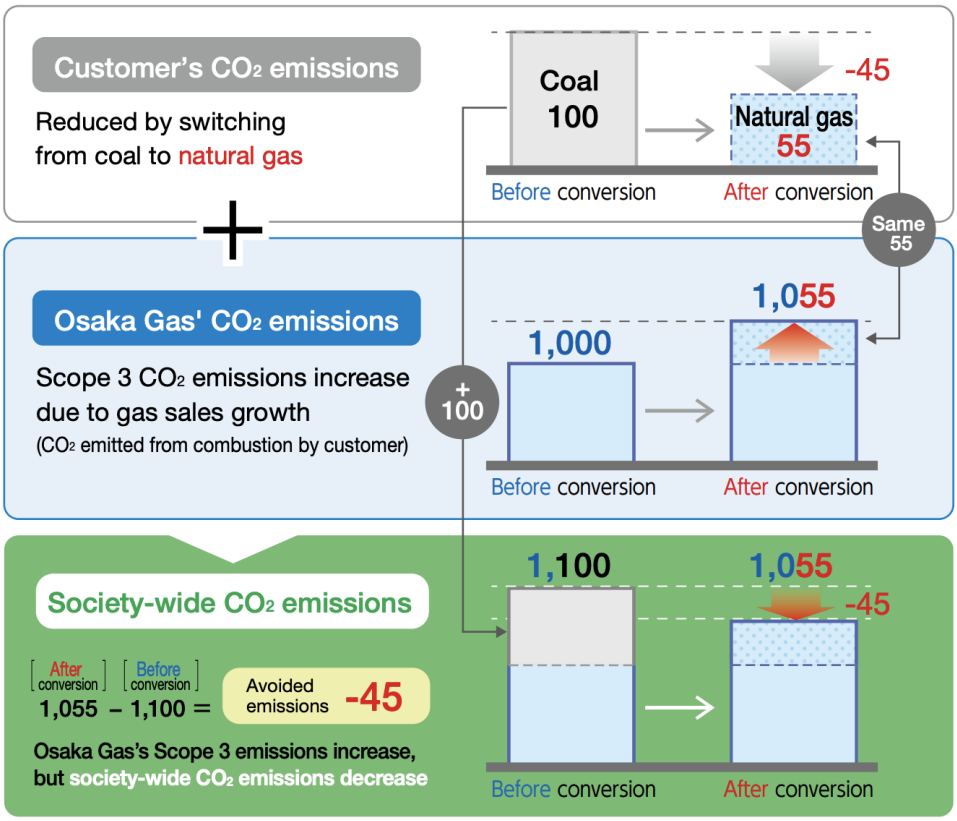
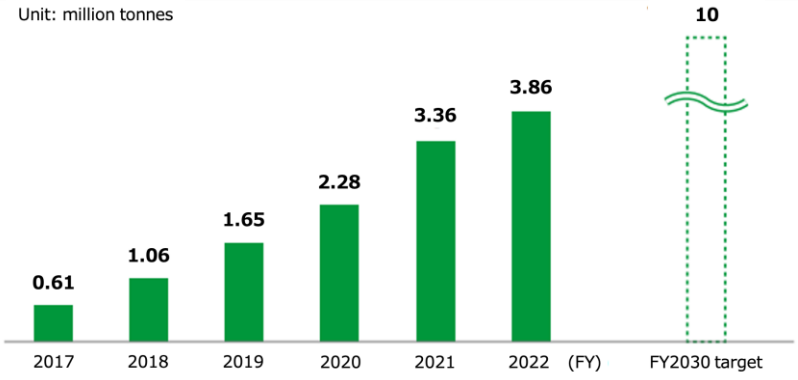


Figure-9 The concept of avoided emissions



*Actual values are calculated using the stock-based method, based on the calculation method and baseline approach shown within the table below, in accordance with the Guidelines for Quantifying GHG emission reductions of goods or services through Global Value Chain (issued by the Ministry of Economy, Trade and Industry on March 2018).

The calculation results have been received a third-party review by Bureau Veritas Japan Co., Ltd.

Figure-10 Results of avoided emissions

Calculation method of avoided emissions

Reduction point	Low- and decarbonization initiatives	Calculation method of reduction results	Baseline approach
Reduction in own business activities	Renewable energy sources: Wind power plants, solar power plants, biomass power plants, etc.	Amount of electricity generated or procured × Average electricity emission factor for thermal power*	Replace thermal power generation
	Highly efficient thermal power generation	Amount of electricity generated × Difference in CO_2 emission factors from existing thermal power plants	Comparison with emission factors of existing thermal power
	Cold power generation facilities in the city gas production process	Amount of electricity generated × Average electricity emission factor for thermal power	Replace thermal power generation
Reduction at the customer's site	Highly efficient decentralized systems: Household fuel cells, cogeneration	Household fuel cells: Number of units installed × Reduction per unit	Replacement from conventional water heaters (boilers) and purchased electricity
		Cogeneration: Number of units installed × Reduction per capacity	
	Expansion and advanced use of natural gas: Fuel conversion, high-efficiency water heaters, gas air conditioning	Fuel conversion: Amount developed × Difference in CO_2 emission factors	Comparison with emissions from other fuels
		Gas air conditioning: Amount sold × Reduction per capacity	Replace conventional air conditioners
		High-efficiency water heaters: Number of units installed × Reduction per unit	Replace conventional water heaters
	Energy saving proposals (solar power generation equipment, LED lighting)	Amount of electricity generated or saved × Average electricity emission factor for thermal power*	Replace thermal power generation

*Calculated using the average emission factor for thermal power: 0.65 kg-CO_2/kWh (FY2014.3) in the Plan for Global Warming Countermeasures (approved by the Cabinet on 22 October 2021)

Table-5 Daigas Group's key initiatives to achieve carbon neutrality
(Green/transition finance candidate projects)

Eligible Criteria			Eligible Criteria & Project Overview
1)	Decarbonization of gas energy	Hydrogen utilization	Methanation, direct use (chemical looping combustion technology), etc.
		Biogas, biomethane	On-site utilization of biogas and biomethane in domestic/global scale
2)	Decarbonization of power generation	Renewable power generation	Solar power plants, onshore wind farm, offshore wind farm, biomass power plants, etc.
		Thermal power generation	Use of carbon neutral fuels such as synthetic methane, hydrogen and ammonia, CCUS (Carbon Capture, Utilization and Storage), etc.
3)	Low-carbonization	Fuel Cell	Enhancing efficiency and downsizing, etc.
		Advanced utilization of natural gas and CHP	Support for converting fuel from oil and coal to natural gas Demonstration of building micro grid Use of carbon neutral LNG
		Advanced energy use	VPP, smart energy systems, EVs, etc.
		Other (Reduction of CO_2 emission associated with own activities)	Cryogenic power generation in the city gas production process, Cryogenic power generation facilities, energy efficiency renovation work of buildings, etc.

(3) Governance of the Fundraiser (sustainability promotion system)

Figure-11 and Figure-12 show Osaka Gas' sustainability promotion system and its approach to sustainability promotion.

Osaka Gas considers the response to climate change, including the implementation of the Transition Strategy, as one of the most important management issues, and manages various aspects of the response to climate change as the Daigas Group through the ESG Promotion Committee (Management Committee) and ESG Promotion Committee as shown in Figure-11. As part of this process, the Daigas Group monitors the roadmap initiatives and important matters are discussed and reported to the Board of Directors, so that the transition strategy is managed as a Daigas Group. Performance-linked remuneration is being adopted for directors other than external directors, using ESG indicator achievement factors, making climate change-related indices such as CO_2 emissions as one of the performance indicators. Furthermore, after the conclusion of the Annual General Meeting of Shareholders scheduled to be held in June 2024, Osaka Gas plans to shift to a company with an audit committee system to separate execution and supervision and strengthen the supervisory function. In addition, the Daigas Group's response to climate change is incorporated in its corporate philosophy as a key issue in its Charter of Business Conduct. In this context, activities are being carried out in line with a roadmap based on the Daigas Group Carbon Neutral Vision and the Medium-Term Management Plan 2026 "Connecting Ambitious Dreams."

Figure-11 Osaka Gas Climate Change Governance Organization Chart

- Board of Directors
  - 10 directors
  (6 Internal Directors and 4 Outside directors)
  *Appoint external directors with expertise and a wide range of insight, including environmental accounting
- Executive Board (ESG Council)
  - 1 President and Executive Officer
  - 3 Vice Presidents (Executive Officers)
  - 8 Managing Officers
  *In principle, it is held three times per year as "ESG Council"
- ESG Committee
  - Vice President (Head of ESG Promotion)
  - Heads of related business units, etc.

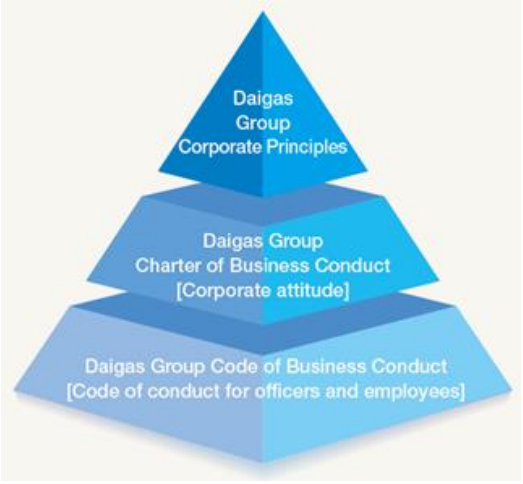


Figure-12 The Daigas Group's Values

*Climate change action is part of the Daigas Group Charter of Business Conduct.

Ⅱ. Scope and Objectives

DNV has been commissioned by Osaka Gas to provide an assessment on Osaka Gas's Green/Transition Finance Framework. Our objective has been to implement an assessment on whether the Osaka Gas meets the criteria established on CTFH/CTFBG, GBP/GBGLs, GLP/GLGLs, SLBP/SLBGLs, and SLLP/SLLGLs to provide a second party opinion on the eligibility of the Framework.

DNV, as an independent external reviewer, has identified no real or perceived conflict of interest associated with the delivery of this second party opinion for Osaka Gas.

In this report, no assurance is provided regarding the financial performance of the bond or loan executed under the Framework, the value of any investments in the bond or loan, or the long-term environmental benefits of the transaction.

Green finance and transition finance with specific use of proceeds

*Stated around GBP but may be replaced with loan-specific items where appropriate.

(1) Scope of review

The review assessed the following elements and confirmed their alignment with the gist of GBP/GLP:

☒.	Use of Proceeds	☒.	Process for Project Evaluation and Selection
☒.	Management of Proceeds	☒.	Reporting

*The scope of review is to be applied as a part of the evaluation of the transition finance with use of proceeds

*The four disclosure elements of CTFH and CTFBG are included in the scope of review

(2) Role(s) of review provider

☒	Second party opinion	☐	Certification
☐	Verification	☐	Ratings
☐	Other *(please specify)*:		

Transition finance with general corporate purpose

*Based on SLBP checklist and replaced by loan-specific items as appropriate by DNV

(1) Structure of the bond/loan at the time of bond issuance/loan execution

☒	Stepping up of the structure	☒	Changes in bond/loan structures

*Any of the above or other (e.g., donations) is set individually based on the Fundraiser's internal process at the time of finance implementation.

(2) Scope of review*

The review assessed the following elements and confirmed their alignment with the gist of SLBP/SLLP:

☒	Evaluate all the following elements (all elements review)	☐	Evaluate only some elements (partial review)
☒	Selection of KPIs	☒	Bond/loan characteristics
☒	Calibration of SPTs	☒	Reporting
☒	Verification		
☒	In addition, check consistency with SLBP/SLLP		

*The scope of review is applied as the assessment part for transition finance with general corporate purpose.

*The four disclosure elements of CTFH/CTFBG are also included in the scope of review.

(3) Role(s) of review provider

☒	Second party opinion	☐	Certification
☐	Verification	☐	Ratings

(4) Standards/guidelines to be applied

No.	Standards/guidelines	Scheme owner
1.	Climate Transition Finance Handbook (CTFH)*1	International Capital Market Association (ICMA), 2023
2.	Basic Guidelines on Climate Transition Finance (CTFBG)*1	Financial Services Agency, Ministry of Economy, Trade and Industry, Ministry of the Environment, 2021
3.	Green Bond Principles (GBP)*2*3	International Capital Market Association (ICMA), 2021
4.	Green Loan Principles (GLP)*2*3	Loan Market Association (LMA) and others, 2023
5.	Green Bond Guidelines (GBGLs)*2*3	Ministry of the Environment, 2022
6.	Green Loan Guidelines (GLGLs)*2*3	Ministry of the Environment, 2022
7.	Sustainability-Linked Bond Principles (SLBP)*4	International Capital Market Association (ICMA), 2023
8.	Sustainability-Linked Bond Guidelines (SLBGLs)*4	Ministry of the Environment, 2022
9.	Sustainability-Linked Loan Principles (SLLP)*4	Loan Market Association (LMA) and others, 2023
10.	Sustainability-Linked Loan Guidelines (SLLGLs)*4	Ministry of the Environment, 2022

*1 Climate transition: The concept of climate transition focuses principally on the credibility of an issuer's climate change-related commitments and practices (quoted from CTFH/CTFBG).

*2 It confirms compliance with the four core elements (use of proceeds, process for project evaluation and selection, management of proceeds, and reporting) that must be met when implementing as a bond/loan that meets the four elements of transition and has a specific use of proceeds (quoted from CTFBG).

*3 Green projects were assessed for eligibility using the referable technical criteria of the Climate Bond Initiative's Climate Bond Standard.

*4 Sustainability linked loans are any types of loan instruments and/or contingent facilities (such as bonding lines, guarantee lines or letters of credit) which incentivise the borrower's achievement of ambitious, predetermined sustainability performance objectives (quoted from SLLP *evaluate SLBP as well with the same definition).

Ⅲ. Responsibilities of Osaka Gas and DNV

Osaka Gas has provided the information and data used by DNV during the delivery of this review. DNV's second party opinion represents an independent opinion and is intended to inform Osaka Gas and other interested stakeholders in the Osaka Gas's Transition Finance as to whether the established criteria have been met, based on the information provided to us. In our work we have relied on the information and the facts presented to us by Osaka Gas. DNV is not responsible for any aspect of the nominated projects and assets referred to in this opinion and cannot be held liable if estimates, findings, opinions, or conclusions are incorrect. Thus, DNV shall not be held liable if any of the information or data provided by Osaka Gas's management and used as a basis for this assessment were not correct or complete.

Ⅳ. Basis of DNV's Opinion

To provide as much flexibility for the Fundraiser, Osaka Gas as possible, we have adapted our Osaka Gas Green/Transition Finance assessment methodologies, which incorporates the requirements of the CTFH/CTFBG, GBP/GBGLs, GLP/GLGLs, SLBP/SLBGLs, and SLLP/SLLGLs, to create an Osaka Gas Green/Transition Finance Eligibility Assessment Protocol (hereinafter, "Protocol"). Please refer to Schedule-3 to 5. The Protocol is applicable to Osaka Gas Transition Finance under the CTFH/CTFBG, GBP/GBGLs, GLP/GLGLs, SLBP/SLBGLs, and SLLP/SLLGLs.

DNV, as an independent external reviewer, provides second party opinion according to the protocol.

Our Protocol includes a set of suitable criteria that can be used to underpin DNV's opinion. The overarching principle behind the Green/Transition Finance and Transition-Linked Finance as the basis for the opinion are as follows:

"provide an investment opportunity with transparent sustainability credentials"

"enable capital-raising and investment for new and existing projects with environmental benefits"

"encourage, through KPIs and SPTs, the achievement of the borrower's ESGs (with regard to climate transition) that are important (as climate transition), material, quantifiable, pre-determined, ambitious, regularly monitored and externally verifiable"

As per our Protocol, the criteria against which the Osaka Gas Transition Finance has been reviewed are grouped into common elements bellow, represented by the CTFH/CTFBG, GBP/GBGLs, GLP/GLGLs, SLBP/SLBGLs, and SLLP/SLLGLs.

(1) Four elements of CTFH/CTFBG (disclosure elements)

Principle One: Issuer's climate transition strategy and governance

The financing purpose should be for enabling an issuer's climate change strategy.

Principle Two: Business model environmental materiality

The planned climate transition trajectory should be relevant to the environmentally-material parts of the issuer's business model.

Principle Three: Transition is science-based including targets and pathway

Issuer's climate strategy should reference science-based targets and transition pathways.

Principle Four: Implementation transparency

Market communication in connection with the offer of a financing instrument which has the aim of funding the issuer's climate transition strategy should also provide transparency of the underlying investment program.

(2) Four elements of GBP/GBGLs and GLP/GLGLs

Principle One: Use of Proceeds

The Use of Proceeds criteria are guided by the requirement that an issuer of a transition finance with specific use of proceeds must use the funds raised to bond eligible activities. The eligible activities should produce clear environmental benefits.

Principle Two: Process for Project Evaluation and Selection

The Project Evaluation and Selection criteria are guided by the requirements that an issuer of a transition finance should outline the process it follows when determining eligibility of an investment using the proceeds from transition finance, and outline any impact objectives it will consider.

Principle Three: Management of Proceeds

The Management of Proceeds criteria are guided by the requirements that a transition finance should be tracked within the issuing organization, that separate portfolios should be created when necessary and that a declaration of how unallocated funds will be handled should be made.

Principle Four: Reporting

The Reporting criteria are guided by the recommendation that at least Sustainability Reporting to the bond investors should be made of the use of bond proceeds and that quantitative and/or qualitative performance indicators should be used, where feasible.

(3) Five elements of SLBP/SLBGLs and SLLP/SLLGLs[*1] *Sustainability is read as transitions, where necessary.

Principle One: Selection of Key Performance Indicators (KPIs)

The fundraiser of sustainability-linked finance should clearly communicate its overall sustainability objectives, as set out in its sustainability strategy, and how these relate to its proposed SPTs. The KPI should be reliable, material to the fundraiser's core sustainability and business strategy, address relevant ESG challenges of the industry sector and be under management control.

Principle Two: Calibration of Sustainability Performance Targets (SPTs)

The SPTs should be ambitious, meaningful and realistic. The target setting should be done in good faith and based on a sustainability improvement in relation to a predetermined performance target benchmark.

Principle Three: Finance Characteristics

The loan will need to include a financial and/or structural impact depending on whether the selected KPIs reach (or not) the predefined SPTs. The finance documentation needs to require the definitions of the KPI(s) and SPT(s) and the potential variation of the SLL's financial and/or structural characteristics. Any fallback mechanisms in case the SPTs cannot be calculated or observed in a satisfactory manner, should be explained.

Principle Four: Reporting

The fundraiser should publish and keep readily available and easily accessible up to

date information on the performance of the selected KPI(s), as well as a verification assurance report (see Principle Five) outlining the performance against the SPTs and the related impact and timing of such impact on the finance's financial and/or structural characteristics, with such information to be provided to investors or lenders during the period of participating in the finance at least once per annum.

Principle Five: Verification

The fundraiser should have its performance against its SPTs independently verified by a qualified external reviewer with relevant expertise, at least once per annum. The verification of the performance against the SPTs should be made publicly available.

V. Work Undertaken

Our work constituted a comprehensive review of the available information, based on the understanding that this information was provided to us by the Fundraiser in good faith. We have not performed an audit or other tests to check the veracity of the information provided to us. The work undertaken to form our opinion included:

i. Pre-funding assessment (Green/Transition Finance Framework)

- Creation of a Daigas Group-specific Protocol, adapted to the purpose of the Daigas Group Green/Transition Finance, as described above and in Schedule-3 to 5 to this assessment;
- Assessment of documentary evidence provided by Osaka Gas on the Daigas Group Green/Transition Finance and supplemented assessment by a comprehensive desktop research. These checks refer to current assessment best practice and standards methodologies;
- Discussions with Osaka Gas, and review of relevant documentation;
- Documentation of findings against each element of the criteria.

ii. Post-funding assessment (******not included in this report***)**

- Interviews with fundraisers' managers, and review of the relevant documentation;
- Field research and inspection (if necessary);
- Document creation of post-issuance assessment results.

Ⅵ. Findings and DNV's Opinion

DNV's findings and opinion are as described in (1), (2), and (3) below.

From the CTF-1 to 4 in (1) below are the findings and opinions of DNV against the disclosure elements of the CTFH and CTFBG.

Please see Schedule-3 for details.

From the GBP 1 to 4 in (2) below are the findings and opinions of DNV against the requirement of the four common elements of GBP/GBGLs and GLP/GLGLs.

Please see Schedule-4 for details.

From the SLBP/SLBGLs and SLLP/SLLGLs 1 to 5 in (3) below are the findings and opinions of DNV against the requirement of the five common elements of SLBP/SLBGLs and SLLP/SLLGLs in Transition-Linked Finance[*1].

Please see Schedule-2 and 5 for details.

*1: Bonds or loans with potential financial and structural changes linked to the achievement status of future transition targets

(1) Findings and opinions of DNV against the four common elements (disclosure elements) of CTFH and CTFBG

CTF-1. Fundraiser's Climate Transition Strategy and Governance

- Osaka Gas has formulated the "Daigas Group Carbon Neutral Vision" and the "Daigas Group Energy Transition 2030," in which it presents a roadmap for achieving carbon neutrality. In the vision, Osaka Gas sets the long-term goal of achieving carbon neutrality by 2050, which is consistent with the goals of the Paris Agreement, and the short- and medium-term goals for achieving this goal, which are "avoided CO_2 emissions in the entire society of 7 million tonnes / renewable energy diffusion contribution of 4 million kW by 2026," "introduction of e-methane of 1% by 2030 / avoided CO_2 emissions in the entire society of 10 million tonnes / CO_2 emission reduction in the domestic supply chain (scope 1, 2, and 3) by 5 million tonnes compared to FY2018.3 / renewable energy diffusion contribution of 5 million kW / renewable energy ratio of domestic power projects approximately 50%," etc. The roadmap discloses the strategic plan to achieve the transition to carbon neutrality.
- DNV has reviewed and confirmed that Osaka Gas's targets are equivalent to meeting the targets of the Paris Agreement, based on a plan of action to achieve carbon neutrality by 2050, a science-based long-term target quantified by Osaka Gas. Osaka Gas sets environmental corporate strategies that are important to its business model, assuming the IEA (World Energy Outlook 2021) multilinear scenario (1.5°C scenario (NZE2050) and 2.6°C scenario (STEPS)) that targets energy projects (domestic and overseas gas and electricity projects etc.) that are expected to be significantly affected by risks and opportunities identification using TCFD guidance and climate change, and considers the degree of progress in energy saving, transitions in the composition of power sources, etc.
- Specifically, Osaka Gas's Transition Strategy incorporates the environmental targets of the Japan Gas Association and the Ministry of

Economy, Trade and Industry (METI), as well as its action plan to achieve a target of limiting the increase in average temperature below 2°C using TCFD guidance. If it becomes necessary to review Osaka Gas's efforts in order to achieve continuous emission reductions in the future, Osaka Gas plans to implement them as appropriate according to the timeline.

- Osaka Gas considers the response to climate change, including the implementation of the Transition Strategy, to be one of the most important management issues, and has established a system and framework to promote the initiatives specified in the Daigas Group Carbon Neutral Vision and Roadmap at the management level. Performance-linked remuneration is being adopted for directors other than external directors, using ESG indicator achievement factors, making climate change-related indices such as CO_2 emissions as one of the performance indicators. Furthermore, after the conclusion of the Annual General Meeting of Shareholders scheduled to be held in June 2024, Osaka Gas plans to shift to a company with an audit committee system to separate execution and supervision and strengthen the supervisory function.
- Osaka Gas's approach to promoting sustainability, both for the Daigas Group and for society as a whole, is to provide solutions for the realization of a sustainable society as an innovative energy service company by decarbonizing city gas feedstock and introducing renewable energy. In addition, in the "Medium-Term Management Plan 2026," the Daigas Group has set the following three commitments as key strategies: Co-create value for a sustainable future (achieving carbon neutrality in energy, improving the resilience of customers and society, co-creating advanced and diverse solutions), Support employees to shine in their roles, and Evolve business foundation as a corporate group that "secure peace of mind today, build sustainable lifestyles for tomorrow" to conduct its business activities and make a broad contribution to the achievement of the Sustainable Development Goals (SDGs) set by the United Nations. Of these, the key materiality issue to which Green/Transition Finance is primarily concerned is climate change (achieving a low- and decarbonized society) as set out in the Daigas Group's Charter of Business Conduct "Contributing to the Sustainability of the Environment and Society."
- Based on an assessment of the implementation plan provided by Osaka Gas under the Framework, the "Daigas Group Carbon Neutral Vision" and the Osaka Gas Roadmap, DNV has confirmed that it is well aligned with Osaka Gas's Transition Strategy. Through the assessment, DNV has confirmed that the implementation plan based on the Transition Strategy, such as the decarbonization of town gas feedstock centered on methanation utilizing renewable energy and hydrogen and the decarbonization of power sources centered on the introduction of renewable energy, is credible, ambitious, and achievable.
- DNV judged that Osaka Gas ensures that substantial benefits will be shared widely and shows consideration for just transition as it has been implementing fuel conversion from coal and oil to natural gas with low CO_2 emissions not only in the Kansai region but also in wide areas of Japan and Asia, and has been conducted multiple feasibility studies and basic designs for the overseas supply chain building in cooperation with domestic and overseas operators, viewing overseas supply chain building as well as

domestic supply chain building is one of the most promising options for the full-scale introduction of e-methane from FY2031.3.

Osaka Gas does not envisage any large-scale closure of facilities or plants related to existing businesses, and even in the cases of closure, Osaka Gas envisages the implementation of measures that take employment into consideration through personnel transfers within the company's businesses etc.

CTF-2. Business model environmental materiality

- Osaka Gas's Transition efforts include not only CO_2 emission reductions from its own business activities (Scope 1 and 2), but also Scope 3 and activities that contribute to the avoided emissions of other companies. This will contribute to the implementation of supply-side and demand-side carbon neutrality as an important initiative indicated in the various plans and strategies for decarbonisation in Japan. In other words, Osaka Gas's transition initiatives directly support the transition of society as a whole, including its own company, as an energy service company taking on the challenge of achieving carbon neutrality by 2050.
- The Osaka Gas's roadmap is well aligned with the Action Plan of the Japan Gas Association and gas and electricity sector roadmaps of the Ministry of Economy, Trade and Industry, and its specific implementation plans and targets are set and quantified in the absolute sense that they must be the optimization to achieve them and the possibility of further improvement.
- DNV has confirmed that Osaka Gas's plan to implement its Transition Strategy is closely linked to the activities of its core business and to activities that contribute to the CO_2 emissions reduction of in society as a whole, thus contributing to the environmental aspects of society as a whole and supporting the promotion of Osaka Gas's business. Osaka Gas's planned transition strategy and transition pathway are associated with the materiality that Osaka Gas has achieved through GRI standards[*1], ISO 26000, TCFD, etc., and will contribute to significant environmental improvements (impact) in both qualitative and quantitative terms.

*1: Global Reporting Initiative (an international standard providing ESG-related reporting, management and analysis methods)

Table-2 (reposted) Daigas Group GHG emission results (Scope 1 to 3)

Source: Daigas Group website Environmental performance data (emissions to the atmosphere)

Target Scope	Results for FY2021.3	Results for FY2022.3	Results for FY2023.3	
Scope 1	5,215,428 t-CO_2e	4,526,038 t-CO_2e	4,405,987 t-CO_2e	17%
Scope 2	297,386 t-CO_2e	334,433 t-CO_2e	323,790 t-CO_2e	1%
Scope 3 (product use)	22,270,832 t-CO_2e (17,142,830 t-CO_2e)	21,924,919 t-CO2e (17,089,540 t-CO_2e)	21,246,842 t-CO_2e (16,541,750 t-CO_2e)	82%
Total	27,783,646 t-CO_2e	26,785,390 t-CO_2e	25,976,619 t-CO_2e	(100%)

<Osaka Gas' approach to Scope 1 to 3 emissions>

Scope 1: Direct emissions from own operations (gas production, power generation, etc.) (e.g., combustion of gas for power generation)

Scope 2: Indirect emissions from own operations (gas production, power generation, etc.) (use of electricity supplied by other companies, etc.)

Scope 3: Indirect emissions from value chains other than Scope 1 and Scope 2 (e.g., fuel procurement, combustion of gas at destination)

CTF-3. Climate transition strategy to be 'science-based' including targets and pathways:

- Osaka Gas has set a transition plan that is consistent with the Paris Agreement based on science-based evidence, and a transition trajectory that is consistent with the goals of the Japan Gas Association and the Ministry of Economy, Trade and Industry. (In contrast to the Ministry of Economy, Trade and Industry's Transition Roadmap in Gas Sector, which depicts a pathway where the gas industry will see an increase in the demand for natural gas as a result of society-wide fuel conversion, which will increase gas companies' CO_2 emissions (Scope 3) in the short term, Osaka Gas has set a target to reduce the absolute value of the domestic supply chain CO_2 emissions (Scope 1, 2, and 3) for 5 million tonnes as of 2030.)

  DNV has confirmed that Osaka Gas's Transition Strategy is quantified in terms of emissions intensity and absolute values or ratios based on a consistent measurement methodology with prescribed assumptions. Transition targets are set voluntarily based on the use of TCFD and other initiatives to achieve sustainable CO_2 emission reductions, and they are consistent with the policies of the benchmarking Japan Gas Association and the Ministry of Economy, Trade and Industry.

Table-4 (reposted) Osaka Gas Transition Targets

Short- and medium-term targets	**FY2027.3**	Renewable development contribution[*1]: **4 million kW** Avoided CO_2 emissions: **7 million tonnes/year (baseline: FY2017.3)** CO_2 reduction rate in own offices and company vehicles: **67% (compared to FY2018.3)**
	FY2031.3	Renewable development contribution[*1]: **5 million kW** Power portfolio in Japan consisting of renewable energy[*1]: **Approximately 50%** Avoided CO_2 emissions: **10 million tonnes/year[*2] (baseline: FY2017.3)** CO_2 emission reduction: **5 million tonnes[*3] (compared to FY2018.3)** Introduction of e-methane: **1%[*4]** CO_2 reduction rate in own offices and company vehicles: **100%**
Long-term targets	**2050**	Carbon neutrality

*1: Including solar, wind, biomass power sources which are eligible for the feed-in tariff (FIT) scheme
*2: Equivalent to one third of the CO_2 emission currently produced in our business and by our customers (33 million tonnes/year)
*3: CO_2 emissions in the Daigas Group's domestic supply chain (Scope 1, 2, and 3)
*4: 1% of gas sales volume

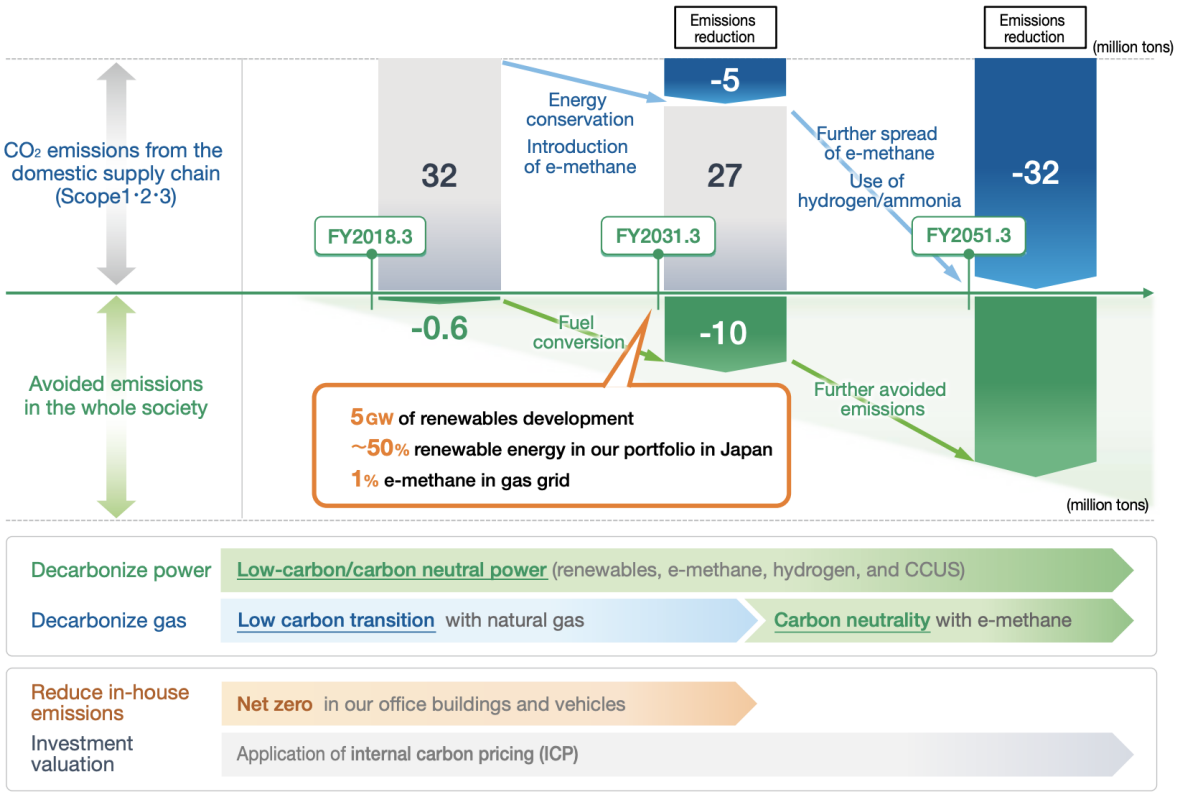


Figure-2 (reposted) Daigas Group's CO_2 reduction roadmap and specific initiatives

- Osaka Gas's Transition efforts include not only CO_2 emission reductions from its own business activities (Scope 1 and 2), but also Scope 3 and activities that contribute to the avoided emissions of other companies. This will contribute to the implementation of supply-side and demand-side carbon neutrality as an important initiative indicated in the various plans and strategies for decarbonisation in Japan. In other words, Osaka Gas's transition initiatives directly support the transition of society as a whole, including its own company, as an energy service company taking on the challenge of achieving carbon neutrality by 2050.
  In addition to recycling CO_2 emitted into the atmosphere and producing and supplying e-methane through methanation, Osaka Gas has also started joint studies etc. on the capture, transport, use, and storage of CO_2 emitted from domestic plants in the steel, cement, and chemical industries, where CO_2 emissions are difficult to reduce, towards the development of a CO_2 value chain. In addition, with regard to the utilization of carbon credits, Osaka Gas has announced a joint investment in the Eastwood Climate Smart Forestry Fund, a forestry fund set up by the Sumitomo Forestry Group together with 10 Japanese companies. The fund plans to generate approximately 1 million tonnes of new CO_2 absorption every year and will contribute to the realization of a decarbonized society through the creation and return of high-quality carbon credits.

CTF-4. Implementation transparency

- DNV has confirmed that the investment and development plans related to Osaka Gas's Transition Strategy include agreement on future investment and expenditure. Specifically, Osaka Gas plans to invest a cumulative total of 2 trillion yen by FY2031.3 from FY2018.3 in quality improvement, growth and M&A, including the activities outlined in the Daigas Group Carbon Neutral Vision and Roadmap. In addition, the Daigas Group's "Medium-Term Management Plan 2026" aims to achieve a 1% introduction of e-methane by 2030, avoided CO_2 emissions in the entire society of 10 million tonnes, and renewable energy sources diffusion contribution of 5 million kW. Osaka Gas plans to make carbon neutral investments of around 220 billion yen in the cumulative total for the period FY2025.3-2031.3, and in the three year period FY2025.3-2027.3, it plans to invest approximately 100 billion yen in carbon neutrality areas (e.g., conversion to renewable energy sources in domestic power business, e-methane) to build future earnings, and approximately 460 billion yen in priority growth areas such as thermal power sources, shale gas development, and life & business solutions. This includes projects to be implemented with green/transition finance. The introduction of and transition to e-methane etc. is also planned as a measure to avoid lock-in of coal and oil use.
- DNV has confirmed that Osaka Gas has been trying since FY2022.3 to understand the carbon impact of projects that have already invested by utilizing internal carbon prices, and has also been utilizing since FY2024.3

as a decision-making tool for new investment decisions in business areas with a large carbon impact.

- DNV has confirmed that the overall investment plan (investment amount) for the future considers CTF-1 to CTF-3 for the investment required to implement the transition strategy and also confirmed plans to be implemented according to the appropriate timelines, based on internal management system and process.

(2) Findings and opinions of DNV against the four common elements of GBP/GBGLs and GLP/GLGLs

*The four elements are used as criteria for transition finance to specify the use of proceeds, and some green bonds/loans below can be read as transition finance (bond/loan).

GBP/GLP-1. Use of Proceeds

Osaka Gas has defined the criteria applied to eligible projects as transition projects which meet Transition Strategy and related handbook, principle and guidelines (CTFH/CTFBG).

Table-5 shows the eligible project categories for transition finance.

Table-5 (reposted) Daigas Group's key initiatives to achieve carbon neutrality (Green/transition finance candidate projects)

Eligible Criteria			Eligible Criteria & Project Overview
4)	Decarbonization of gas energy	Hydrogen utilization	Methanation, direct use (chemical looping combustion technology), etc.
		Biogas, biomethane	On-site utilization of biogas and biomethane in domestic/global scale
5)	Decarbonization of power generation	Renewable power generation	Solar power plants, onshore wind farm, offshore wind farm, biomass power plants, etc.
		Thermal power generation	Use of carbon neutral fuels such as synthetic methane, hydrogen and ammonia, CCUS (Carbon Capture, Utilization and Storage), etc.
6)	Low-carbonization	Fuel Cell	Enhancing efficiency and downsizing, etc.
		Advanced utilization of natural gas and CHP	Support for converting fuel from oil and coal to natural gas Demonstration of building micro grid Use of carbon neutral LNG
		Advanced energy use	VPP, smart energy systems, EVs, etc.
		Other (Reduction of CO_2 emission associated with own activities)	Cryogenic power generation in the city gas production process, Cryogenic power generation facilities, energy efficiency renovation work of buildings, etc.

DNV has confirmed that Osaka Gas plans to allocate the net proceeds from green/transition finance, excluding expenses, as new investment and refinancing for capital investment, operating expenses, equity investment and R&D-related expenses for green/transition-eligible projects that meet Osaka Gas's investment plan for implementing its transition strategy.

These are projects that contribute to business transformation projects as exemplified by CTFH/CTFBG, GBP/GBGLs, GLP/GLGLs, SLBP/SLBGLs, and SLLP/SLLGLs that directly or indirectly support fuel conversion, and that contribute to achieving the goals of the Japan Gas Association and METI. These projects have been evaluated as having a clear environmental benefit on the Transition Strategy, and are expected to contribute to the SDGs. These processes are in line with the GBP/GLP-1.

Table-6 Green/Transitional Finance Eligibility Criteria and Project Overview

Eligible Criteria				Project overview (main expenditure)
1)	Decarbonization of gas energy	Hydrogen utilization	Methanation	Expenditure on capital expenditure and research and development towards social implementation of e-methane and establishment of methanation technology (e.g., SOEC co-electrolysis)
			Direct use	Expenditure on building the hydrogen supply chain (equipment manufacturing, hydrogen production, transport, supply, etc.) Expenditure on research and development investment in a process for simultaneous production of hydrogen, electricity and CO_2 using chemical looping combustion technology
		Biogas, biomethane		Expenditure on capital expenditure to expand the use of biogas and biomethane for domestic and international on-site utilization
2)	Decarbonization of power generation	Renewable power generation		Expenditure on the development, construction, operation and refurbishment of renewable energy, such as biomass, solar, onshore wind and offshore wind
		Thermal power generation	Carbon-neutral Fuel utilization	Expenditure on investment, research and development in the procurement, supply and use of synthetic methane, hydrogen and ammonia
			CO_2 capture and storage (CCUS)	Expenditure on participation in CCUS demonstrations (e.g., consortia)
3)	Low-carbonization	Fuel Cells	The fuel cell high efficiency and miniaturization	Expenditure on research, development and capital investment in small SOFCs with high power generation efficiency
		Advanced utilization of natural	Fuel conversion from oil and coal to natural gas	Expenditure on capital expenditure (e.g., on the construction of LNG satellite terminals, LNG bunkering vessels, and the provision of

		gas and CHP		related equipment) to support customers' fuel conversion
			Micro grid	Expenditure on the construction and demonstration of microgrids
			Carbon-neutral LNG	Expenditure on the procurement and supply of carbon neutral LNG* *LNG with GHG emissions offset by credits
		Advanced energy utilization	VPP and smart energy systems	Expenditure on research and development and capital investment in VPP, storage battery business, projects to demonstrate the establishment of smart energy systems, etc.
			EVs	Expenditure on EV charging infrastructure business, demonstration projects and service provision, etc. that contribute to the diffusion and expansion of EVs
		Other (Reduction of CO_2 emission associated with own activities)	Reduce CO_2 emissions from activities other than the above, such as manufacturing, power generation, and office operations	Expenditure on cold power generation equipment and cold heat utilisation equipment in the city gas production process, and on energy-saving renovation work in buildings

GBP/GLP-2. Process for Project Evaluation and Selection

Osaka Gas confirms that green/transition projects contribute to the achievement of the transition strategy and confirms the following (<confirmations>), which are set out in the framework in advance. Specifically, the Finance Team of the Finance Department consolidates and selects the project candidates based on the eligibility criteria, and then the ESG Promotion Office of the Planning Department evaluates and confirms their compliance with the various frameworks. In addition, the Finance Team of the Finance Department confirms, when necessary, with the business unit in charge of the project in question, and after drafting the required approval, the President makes the final decision in accordance with internal regulations.

DNV has confirmed that these processes had been established as internal documents of Osaka Gas and the plan will be implemented in accordance with the appropriate processes.

DNV has also confirmed that the green/transition project implemented by Osaka Gas is consistent with the issuer's management and environmental policies, as well as its transition strategy, goals and pathways.

<Confirmation>

In assessing the eligibility of each project, it is confirmed that the project takes into account the potential negative environmental and social impacts and that the facility certification, licensing, and environmental assessment procedures required by the country, region, or municipality where the facility or project is to be installed are appropriate.

Evaluation and selection

☒	Conforms to the Fundraiser's achievement of environmental contribution goals	☒	Documented process to determine that projects fit within defined categories
☒	The project is eligible for use of proceeds by green bond and transparency is ensured.	☒	Documented process to identify and manage potential ESG risks associated with the project
☐	The project is evaluated and selected based on the published standard summary	☐	Other *(please specify):*

Information on responsibilities and accountability

☒	Evaluation / Selection criteria subject to external advice or verification	☒	In-house assessment
☐	Other (please specify):		

GBP/GLP-3. Management of Proceeds

The proceeds will be deposited into Osaka Gas's common account, and the Finance Department will then manage the allocation of proceeds for each project by allocating them to affiliated companies, subsidiaries, and investments, using the accounting management rules, the integrated accounting system, and specially prepared ledgers.

The accounting management rules and the integrated accounting system allow for tracking over the period of redemption or repayment, and a review of the allocation will be carried out at least once a year on the basis of books prepared exclusively by the Finance Department. Vouchers relating to the management of the proceeds will be kept in accordance with the document management rules.

The net proceeds will be allocated within two years of the issue. If the proceeds are to be used to refinance existing expenditure, it is planned to be allocated within approximately three years from the time of the financing, and the projects that are determined to be eligible as transition projects at the time of allocation are eligible in accordance with the process set out in GBP/GLP-2. However, if the project execution (planning, construction, etc.) takes a long time, the period of appropriation and refinancing may be flexibly adjusted in consideration of the green/transition characteristics of the project.

The amount of proceeds will be managed in cash or cash equivalents in the same amount as the unallocated proceeds until the allocation.

If green/transition finance is to be implemented under this framework in the future, the method of managing the proceeds will be explained prior to implementation of the loan through disclosure in legal documents and loan agreement documentation.

Tracking of proceeds:

- ☒ Some or all of the proceeds by green bonds that are planned to be allocated are systematically distinguished or tracked by the Fundraiser.
- ☐ Disclosure of intended types of temporary investment instruments for unallocated proceeds
- ☒ Other (please specify): Unallocated proceeds are managed in cash or cash equivalents

Additional disclosure:

- ☐ Allocations to future investments only
- ☐ Allocations to both existing and future investments
- ☒ Allocation to individual disbursements
- ☐ Allocation to a portfolio of disbursements
- ☐ Disclosure of portfolio balance of unallocated proceeds
- ☒ Other *(please specify)*: Includes allocations and investments made through affiliates and subsidiaries.

GBP/GLP-4. Reporting

DNV confirms that the Fundraiser will report on the transition finance until the proceeds are allocated, and disclose information on the status of the allocation, the projects to which the proceeds have been allocated or the environmental benefits. DNV has also confirmed that environmental benefits will be reported until the completion of the redemption or repayment of the transition financing.

DNV has confirmed that, even after the allocation plan or allocation have been completed, Osaka Gas plans to report any changes in transition strategy or pathways, or any major changes in the allocation plan or project implementation status, in a timely manner or in Osaka Gas's reporting.

The report will be disclosed on the Fundraiser's website.

<Allocation status>

- Allocated amount to be allocated per eligible criteria
- Balance of unallocated amount
- Estimated amount of the portion of the proceeds allocated to refinancing

<Environmental benefits>

- Environmental impacts are disclosed within the scope of confidentiality, to the extent practicable, and in consideration of the characteristics of the project, including an overview of the project (including progress, completion, operation, etc.) and the expected environmental benefits (e.g., t-CO_2/year).

<Others>

- Efforts to achieve carbon neutrality by 2050 will be reviewed as necessary in light of policy and technological trends, and will be disclosed where necessary.

Use of Proceeds reporting:

☐ Project-by-project ☒ On a project portfolio basis

☐ Linkage to individual bond(s) ☐ Other *(please specify):*

Information reported:

☒ Allocated amounts ☐ GB refinanced share of total investment

☐ Other *(please specify):*

Frequency:

☒ Annual ☐ Semi-annual

☐ *Other (please specify):*

Impact reporting (environmental impact):

☐ Project-by-project ☒ On a project portfolio basis

☐ Linkage to individual bond(s) ☐ *Other (please specify):*

Frequency:

☒ Every year ☐ Every six months

☐ Other (please specify):

Information reported (expected or ex-post):

☒ GHG Emissions / Savings ☐ Energy savings

☒ *Other ESG indicators (please specify):* Equipment completion of installation, size, year of operation, etc.

Means of disclosure

☐ Information published in financial report (Integrated Report) ☐ Information published in sustainability report

☐ Information published in ad hoc documents ☒ Other (please specify): on Osaka Gas website

☐ Reporting reviewed (if yes, please specify which parts of the reporting are subject to external review)

(3) Findings and opinions of DNV against the five common elements of SLBP/SLLP

SLBP/SLLP-1 to 5 are findings and opinions of DNV against the five elements of SLBP, SLLP, SLBGLs, and SLLGLs for sustainable finance (Transition Linked Finance) with general corporate purpose.

SLBP/SLLP-1 Selection of Key Performance Indicators (KPIs)

- DNV reviewed the KPIs related to Osaka Gas's Transition-Linked Finance and has confirmed that the selected KPIs are relevant and important to Osaka Gas's core transition strategy and sustainability management. The selected KPIs are detailed in Schedule-2.
- The CO_2 emissions of the Daigas Group's domestic supply chain (Scope 1, 2, and 3) are important indicators for the transition strategy and sustainability management of Osaka Gas, and are transparent KPIs that can be measured and evaluated annually. The KPIs contribute to both the transition strategy and sustainability management towards the realization of the "Daigas Group Carbon Neutral Vision."
- DNV believes that the KPIs set by Osaka Gas are closely related to the "Daigas Group Energy Transition 2030," which states “overall picture of transition to low-carbon/carbon-neutral energy, specific initiatives and solutions for energy transition towards 2030,” and are an important indicator of Osaka Gas’ initiatives to achieve both stable energy supply and security and to achieve carbon neutrality in energy.

- DNV concluded that the CO_2 emissions required for the assessment of the KPIs are robust and reliable indicators, as they follow the global standard GHG protocol and have been verified according to the requirements of ISO 14064-3 by an external evaluation body.

List of selected KPIs

List of selected KPIs

✓ KPI: CO_2 emissions in the Daigas Group's domestic supply chain (Scope 1, 2, and 3)

Definition, scope, and parameters:

☒ Clear definition of each selected KPI

☒ Clear calculation method

☐ Other

Relevance, robustness, and reliability of the selected KPIs:

☒ Selected KPIs have proven to be relevant, core, and important to the Fundraiser's sustainability and business strategy.

☒ Evidence that KPIs are externally verifiable

☒ KPIs are proven to be measurable or quantifiable based on consistent methods

☒ Evidence that KPIs can be benchmarked

☐ Other

SLBP/SLLP-2 Calibration of Sustainability Performance Targets (SPTs)

- In January 2021, Osaka Gas formulated the "Daigas Group Carbon Neutral Vision," which presents a roadmap for achieving carbon neutrality and sets out the long-term goal of achieving carbon neutrality by 2050, which is consistent with the goals of the Paris Agreement. Osaka Gas has set and published the short- and medium-term goals for achieving the long-term goal, which are "avoided CO_2 emissions in the entire society of 7 million tonnes / renewable energy diffusion contribution of 4 million kW by 2026," "introduction of e-methane of 1% by 2030 / avoided CO_2 emissions in the entire society of 10 million tonnes / CO_2 emission reduction in the domestic supply chain (scope 1, 2, and 3) by 5 million tonnes compared to FY2018.3 / renewable energy diffusion contribution of 5 million kW / renewable energy ratio of domestic power projects approximately 50%," etc.
- While Osaka Gas has set a reduction of 5 million tonnes in FY2031.3 (compared to FY2018.3) as its SPT, promoting the energy shift to natural gas in the transition period, such as fuel conversion, will contribute to reducing CO_2 emissions in the entire society, but will also increase Osaka Gas' CO_2 emissions. In this context, DNV has confirmed that this SPT is an ambitious and meaningful that aims to reduce total CO_2 emissions by promoting energy efficiency and introducing e-methane.
- Osaka Gas plans to make carbon neutral investments of around 220 billion yen in the cumulative total for the period FY2025.3-2031.3, and in the three-year period FY2025.3-2027.3, it plans to make investments of approximately 100 billion yen in carbon neutrality areas (e.g., conversion to renewable energy sources in domestic power business, e-methane) to build future earnings and approximately 460 billion yen in priority growth areas, as well as has presented the CO_2 reduction roadmap and specific initiatives. Therefore, DNV judged that the SPT is realistic and feasible, and is in line with Osaka Gas' sustainability/transition strategies.
- DNV has confirmed that this SPT shows a significant improvement in KPIs and is beyond the trajectory of "business as usual." In contrast to the Ministry of Economy, Trade and Industry's Transition Roadmap in Gas Sector, which depicts a pathway where the gas industry will see an increase in the demand for natural gas as a result of society-wide fuel conversion, which will increase gas companies' CO_2 emissions (Scope 3) in the short term, Osaka Gas has set a target to reduce the absolute value of the domestic supply chain CO_2 emissions (Scope 1, 2, and 3) for 5 million tonnes as of 2030, and the decarbonization awaiting the establishment of innovative technologies would be difficult to achieve with conventional approaches, due to the uncertainty of technological establishment and the significant costs that would be incurred in the transition to decarbonization even if it were achieved. Therefore, DNV judged that it is ambitious. DNV has also confirmed that the SPT level is broadly in line with the linear interpolation level from the baseline FY2018.3 results to 2050 carbon

neutrality, taking into account the equivalent increase in domestic CO_2 emissions of the Daigas Group due to these efforts to avoid emissions.

- DNV has confirmed that the process for setting SPTs is based on an appropriate combination of multiple benchmarking approaches.
  - Osaka Gas has disclosed the base year and previous years' results for the selected KPIs on its website etc., and targets are set until 2030 based on these results.
  - Ahead of its competitors, Osaka Gas has set reduction targets for absolute value of domestic CO_2 emissions, including Scope 3.
- DNV has confirmed that the SPT target setting has been properly disclosed.
  - Through the Framework and the "Roadmap to Achieving Carbon Neutrality," it is explained how CO_2 emission reductions will be achieved.
- DNV has confirmed that Osaka Gas decided not to set annual SPTs, but to promote medium- and long-term initiatives to achieve the FY2031.3 target as CO_2 emissions (Scope 1, 2, and 3) may fluctuate from year to year due to the significant influence of domestic energy demand and the status of individual projects, and that progress towards this target will be verified annually by an external organization. Similarly, DNV has confirmed that milestone SPTs may be set separately from these SPTs, taking into account the financing period etc., and that in such cases they will be disclosed in the bond disclosure documents, the loan agreement documents, etc. each time of the implementation of finance.

Table-Ⅱ (reposted) Osaka Gas' KPIs and SPTs for green/transition finance

KPI	**CO_2 emissions in the Daigas Group's domestic supply chain (Scope 1, 2, and 3)**
Definition of KPI	Total CO_2 emissions in Scope 1, 2, and 3 calculated in accordance with the GHG Protocol, covering the Daigas Group's domestic supply chain
SPT	**Reduce CO_2 emissions in the Daigas Group's domestic supply chain by 5 million tonnes in FY2031.3 (compared to FY2018.3)**
Definition of SPT	Difference between the Daigas Group's domestic supply chain (Scope 1, 2, and 3) CO_2 emissions of 32.01 million tonnes in FY2018.3 and the Daigas Group's total domestic supply chain (Scope 1, 2, and 3) CO_2 emissions in FY2031.3

(SPT's) rationale and degree of ambition:

☒ Evidence that SPTs can bring significant improvements

☒ Evidence that SPTs are aligned with the Fundraiser's sustainability and business strategies

☐ Other

☒ Relevance and reliability of selected benchmarks and standards is proven.

☒ SPTs are proven to be set on a pre-defined timeline.

Benchmarking method:

☒	The Fundraiser's own performance (e.g., past results)	☐	(The Fundraiser's) competitors
☒	Reference to scientific evidence	☐	Other *(please specify)*:

Additional disclosure:

☒	Explanation of the possibility of recalculation or adjustment	☒	Description of the Fundraiser's strategy for achievement
☒	Identification of key factors that may influence the achievement of SPTs	☐	Other *(please specify)*:

SLBP/SLLP-3 Finance Characteristics

- DNV has confirmed that the transition-linked finance (bond or loan) with general corporate purpose implemented under the Framework will have financial and structural characteristics that change in line with the achievement of SPTs. DNV has also confirmed that Osaka Gas has an internal procedure to ensure that the trigger events and their scope of impact, with specific SPT measurement timing and performance requirements, are linked to the achievement of targets and changes in financial and structural characteristics each time of the implementation of finance, and that the details, including conditions, will be disclosed in the bond disclosure documents, the loan agreement documents, etc.
- DNV has confirmed that if Osaka Gas is unable to confirm the achievement status of the SPT on the judgment date, the SPT will be treated as not achieved.
- Osaka Gas explains that if it is required to change the measurement method of KPIs, the setting of SPTs, assumptions and scope of KPIs, etc. due to the occurrence of circumstances that cannot be foreseen or controlled at the time the formulation of the Framework and that could have a significant impact (e.g., changes in business structure due to M&A etc., changes in various laws, systems, and regulations in each country, other extraordinary events), there is a possibility to review the SPT figures for the Transition-Linked Finance already issued and that the details will be disclosed on the website etc.

Financial impact:

☒ Variation in interest rates

☒ Other: Changes in financial or structural characteristics (e.g., stepping up or down in interest rates, donations to organizations etc., aiming at environmental protection activities)

Structural characteristics:

☒ Other: The conditions of the trigger judgment (judgment date and SPT) will be set by the term etc. of the individual bond or loan, and further details, including the conditions, will be disclosed in the bond disclosure document, the loan agreement document, etc.

SLBP/SLLP-4 Reporting

- DNV has confirmed that the required information will be disclosed in a timely manner on the following details as required by the SLBP/SLLP:
  - KPI performance against the SPT: Subject to verification by an external body etc., and disclosed on the website etc. at least once a year after the implementation of the Transition-Linked Finance until the final judgment date
  - SPT achievement status: Subject to annual verification by an independent third-party organization and used to determine financial and structural characteristics
  - When change in the SPT is required: Osaka Gas will discuss with the relevant parties, for example, the setting of an SPT with a level of ambition equal to or higher than the existing evaluation criteria, taking into account the changes.

Reporting information:

- ☒ Performance of selected KPIs
- ☒ SPTs' level of ambition
- ☒ Verification report
- ☐ Other *(please specify)*:

Frequency:

- ☒ Annual
- ☐ Semi-annual
- ☐ Other *(please specify)*:

Disclosure method:

- ☐ Disclosed in publicly available financial reports
- ☐ Disclosed in documents that are made publicly available in a timely manner
- ☐ Reporting with external review
- ☒ Disclosed in publicly available sustainability reports
- ☒ Other: The Fundraiser's website

Level of assurance report:

- ☒ Limited assurance
- ☐ Reasonable assurance
- ☐ Other *(please specify)*:

SLBP/SLLP-5 Verification

- DNV has confirmed that Osaka Gas intends to undergo independent verification of the data related to the KPIs at least once a year by a qualified external evaluation body with relevant expertise in SPT trigger events.

Reporting information:

☒ Limited assurance

☐ Reasonable assurance

☐ Other *(please specify)*:

Frequency:

☒ Annual

☐ Semi-annual

☐ Other *(please specify)*:

Significant changes:

☒ Boundary (scope)

☒ Measurement method of KPIs

☒ Adjustment (change) of SPTs

Ⅶ. Assessment Conclusion

On the basis of the information provided by Osaka Gas and the work undertaken, it is DNV's opinion that the Osaka Gas Green/Transition Finance Framework and the Transition-Linked Finance to be implemented this time meet the criteria established in the Protocol, and are aligned with the definition or purpose of the CTFH/CTFBG, GBP/GBGLs, GLP/GLGLs, SLBP/SLBGLs, and SLLP/SLLGLs.

"provide an investment opportunity with transparent sustainability credentials"

"enable capital-raising and investment for new and existing projects with environmental benefits"

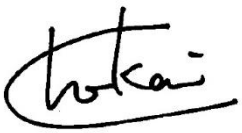
"encourage, through KPIs and SPTs, the achievement of the borrower's ESGs (with regard to climate transition) that are important (as climate transition), material, quantifiable, pre-determined, ambitious, regularly monitored and externally verifiable"

DNV Business Assurance Japan K.K.

8 May 2024

Masato Kanedome
Technical Reviewer
DNV Business Assurance Japan K.K.

Naoki Maeda
Managing Director/SCPA Vice President
DNV Business Assurance Japan K.K.



Jun Chokai
Project Leader
DNV Business Assurance Japan K.K.

Hiroyuki Mizoguchi
Assessor
DNV Business Assurance Japan K.K.

About DNV

Driven by our purpose of safeguarding life, property and the environment, DNV enables organisations to advance the safety and sustainability of their business. Combining leading technical and operational expertise, risk methodology and in-depth industry knowledge, we empower our customers' decisions and actions with trust and confidence. We continuously invest in research and collaborative innovation to provide customers and society with operational and technological foresight.
With our origins stretching back to 1864, our reach today is global. Operating in more than 100 countries, our 16,000 professionals are dedicated to helping customers make the world safer, smarter and greener.

Disclaimer

Responsibilities of the Management of the Issuer and the Second-Party Opinion Providers, DNV: The management of Issuer has provided the information and data used by DNV during the delivery of this review. Our statement represents an independent opinion and is intended to inform the Issuer management and other interested stakeholders in the Bond as to whether the established criteria have been met, based on the information provided to us. In our work we have relied on the information and the facts presented to us by the Issuer. DNV is not responsible for any aspect of the nominated assets referred to in this opinion and cannot be held liable if estimates, findings, opinions, or conclusions are incorrect. Thus, DNV shall not be held liable if any of the information or data provided by the Issuer's management and used as a basis for this assessment were not correct or complete.

Schedule-1 Daigas Group Green/Transition Finance Nominated Projects

The projects listed in the table are transition finance candidates that have been evaluated for eligibility at the time of the assessment of the framework (as of April 2024). In the future, green/transition bonds or loans issued under the Daigas Group Green/Transition Finance Framework will be selected from one or more of the green/transition eligible project (Eligible Criteria) as per its labelling and reported in the pre-financing or post-financing reports. If additional green/transition projects are included, eligibility will be evaluated in advance by Osaka Gas in accordance with the Daigas Group Green/Transition Finance Framework and, if necessary, DNV will evaluate them in a timely manner.

Eligible Criteria				Project overview (main expenditure)
1)	Decarbonization of gas energy	Hydrogen utilization	Methanation	Expenditure on research and development and capital expenditure for social implementation of e-methane and establishment of methanation technology (e.g., SOEC co-electrolysis)
			Direct use	Expenditure on building the hydrogen supply chain (equipment manufacturing, hydrogen production, transport, supply, etc.) Expenditure on research and development investment in a process for simultaneous production of hydrogen, electricity and CO_2 using chemical looping combustion technology
		Biogas, biomethane		Expenditure on capital expenditure to expand the use of biogas and biomethane for domestic and international on-site utilization
2)	Decarbonization of power generation	Renewable power generation		Expenditure on the development, construction, operation and refurbishment of renewable energy, such as biomass, solar, onshore wind and offshore wind
		Thermal power generation	Carbon-neutral Fuel utilisation	Expenditure on investment, research and development in the procurement, supply and use of synthetic methane, hydrogen and ammonia
			CO_2 capture and storage (CCUS)	Expenditure on participation in CCUS demonstrations (e.g., consortia)
3)	Low-carbonization	Fuel Cells	The fuel cells High efficiency and miniaturisation	Expenditure on research, development and capital investment in small SOFCs with high power generation efficiency

		Advanced utilization of natural gas and CHP	converting fuel from oil and coal to natural gas	Expenditure on capital expenditure (e.g., on the construction of LNG satellite terminals, LNG bunkering vessels, and the provision of related equipment) to support customers' fuel conversion
			Micro grid	Expenditure on the construction and demonstration of microgrids
			Carbon-neutral LNG	Expenditure on the procurement and supply of carbon neutral LNG* *LNG with GHG emissions offset by credits
		Advanced energy utilization	VPP and smart energy systems	Expenditure on research and development and capital investment in VPP, storage battery business, projects to demonstrate the establishment of smart energy systems, etc.
			EVs	Expenditure on EV charging infrastructure business, demonstration projects and service provision, etc. that contribute to the diffusion and expansion of EVs
		Other (Reduction of CO_2 emission associated with own activities)	Reduce CO_2 emissions from activities other than the above, such as manufacturing, power generation, and office operations.	Expenditure on cold power generation equipment and cold heat utilisation equipment in the city gas production process, and on energy-saving renovation work in buildings

Schedule-2 Key Performance Indicators (KPIs) and Sustainability Performance Targets (SPTs)

Key Performance Indicators (KPIs)

KPI	Explanation
CO_2 emissions in the Daigas Group's domestic supply chain (Scope 1, 2, and 3)	Osaka Gas has set "CO_2 emissions in the Daigas Group's domestic supply chain (Scope 1, 2, and 3)" as a KPI. CO_2 emissions in the Daigas Group's domestic supply chain are a highly important and quantifiable indicator for addressing climate change, which the Daigas Group positions as one of its key management issues.

Sustainability Performance Targets (SPTs)

SPT	Explanation
5 million tonnes reduction by FY2031.3 (compared to FY2018.3)	In contrast to the Ministry of Economy, Trade and Industry's Transition Roadmap in Gas Sector, which depicts a pathway where the gas industry will see an increase in the demand for natural gas as a result of society-wide fuel conversion, which will increase gas companies' CO_2 emissions (Scope 3) in the short term, Osaka Gas has set a target to reduce the absolute value of the domestic supply chain CO_2 emissions (Scope 1, 2, and 3) for 5 million tonnes as of 2030, and the decarbonization awaiting the establishment of innovative technologies would be difficult to achieve with conventional approaches, due to the uncertainty of technological establishment and the significant costs that would be incurred in the transition to decarbonization even if it were achieved. Therefore, DNV has concluded that it is ambitious. DNV has also confirmed that the SPT level is broadly in line with the linear interpolation level from the baseline FY2018.3 results to 2050 carbon neutrality, taking into account the equivalent increase in domestic CO_2 emissions of the Daigas Group due to these efforts to avoid emissions.

	The specific trigger judgment for individual transition-linked finance will be set around this SPT in an appropriate manner and disclosed prior to the finance implementation in the bond disclosure documents, the loan agreement documents, etc.

Schedule-3 Climate Transition Finance Eligibility Assessment Protocol

The checklists (1-4) below are DNV evaluation procedures created for Daigas Group Green/Transition Finance Framework Eligibility Evaluation based on the disclosure requirements of CTFH and CTFBG.

The "confirmed documents" in the Work Undertaken include public or private documents (internal documents of the issuer or borrower), etc., and are provided by Osaka Gas as evidence of eligibility judgment for DNV.

*Please replace “Issuer”, “Investor” to “Borrower/Fundraiser”, “Lender” in the context in the following requirements.

Ref.	Criteria	Requirements	Work Undertaken	DNV Findings
1	Issuer’s Climate Transition Strategy and Governance	The green, sustainability or sustainability- linked financing should be directed toward enabling an issuer’s GHG emissions reduction strategy in alignment with the goals of the Paris Agreement. *Recommended information and indicators:* • a long-term, science-based target to align with the goals of the Paris Agreement; • relevant and credible interim science- based targets in the short and medium-term on the trajectory towards the long-term goal, in line with the relevant regional, sector, or international climate change scenarios; • disclosure on an issuer’s transition plan or climate transition strategy. This should include specific itemisation of the main levers towards GHG emissions reduction,	Confirmed documents - Framework - Daigas Group Medium-Term Management Plan 2026 - Daigas Group Carbon Neutral Vision - Daigas Group Energy Transition 2030 - Carbon Neutral Challenge 2050 Action Plan of the Japan Gas Association - Gas and Electricity Sector Roadmap of Ministry of Economy, Trade and Industry - Daigas Group Integrated Report 2023 - Daigas Group ESG data - Project list & estimated CO_2 emission reduction	Osaka Gas has established a framework and has introduced a range of plans and initiatives to manage and enhance the environmental sustainability and related performance of the organisation against Daigas Group’s wider environmental strategy. DNV has reviewed and confirmed that Osaka Gas's targets are equivalent to meeting the targets of the Paris Agreement, based on a plan of action to achieve carbon neutrality by 2050, a science-based long-term target quantified by Osaka Gas. Osaka Gas sets environmental corporate strategies that are important to its business model, assuming the IEA (World Energy Outlook 2021) multilinear scenario (1.5°C scenario (NZE2050) and 2.6°C scenario (STEPS)) that targets energy projects (domestic and overseas gas and electricity projects etc.) that are expected to be significantly affected by risks and opportunities identification using TCFD guidance and climate change, and considers the degree of progress in energy saving, transitions in the composition of power sources, etc. Osaka Gas has formulated the "Daigas Group Carbon Neutral Vision" and the "Daigas Group Energy Transition 2030," in which it presents a roadmap for achieving carbon neutrality.

Ref.	Criteria	Requirements	Work Undertaken	DNV Findings
		such as a detailed capital expenditure (CapEx) plan and relevant technological implications (i.e., amounts to be spent, what carbon cost is considered for implementing such CapEx programme, operational impacts, regulatory considerations, etc.); • clear oversight and governance of an issuer's climate transition strategy, including management/board level accountability; and • evidence of a broader sustainability strategy to mitigate relevant environmental and social externalities, including 'just transition' considerations where appropriate, and contributions to the UN Sustainable Development Goals (UN SDGs).	Interviews with stakeholders	In the vision, Osaka Gas sets the long-term goal of achieving carbon neutrality by 2050, which is consistent with the goals of the Paris Agreement, and the short- and medium-term goals for achieving this goal, which are "avoided CO_2 emissions in the entire society of 7 million tonnes / renewable energy diffusion contribution of 4 million kW by 2026," "introduction of e-methane of 1% by 2030 / avoided CO_2 emissions in the entire society of 10 million tonnes / CO_2 emission reduction in the domestic supply chain (scope 1, 2, and 3) by 5 million tonnes compared to FY2018.3 / renewable energy diffusion contribution of 5 million kW / renewable energy ratio of domestic power projects approximately 50%," etc. The roadmap discloses the strategic plan to achieve the transition to carbon neutrality. Specifically, Osaka Gas's Transition Strategy incorporates the environmental targets of the Japan Gas Association and the Ministry of Economy, Trade and Industry (METI), as well as action plan to achieve a target of limiting the increase in average temperature below 2°C using the TCFD. In addition, if it becomes necessary to review Osaka Gas's efforts in order to achieve continuous emission reductions in the future, Osaka Gas plans to implement them as appropriate according to the timeline. Osaka Gas considers the response to climate change, including the implementation of the Transition Strategy, to be one of the most important management issues, and has established a system and framework to promote the initiatives specified in the Daigas Group Carbon Neutral Vision and Roadmap at the management level. Performance-linked remuneration is being adopted for directors other than external directors, using ESG indicator achievement factors,

Ref.	Criteria	Requirements	Work Undertaken	DNV Findings
				making climate change-related indices such as CO_2 emissions as one of the performance indicators. Furthermore, after the conclusion of the Annual General Meeting of Shareholders scheduled to be held in June 2024, Osaka Gas plans to shift to a company with an audit committee system to separate execution and supervision and strengthen the supervisory function. Osaka Gas's approach to promoting sustainability, both for the Daigas Group and for society as a whole, is to provide solutions for the realization of a sustainable society as an innovative energy service company by decarbonizing city gas feedstock and introducing renewable energy. In addition, in the "Medium-Term Management Plan 2026," the Daigas Group has set the following three commitments as key strategies: Co-create value for a sustainable future (achieving carbon neutrality in energy, improving the resilience of customers and society, co-creating advanced and diverse solutions), Support employees to shine in their roles, and Evolve business foundation as a corporate group that “secure peace of mind today, build sustainable lifestyles for tomorrow” to conduct its business activities and make a broad contribution to the achievement of the Sustainable Development Goals (SDGs) set by the United Nations. Of these, the key materiality issue to which Green/Transition Finance is primarily concerned is climate change (achieving a low- and decarbonized society) as set out in the Daigas Group's Charter of Business Conduct "Contributing to the Sustainability of the Environment and Society." Based on an assessment of the implementation plan provided by Osaka Gas under the Framework, the "Daigas Group Carbon Neutral Vision" and the Osaka Gas Roadmap,

Ref.	Criteria	Requirements	Work Undertaken	DNV Findings
				DNV has confirmed that it is well aligned with Osaka Gas's Transition Strategy. Through the assessment, DNV has confirmed that the implementation plan based on the Transition Strategy, such as the decarbonization of town gas feedstock centered on methanation utilizing renewable energy and hydrogen and the decarbonization of power sources centered on the introduction of renewable energy, is credible, ambitious, and achievable. DNV judged that Osaka Gas ensures that substantial benefits will be shared widely and shows consideration for just transition as it has been implementing fuel conversion from coal and oil to natural gas with low CO_2 emissions not only in the Kansai region but also in wide areas of Japan and Asia, and has been conducted multiple feasibility studies and basic designs for the overseas supply chain building in cooperation with domestic and overseas operators, viewing overseas supply chain building as well as domestic supply chain building is one of the most promising options for the full-scale introduction of e-methane from FY2031.3. Osaka Gas does not envisage any large-scale closure of facilities or plants related to existing businesses, and even in the cases of closure, Osaka Gas envisages the implementation of measures that take employment into consideration through personnel transfers within the company's businesses etc.
2	Business model environmental materiality	The climate transition strategy should be relevant to the environmentally material parts of an issuer's business model, taking into account potential future scenarios which may impact current	Confirmed documents - Framework - Daigas Group Medium-Term Management Plan 2026	DNV evaluated whether the key activities associated with Osaka Gas's business activities correspond to the Osaka Gas's Transition Strategy, which was evaluated as contributing to the environment.

<table>
<tr><th>Ref.</th><th>Criteria</th><th>Requirements</th><th>Work Undertaken</th><th>DNV Findings</th></tr>
<tr>
<td></td>
<td></td>
<td>determinations concerning materiality.

Recommended information and indicators:

Discussion on the materiality of the planned climate transition strategy may:
• be disclosed in the form of a materiality matrix made publicly available by an issuer or be covered in an issuer’s annual reports; and
• address the materiality of climate-related eligible projects and/or KPI(s) on the overall emissions profile of an issuer.
• Where Scope 3 emissions are expected to be material but are not yet identified or measured, a timeline for reporting should be disclosed.</td>
<td>- Daigas Group Carbon Neutral Vision
- Daigas Group Energy Transition 2030
- Carbon Neutral Challenge 2050 Action Plan of the Japan Gas Association
- Gas and Electricity Sector Roadmap of Ministry of Economy, Trade and Industry
- Daigas Group Integrated Report 2023
- Daigas Group ESG data
- Project list & estimated CO_2 emission reduction

Interviews with stakeholders</td>
<td>The Daigas Group's GHG emissions (Unit: t-CO_2e / FY2021.3-2023.3) are as follows:

<table>
<tr><th>Target Scope</th><th>Results for FY2021.3</th><th>Results for FY2022.3</th><th colspan="2">Results for FY2023.3</th></tr>
<tr><td>Scope1</td><td>5,215,428</td><td>4,526,038</td><td>4,405,987</td><td>17%</td></tr>
<tr><td>Scope2</td><td>297,386</td><td>334,433</td><td>323,790</td><td>1%</td></tr>
<tr><td>Scope3</td><td>22,270,832</td><td>21,924,919</td><td>21,246,842</td><td>82%</td></tr>
<tr><td>Total</td><td>27,783,646</td><td>26,785,390</td><td>25,976,619</td><td>(100%)</td></tr>
</table>

<Osaka Gas' approach to Scope 1 to 3 emissions>

Scope 1: Direct emissions from own operations (gas production, power generation, etc.) (e.g., combustion of gas for power generation)
Scope 2: Indirect emissions from own operations (gas production, power generation, etc.) (use of electricity supplied by other companies, etc.)
Scope 3: Indirect emissions from value chains other than Scope 1 and Scope 2 (e.g., fuel procurement, combustion of gas at destination)

Osaka Gas's Transition efforts include not only CO_2 emission reductions from its own business activities (Scope 1 and 2), but also Scope 3 and activities that contribute to the avoided emissions of other companies.

This will contribute to the implementation of supply-side and demand-side carbon neutrality as an important initiative indicated in the various plans and strategies for decarbonisation in Japan. In other words, Osaka Gas's transition initiatives directly support the transition of society as a whole, including its own company, as an</td>
</tr>
</table>

Ref.	Criteria	Requirements	Work Undertaken	DNV Findings
				energy service company taking on the challenge of achieving carbon neutrality by 2050. The Osaka Gas's roadmap is well aligned with the gas and electricity roadmaps of the Japan Gas Association and the Ministry of Economy, Trade and Industry, and its specific implementation plans and targets are set and quantified in the absolute sense that they must be the optimization to achieve them and the possibility of further improvement. DNV has confirmed that Osaka Gas's plan to implement its Transition Strategy is closely linked to the activities of its core business and to activities that contribute to the CO_2 emissions reduction of in society as a whole, thus contributing to the environmental aspects of society as a whole and supporting the promotion of Osaka Gas's business. Osaka Gas's planned transition strategy and transition pathway are associated with the materiality that Osaka Gas has achieved through GRI standards*1, ISO 26000, TCFD, etc., and will contribute to significant environmental improvements (impact) in both qualitative and quantitative terms. *1: Global Reporting Initiative (an international standard providing ESG-related reporting, management and analysis methods)
3	Climate transition strategy and targets to be science-based	An issuer's climate transition strategy should reference science-based targets and transition pathways. There is scientific guidance around the required rate of GHG emission reductions (the	Confirmed documents - Framework - Daigas Group Medium-Term Management Plan 2026	Osaka Gas has set a transition plan that is consistent with the Paris Agreement based on science-based evidence, and a transition trajectory that is consistent with the goals of the Japan Gas Association and the Ministry of Economy, Trade and Industry. (In contrast to the Ministry of Economy, Trade

Ref.	Criteria	Requirements	Work Undertaken	DNV Findings
		"GHG emissions reduction trajectory") to align the global economy with the goals of the Paris Agreement. The planned transition trajectory should: • be quantitatively measurable and aligned with the latest available methodology; • be aligned with, benchmarked, or otherwise referenced to recognised third-party, science-based trajectories, where such trajectories exist; when third-party trajectories are not available, consider industry peer comparison and/or internal methodologies/historical performance; • be publicly disclosed (ideally in mainstream financial filings), including interim targets; and • be supported by independent assurance or verification. *<u>Strongly recommended</u> information and indicators:* • short, medium, and long-term GHG emission reduction targets aligned with the Paris Agreement; • baseline year and historic emissions (including absolute emissions, where intensity metrics are the main	- Daigas Group Carbon Neutral Vision - Daigas Group Energy Transition 2030 - Carbon Neutral Challenge 2050 Action Plan of the Japan Gas Association - Gas and Electricity Sector Roadmap of Ministry of Economy, Trade and Industry - Daigas Group Integrated Report 2023 - Daigas Group ESG data - Project list & estimated CO_2 emission reduction Interviews with stakeholders	and Industry's Transition Roadmap in Gas Sector, which depicts a pathway where the gas industry will see an increase in the demand for natural gas as a result of society-wide fuel conversion, which will increase gas companies' CO_2 emissions (Scope 3) in the short term, Osaka Gas has set a target to reduce the absolute value of the domestic supply chain CO_2 emissions (Scope 1, 2, and 3) for 5 million tonnes as of 2030.) The plan sets out realistic targets and pathways for reducing CO_2 emissions in absolute terms, and plans to reduce absolute (total) CO_2 emissions to maintain defined levels in the future. DNV has confirmed that Osaka Gas's Transition Strategy is quantified in terms of emissions intensity and absolute values or ratios based on a consistent measurement methodology with prescribed assumptions. Transition targets are set voluntarily based on the use of TCFD and other initiatives to achieve sustainable CO_2 emission reductions, and they are consistent with the policies of the benchmarking Japan Gas Association and the Ministry of Economy, Trade and Industry. Specifically, Osaka Gas has set the following targets for Transition Table Osaka Gas Transition Targets **Short- and medium-term targets**: **FY2027.3** • Renewable development contribution[*1]: **4 million kW** • Avoided CO_2 emissions: **7 million tonnes/year (baseline: FY2017.3)**

Ref.	Criteria	Requirements	Work Undertaken	DNV Findings
		indicator); • scenario utilised and methodology applied (e.g., ACT, SBTi, IEA etc.). When third-party trajectories are not available, industry peer comparison and/or internal methodologies/historical performance; • GHG emission objectives covering all scopes and most relevant sub-categories (Scopes 1, 2 and 3); • targets formulated in either intensity or absolute terms, noting, that where intensity targets are used, projections on the change to absolute emissions should also be provided; and • where applicable, use of carbon capture technology as well as of high-quality and high-integrity carbon credits, and their relative contribution to the GHG emissions reduction trajectory in line with best industry practices (e.g., SBTi, VCMI and ICVCM).		• CO_2 reduction rate in own offices and company vehicles: **67% (compared to FY2018.3)** **FY2031.3** • Renewable development contribution*1: **5 million kW** • Power portfolio in Japan consisting of renewable energy*1: **Approximately 50%** • Avoided CO_2 emissions: **10 million tonnes/year*2 (baseline: FY2017.3)** • CO_2 emission reduction: **5 million tonnes*3 (compared to FY2018.3)** • Introduction of e-methane: **1%*4** • CO_2 reduction rate in own offices and company vehicles: **100%** **Long-term targets** **2050** • Carbon neutrality *1: Including solar, wind, biomass power sources which are eligible for the feed-in tariff (FIT) scheme *2: Equivalent to one third of the CO_2 emission currently produced in our business and by our customers (33 million tonnes/year) *3: CO_2 emissions in the Daigas Group's domestic supply chain (Scope 1, 2, and 3) *4: 1% of gas sales Osaka Gas's Transition efforts include not only CO_2 emission reductions from its own business activities (Scope 1 and 2), but also Scope 3 and activities that contribute to the avoided emissions of other companies. This will contribute to the

Ref.	Criteria	Requirements	Work Undertaken	DNV Findings
				implementation of supply-side and demand-side carbon neutrality as an important initiative indicated in the various plans and strategies for decarbonization in Japan. In other words, Osaka Gas's transition initiatives directly support the transition of society as a whole, including its own company, as an energy service company taking on the challenge of achieving carbon neutrality by 2050. In addition to recycling CO_2 emitted into the atmosphere and producing and supplying e-methane through methanation, Osaka Gas has also started joint studies etc. on the capture, transport, use, and storage of CO_2 emitted from domestic plants in the steel, cement, and chemical industries, where CO_2 emissions are difficult to reduce, towards the development of a CO_2 value chain. In addition, with regard to the utilization of carbon credits, Osaka Gas has announced a joint investment in the Eastwood Climate Smart Forestry Fund, a forestry fund set up by the Sumitomo Forestry Group together with 10 Japanese companies. The fund plans to generate approximately 1 million tonnes of new CO_2 absorption every year and will contribute to the realization of a decarbonized society through the creation and return of high-quality carbon credits. Transition initiatives and the respective scope emissions are disclosed in the "Daigas Group Carbon Neutral Vision," "Daigas Group Environmental Performance Data," etc.
4	Implementation transparency	Market communication regarding the offer of a GSS financing instrument intended to fund an issuer's climate transition strategy should also be transparent, to the extent practicable,	Confirmed documents - Framework - Daigas Group Medium-Term Management Plan 2026	DNV has confirmed that the investment and development plans related to Osaka Gas's Transition Strategy include agreement on future investment and expenditure. Specifically, Osaka Gas plans to invest a cumulative total of 2 trillion yen by FY2031.3 from FY2018.3 in quality

Ref.	Criteria	Requirements	Work Undertaken	DNV Findings
		on the underlying investment program including capital and operational expenditures (CapEx and OpEx). *Recommended information and indicators:* • CapEx roll-out plan consistent with the overall climate transition strategy and climate science and discussion of how it informs CapEx decision- making within the organisation; • phase-out plan regarding activities/products incompatible with the climate transition strategy (when such activities or products are significantly harmful or display levels of performance inconsistent with science-based GHG emission reduction trajectories); • green CapEx, for example those referenced under the eligible green project categories in the Green Bond Principles, as a percentage of total CapEx and how the ratio may be expected to evolve over time; • disclosure on the percentage of assets/revenues/ expenditures/divestments aligned to the various levers; • a qualitative and/or quantitative assessment of the potential locked-in GHG emission from an issuer's	- Daigas Group Carbon Neutral Vision - Daigas Group Energy Transition 2030 - Carbon Neutral Challenge 2050 Action Plan of the Japan Gas Association - Gas and Electricity Sector Roadmap of Ministry of Economy, Trade and Industry - Daigas Group Integrated Report 2023 - Daigas Group ESG data - Project list & estimated CO_2 emission reduction Interviews with stakeholders	improvement, growth and M&A, including the activities outlined in the Daigas Group Carbon Neutral Vision and Roadmap. In addition, the Daigas Group's "Medium-Term Management Plan 2026" aims to achieve a 1% introduction of e-methane by 2030, avoided CO_2 emissions in the entire society of 10 million tonnes, and renewable energy sources diffusion contribution of 5 million kW. Osaka Gas plans to make carbon neutral investments of around 220 billion yen in the cumulative total for the period FY2025.3-2031.3, and in the three year period FY2025.3-2027.3, it plans to invest approximately 100 billion yen in carbon neutrality areas (e.g., conversion to renewable energy sources in domestic power business, e-methane) to build future earnings, and approximately 460 billion yen in priority growth areas such as thermal power sources, shale gas development, and life & business solutions business. This includes projects to be implemented with green/transition finance. The introduction of and transition to e-methane etc. is also planned as a measure to avoid lock-in of coal and oil use. DNV has confirmed that Osaka Gas has been trying since FY2022.3 to understand the carbon impact of projects that have already invested by utilizing internal carbon prices, and has also been utilizing since FY2024.3 as a decision-making tool for new investment decisions in business areas with a large carbon impact. DNV has confirmed that the overall investment plan (investment amount) for the future considers CTF-1 to CTF-3 for the investment required to implement the transition strategy and also confirmed plans to be implemented according to the appropriate timelines, based on internal management system and process.

Ref.	Criteria	Requirements	Work Undertaken	DNV Findings
		key assets and products; • assumptions on the internal cost of carbon; and • disclosure on adverse impacts on the workforce, community and surrounding environment, and related strategies used to mitigate those negative impacts.		

Schedule-4 Green Finance (Transition Finance with specific use of proceeds) Eligibility Assessment Protocol

The checklist below (GBP/GLP-1 to GBP/GLP-4) is a DNV evaluation procedure created for Daigas Group Green/Transition Finance (Bond & Loan) Eligibility Assessment (Bond & Loan with specific use of proceeds) based on the requirements of GBP/GBGLs and GLP/GLGLs. "Confirmed documents" in the “Work Undertaken” includes documents inside the issuer and is provided by Osaka Gas as evidence of eligibility judgment for DNV.
In Schedule-4, it is referred to as GBP or GLP according to the practice, but this is the standard to be referred to in the case of financing that specifies the use of proceeds such as transition projects in transition finance (bonds and loan) that specifies the use of proceeds based on CTFH and CTFBG, so please read as the meaning of the transition as appropriate.

GBP/GLP-1 Use of Proceeds

Ref.	Criteria	Requirements	Work Undertaken	DNV Findings
1a	Types of funds	The types of green bonds are classified into one of the following types defined by GBP. · (Standard) Green/transition Bond · Green/transition Revenue Finance · Green/transition Project Finance · Other	Confirmed documents - Framework Interview with stakeholders	Through the evaluation work, DNV has confirmed that Osaka Gas Green/Transition Finance (bond/loan) fall into the following categories. · (Standard) Green/transition Bond
1b	Green/transition Project Classification	The key to a green/transition bond is that the proceeds will be used for a green project, which should be properly stated in the legal documents relating to the security.	Confirmed documents - Framework Interview with stakeholders	DNV has confirmed that the Daigas Group Green/Transition Finance is intended to finance a wide range of green/transition projects focused on Osaka Gas's environmental targets and transition strategy, as described in the Framework and Schedule-1. The Group confirmed that the purpose of the financing is to allocate funds to a wide range of green/transition projects focusing on Osaka Gas' environmental objectives and transition strategy as described in the Framework and Schedule-1. Specifically, all Green/Transition Finance Eligible Project Candidates listed in Schedule-1 are evaluated as conforming to

Ref.	Criteria	Requirements	Work Undertaken	DNV Findings
				the Transition Strategy, and the proceeds through Green/Transition Finance are planned to be financed one or more of the Green/Transition Finance Eligible Project Candidates. If a transition project is pre-selected before the financing is implemented, this will be disclosed in legal documents. Through the assessment, DNV concludes that the Green/Transition eligible projects candidates will bring concrete and actual environmental benefits. Table Daigas Group Key initiatives to achieve carbon neutrality (Green/transition finance candidate projects)

Eligible Criteria			Eligible Criteria & Project Overview
1)	Decarbonization of gas energy	Hydrogen utilization	Methanation, direct use (chemical looping combustion technology), etc.
		Biogas, biomethane	On-site utilization of biogas and biomethane in domestic/global scale
2)	Decarbonization of power generation	Renewable power generation	Solar power plants, onshore wind farm, offshore wind farm, biomass power plants, etc.
		Thermal power generation	Use of carbon neutral fuels such as synthetic methane, hydrogen and ammonia, CCUS (Carbon Capture, Utilization and Storage), etc.
3)	Low-carbonization	Fuel Cells	Enhancing efficiency and downsizing, etc.
		Advanced utilization of natural gas and CHP	Support for converting fuel from oil and coal to natural gas Demonstration of building micro grid Use of carbon neutral LNG
		Advanced energy utilization	VPP, smart energy systems, EVs, etc.
		Other (Reduction	Cryogenic power generation in the city gas production process, Cryogenic

Ref.	Criteria	Requirements	Work Undertaken	DNV Findings
				<table><tr><td></td><td></td><td>of CO_2 emission associated with own activities)</td><td>power generation facilities, energy efficiency renovation work of buildings, etc.</td></tr></table>
1c	Environmental benefits	All green projects to which the funds are used should have clear environmental benefits, the effects of which should be assessed by the issuer and, where possible, quantitatively demonstrated.	Confirmed documents - Framework Interview with stakeholders	Green/Transition projects will contribute to goals based on Osaka Gas's Transition Strategy, and contribute to low-carbon or decarbonization that classified into the three eligibility criteria listed in 1b. The environmental benefit is the reduction of CO_2 emissions, which has been quantitatively or qualitatively evaluated by Osaka Gas. DNV has confirmed that, prior to the implementation of green/transition finance, the project's environmental benefit evaluation method (calculation method) and the items to be disclosed are planned to be evaluated and reported quantitatively as indicators and CO_2 emission reductions according to the project's characteristics in the annual report. (If it is difficult to evaluate the quantitative CO_2 emission reductions due to the characteristics of the project, Osaka Gas will report the project outline and the status of R&D and demonstration to the extent practicable.)
1d	Refinancing rate	If all or part of the proceeds are used or may be used for refinancing, the issuer will indicate the estimated ratio of the initial investment to the refinancing and, if necessary. Therefore, it is recommended to clarify which investment or project portfolio is subject to refinancing.	Confirmed documents - Framework Interview with stakeholders	Osaka Gas plans to allocate all of the proceeds to new investment, refinancing, or both, in one or more of the eligible project candidates included in Schedule-1. If it is clear in advance, prior to the finance implementation, whether the financing will be used for new investments or refinancing, this will be disclosed in legal documents. If it is not yet clear, the issuer plans to disclose the estimated amount (or percentage) of the proceeds used for refinancing through reporting (annual report).

GBP/GLP-2 Process for Project Evaluation and Selection

Ref.	Criteria	Requirements	Work Undertaken	DNV Findings
2a	Project selection process	Green bond issuers should provide an overview of the process of qualifying projects for which green bond funding will be used. This includes (but is not limited to): ・The process by which the issuer determines that the project in question is included in the business category of a qualified green project. ・ Creation of criteria for eligibility of projects for which green bond funding will be used ・ Environmental sustainability goals	Confirmed documents - Framework Interview with stakeholders	DNV has confirmed that Osaka Gas has a process of determining the eligibility of projects for which the green/transition finance, and that the outline is specified in the Framework.
2b	Issuer's Environmental and Social Governance Framework	In addition to criteria and certifications, the information published by issuers regarding the green bond process also considers the quality of performance of the issuer's framework and environmental sustainability.	Confirmed documents - Framework Interview with stakeholders	Osaka Gas complies with environment-related laws, ordinances and regulations, and considers that the environmental benefits such as CO_2 reduction are clear in the entire life cycle or each process when selecting green/transition projects to be implemented. In the operation and implementation of the project, each of the departments involved is committed to the preservation of the surrounding environment. DNV has confirmed that the green/transition projects implemented by Osaka Gas are consistent with its management and environmental policies, as well as with the transition strategy, goals and pathways.

GBP/GLP-3 Management of Proceeds

Ref.	Criteria	Requirements	Work Undertaken	DNV Findings
3a	Tracking procedure-1	The net proceeds from of Green bonds should be managed in sub-accounts, included in sub-portfolio, or otherwise tracked. It should also be certified by the issuer in a formal internal process related to the issuer's investment and financing operations for the Green Project.	Confirmed documents - Framework Interview with stakeholders	DNV has confirmed that the proceeds by the green/transition finance can be tracked in line with the issuer's accounting integration system and other systems, and confirmed the systems actually in use or to be used, and documents to be created specifically for use through the assessment, and confirmed that the management status of the proceeds was proved.
3b	Tracking procedure-2	During the green bond redemption period, the balance of funds raised that is being tracked should be adjusted at regular intervals to match the amount allocated to eligible projects undertaken during that period.	Confirmed documents - Framework Interview with stakeholders	DNV has confirmed that the issuer plans to regularly (at least once a year) review the outstanding balance of the transition financing by using the integrated accounting system and other documents prepared specifically for this purpose described in 3a during the period from the implementation of the transition finance to its redemption or repayment.
3c	Temporary holding	If no investment or payment has been made in a qualified green project, the issuer should also inform the investor of the possible temporary investment method for the balance of unallocated proceeds.	Confirmed documents - Framework Interview with stakeholders	DNV has confirmed that the confirmation process of Osaka Gas through the integrated accounting system and documents produced specifically for this purpose is structured to ensure that the balance of unallocated proceeds is recognised sequentially. DNV has confirmed through the Framework and assessment that the balance of unallocated proceeds will be managed in cash or cash equivalents. DNV has also confirmed that the balance of unallocated proceeds will be disclosed through reporting on the allocation status of proceeds.

GBP/GLP-4 Reporting

Ref.	Criteria	Requirements	Work Undertaken	DNV Findings
4a	Periodical Reporting	In addition to reporting on the use of proceeds and the temporary investment of unallocated proceeds, the issuer will consider each project at least once a year for projects to which the Green bond proceeds have been allocated, taking into account the following: A list of each project should be provided. -Confidentiality and competitive considerations -Outline of each project, expected sustainable environmental and social effects	Confirmed documents - Framework Interview with stakeholders	DNV has confirmed that the issuer will carry out annual reporting of the green/transition finance until the proceeds are allocated and disclose information on the allocation status of proceeds, the projects to which the proceeds have been allocated and the environmental benefits. DNV has also confirmed that the issuer will report on the environmental benefits until the redemption or repayment of the green/transition finance is completed. DNV has also confirmed that, even after the allocation plan or allocation has been completed, the issuer plans to report in a timely manner or in its reporting on any changes in transition strategy or pathways, or any major changes in the allocation plan or project implementation status (e.g., interruption of a project for which allocation has been started, significant postponement on an annual basis, sale or retirement). The report will be disclosed on the website. <Allocation status> ◆ Allocated amount per eligible criteria ◆ Balance of unallocated amount ◆ Estimated amount of the proceeds allocated to refinancing <Environmental benefits> ◆ Environmental impacts are disclosed within the scope of confidentiality, to the extent practicable, and in consideration of the characteristics of the project, including an overview of the project (including progress, completion, operation, etc.) and the expected environmental benefits (e.g., t-CO_2/year). <Other>

Ref.	Criteria	Requirements	Work Undertaken	DNV Findings
				• Initiatives to achieve carbon neutrality by 2050 will be reviewed as necessary in light of policy and technological trends, and will be disclosed where necessary. The currently planned reporting for the transition project is described in the section of GBP/GLP-4. Reporting in this document.

Schedule-5 Sustainability-Linked Finance (with general corporate purpose) Eligibility Assessment Protocol

Since the Daigas Group Green/Transition Finance may be implemented as a General Corporate Purpose transition-linked bond or loan, which does not specify the use of proceeds, it is evaluated by applying the five elements of SLBP/SLLP required for eligibility evaluation of a bond or loan that does not specify the use of proceeds defined by CTFH/CTFBG.

The checklist below (SLBP/SLLP 1 to 5) is a DNV evaluation procedure created for the Daigas Group Green/Transition Finance (Transition-Linked Bond or Loan with general corporate purpose) based on the requirements of SLBP/SLLP.

The "confirmed documents" in the Work Undertaken include public or private documents (materials inside the Fundraiser) etc., and are provided by Osaka Gas as evidence of eligibility judgment for DNV.

*Please replace “Borrower”, “Lender” to “Fundraiser”, “Investor” in the context in the following requirements.

SLBP/SLLP-1 Selection of KPIs (Key Performance Indicators)

Ref.	Criteria	Requirements	Work Undertaken	DNV Findings
1a	KPI – material to core sustainability and business strategy	The borrower’s sustainability performance is measured using sustainability KPIs that can be external or internal. The KPIs should be material to the issuer’s core sustainability and business strategy and address relevant environmental, social and/or governance challenges of the industry sector and be under management’s control. The KPI should be of high strategic significance to the issuer’s current and/ or future operations; It is recommended that issuer communicates clearly to investors the rationale and process according to which	Confirmed documents - Framework - Daigas Group Medium-Term Management Plan 2026 - Daigas Group Carbon Neutral Vision - Carbon Neutral Challenge 2050 Action Plan of the Japan Gas Association - Gas and Electricity Sector Roadmap of	DNV reviewed the KPIs related to Osaka Gas’ Transition-Linked Finance and has confirmed that the selected KPIs are relevant and important to Osaka Gas' core transition strategy and sustainability management. Osaka Gas' approach to sustainability promotion for the Daigas Group and society is to provide solutions to realize a sustainable society as an innovative energy and service company by decarbonizing city gas feedstock and introducing renewable energy. In January 2021, Osaka Gas formulated the "Daigas Group Carbon Neutral Vision," which presents a roadmap for achieving carbon neutrality and sets out the long-term goal of achieving carbon neutrality by 2050, which is consistent with the goals of the Paris Agreement. Osaka Gas has set

Ref.	Criteria	Requirements	Work Undertaken	DNV Findings
		the KPI(s) have been selected and how the KPI(s) fit into their sustainability strategy.	Ministry of Economy, Trade and Industry - Daigas Group Integrated Report 2023 - Daigas Group ESG data Interviews with stakeholders	and published the short- and medium-term goals for achieving the long-term goal, which are "avoided CO_2 emissions in the entire society of 7 million tonnes / renewable energy diffusion contribution of 4 million kW by 2026," "introduction of e-methane of 1% by 2030 / avoided CO_2 emissions in the entire society of 10 million tonnes / CO_2 emission reduction in the domestic supply chain (scope 1, 2, and 3) by 5 million tonnes compared to FY2018.3 / renewable energy diffusion contribution of 5 million kW / renewable energy ratio of domestic power projects approximately 50%," etc. The selected KPI "CO_2 emissions in the Daigas Group's domestic supply chain (Scope 1, 2, and 3)" is in response to climate change, which the Daigas Group positions as one of its key management issues, and is a highly important and quantitatively verifiable indicator. This KPI will contribute to both the transition strategy and sustainability management to realize the "Daigas Group Carbon Neutral Vision."
1b	KPI - Measurability	KPIs should be measurable or quantifiable on a consistent methodological basis; externally verifiable; and able to be benchmarked, i.e., as much as possible using an external reference or definitions to facilitate the assessment of the SPT's level of ambition. Issuer are encouraged, when possible, to select KPI(s) that they have already included in their previous annual reports, sustainability reports or other non-financial reporting disclosures to allow investors to	Confirmed documents - Framework - Daigas Group Medium-Term Management Plan 2026 - Daigas Group Carbon Neutral Vision - Carbon Neutral Challenge 2050 Action Plan of the Japan Gas Association	DNV concluded that the CO_2 emissions required for the assessment of the KPIs are reliable indicators as they follow the global standard GHG protocol and have been verified by an external evaluation body in accordance with the requirements of ISO 14064-3. DNV has confirmed that the KPIs selected by Osaka Gas are consistent with the gas and power roadmaps of the Japan Gas Association and the Ministry of Economy, Trade and Industry, and that the KPIs are properly set as comparable indicators.

Ref.	Criteria	Requirements	Work Undertaken	DNV Findings
		evaluate historical performance of the KPIs selected. In situations where the KPIs have not been previously disclosed, issuer should, to the extent possible, provide historical externally verified KPI values covering at least the previous three years.	- Gas and Electricity Sector Roadmap of Ministry of Economy, Trade and Industry - Daigas Group Integrated Report 2023 - Daigas Group ESG data Interviews with stakeholders	The KPIs have been disclosed as actual results over the past three years through the website etc.
1c	KPI – Clear definition	A clear definition of the KPI(s) should be provided and include the applicable scope or perimeter as well as the calculation methodology.	Confirmed documents - Framework Interviews with stakeholders	DNV has confirmed that the KPIs selected by Osaka Gas provide a clear assessment scope and calculation methodology. The GHG emissions calculation methodology required for the assessment of the KPIs follows the global standard GHG Protocol and would be verified and reported by an external evaluation body in accordance with the requirements of ISO 14064-3.

SLBP/SLLP-2 Calibration of SPTs (Sustainability Performance Targets)

Ref.	Criteria	Requirements	Work Undertaken	DNV Findings
2a	Target Setting - Meaningful	The SPTs should be ambitious, realistic and meaningful to the issuer's business and be consistent with the issuers' overall strategic sustainability/ESG strategy.	Confirmed documents - Framework - Daigas Group Medium-Term Management Plan 2026 - Daigas Group Carbon Neutral Vision - Carbon Neutral Challenge 2050 Action Plan of the Japan Gas Association - Gas and Electricity Sector Roadmap of Ministry of Economy, Trade and Industry - Daigas Group Integrated Report 2023 - Daigas Group ESG data Interviews with stakeholders	In January 2021, Osaka Gas formulated the "Daigas Group Carbon Neutral Vision," which presents a roadmap for achieving carbon neutrality and sets out the long-term goal of achieving carbon neutrality by 2050, which is consistent with the goals of the Paris Agreement. Osaka Gas has set and published the short- and medium-term goals for achieving the long-term goal, which are "avoided CO_2 emissions in the entire society of 7 million tonnes / renewable energy diffusion contribution of 4 million kW by 2026," "introduction of e-methane of 1% by 2030 / avoided CO_2 emissions in the entire society of 10 million tonnes / CO_2 emission reduction in the domestic supply chain (scope 1, 2, and 3) by 5 million tonnes compared to FY2018.3 / renewable energy diffusion contribution of 5 million kW / renewable energy ratio of domestic power projects approximately 50%," etc. Osaka Gas has set a reduction of 5 million tonnes in FY2031.3 (compared to FY2018.3) as an SPT, which is consistent with the gas and power roadmaps of the Japan Gas Association and the Ministry of Economy, Trade and Industry. On the other hand, promoting the energy shift to natural gas in the transition period, such as fuel conversion, will contribute to reducing CO_2 emissions in the entire society, but will also increase Osaka Gas' CO_2 emissions. In this context, DNV has confirmed that this SPT is an ambitious and meaningful that aims to reduce total CO_2 emissions by promoting energy efficiency and introducing e-methane.

Ref.	Criteria	Requirements	Work Undertaken	DNV Findings
				Osaka Gas plans to make carbon neutral investments of around 220 billion yen in the cumulative total for the period FY2025.3-2031.3, and in the three-year period FY2025.3-2027.3, it plans to make investments of approximately 100 billion yen in carbon neutrality areas (e.g., conversion to renewable energy sources in domestic power business, e-methane) to build future earnings and approximately 460 billion yen in priority growth areas, as well as has presented the CO_2 reduction roadmap and specific initiatives. Therefore, DNV judged that the SPT is realistic and feasible, and is in line with Osaka Gas' sustainability/transition strategies.
2b	Target Setting - Meaningful	SPTs should represent a material improvement in the respective KPIs and are required to be beyond a "Business as Usual" trajectory; where possible be compared to a benchmark or an external reference and be determined on a pre-defined timeline, set before (or concurrently with) the issuance of the bond.	Confirmed documents - Framework - Daigas Group Medium-Term Management Plan 2026 - Daigas Group Carbon Neutral Vision - Carbon Neutral Challenge 2050 Action Plan of the Japan Gas Association - Gas and Electricity Sector Roadmap of Ministry of Economy, Trade and Industry	DNV has confirmed that this SPT shows a significant improvement in KPIs and is beyond the trajectory of "business as usual." In contrast to the Ministry of Economy, Trade and Industry's Transition Roadmap in Gas Sector, which depicts a pathway where the gas industry will see an increase in the demand for natural gas as a result of society-wide fuel conversion, which will increase gas companies' CO_2 emissions (Scope 3) in the short term, Osaka Gas has set a target to reduce the absolute value of the domestic supply chain CO_2 emissions (Scope 1, 2, and 3) for 5 million tonnes as of 2030, and the decarbonization awaiting the establishment of innovative technologies would be difficult to achieve with conventional approaches, due to the uncertainty of technological

Ref.	Criteria	Requirements	Work Undertaken	DNV Findings
			- Daigas Group Integrated Report 2023 - Daigas Group ESG data Interviews with stakeholders	establishment and the significant costs that would be incurred in the transition to decarbonization even if it were achieved. Therefore, DNV has concluded that it is ambitious. DNV has also confirmed that the SPT level is broadly in line with the linear interpolation level from the baseline FY2018.3 results to 2050 carbon neutrality, taking into account the equivalent increase in domestic CO_2 emissions of the Daigas Group due to these efforts to avoid emissions.
2c	Target Setting – benchmarks	The target setting exercise should be based on a combination of benchmarking approaches: 1. The issuer's own performance over time for which a minimum of 3 years, where feasible, of measurement track record on the selected KPI(s) is recommended and when possible forward-looking guidance on the KPI. 2. The SPTs relative positioning versus the issuer's peers where comparable or available, or versus industry or sector standards. 3. Systematic reference to science-based scenarios, or absolute levels (e.g., carbon budgets) or official country/regional/international targets or to recognized Best-Available-Technologies or other proxies	Confirmed documents - Framework - Daigas Group Medium-Term Management Plan 2026 - Daigas Group Carbon Neutral Vision - Carbon Neutral Challenge 2050 Action Plan of the Japan Gas Association - Gas and Electricity Sector Roadmap of Ministry of Economy, Trade and Industry - Daigas Group Integrated Report 2023 - Daigas Group ESG data	DNV has confirmed that the process for setting SPTs is based on an appropriate combination of benchmarking approaches. • Osaka Gas has disclosed the base year and previous years' results for the selected KPIs on its website etc., and targets are set until 2030 based on these results. • Ahead of its competitors, Osaka Gas has set reduction targets for absolute value of domestic CO_2 emissions, including Scope 3.

Ref.	Criteria	Requirements	Work Undertaken	DNV Findings
			Interviews with stakeholders	
2d	Target setting – disclosures	Disclosures on target setting should make clear reference to: 1. The timelines of target achievement, the trigger event(s), and the frequency of SPTs 2. Where relevant, the verified baseline or reference point selected for improvement of KPIs as well as the rationale for that baseline or reference point to be used 3. Where relevant, in what situations recalculations or pro-forma adjustments of baselines will take place 4. Where possible and taking into account competition and confidentiality considerations, how the borrowers intend to reach such SPTs	Confirmed documents - Framework - Daigas Group Medium-Term Management Plan 2026 - Daigas Group Carbon Neutral Vision - Carbon Neutral Challenge 2050 Action Plan of the Japan Gas Association - Gas and Electricity Sector Roadmap of Ministry of Economy, Trade and Industry - Daigas Group Integrated Report 2023 - Daigas Group ESG data Interviews with stakeholders	DNV has confirmed that the SPT target setting is properly disclosed. • Through the Framework and the "Roadmap to Achieving Carbon Neutrality," it is explained how CO_2 emission reductions will be achieved. DNV has confirmed that Osaka Gas decided not to set annual SPTs, but to promote medium- and long-term initiatives to achieve the FY2031.3 target as CO_2 emissions (Scope 1, 2, and 3) may fluctuate from year to year due to the significant influence of domestic energy demand and the status of individual projects, and that progress towards this target will be verified annually by an external organization. Similarly, DNV has confirmed that milestone SPTs may be set separately from these SPTs, taking into account the financing period etc., and that in such cases they will be disclosed in the bond disclosure documents, the loan agreement documents, etc. each time of the implementation of finance. Based on the respective documents provided by Osaka Gas, DNV has concluded that the SPTs were realistic, the plan was feasible, and the SPT targets outlined in the Framework were likely to be met.

SLBP/SLLP-3 Finance Characteristics

Ref.	Criteria	Requirements	Work Undertaken	DNV Findings
3a	Bond Characteristics – SPT financial/structural impact	The SLB will need to include a financial and/or structural impact involving trigger event(s) based on whether the KPI(s) reach the predefined SPT(s).	Confirmed documents - Framework Interviews with stakeholders	DNV has confirmed that the Framework includes trigger events and complies with the requirements described in the SLBP. DNV has confirmed that transition finance (bond or loan) implemented under the Framework will have financial and structural characteristics that vary according to the achievement status of SPTs. DNV has also confirmed that the trigger events with specific SPT measurement timing and performance requirements each time of the finance implementation and the extent of their impact have internal procedures to link target achievement and financial incentives or penalties, and that details, including conditions, will be disclosed in the bond disclosure documents, the loan agreement documents, etc.
3b	Bond Characteristics – Fallback mechanism	Any fallback mechanisms in case the SPTs cannot be calculated or observed in a satisfactory manner should be explained. Issuers may also consider including, where needed, language in the bond documentation to take into consideration potential exceptional events.	Confirmed documents - Framework Interviews with stakeholders	DNV has confirmed that if Osaka Gas is unable to confirm the achievement status of the SPT on the judgment date, the SPT will be treated as not achieved. If it is required to change the measurement method of KPIs, the setting of SPTs, assumptions and scope of KPIs, etc. due to the occurrence of circumstances that cannot be foreseen or controlled at the time of the implementation of the Transition-Linked Finance with general corporate purpose (e.g., changes in business structure due to M&A etc., changes in various laws, systems, and regulations in each country, other extraordinary events), there is a possibility to review the SPT figures for the Transition-Linked Finance

Ref.	Criteria	Requirements	Work Undertaken	DNV Findings
				already issued. Osaka Gas plans to disclose the details on its website etc.

SLBP/SLLP-4 Reporting

Ref.	Criteria	Requirements	Work Undertaken	DNV Findings
4a	Reporting	Issuers of SLBs should publish, and keep readily available and easily accessible: 1. Up-to-date information on the performance of the selected KPI(s), including baselines where relevant 2. A verification assurance report relative to the SPTs outlining the performance against the SPTs and the related impact, and timing of such impact, on the bond's financial and/or structural characteristics 3. Any information enabling investors to monitor the level of ambition of the SPTs This reporting should be published regularly, at least annually, and in any case for any date/period relevant for assessing the SPT performance leading to a potential adjustment of the SLB's financial and/or structural characteristics.	Confirmed documents - Framework Interviews with stakeholders	DNV has confirmed that the necessary information will be disclosed in a timely manner on the following details required by the SLBP/SLLP: · KPI performance against the SPT: Subject to verification by an external body etc., and disclosed on the website etc. at least once a year after the implementation of the Transition-Linked Finance until the final judgment date · SPT achievement status: Subject to annual verification by an independent third-party organization and used to determine financial and structural characteristics When change in the SPT is required: Osaka Gas will discuss with the relevant parties, for example, the setting of an SPT with a level of ambition equal to or higher than the existing evaluation criteria, taking into account the changes.

SLBP/SLLP-5 Verification

Ref.	Criteria	Requirements	Work Undertaken	DNV Findings
5a	External Verification	Issuers should have its performance against each SPT for each KPI independently verified by a qualified external reviewer with relevant expertise, at least once a year and for each SPT trigger event.	Confirmed documents - Framework Interviews with stakeholders	DNV has confirmed that Osaka Gas intends to undergo independent verification of the data related to the KPIs at least once a year by a qualified external evaluation body with relevant expertise in SPT trigger events.