



Environmental Policy

Environmental Policy

MIRARTH HOLDINGS Group environmental policy

MIRARTH HOLDINGS Group hold its purpose as: "To design sustainable environments for a happier future for both people and our planet." The Group thinks more positively about the future happiness of people and the Earth than anyone else, and propose the creation of a sustainable environment that is friendly to the Earth.

1. Providing environmentally friendly buildings and spaces

We will strive to improve environmental performance, reduce environmental impact, and actively incorporate environmentally friendly technologies and ideas into our products and services to help address global warming and create a recycling-oriented city.

2. Addressing climate change

We will contribute to reducing greenhouse gas emissions and mitigating climate change issues through the efficient use of energy, the development and operation of renewable energy generation facilities, and the utilization of renewable energy.

3. Maintenance and conservation of biodiversity

In all of our business activities, we will strive to reduce the impact on, and conserve, biodiversity by taking into consideration the risks that may affect the surrounding ecosystems and biodiversity, conducting appropriate risk management, and giving due consideration to environmental conservation in accordance with the natural and social conditions of the region.

4. Promotion of resource recycling

We will work to conserve the water environment and reduce waste, and through the promotion of the 3Rs (reduce, reuse, recycle), we will strive to reduce our environmental impact and contribute to the formation of a recycling-oriented society.

5. Compliance with environmental laws and regulations and environmental education

We will comply with environmental laws, regulations, and other relevant laws and regulations, and we will raise the environmental awareness of our employees through education and awareness activities on the environment.

6. Establishment of environmental management

We will promote appropriate environmental management by setting and periodically reviewing environmental targets.



Perceptions on Climate Change

Endorsement of TCFD Recommendations

Governance

Strategies

Risk management

Indicators and Targets

Perceptions on Climate Change

MIRARTH HOLDINGS Group (hereinafter referred to as "the Group") recognizes that the progression of climate change is a scientific fact. So, it is essential to take measures to counter the increasing damage caused by natural disasters due to climate change, such as serious disaster which comes from typhoons and heavy rains, high frequency of heat waves and droughts, and rising sea levels worldwide. In addition, the Group regard climate change as a material issue that will cause major changes in the natural environment and social structure which will have a significant impact on our management and business as a whole. In anticipation of the transition to decarbonization of the social economy, including the establishment of frameworks to reduce greenhouse gas emissions and tighter emission regulations as part of global efforts to mitigate climate change, there is a growing social demand for reducing greenhouse gas emissions and enhancing resilience in the development and operational stages of real estate projects. On the other hand, in the energy business, demand for renewable energy is expected to grow, and our Group see this as an important opportunity.

Endorsement of TCFD Recommendations

MIRARTH HOLDINGS and its group companies, MIRARTH Asset Management (formerly Takara Asset Management) and MIRARTH Real Estate Advisory (formerly Takara PAG Real Estate Advisory), have expressed their support for the TCFD (Task Force on Climate-related Financial Disclosure)^{*1} recommendations established by the Financial Stability Board (FSB), and have joined the TCFD Consortium^{*2}


Going forward, we will take this as a starting point for our group's analysis and response to the risks and opportunities that climate change poses to our business, and for strengthening and enhancing our information disclosure on climate change in line with the "governance," "strategy," "risk management," and "indicators and targets" stated in the TCFD recommendations.



^{*1} TCFD (Task Force on Climate-related Financial Disclosures): An international initiative established by the Financial Stability Board (FSB) at the request of the G20 to examine how climate-related disclosures and financial institutions should be addressed, recommendations for companies and others to disclose their "governance," "strategy," "risk management," and "indicators and targets" related to climate change-related risks and opportunities.

[TCFD Website](#) 

^{*2} TCFD Consortium: A private-sector initiative established in 2019 to discuss effective disclosure of corporate information and efforts to link disclosed information to appropriate investment decisions by financial institutions and others.

[TCFD Consortium Website](#) 

Governance

MIRARTH HOLDINGS has a governance structure, with oversight by the Board of Directors and the Sustainability Committee, to address the risks and opportunities of climate change.

The Chief Executive Officer for climate-related issues is the Representative Director, and the Executive Officer is the Director in charge of sustainability.

The Chief Operating Officer reports regularly to the Chief Executive Officer on matters related to climate change response, including identification and assessment of climate change impacts, management of risks and opportunities, progress of adaptation and mitigation efforts, and establishment of indicators and targets at the Sustainability Committee meetings. After deliberation and consideration of each agenda item by the attendees of the Sustainability Committee, decisions are made by the Chief Executive Officer.

Strategies

Scope of Analysis

The scenario analysis conducted this time covered two of the Group's major businesses, the real estate business and the energy business, which are relatively more affected by climate change.

Referenced External Scenarios

The TCFD recommendations advise explaining the resilience of the company's strategy based on multiple scenarios, including those below 2°C. To consider climate-related risks and opportunities, we conducted a scenario analysis of the Group's operations and the summary of the scenario analysis is provided below. The scenario analysis and our process for identifying and assessing risks and opportunities are described in the "Risk Management" section below.

Source Organization	1.5-2°C Scenario	4°C Scenario
IEA (International Energy Agency)	NZE2050	STEPS
IPCC (Intergovernmental Panel on Climate Change)	RCP4.5	RCP8.5

Why this scenario was chosen

IEA NZE2050 (1.5-2°C scenario transition risk)

IEA was selected as a possible reference since the main source of greenhouse gas emissions is energy consumption.

IPCC RCP4.5 (1.5-2°C scenario physical risk)

IPCC reports were selected for physical risk analysis scenarios since it is considered as a standard reference document for meteorological conditions.

IEA STEPS (4°C scenario transition risk)

IPCC reports were selected for physical risk analysis scenarios since it is considered as a standard reference document for meteorological conditions.

IPCC RCP8.5 (4°C scenario physical risk)

IPCC reports were selected for physical risk analysis scenarios since it is considered as a standard reference document for meteorological conditions.

A possible worldview in each scenario

Each scenario assumes the following worldview

1.5-2°C scenario (Large transition risk, small physical risk)

This is a scenario which limits the rise in global temperatures at the end of the 21st century to 1.5°C to 2°C above pre-industrial levels, as social policies and emission regulations for decarbonization are strengthened and progress is made in addressing climate change to achieve the Paris Agreement targets. The trend toward decarbonization or low carbonization on all fronts, including policy, investors, and consumers, will become more pronounced and companies are expected to take even stronger measures towards climate change. If not, transition risk will increase, and competitive advantage will decrease. On the other hand, it is assumed that the high frequency and severity of climate disasters will be suppressed to a certain degree, and physical risks will be relatively low.

4°C scenario (Small transition risk, large physical risk)

This is a scenario in which the global temperatures at the end of the 21st century will rise by 4°C above pre-industrial levels, since sufficient climate change mitigation measures are not realized, and greenhouse gas emissions continue to increase. Physical risks are expected to increase, with a marked increase in the severity of natural disasters, sea level rise, and extreme weather events. On the other hand, as efforts toward decarbonization stall in policy and in capital markets and consumers, transition risks will be relatively small.

Identification of risks, opportunities and response measures, strategies

Based on the 1.5°C to 2°C scenario, in which policies and regulations are strengthened to move toward a decarbonized society, and the 4°C scenario, in which the physical impacts of climate change will occur due to more intense extreme weather events, we have identified risks and opportunities and assessed their impact on our business as follows. The financial impact was evaluated qualitatively, referring to each scenario as described previously. In response to the risks and opportunities identified, the Company will pursue the following initiatives.

Classification	Major Risks and Opportunities	Financial Influence	Time span	Financial Impact		Response measures, Strategies	
				4°C Scenario	2/1.5°C Scenario		
Transition Risk	Policy and Law	Strengthen taxation by introducing carbon tax	Decrease in sales volume due to higher selling prices	Short Term	Small	Medium	Targets for GHG emissions Settings and Management
		Strengthening various regulations, etc. due to energy conservation policy	Increased development costs for regulatory compliance	Mid Term	Large	Large	Collaboration with suppliers to improve energy efficiency and strengthen sales strategies
	Technology	Evolution and diffusion of renewable energy and energy-saving technologies	Increased costs for development and introduction of new technologies	Mid Term	Medium	Large	Gather information on new technologies and services, and develop and introduce new technologies as appropriate
		Increased response to transition to low emission technologies	Increased costs related to new measures and implementation	Mid Term	Small	Small	Securing professional human resources, building organization and internal systems
	Market	Increase in service prices by relevant suppliers against a backdrop of growing decarbonization needs	Development and construction of properties with high environmental performance such as ZEB/ ZEH, etc., and increase in renovation/repair costs	Mid Term	Medium	Medium	Price stabilization through collaboration with suppliers
	Reputation	Increasing scarcity of wind- and flood-resistant sites and intensifying competition in acquiring sites in favorable locations	Decrease in sales due to lost business opportunities	Long Term	Large	Large	Location selection and strengthening ties with other companies in the industry
		Reduced value of products and brands that do not address climate change	Decrease in sales due to lower property sales prices and rents resulting from decline in brand value	Mid Term	Small	Medium	Set energy conservation standards for new development projects and consider installing energy conservation standard equipment in existing properties
	Physical Risk	Acute	Damage to properties under construction due to wind and flood damage, prolonged construction period	Increase in construction-related expenses	Short Term	Large	Medium
Chronic		Lower productivity at construction sites due to rising temperatures	Increased costs due to longer construction period	Mid Term	Medium	Medium	Thorough management of occupational safety considerations at construction sites
Opportunity	Resource Efficiency	Promoting the use of renewable energy	Reduction of externally procured fuel and lighting expenses	Mid Term	Small	Small	On-site and off-site PPA implementation
	Products and Services	Increase in demand for low emission facilities and ZEB/ ZEH condominiums	Increase in sales	Mid Term	Small	Medium	Promote the introduction of low emission equipment and renewable electricity
	Market	Utilization of public support schemes	Reduction of cash outflows	Mid Term	Medium	Medium	Business expansion through urban redevelopment projects, etc.
		Creation of opportunities to change residence	Increase in sales	Mid Term	Medium	Small	Development and promotion of ZEH/ disaster-resistant condominiums
		Improving market participants' assessment of climate change	Increase in procurement opportunities and amount raised due to higher corporate value	Mid Term	Medium	Medium	Enhancement of climate-related information disclosure

Classification	Major Risks and Opportunities	Financial Influence	Time span	Financial Impact		Response measures, Strategies	
				4°C Scenario	2/1.5°C Scenario		
Transition Risk	Policy and Law	Strengthen taxation by introducing carbon tax	Decrease in sales volume due to higher selling prices	Short Term	Small	Medium	Promote business in accordance with various regulations
	Technology	Evolution and diffusion of renewable energy and energy-saving technologies	Increased costs for introduction of new technologies	Mid Term	Small	Small	Strengthen information gathering on new technologies and systematic introduction of power generation equipment
	Market	Increasing difficulty in securing land due to intensifying competition for energy conservation	Shrinking revenue opportunities due to stagnation of new development	Short Term	Medium	Large	Selection of project areas where grid connection is possible
	Reputation	Reduced value of brands	Reduced revenues due to customer attrition and limited access to capital, etc.	Short Term	Small	Small	Maintain brand image by taking a firm response to climate change
Physical Risk	Acute	Damage to operating power generation facilities due to natural disasters	Decrease in sales due to lower electricity sales and increase in repair and other costs	Short Term	Large	Large	Introduction of a resilient design concept, risk identification using hazard maps, profit insurance coverage, and accumulation of repair expenses
	Chronic	Increased failure rate of in-service equipment due to constant extreme weather conditions	Increase in repair expenses	Long Term	Medium	Medium	Adopt a design concept that addresses climate change, selection of product standards
Opportunity	Policy and Law	Establishment of legal systems to expand and promote the diffusion of renewable energy	Positive impact on speed and volume of development	Mid Term	Small	Large	Secure funding and reinforce personnel for asset expansion
	Resource Efficiency	In-house use of renewable energy	Reduction of externally procured fuel and lighting expenses	Short Term	Small	Small	Selecting a development site and securing financing
	Products and Services	Development of technologies and products to address climate change	Decrease in capital expenditures and other expenses due to inexpensive technology development	Mid Term	Small	Medium	Strengthen information gathering on new technologies and systematic introduction of power generation equipment
		Expansion of O&M business	Increase in O&M sales	Mid Term	Small	Medium	Capital investment and securing engineers to expand O&M business
	Market	Growing demand for renewable energy	Increase revenue opportunities through new development and business expansion	Mid Term	Small	Large	Market research and development of new business models
		Expand investment in renewable energy	Create sales and revenue synergies with the real estate business	Short Term	Small	Medium	Formation of a PJ team with personnel that has renewable energy and real estate knowledge
		Utilization of Green Finance	Increase in stock price due to higher corporate value, reduction of financial costs	Short Term	Medium	Medium	Securing human resources related to green finance

Risk management

Our process for managing climate change-related risks is as follows.

① Process for identifying and assessing risks and opportunities

Significant risks and opportunities related to climate-related issues are discussed in the Sustainability Committee, and the executive director for climate change response convenes internal personnel once a year to identify and assess climate-related risks and opportunities.

② Processes to manage risk and integration into a group-wide risk management program

The person with ultimate responsibility for climate-related issues will designate a person or department to oversee managing climate-related risks identified and assessed by the Sustainability Committee that are material to the business and financial plan, and will direct the development of countermeasures for these risks. In working toward risk mitigation management or realization of opportunities, we shall define relative KPIs (Key Performance Indicators) if possible and attempt to monitor and set targets. The person with ultimate responsibility for climate-related issues shall summarize the progress of each initiative and KPI at least once a year and report the status to the Sustainability Committee. The person in charge will also direct that existing group-wide risk management programs consider, to the extent possible, climate-related risks that are material to business and financial planning. The risk identification, assessment, and management process will then be integrated.

Indicators and Targets

We have established key performance indicators (KPIs) and targets to manage and monitor risks and opportunities. The indicators and targets we have set are as follows.

Greenhouse gas emissions

Target: Net zero greenhouse gas emissions (Scope 1, 2 and 3) from MIRARTH HOLDINGS Group's business activities by FY2050.

With 2022 as the base year, the mid-term target is 45% reduction (on a gross basis) by FY2030, and the long-term target is net zero (on a gross basis) by FY2050.

The medium- and long-term targets for greenhouse gas emissions reduction set in March 2023 have been revised by newly adding Scope3 to the greenhouse gas emissions reduction targets corresponding to the "Net Zero Standard"^{*1} of the SBTi (Science Based Targets initiative).

- Announced on March 28, 2023: 50% reduction by 2030 (compared to FY2020), net zero by 2050^{*2}
- Announced on March 29, 2024: 45% reduction by 2030 (compared to FY2022), net zero by 2050^{*3}

^{*1} Standardized criteria published by the SBT Initiative in October 2021 to set targets for limiting global temperature increase from pre-industrial levels to within 1.5°C and achieving net zero by 2050.

^{*2} Subject to Scope1 + Scope2

^{*3} Revised by newly adding Scope3

Total scale of renewable energy generation

Target: To accumulate 420 MW of new capacity by the fiscal year ending March 31, 2030, bringing the total generation capacity to 780 MW.

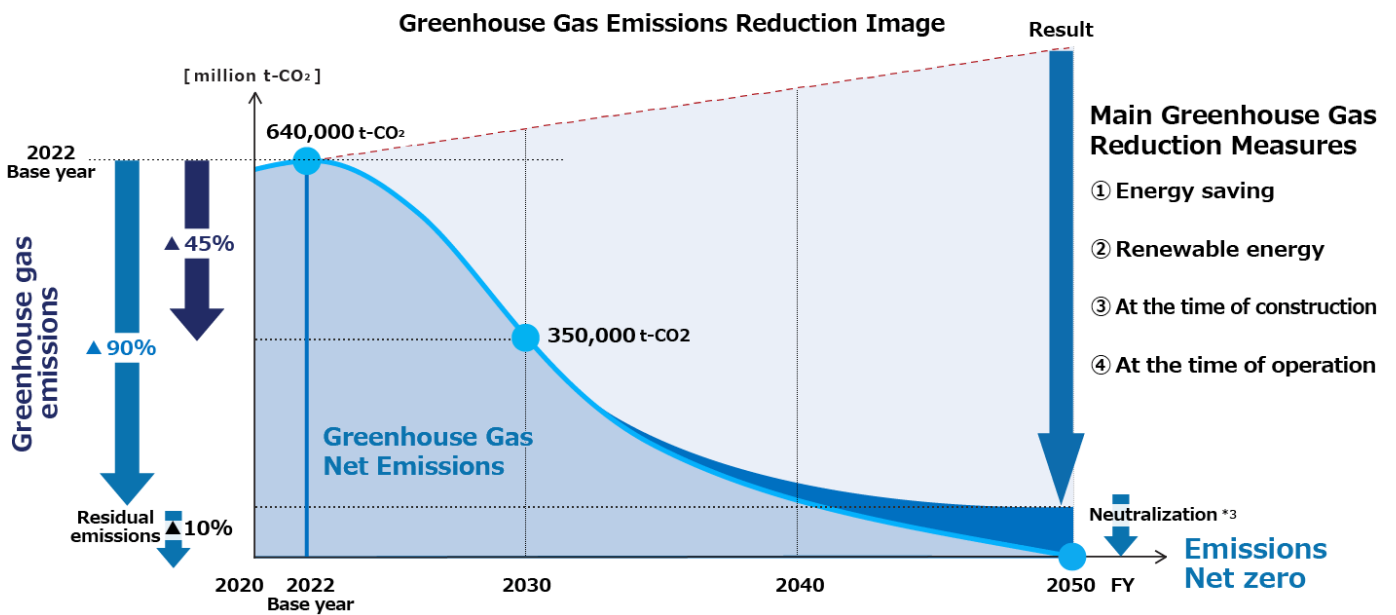
* MW based on solar conversion

In the energy business, the Group sees the transition to a decarbonized society as an important "opportunity" that is expected to increase demand for renewable energy. Our target is to increase the total scale of renewable energy generation by 420 MW to 780 MW by the fiscal year ending March 31, 2030. In addition to solar power, we will promote the development of wind and biomass power generation, aiming to build a stable renewable energy power supply system. The Group will also expand our energy business by strengthening the operation, maintenance, and management of power plants.

The results of various performance indicators will be disclosed on the Sustainability website as they become available.

• Environment Data

MIRARTH HOLDINGS Group Goals to Achieve Carbon Neutrality
< Revised by newly adding Scope3 >
Group-wide greenhouse gas emissions
45% reduction^{*2} by **FY2030** (Compared to FY2022) • **Net zero** by **FY2050**
* Subject to Scope1+Scope2+Scope3^{*1}



*1 Scope 1: Direct emissions of greenhouse gases by the business itself (combustion of fuels such as city gas)

Scope 2: Indirect emissions associated with the use of electricity, heat, and steam supplied by other companies

Scope 3: Indirect emissions other than Scope 1 and Scope 2 (emissions by other companies related to the activities of the business)

*2 Scope 1 and Scope 2 are to be reduced by 70% by FY2030.

*3 Neutralize residual emissions by utilizing forest-derived absorption and carbon removal technologies outside the value chain.



Renewable Energy

Energy Business

Solar Power Generation

Biomass Power Generation

Energy Business

MIRARTH HOLDINGS Group promotes energy projects that utilize renewable energy sources that contribute to the reduction of CO₂ emissions. Since 2013, when we entered the energy business, we have been developing mega solar power plants and small- and medium-scale solar power plants on idle land and other sites across Japan. In addition, we are also involved in other renewable energy projects other than solar power generation, such as wind power and biomass, with a total generation capacity of approximately 416 MW* as of March 31, 2024.

* MW based on solar conversion

- [List of MIRARTH Energy Solutions Power Plants](#) 

Solar Power Generation

Specified Wholesale Supplying to UPDATER

MIRARTH Energy Solutions

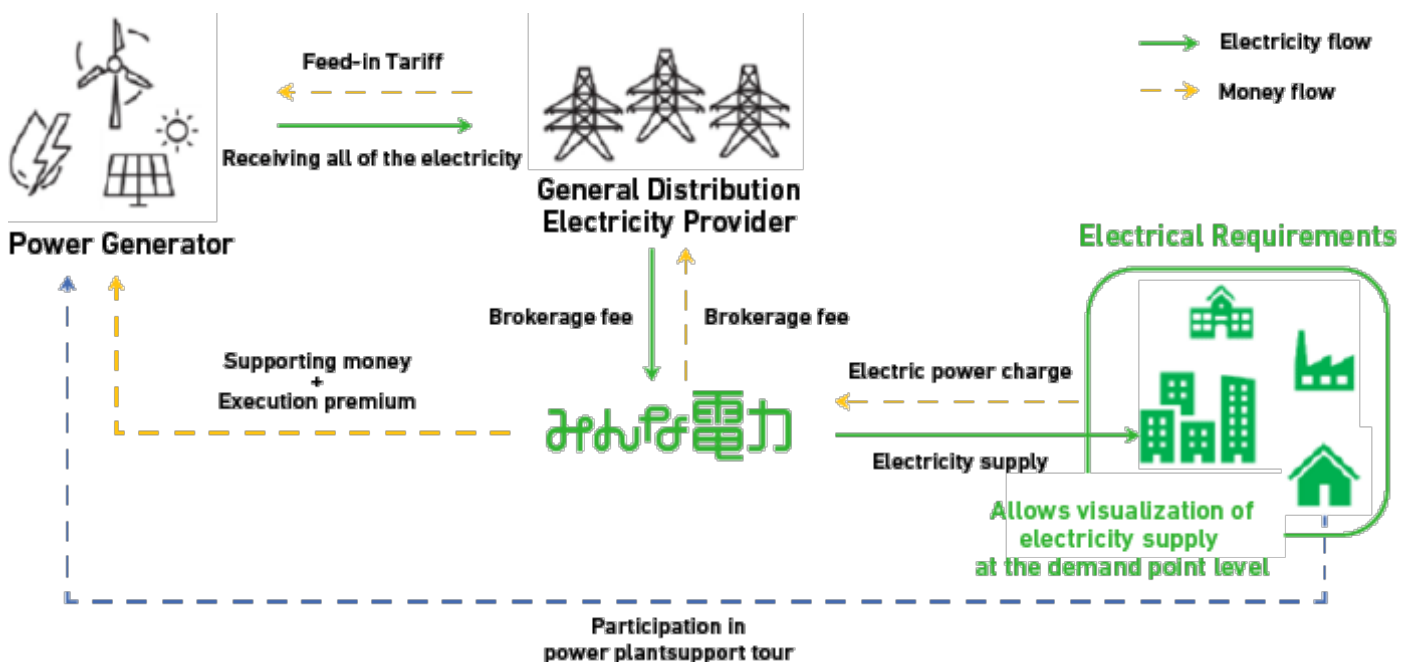
MIRARTH Energy Solutions (formerly Leben Clean Energy), which has experience in the development of more than 200 high-voltage solar power plants nationwide, has signed a specified wholesale supply agreement with UPDATER (formerly Minna Denryoku).

UPDATER has been developing services and events to revitalize local communities through solar and other renewable energies based on the concepts of "promotion and expansion of renewable energies" and "face to face electricity™," and has a total of 800 contracted power plants as of June 2023.

Through this agreement, MIRARTH Energy Solutions will contribute to the realization of a decarbonized society by providing electricity derived from renewable energy sources generated by the company to companies and other entities that have contracts with UPDATER.

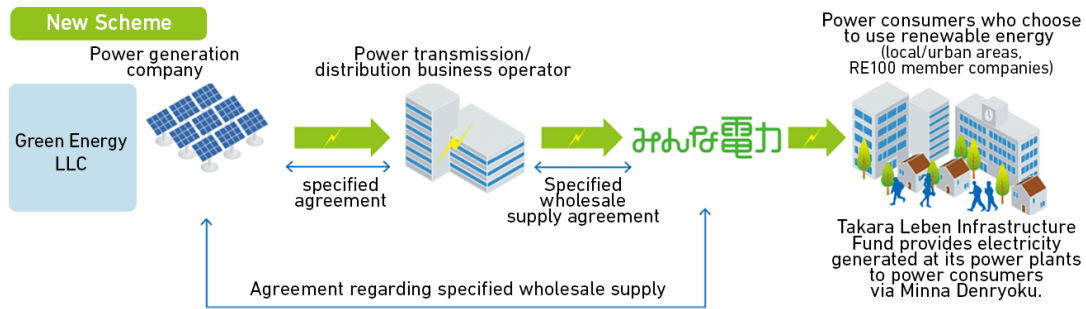
Contract date	September 25, 2023
Location of power plants	17 prefectures (From Hokkaido to Kyushu)
Number of power plants	40
Power output (total)	Approx. 21,140 kW
Power Generator	MIRARTH Energy Solutions, Inc.
Specified wholesale supplier	UPDATER, Inc.

Scheme for the conclusion of specified wholesale supply contracts



LS Chiba Sammu East and West Power Plant

GK Green Energy, which is entrusted with asset management by MIRARTH Asset Management (formerly Takara Asset Management), has concluded a specified wholesale supply contract with UPDATER for the LS Chiba Sammu East and West power plant. By supplying electricity produced at the LS Chiba Sammu East and West power plant to households that choose energy with low environmental impact and to companies that practice environmentally friendly management through UPDATER, we aim to promote a decarbonized society and the spread of renewable energy.



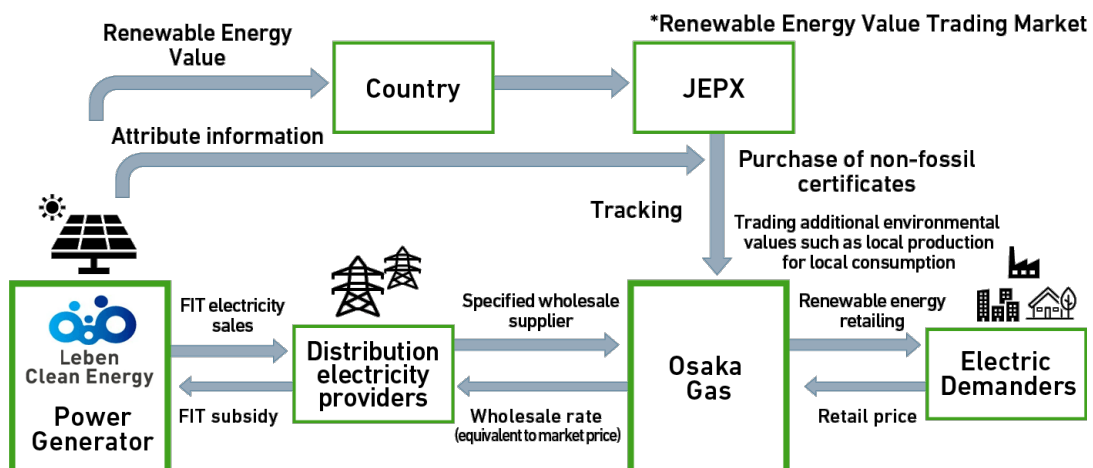
Specified Wholesale Supplying to Osaka Gas

MIRARTH Energy Solutions (formerly Leben Clean Energy) has signed a specified wholesale supply agreement with Osaka Gas. In March 2022, MIRARTH HOLDINGS Group and Osaka Gas signed a "Memorandum of Understanding for Joint Development of Solar Power Generation Business" and agreed to ongoing collaboration.

By entering into this agreement, the Group aims to contribute to society by promoting a decarbonized society and the spread of renewable energy by supplying electricity with environmental value through Osaka Gas, which aims to expand the use of renewable energy.

Contract date	March 1, 2024
Location of power plants	14 prefectures (From Hokkaido to Kyushu)
Number of power plants	66
Power output (total)	Approx. 24,162 kW
Power Generator	MIRARTH Energy Solutions, Inc.
Specified wholesale supplier	Osaka Gas Co., Ltd.

Overview chart of the initiative



LS Kagoshima Osaki 1 and 2 Solar Power Plant

MIRARTH HOLDINGS has developed the "LS (Leben Solar) Kagoshima Osaki 1 and 2 Solar Power Plant" (Osaki Town, Soogun, Kagoshima Prefecture) and held a completion ceremony on February 7, 2024.

This power plant is the second largest solar power plant developed by our group to date, following the LS Chiba-Katsuura Power Plant (generating capacity of approximately 30 MW). The four sites will generate an estimated 22 MW of power, equivalent to approximately 26.6 million kWh per year, which is enough electricity to meet the annual power needs of approximately 7,800 average households. All electricity generated will be sold to general distribution electricity providers under the FIT system.

In addition, seven disaster prevention retention basins have been installed as flood control measures, and while the power plant is very large in scale, it is designed in consideration of the surrounding environment.

As a future environmental design company, the Group will continue to work to revitalize local communities, realize a decarbonized society, and increase the value of local environmental issues through the promotion of electricity derived from renewable energy sources.



Joint ownership of solar power generation with Osaka Gas

MIRARTH HOLDINGS has invested in Leben Energy No. 2 LLC, which owns and operates a small- and medium-scale solar power plant (hereafter "the plant") developed by MIRARTH Energy Solutions (formerly Leben Clean Energy). This is the second joint ownership of a solar power plant by Osaka Gas and MIRARTH HOLDINGS Group, following the investment in Leben Energy No. 1 LLC*¹ announced in March 2022.

The plant is a group of small- and medium-scale solar power plants with a total generation capacity of approximately 23,300 kW developed at 44 locations across Japan under the FIT system, all of which have been put into operation to date. All electricity generated at the plant will be taken over by Osaka Gas through specified wholesale supply*² and used in combination with non-fossil certificates to supply renewable energy electricity to customers aiming for RE100 and ESG management.

The joint ownership of solar power plants by Osaka Gas and MIRARTH HOLDINGS Group has expanded to a cumulative total of 126 locations with approximately 58,800 kW through this investment participation. As per the memorandum of understanding signed in March 2022, the two companies will also work on joint development and joint ownership of non-FIT solar power plants*³ in the future by combining Osaka Gas' business platform in the electric power business with MIRARTH Energy Solutions' project development capabilities.

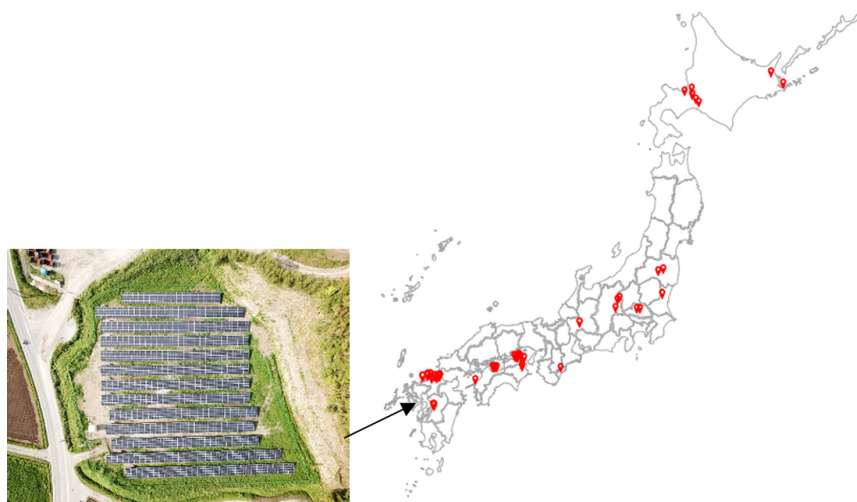
*¹ Participation of Osaka Gas in the investment in 82 small- and medium-sized solar power plants developed by the Takara Leben Group (announced on March 29, 2022) [🔗](#)

*² Specified wholesale supply: The wholesale supply of renewable electricity to a retail electricity supplier through the transmission and distribution network of a power transmission and distribution company that has jurisdiction over the area where the power plant is located, based on prior consent between the retail electricity supplier and the power producer for the wholesale supply of renewable electricity with the power producer specified.

*³ Osaka Gas plans to purchase the renewable energy electricity generated by non-FIT solar power plants over the long term.

Overview of jointly owned small- and medium-scale solar power plants

Location	12 prefectures (From Hokkaido to Kyushu)
Number of power plants	44
Power output (total)	Approx. 23,300 kW
Start of operation	July 2018 - April 2022



Solar Power Plant in Wanize, Jyonan-machi, Minami-ku, Kumamoto City, Kumamoto Prefecture

Efforts to promote PPA

As greenhouse gas emissions increase and global warming becomes a serious issue, the spread of renewable energy is emerging as an urgent challenge. Amid the demand for a shift away from fossil fuels and the introduction of sustainable energy, MIRARTH Energy Solutions (formerly Leben Clean Energy) is actively working to promote PPA to spread renewable energy sources such as solar power generation.

MITSUI & CO., LTD. and Sophia School Corporation Sign Long-Term Purchase and Sale Agreement

MIRARTH Energy Solutions (formerly Leben Clean Energy) has signed long-term purchase agreements with MITSUI & CO., LTD. and Sophia School Corporation for solar power-derived electricity.

Under this agreement, MITSUI & CO., LTD. will purchase renewable energy power generated by the company's planned new solar power plant in the service area of Tokyo Electric Power Company Holdings, Inc. (total generation capacity of approximately 2MW) and supply it to Sophia University's Yotsuya Campus as an off-site corporate PPA*¹.

In addition to supplying renewable energy power from the subject power plant, the physical corporate PPA will also supply non-fossil certificates with tracking*² to achieve 100% renewable energy for the entire electricity consumption of Sophia University's Yotsuya Campus.

The purchase of renewable electricity and non-fossil certificates by consumers is also expected to have the added benefit of encouraging investment in new renewable energy power facilities.

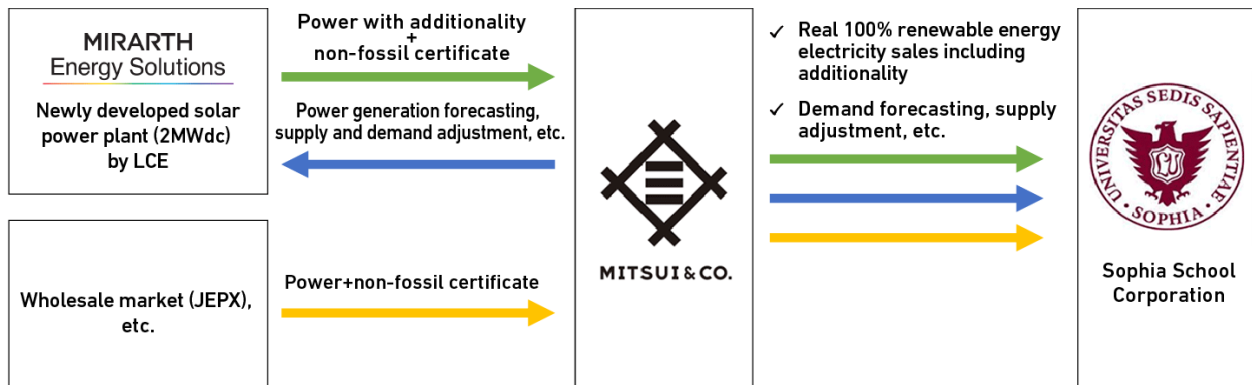
The agreement is a cooperative effort among MITSUI & CO., LTD., Sophia School Corporation and our Group to promote renewable energy through the PPA model. We aim to expand this model to more companies and organizations in the future, thereby contributing to the realization of a decarbonized society in Japan.

*1 Off-site corporate PPA: A contract method in which renewable energy power generated by a renewable energy power source installed at an off-site location that is not a demanding location is supplied to the purchaser of such power via the general power grid

*2 Non-fossil certificate with tracking: A non-fossil certificate in which the source of electricity generation is identified



Overview chart of the initiative



Signed a wholesale solar power purchase agreement with Tokyo Gas Co., Ltd.

MIRARTH Energy Solutions (formerly Leben Clean Energy) has signed a wholesale solar power purchase agreement with Tokyo Gas Co., Ltd.

The wholesale purchase of solar power is a scheme whereby Tokyo Gas purchases the power generated at the company's power plants and its environmental value.

Under this agreement, the company will supply Tokyo Gas with electricity from its newly constructed solar power plant. The company is already planning to build a 1MW (panel capacity) scale power plant in Shioya-machi, Tochigi Prefecture, and will supply all the power to Tokyo Gas after obtaining FIP certification*.

This will be part of our ongoing strong action to contribute to the various decarbonization and low-carbon initiatives promoted by both companies, with the aim of building a sustainable society. The company will continue to flexibly adapt to various schemes and make proposals that contribute to efforts to meet the 2030 and 2050 decarbonization targets.

* FIP certification system: A system that aims to further promote the spread of renewable energy by providing a certain premium on electricity sales prices to encourage investment incentives for renewable energy power generation companies

Assumed Scheme of the Agreement



Signed a basic agreement with TEPCO Energy Partner, Incorporated

MIRARTH Energy Solutions (formerly Leben Clean Energy) has signed an agreement with TEPCO Energy Partner, Incorporated regarding solar power generation business and is promoting off-site corporate PPA.

To meet the needs of TEPCO Energy Partner's customers, renewable energy generated at TEPCO-owned power plants will be systematically supplied to customers through TEPCO Energy Partners, a retail electricity provider. We will provide non-fossil value to many demand customers, especially companies participating in RE100.

Scheme



Biomass Power Generation

Through its biomass power generation business, MIRARTH HOLDINGS Group contributes to the reduction of environmental impact and the development of sustainable local economies in cooperation with local communities.

Mt. Fuji Asagiri Biomass Power Plant

In 2021, MIRARTH HOLDINGS entered the biomass power generation business for the first time, and in April 2023 it began generating power at the Mt. Fuji Asagiri Biomass Power Plant (Fujinomiya City, Shizuoka Prefecture), operated by joint venture Mt. Fuji Asagiri Biomass. Electricity is distributed to the eastern part of the prefecture via a regional power company.

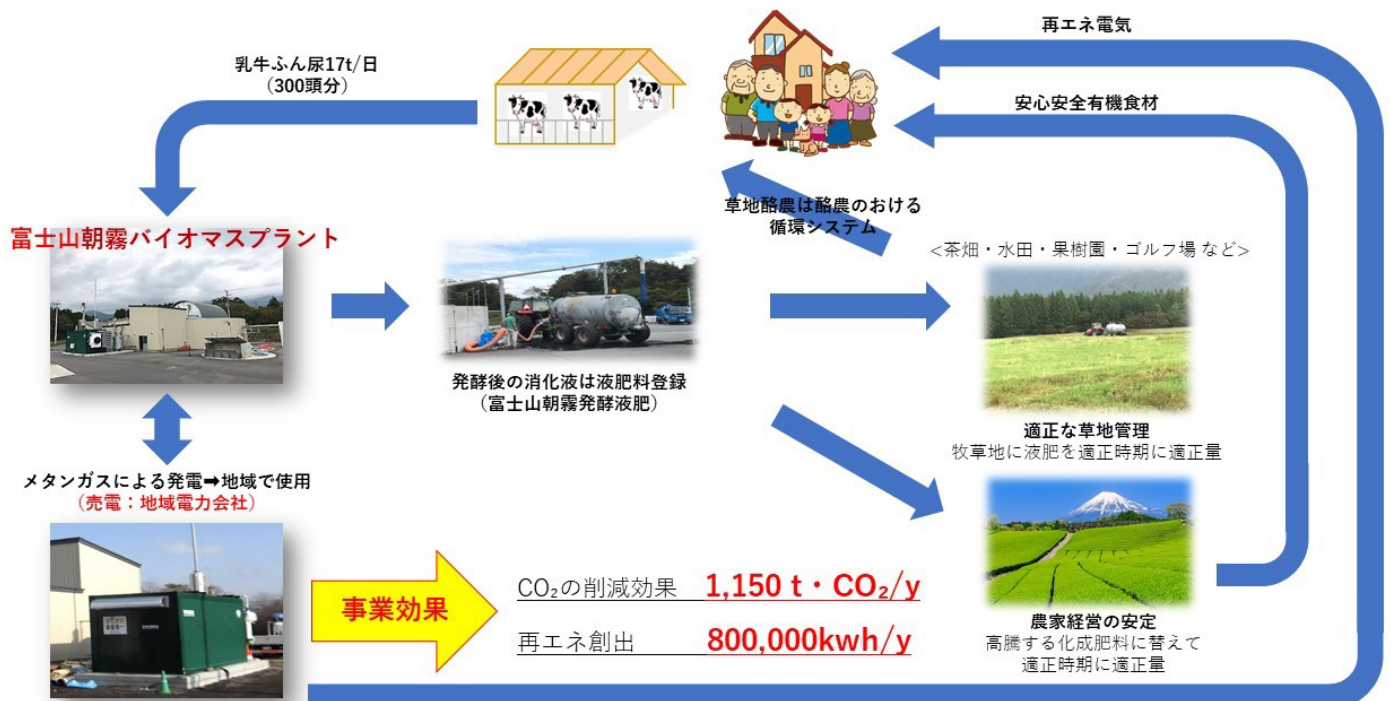
This power plant generates biomass power using cattle manure collected from members of the Fuji Kaitaku Agricultural Cooperative. Power is generated by burning biogas generated from the fermentation process of cattle manure, thereby reducing CO₂ emissions compared to the direct combustion of wood waste and combustible waste. The liquid fertilizer produced with biogas is sold as "Mt. Fuji Asagiri Biomass Liquid Fertilizer" to various industries to reduce the use of chemical fertilizers.

In addition, the power generation facility is reusing a facility that was used in the "Eco-Harmonized Biomass Resource Utilization Model Project" by the Ministry of the Environment. By reusing facilities that were scheduled for demolition, we are also contributing to the reduction of CO₂ emissions that has been generated by the demolition.

Using this biomass power generation project as a model case, we will actively promote the development of renewable energy facilities other than solar power generation, including the construction of similar systems and power plants using other biomass fuels.



地域循環システム概要図 (地域資源を生かした地域循環共生圏の考え方)



Entering the biomass fuel conversion business using Cambodian cashew nut shells

MIRARTH Energy Solutions (formerly Leben Clean Energy) established MIRARTH Agri Tech Co., Ltd. (Cambodian subsidiary) in February 2024 to enter the biomass fuel conversion business using Cambodian cashew nut shells.

The company aims to contribute to the economic development of Cambodia, whose GDP per capita is about one-twentieth compared to Japan, by constructing a new plant to expand local employment and to improve labor productivity by introducing Japanese manufacturing operation technology. The Company will promote the diversification of their business portfolio by expanding business bases overseas, which were previously limited to within the country.

We will continue to realize our corporate vision of "creating a carbon neutral world with renewable energy" and contribute to a diverse and sustainable future with wisdom and technology, appreciating the blessings of nature.



Acquisition Environmental Certification

Environmentally Friendly Measures

Acquisition Environmental Certification

MIRARTH HOLDINGS Group is promoting the development of buildings with high environmental performance to realize a decarbonized society, in line with the Group's policy of "Providing environmentally friendly buildings and spaces."

ZEH Condominium

Takara Leben is committed to supplying environmentally friendly ZEH condominiums*1.

*1 ZEH (Net Zero Energy House): A house that simultaneously achieves a "comfortable indoor environment" and a "net annual residential energy consumption of approximately zero or less."

ZEH Condominium "LEBEN OITA EKIMAE MINAMI LUXES"

LEBEN OITA EKIMAE MINAMI LUXES (Oita city, Oita Prefecture) is a ZEH-M Oriented condominium that reduces residential primary energy consumption by approximately 28% and the condominium has received the highest rating of 5 stars (out of 5 scale) under the BELS, an energy efficiency rating system. Comfortable living space is realized by improving insulation and combining it with high-efficiency facilities such as LED high-efficiency lighting, hot water saving faucets, and Low-E double glazing glass.

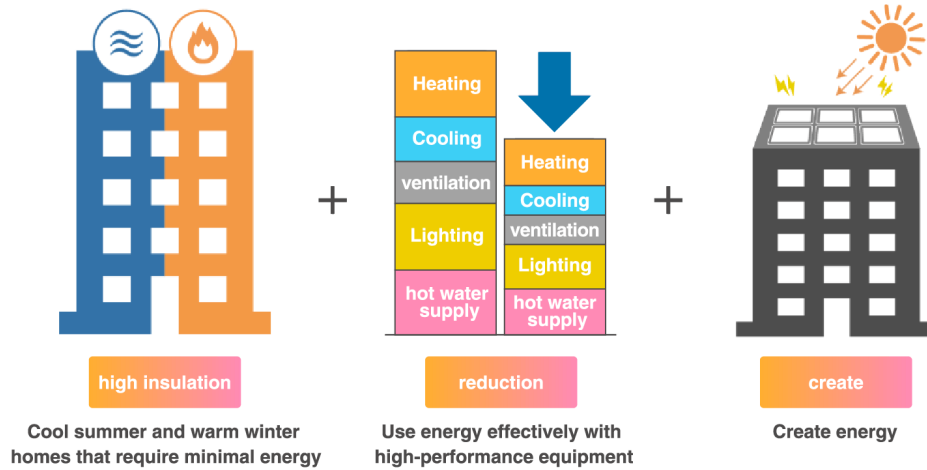


ZEH Condominium "LEBEN TOYAMA JINZUHONMACHI ONE TOWER"

LEBEN TOYAMA JINZUHONMACHI ONE TOWER (Toyama City, Toyama Prefecture) by Takara Leben is insulated not only on the exterior walls and folded parts but also on the ceiling surface to ensure the high insulation performance required for a ZEH^{*1} condominium, and metal sashes and double-layer double glazing Low-E glass are used for openings.

The condominium has obtained Grade 4 in the "heat insulation performance grade" of energy conservation measures^{*2} (whereas ordinary condominiums are rated Grade 3), and Grade 5 in the "primary energy consumption grade."

In addition, the building has received the highest rating of 5 stars (out of 5 scale) under the BELS, an energy efficiency rating system that calculates the primary energy consumption of a house.



*2 Energy measure grade: Established by the Ministry of Land, Infrastructure, Transport and Tourism as a grade that expresses energy-saving performance.



ZEH Condominium "LEBEN TOYAMA NISHICHO RESONACIA"

LEBEN TOYAMA NISHICHO RESONACIA (Toyama City, Toyama Prefecture) is the first ZEH (Net Zero Energy House) condominium in Toyama Prefecture. It has obtained the highest rating of 5 stars under the BELS, Energy Saving Performance Indication System, which calculates the primary energy consumption of a house and assigns a 5-star rating.



CASBEE Certification

MIRARTH HOLDINGS Group is promoting the acquisition of CASBEE* Building (new construction) certification, a comprehensive building environmental performance evaluation system.

* CASBEE (Comprehensive Assessment System for Built Environment Efficiency): A system for evaluating and rating the environmental performance of buildings. It comprehensively evaluates the quality of buildings, including environmental considerations such as energy conservation and the use of materials and equipment with low environmental impact, as well as indoor comfort and consideration for the landscape.

Rental Residence “LUXENA YOGA”

MIRARTH HOLDINGS and Takara Leben are developing the high-grade rental residence “LUXENA YOGA.” It has obtained “Rank A” under CASBEE Building (New Construction), a comprehensive performance evaluation system for the built environment.

The energy-saving brand “Ecocube,” which combines energy-saving performance with high thermal insulation, has been adopted to improve indoor environment and energy savings, including lowering fuel and lighting expenses, through the introduction of highly insulated inner sash, high-efficiency air conditioners, heat-exchange ventilation fans, and other features.

A “geothermal heat pump system*” that uses geothermal heat is used for the heating and cooling systems in the common area, thereby reducing greenhouse gas emissions. Also, a “heat exchange ventilation system” has been adopted in each exclusive dwelling unit to ensure comfort by constantly supplying fresh air that is nearly room temperature. In addition to these systems, rooftop greening, and other features were added to the building, which was evaluated as a building with high environmental performance, combining energy conservation and high thermal insulation.

* Geothermal heat pump system: By burying three 95-meter-deep heat collection pipes in the ground, which has a stable thermal environment of 13 to 15°C year-round, and circulating water through pipes, the system brings in warm water in winter and cool water in summer to the outdoor unit, saving more energy than air heat source equipment. This system, which is also used in the TOKYO SKYTREE, is specified as a renewable energy source to be promoted in the Basic Energy Plan and is expected to be a renewable energy source for a decarbonized society.



"L.Biz NIHOMBASHI"

At L.Biz NIHOMBASHI (Chuo-ku, Tokyo), an office building developed by MIRARTH HOLDINGS and its Group company, Takara Leben, we are working on heat load control of the building envelope to achieve environmental performance for the realization of a decarbonized society, in line with the Group policy of "providing environmentally conscious buildings and spaces" and working to improve the indoor environment by controlling room temperature and lighting. In addition, to encourage the use of natural energy such as sunlight, the building has a high floor height and curtain walls*¹. Also, to protect non-renewable water resources, we are working to reduce water consumption through water-saving devices.

These environmental performances were highly evaluated, and the property was the first in our series of office buildings to receive the "A" rank in CASBEE² - Building (New Construction), a comprehensive assessment system for building environmental performance.

* Curtain wall: A lightweight exterior wall that is installed to reduce the load on the building's structure by ensuring wind pressure from the outside and the watertightness.



Noda City Nakasato Logistics Facility Receives 5-Star BELS Certification

Noda City Nakasato Logistics Facility (Noda City, Chiba Prefecture), the first logistics facility built by Takara Leben in March 2022, has a policy of "developing environmentally friendly properties" and has a solar power generation system on the roof. The energy generated is used for a portion of the facility's electricity consumption. In recognition of these environmentally friendly efforts, the facility has received the highest rating of 5 stars under the BELS (Building Energy Efficiency and Low Energy Performance Labeling System).



MIRARTH Real Estate Advisory Initiatives

MIRARTH Real Estate Advisory (former Takara PAG Real Estate Advisory) promotes the acquisition of environmental certifications such as “DBJ Green Building*” and “CASBEE” for the properties it manages as part of its consideration for the environment in its asset management operations.

In FY2023, “HIGASHI IKEBUKURO CENTRAL PLACE” (Toshima ward, Tokyo) received certification of DBJ Green Building (rating: 1 star to 2 star) and “LUXENA TOYOCHO” (Koto-ku, Tokyo) received Rank A under CASBEE.

* DBJ Green Building: This program was established in April 2011 by Development Bank of Japan Inc. to evaluate environmental initiatives through real estate.

Comprehensive evaluation of real estate with environmental and social considerations, including not only environmental performance, but also tenant and community relations, and seismic adequacy.



Environmental Initiatives through ISO 14001 Certification

Recognizing the need to promote environmental friendliness in the general construction industry, Leben Home Build acquired ISO 14001 certification, the international standard for environmental management systems in 2008. We continue to operate our environmental management system by setting and regularly evaluating targets for reducing industrial waste resulting from our production activities at work sites.

- Separate trash at construction sites and promote recycling
- Separate and reduce waste at each business site.
- Regular cleaning outside the company by employees
- Propose plans and designs for energy conservation



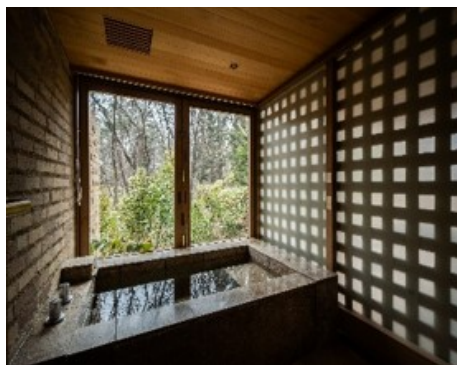
Environmentally Friendly Measures

“nasu mukunone”

Takara Leben opened its own hotel, “nasu mukunone” in April 2024. The hotel’s brand vision is “Relax and unwind in this living and breathing forest,” guests can stay in a vast natural setting of more than 35,000 square meters. On the premises, there is the “MIZUNIWA” designed by an architect Junya Ishigami and “AUBERGE” where you can enjoy local delicacies and elegant relaxation.

At “nasu mukunone,” natural water nurtured in the rich nature of Nasu Mountain Range is pumped up from the underground water veins and used as “natural hot water” in the semi-open-air baths in guest rooms under thorough quality control.

More than 10 species of wild birds, fireflies, and rare animals such as newts and frogs inhabit “MIZUNIWA.” We will continue to engage in biological conservation activities to coexist in harmony with nature.



Promotion of LEDs

For the purpose of effective use of resources and reduction of running costs, we are promoting the replacement of lighting installed in managed properties with LED lighting, which has a longer life and consumes less power.

Measures of Leben Trust

Leben Trust, a real estate leasing and management company, actively proposes environmentally friendly capital investments to owners, such as the use of LED lighting in common areas of managed properties, to promote energy conservation in buildings.

MIRARTH Real Estate Advisory Measures

MIRARTH Real Estate Advisory (formerly Takara PAG Real Estate Advisory), which is entrusted with asset management of Takara Leben Real Estate Investment Corporation, has implemented LED lighting in 45 of the properties it owns.

	Number of properties (including some partially implemented)	Percentage of LEDs in portfolio	
LED conversion	45 properties	Total 75.6%	Common areas: 90.3%
			Exclusive areas: 67.2%

(Based on floor space, as of the end of February 2024)

Environmental Measures in Office Buildings

MIRARTH Real Estate Advisory (formerly Takara PAG Real Estate Advisory) which is entrusted with asset management of Takara Leben Real Estate Investment Corporation is promoting environmentally friendly measures to reduce environmental impact and improve indoor environment.

To reduce water consumption in office buildings, we use rainwater for toilet flushing water, conduct awareness raising activities for tenants, and install "water-saving panels" to reduce the amount of water used in the water supply.

In addition, by displaying educational posters in common areas and tenants' private areas, we are promoting the reduction of greenhouse gas emissions and waste by fostering awareness of electricity conservation and the 3Rs.



Regular Cleaning Using Environmentally Friendly Detergents

As part of its commitment to environmental friendliness in condominium management services, Leben Community has officially introduced biodegradable plant-derived surfactants since FY2022.

Although vegetable-based detergents had been introduced on a trial basis at some properties since FY2021, the vegetable-based detergents at that time had less cleaning power than conventional detergents and did not meet the quality required for the services. After a number of trials and errors, we have officially introduced a detergent that does not fall under the PRTR system* and that takes environmental recycling into consideration. Currently, the detergent is used at sites where cleaning and janitorial staff belonging to Leben Community work.

* PRTR system: A system under which business operators are required to monitor and report to the government the amount of chemical substances released into the environment (air, water, and soil) from their business sites and the amount transferred out of their business sites in waste materials, which may be harmful to human health or the ecosystem.





Circular Economy

Conservation of Water Resources

Waste Reduction

Conservation of Water Resources

Perceptions and Policies on Water Resources

In response to the risk of drought due to climate change and the shortage of water resources due to global population growth, the demand side is required to effectively utilize water resources such as groundwater, rainwater, and reuse of wastewater and recycled water to ensure the stability of water supply.

MIRARTH HOLDINGS Group's environmental policy stipulates that the Group will work to conserve the water environment and reduce its environmental impact as part of its "Promotion of Resource Recycling." For office buildings and commercial facilities developed by the Group, we will promote the effective use and appropriate management of water resources from the design stage to reduce water consumption. Also, we are systematically updating facilities with water-saving equipment that contributes to reducing environmental impact in renovation projects.

Targets and Achievements

Water Consumption Reduction Targets

In real estate development and renovation projects, we will promote the introduction and switchover of water-saving devices etc. In addition, we will improve the rules and regulations of the "Design Standards" and "Quality Manual."

Actual Water Consumption

Fiscal Year	Total floor area (thousand m ²)	Water consumption (m ³)	Unit water consumption (m ³ /m ²)
FY2022	123	62,979	0.511
FY2023	117	61,950	0.528

* Scope: MIRARTH HOLDINGS Group companies

* Water consumption includes some estimates

* The FY2023 values are preliminary and provisional

Waste Reduction

Perceptions and Policies on Waste Reduction

With the emergence of global resource constraints and the increasing frequency and severity of disasters, the situation surrounding waste disposal and recycling is changing dramatically. We recognize the need for companies that generate waste to reduce emissions and properly manage waste disposal.

Our Group's environmental policy stipulates that we will strive to reduce our environmental impact and contribute to "forming a recycling-oriented society" through the promotion of the 3Rs (reduce, reuse, and recycle). In addition, we are committed to thorough separation of recyclable waste and reduction of waste emissions at all stages of building design, construction, operation and management, and demolition in our group's business activities.

Targets and Achievements

Waste Emission Reduction Targets

Regarding waste emissions, we will strive to reduce waste emissions per unit of production from the previous year by promoting the 3Rs (reduce, reuse, recycle).

Actual Waste Reduction

Fiscal Year	Total floor area (thousand m ²)	Waste emissions (t)	Waste emissions per unit of production (t/m ²)
FY2022	79	2,093	26.5
FY2023	72	2,147	30.0

* Scope: MIRARTH HOLDINGS Group companies

* Waste emissions include some estimates

* The FY2023 values are preliminary and provisional

Recycling Umbrellas

MIRARTH HOLDINGS Group collects plastic umbrellas left in the company's umbrella stands and donates them to MONDO DESIGN co., Ltd's "Umbrella Recycling Program." Under this program, the plastic parts of the collected umbrellas are upcycled into products under MONDO DESIGN 's brand, PLASTICITY. The purchase price of the plastic umbrella materials will be donated to "greenbird," a certified NPO that conducts community development through cleanup activities in Japan and around the world and will be used for tongs to pick up trash and for operating expenses for the team to clean up the city.



Environmental Data

The Group's Scope 1 and Scope 2 greenhouse gas (CO₂) emissions and energy consumption are shown below:

Greenhouse gas (CO₂) emissions

Unit: t-CO₂

Category	FY2020	FY2021	FY2022	FY2023	Remarks
Scope1	374	380	609	529	Combustion of city gas, LP gas, kerosene, gasoline
Scope2	1,584 (1,674)	1,696 (1,719)	2,975 (3,018)	1,636 (1,707)	Use of electricity and cold water
Total	1,958	2,076	3,584	2,165	

* The scope of environmental data calculation covers MIRARTH HOLDINGS Group (10 consolidated companies).

* The period covered is FY2020 to FY2023 (April 1, 2020 to March 31, 2024).

* From FY2022, with the expansion of the boundary for the use of electricity and water, the scope of aggregation has been expanded.

* The figures for FY2023 are provisional values with the use of renewable energy (including FIT non-fossil certificates), and the figures are subject to change.

* The Group excludes greenhouse gases other than CO₂ (chlorofluorocarbons, etc.) because of their extremely small amounts, and it only calculates and reports CO₂ emissions.

Energy consumption

Unit: kL of crude oil equivalent

Energy Type	FY2020	FY2021	FY2022	FY2023
Electricity	915.2	1,020.9	1,774.7	1,067.1
City gas	3.2	0.5	61.5	75.0
LP gas	0.0	0.4	55.3	26.3
Gasoline	140.8	145.2	136.8	118.1
Kerosene	0.7	0.3	0.1	0.0
Light oil	0.0	0.0	3.0	2.6
Cold water	1.2	0.4	0.5	0.5
Total	1,061.1	1,167.7	2,031.9	1,289.6

* The scope and period covered by the energy data are the same as for CO₂.

* Electricity use is based on the use of renewable energy (including FIT non-fossil certificates).

* The values for FY2023 are provisional and subject to change.

* Crude oil conversion is a measure to compare the size of different energy sources, such as electricity and gas.