# **Environmental Vision**

Chapter

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# Doing everything we can by 2030

If the current level of CO2 emissions continues, it should take only a decade or less before reaching the 1.5°C emission limit. We have decided to do everything we can to accelerate our decarbonization efforts. Note: For each indicator: Upper row: FY2022 results; Lower row: FY2030 targets

Renewable energy generation equipment construction (EPC) 2,706MW 5,000MW or brock

ZEB rate 66% ➡ 100% <sup>in</sup> principle

> ZEH-M rate (condominium

> > 68% ➡

00% in principle

14% ➡

00% in principle

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# Chapter **6** Environmental Vision

Message from the CEO

Long-Term Vision

and the 7th Plan

# Overall picture of environmental strategy and main KPIs

The Story of the Group's Value Creation

Aiming to achieve Our Hopes for the Future, the Group announced an ultimate goal for 2055 and specific milestones for 2030 in our environmental initiatives. Through the Endless Green Program (EGP) 2026, we will steadily pursue circular economy and carbon neutrality, which are one of the materiality.

Message from the CFO

						2026 Targets	2030 Milestones	2055 Ultimate goals (2050 for climate cha
		balance betwe	en decarbonization (impacts on society) and corporate profits	(impacts oi				
Seventh Medium-Term Management Plan (Carbon-neutral strategy) Materiality		decarbonization (Mitigating and adapting to climate change)	Community development GHG emissions from building use (vs FY2015)	Seven Challen	ige	- 54 %	-63%	
			Business activities Reduction rate of GHG emissions from business activities (vs FY2015)	2		- 55 %	-70%	Carbon neutrality
	Endle		Supply chains Setting rate of principal suppliers' SBT-level GHG emissions reduction targets	3		90%	Achievement of GHG reduction targets by principal suppliers	
	ss Green P	Closed-loc sourcing and of aquatic e (Circular	Number of assets subject to effective use	6		4,500	(To be formulated in FY2026)	Minimize the volume of resources used and waste emissions
rogram 2026		p resource conservation rvironments conomy conomy rogram 2026	Reduction rate of water consumption per unit of sales(vs FY2012)	7		<b>-40</b> %	-45%	Use water sustainably
			Ratio of C-ranked timber	4		0%	0%	Zero deforestation arising from materials procurement at all segments
		with the vironment of biodiversity)	Eco-friendly surface area of green spaces (cumulative, vs FY2021)	5		+1 million m <sup>2</sup>	+2 million m <sup>2</sup>	Prevent any net loss of biodiversity
			Prevention of chemical pollution					Minimize chemical pollution risk and soil contamination risk

Developing

our Businesses

\* Prevention of chemical pollution is not defined as Challenge ZERO because it is already at the maintenance and management level.

Governance

Management Message: Environment and Energy Business Division

Long-Term Vision

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# Doing everything we can by 2030: Continuing our exciting challenge to make the world a better place

The Story of the Group's

Value Creation

We made the environment a part of our business early on, moving into the wind power generation business in 2007, because we believed that businesses harnessing wind, sun, and water are essential in the 21st century. Although there was no guarantee that these businesses would succeed, we continued our challenge with the positive attitude ingrained in our corporate culture. As its says in the founder's spirit, "if you fall, fall forwards," and "there is no mountain we cannot scale, nor river we cannot cross." Our business grew as renewable energy became more widespread.

At a time when we must urgently respond to climate change, we are committed to doing everything we can by 2030. Realizing carbon neutrality by making all our buildings carbon-free is a focal theme of our Seventh Medium-Term Management Plan as a step toward the goal of a circular economy and carbon neutrality (a materiality). Moving forward with this carbon-neutral strategy, we aim to grow one-time revenue businesses by raising the unit price of environment-friendly buildings and expanding the renewable energy power plant construction contract business. At the same time, we seek to generate synergies with recurring revenue businesses such as renewable power generation and electricity retail to evolve our revenue model. I believe that my mission is to create this virtuous cycle to make a substantial contribution to improving social value by decarbonization as well as improving the value of these businesses. To this end, we have set two KPIs—one for the reducing greenhouse gas (GHG) emissions and one for increasing uptake of renewable energy.

# Reduction of GHG emissions

# Set goal of reducing emissions to 1.5°C set by SBTi

Daiwa House Group has set a materiality KPI of reducing by 2030, the GHG emissions of its entire value chain by 40% vs fiscal 2015. By scope, it targets a 70% reduction Toshiya Nagase Head of Single Samily Housing Business Division Head of Environment and Energy Business Division from business activities (Scopes 1 and 2) and a 63% reduc-

tion from community development (Scope 3, Category 11). This ambitious target has been validated by SBTi, and we will achieve it by using renewable energy generated

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Message from the CFO

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in-house to reach RE100, making all new buildings we offer net-Zero Energy Houses (ZEHs) or net-Zero Energy Buildings (ZEBs), and installing solar panels on all buildings.

# Attaining our goal of making all new buildings we offer ZEHs/ZEBs and installing solar panels on all buildings

With the first year of the Seventh Medium-Term Management Plan behind us, we have noticed a change in environmental awareness among our customers, both individual and corporate. In fiscal 2022, the share of our buildings complying with ZEH specifications increased sharply from 53% in the previous fiscal year to 86%. Contributing factors are progress in sales of ZEH-standard products and the growing share of ZEHs built for sale. Installing solar panels (with the exception of very small sites in downtown areas and areas with heavy snowfall) is now the obvious choice amid heightened environmental awareness among customers and sharply increasing power bills. However, we still see room for improvement, and society demands even more from us. We will continue to advance the uptake of solar panels as an urgent priority.

In the past few years, the number of companies opting for renewable energy as an environmental solution has been trending up, and the value of renewable energy has been re-affirmed amid the recent sharp increase in electricity prices. As a result, more customers are investing their own funds to install solar panels. At the time we formulated the Seventh Medium-Term Management Plan, we assumed roughly 10% of customers would invest in their own solar panels, with the Group installing solar panels on the customers' roof on their behalf for the other 90% to reach the 100% target. Recent trends show these numbers reversing: 80% of customers are now investing in their own solar panels.

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That said, different customers have different preferences depending on the purpose and size of their building. For example, high-capacity solar panels can be installed on a large logistics facility, whose power consumption is relatively low. This makes solar panels a solution offering major advantages, and consequently, customers are generally receptive to installing them. However, they are unlikely to have major benefits for small, retail stores on a per-building basis, which makes owners reluctant to install them. We therefore pitch a comprehensive renewable energy solution to nationwide drugstore and other chains.

We must also reduce GHG emissions at the manufacturing stage of inputs like structural steel and concrete to lower the emissions of our whole value chain. We are working with suppliers on initiatives as well as raising the share of wooden buildings, whose inputs produce less emissions at the manufacturing stage. Increasing uptake of renewable energy

Governance

# Securing an overwhelming share in offsite power plant developments

Our second materiality KPI is to increase uptake of renewable generating capacity to at least 5,000MW by fiscal 2030. We are making steady progress toward this goal. At the end of fiscal 2022, we had installed renewable energy power plants with total capacity of 2,706 MW, with 602MW of capacity developed and operated by the Group. The construction of mega-solar facilities is trending downward as the end of feed-in tariffs (FITs) approaches. Looking ahead, we will focus our efforts on onsite and offsite power purchase agreements (PPAs).

We will continue to work with our business divisions for onsite PPAs with focus on installing solar panels. Meanwhile, our promotion of offsite PPAs has recently started to bear fruit. An offsite PPA takes almost a year of preparation (for such tasks as finding a suitable site and completing procedures for connecting to the grid) before construction can start, because the power plant is built some distance away from the user's site. Only a few companies offer offsite PPAs, and their generating stations are mostly small-scale. However, the Group spent decades amassing information on land availability, and

Long-Term Vision The Story of the Group's and the 7th Plan Value Creation

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this places us well to find suitable sites for large developments. We therefore want to make offsite PPA development a stand-out strength so people will automatically associate Daiwa House with offsite PPAs. We have set up a new unit dedicated to building relationships with customers, because offsite PPAs require electricity users (buyers). This has resulted number of users growing from one company a year ago to several dozen now.

An advantage of onsite PPAs is that they obviate the need to connect to the grid, which reduces wheeling charges and other costs. However, users need to purchase power from the market if their facilities use a lot of electricity and photovoltaic power generation cannot supply 100% of their needs. This means that the company is not using 100% renewable energy. The use of offsite PPAs to supply renewable energy solves this. Thus our Environmental and Energy Business pitches onsite and offsite PPA solutions best suited to customers' needs as a means of increasing uptake of PPAs.

# To be the first in the housing and construction industry to attain RE100

At the end of fiscal 2022, Daiwa House Group operated renewable energy power plants with total capacity of 612.3 MW (including power for our own consumption), which equals 1.57 times the Group's total power consumption. This means that we can supply 100% of the power we consume, even if usage increases as our business expands. In this way, we are switching to renewable energy by utilizing renewable energy generated by our own facilities in our business. As well as generating our own electricity, we are switching to purchasing power from renewable sources and encouraging electricity buyers to purchase non-fossil fuel certificates. Daiwa House Industry (nonconsolidated, domestic) achieved 100% renewable energy of its purchased electricity in fiscal 2022. In fiscal 2023, Daiwa House Group aims to achieve the same result for the whole group (including overseas subsidiaries) and targets RE100 in fiscal 2025 for the whole Group including our own power plants.

# Continue to harness Daiwa House's unique strengths in our environmental strategy

# Organically making use of our strengths

We saw business opportunities in the environment early on and took action in various ways, a course that is working to our advantage today. Daiwa House Group's annual renewable energy output totals 829 GWh, which is significant for a company that is not a power utility. The Group stands out for its environmental energy business, something none of its competitors have. Renewable power generation accounts for a large share of Japan's power generation relative to its land area, offering limited locations for building power plants without compromising nature conservation and scenic views. For this reason, we believe that the key to the future supply of renewable energy lies in how to secure land to build power plants on and utilizing rooftops. As a large-scale supplier of buildings armed with nationwide land information, we can maximize our strengths in addressing these issues.

Governance

We believe we still have much to contribute to the world and will continue with these exciting challenges.



# Key actions for achieving carbon neutrality

The Group aims to be carbon neutral in 2050, and has set a goal of reducing greenhouse gas emissions across its entire value chain by 40% by 2030 (compared to fiscal 2015 levels). To achieve this goal, we have set specific action plans in each phase of the supply chain, business activities, and community development that make up the value chain, and are promoting initiatives.



#### FY2022 results 23.5% reduction 70% reduction\*1 (vs FY2015) 63% reduction\*1 (vs FY2015) 0.49 FY2030 targets 3.14 40% reduction 0.17 FY2050 targets Carbon neutrality\* Amount removed\*3 = Emissions

\*1 SBT certified (1.5°C level) \*2 SBT certified (net-zero) \*3 As reducing emissions to absolute zero is impracticable, we will achieve net zero emissions by removing the commensurate amounts of GHGs whose emissions are inevitable.

Message from the CFO

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# Supporting the TCFD Recommendations and enhancing disclosure

and the 7th Plan

Message from the CEO

The impact of climate change is becoming more severe every year, and the frequent occurrence of extreme weather, meteorological disasters, and other events, for which climate change is thought to be a cause, threatens the safety and security of homes and living, which form the foundation for the value that the Daiwa House Group offers. Meanwhile, since the adoption of the Paris Agreement, nations and governments around the world have taken a sharp turn toward "decarbonization," and expectations of the role that the private sector should play are changing significantly. Nevertheless, because the changes in the external environment accompanying climate change are highly uncertain, it is important to hypothesize multiple scenarios and respond to the risks appropriately while recognizing the business opportunities at the same time. Therefore, in addition to utilizing the "Governance," "Strategy," "Risk Management," and "Metrics and Targets" framework recommended for disclosures by TCFD as a tool for verifying the rationality of our initiatives on climate change, the Daiwa House Group intends to actively disclose information in line with the TCFD recommendations, paving the way to constructive dialogue with investors and others.

## Transition plan to achieve carbon neutrality

The Daiwa House Group has positioned mitigating and adapting to climate change as one of its key management issues and has continued efforts toward achieving carbon neutrality by 2050 as declared in the Long-Term Environmental Vision. In the carbon-neutral strategy under the Seventh Medium-Term Management Plan that started in fiscal 2022, we set as a milestone a 40% reduction in GHG emissions by 2030 compared

to 2015 throughout our value chain (scopes 1, 2 and 3). Toward this target, we accelerate our initiatives in all businesses and aspects.

### Strategy

The risks and opportunities associated with climate change can be considered as those caused by "transitions," such as the tightening of regulations, advance in technology, and changes in the market that will occur with the move toward a decarbonized economy, and those caused by "physical changes," such as acute extreme weather and chronic temperature increases that will result from global warming. In addition, the impact could manifest not only in the short term, but also over the medium-to-long term. Therefore, the Daiwa House Group has classified the factors involved in the various changes in the external environment associated with climate change into "transitions" and "physical changes," estimated the period that will be impacted, and assessed the financial impact at three levels-large, medium, and small-to identify the significant risks and opportunities.

Period of impact: Short: less than 1 year; Medium: over 1 year but less than 5 years; Long: over 5 years

Level of financial impact: Small: less than ¥10 billion; Medium: over ¥10 billion but less than ¥100 billion;

Governance

#### Steps for strategy formulation





Main risks and opportunities related to climate change

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Response to the Task Force on Climate-related Financial Disclosures (TCFD) recommendations

The Story of the Group's Long-Term Vision Message from the CFO Value Creation

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# Summarized results of scenario analysis

1.5°C scenario					
A scenario under sustainable development to limit global warming to 1.5°C above pre-industrial levels					
Reason for selection	The scenario is aligned with Net Zero by 2050 (1.5°C goal) declared by Japan, in which we mainly operate, and involves relatively high transition risks.				
	An increase in operational costs due to tightening of regulations is expected, which can be covered by revenue growth due to increased sales of ZEHs, ZEH-Ms, ZEBs, and the Environment and Energy Business.				
	With "Realize carbon neutrality by making all buildings carbon-free" positioned as one the focal themes under the Seventh Medium-Term Management Plan, we have decided on policies of making all new buildings into ZEH and ZEB in principle, and installing solar power generation systems on all buildings. We monitor progress using the rates of ZEH, ZEH-M and ZEB as key management indicators and reflect the results in our business strategies.				

# 4°C scenario

# A scenario with maximum GHG emissions with no climate policies implemented under fossil fuel-dependent development

	The scenario with the biggest physical impact was selected to hypothesize the most extreme situation.
	Additional costs could arise due to supply chain disruptions and asset impairment due to damage to our facilities caused by heavy rain and heavy snow, and construc- tion delay damages as extremely hot days will increase, which can be covered by sales growth of products to mitigate and adapt to climate change.
eflection olicies and trategies	We have decided on policies of thoroughgoing measures against heatstroke at construc- tion sites and development and popularization of products with low GHG emissions and products adapted to physical changes. We monitor progress using the number of heatstroke cases, GHG emissions per unit of floor space through provision of products, and sales rates for ZEHs, etc. as key management indicators and reflect the results in our business strategies.

### Main approach

We provide sales and design staff with education and seminars on ZEH and ZEB to improve their knowledge and marketing capabilities. To customers, we developed tools to convey the advantages and costs of eco-friendly buildings in an easy-to-understand way, as well as energy calculation tools, thereby expanding our initiatives in the area. The targets set at the beginning of each fiscal year are reviewed quarterly to confirm progress. The achievement level of targets is reflected in the performance evaluation.

# Main approach

We deployed environmental sensor at our construction sites in an effort to act promptly to prevent heatstroke or prepare for strong winds. We also formulated a business continuity plan for our supply chain, based on which we promoted measures, such as procuring materials from multiple suppliers and manufacturing sites. In the Single-Family Houses Business, we released the "Anti-Disaster House" equipped with the All-Weather Three Battery Linking System which can secure power, heating, and hot-water for some ten days in case of power outages even when it is raining. We have sold a total of over 500 such houses by the end of fiscal 2022. In fiscal 2022, 90% of single-family houses we built had solar power generation systems and 56% had storage batteries.

#### Long-Term Vision Message from the CEO

# Endless Green Program 2026 (Seven Challenge)

The Story of the Group's

Value Creation

# Challenge 1

Challenge ZERO for CO2 in community development

and the 7th Plan

# Targets/Results for FY2022, Targets for FY2026

M	anagement indicators	FY2022	FY2022	FY2026	
Management indicators		Targets	Results	Targets	
GHG emissions from building use (vs FY2015)		-35%	-39.3%	-54%	
ZEH rate	Single-Family Houses	80%	86%	90%	
ZEH-M rate	Rental Housing	10%	14.2%	50%	
	Condominiums	15%	67.5%	100%, in principle (FY2024)	
ZEB rate	Commercial Facilities/ Logistics, Business and Corporate Facilities	40%	65.7%	80%	

# Main approach in FY2022

We achieved the targets for the ZEH, ZEH-M, and ZEB rates by improving proposal capabilities thorough implementation of education and seminars on ZEH and ZEB to sales and design staff, developing tools for them and others. In the Rental Housing Business, we launched TORISIA, a ZEH-M compliant rental housing product. As to the Condominiums Business, we decided to bring forward the target year to achieve 100% ZEH-M rate in principle to fiscal 2024. Going forward, we will also accelerate expanding ZEH-M in the Rental Housing Business and ZEH, ZEH-M, and ZEB by utilizing internal carbon pricing introduced in April 2023 in real estate development.

Sustainability Report 2023: Mitigating and adapting to climate change > P.32

### Main approach in FY2022

Management indicators

GHG emissions from business activities

(vs FY2015)

We switched electricity rate plans to renewable energy ones and purchased non-fossil certificates as an electricity buyer, thereby achieved the electricity purchased by Daiwa House Industry (non-consolidated, domestic) 100% renewable. This helped us dramatically reduce GHG emissions in Scope 2 and achieve the target. Going forward, we aim to achieve 100% renewable energy for power purchased across the Group, including overseas subsidiaries, in fiscal 2023, and to achieve RE100 in fiscal 2025. Furthermore, we promote energy efficiency activities for new and existing facilities to attain EP100 (double the energy efficiency), introduce CEVs as company vehicles, and establish charging stations.

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Challenge ZERO for CO2 in business activities

FY2022

Targets

-25%

1.54 times

30%

1%

-33.5%

1.5 times

41.5%

1.5%

Targets/Results for FY2022, Targets for FY2026

Energy efficiency

(vs FY2015)

Renewable energy

utilization rate

Introduction rate of

clean energy cars

(CEVs)

Message from the CFO

Challenge 2

Energy

efficiency

Renewable

energy

Electrification

# Challenge 3

Strengthening

our Bases

**Environmental Vision** 

FY2026

Targets

-55%

1.9 times

100%

(FY2025)

30% (company vehicles)

10%

(private vehicles used for work or commuting)

Challenge ZERO for CO<sub>2</sub> in the supply chain

Governance

## Targets/Results for FY2022, Targets for FY2026

Management indicators	FY2022 Targets	FY2022 Results	FY2026 Targets
Setting rate of principal suppliers'SBT-level GHG reduction targets	40%	65.9%	90% (FY2025)
The number of contracts for energy-efficiency and energy-generation solutions (cumulative)	5	9	50

### Main approach in FY2022

We maintained our decarbonization working groups and decarbonization dialogues with principal suppliers, and through such dialogues with them, stepped up efforts to encourage them to set SBT-level targets. This resulted in a significant rise in the setting rate of GHG reduction targets. Going forward, we will continue to help them set and raise targets, and aim to achieve carbon neutrality in the supply chain by offering ideas for saving and generating energy to our principal suppliers.

### **Initiatives for Biodiversity**

# Challenge 👍

Challenge ZERO Deforestation

### Targets/Results for FY2022, Targets for FY2026

Management indicators	FY2022 Targets	FY2022 Results	FY2026 Targets
Ratio of C-ranked timber*	3%	3.1%	0%
Setting rate of zero deforestation policy (Primary suppliers)	30%	6.1%	90%

\* Timber in procurement is categorized into one of four ranks—SSS, SS, S, or C—pursuant to our company's assessment procedure.

### Main approach in FY2022

The volume of timber procured from Sarawak, Malaysia increased due to the disruption in timber procurement caused by the global lumber shortage. As a result, our use of C-ranked timber missed the target. Going forward, we will increase suppliers' awareness of our zero deforestation policy and aim to eliminate the use of C-ranked timber by switching sources to low-risk areas.

#### Our zero deforestation policy

- Purchase timber (lumber) and wood products only from suppliers with declared Zero Deforestation policies
- Purchase timber and wood products only from suppliers that handle products harvested or manufactured with due consideration for the safety and rights of labor and indigenous peoples in the country of origin
- Purchase only timber and wood products whose traceability is certain
  Extend the scope of timber covered by the survey (added plywood concrete form;
- wood used in fixtures, wooden fittings such as doors and windows; and wallpaper)

Sustainability Report 2023: Harmony with the natural environment > P.45

# Challenge 5 Challenge ZERO Harm to Biodiversity

### Targets/Results for FY2022, Targets for FY2026

Management indicators	FY2022 Targets	FY2022 Results	FY2026 Targets
Eco-friendly surface area of green spaces (cumulative, vs FY2021)	+ 200,000 m <sup>2</sup>	+ 257,000 m <sup>2</sup>	+1,000,000 m <sup>2</sup>
Rate of formulation and implementation of protection and management plans of the company's facilities and significant sites	Assessing priority levels	Primary screening completed Assessment of priority levels in progress	100%

#### Main approach in FY2022

We have promoted greening with indigenous species under the slogan "Let's keep green" to achieve nature positive. In fiscal 2022, we created green spaces of 257,000 m<sup>2</sup>, of which 50% or more is accounted for by indigenous species, mainly in our Rental Housing Business, Condominiums Business, Commercial Facilities Business, and Logistics Business & Corporate Facilities Business. We conducted the first screening of our own facilities to specify significant sites. Such initiatives will be promoted on an ongoing basis.

#### What is an eco-friendly surface area of green spaces?

The sum of surface area of green spaces in the exterior greening for properties, where indigenous species suitable to nature of each region account for 50% or more\* \* The number of tall trees and shrubs

#### Initiatives for resource use and water-associated risks

# Challenge 🙆

Challenge ZERO Waste and Reuse

### Targets/Results for FY2022, Targets for FY2026

Sector	or Management indicators		FY2022 Results	FY2026 Targets
Livness	Number of assets subject to effective use	4,000	4,276	4,500
business	Number of assets subject to durability extension	4,500	8,984	9,150
Factories	Recycling rate of waste plastics material	10%	16.8%	30%
	Reduction rate of amenities that are plastic- containing products specified in law (vs FY2021)	-10%	+2.9%	-50%
Hotels	Material recycling rate of amenities made from plastics specified in law	3%	0%	50%
Supply chains	Setting rate of zero waste emissions targets by principal suppliers	50%	34.6%	90%

# Challenge 7

#### Challenge ZERO Water-Associated Risks

#### Targets/Results for FY2022, Targets for FY2026

Management indicators	FY2022 Targets	FY2022 Results	FY2026 Targets
Water-saving device adoption rate at housing and hotels	93%	96.8%	98%
Water consumption per unit of sales (vs FY2012)	-36%	-42.7%	-40%
Implementation rate of water risk surveys by principal suppliers	60%	85.5%	100%

#### Sustainability Report 2023:

Closed-loop resource sourcing and conservation of aquatic environments > P.52