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# Nishimatsu Climate Information 2022



June 2022

In recent years, the impact of climate change has led to the emergence of disaster-grade extreme weather and flood damage in many places, shaking the foundation of survival of all living things, including humans. We at Nishimatsu Construction recognize that addressing climate change is one of the most important management issues in the promotion of our business activities, and in accordance with the recommendations of the TCFD\*, we analyze the "risks and opportunities" of climate change on our finances and incorporate measures for the future into our management strategies. We will continue to contribute to solving social issues related to climate change through our business operations, aiming to further enhance our corporate value and meet the expectations of our stakeholders.

\*TCFD = Task Force on Climate-related Financial Disclosures. The Task Force, established by the Financial Stability Board (FSB) following a request from the G20, encourages companies and others to understand and disclose the financial impacts of climate change.

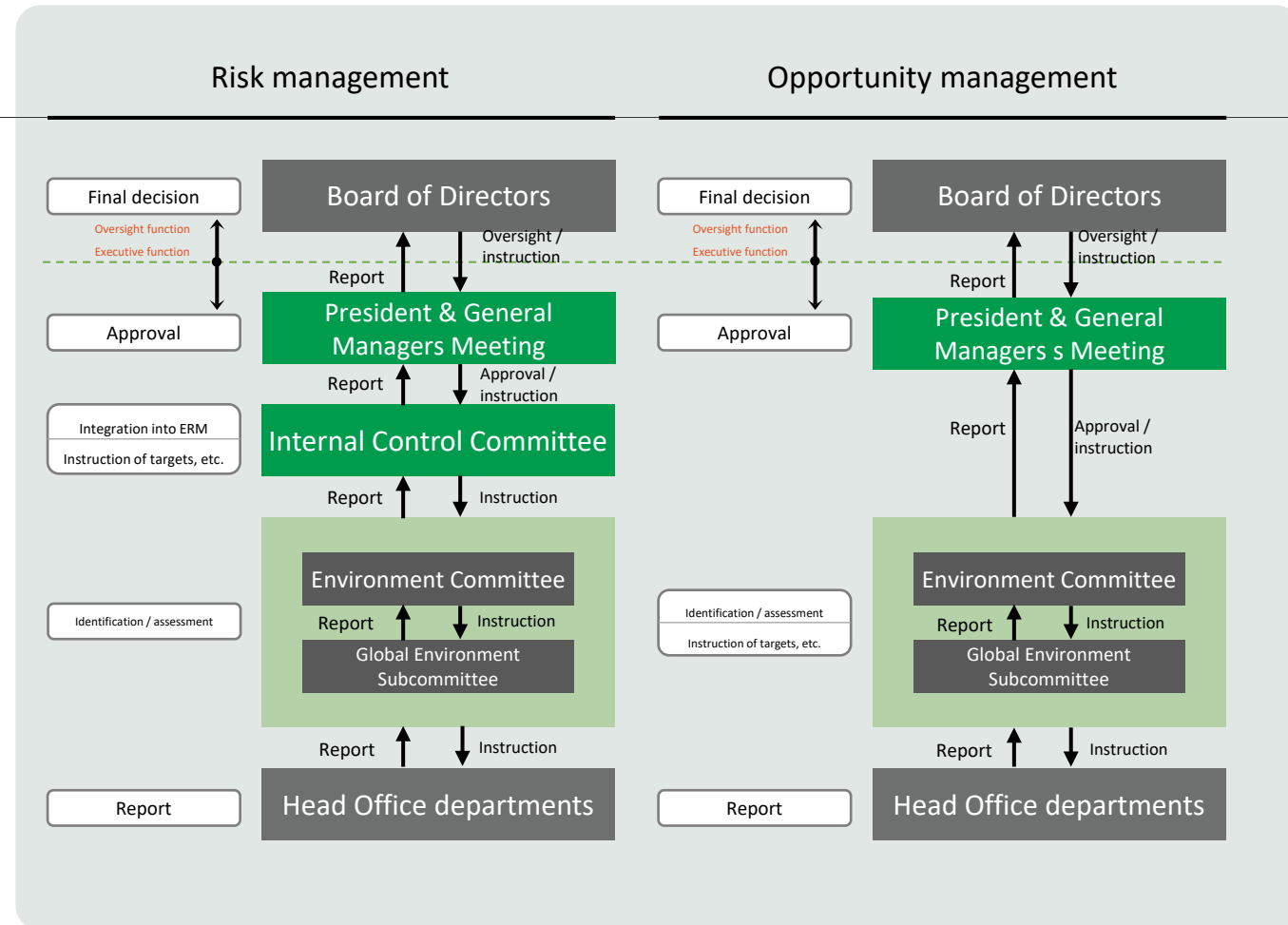


## Oversight of board for climate-related issues

At Nishimatsu Construction, the "Board of Directors" oversees the company's efforts to address risks and opportunities related to climate change. The board discusses reports on climate-related issues on a biannual basis and oversees specific measures, targets, and progress related to key climate-related risks and opportunities.

## Responsibility for climate-related issues, processes for receiving reports, and monitoring methods

Under the oversight of the "Board of Directors," the "President and General Managers Meeting" of Nishimatsu functions to make chief executive decisions in terms of measures and target management to address risks and opportunities related to climate change. Risks are integrated into the Enterprise Risk Management process (ERM) by the "Internal Control Committee," and opportunities are consolidated into companywide information by the "Environment Committee," so that both are reported to the "President and General Managers Meeting." The response measures and target management for these reports are approved, and the status of progress is monitored. The contents approved by the "President and General Managers Meeting" are reported to the "Board of Directors" twice a year.



\*The Global Environment Subcommittee is a subcommittee of the Environment Committee and is responsible for reviewing risks and opportunities in accordance with the TCFD recommendations.

## Process for identifying and assessing climate-related risks and opportunities

Nishimatsu believes that strategies to reduce, transfer, and avoid climate-related risks and to realize climate-related opportunities are positioned as important management issues, and that appropriate corporate responses will lead to sustainable growth. Climate-related risks and opportunities of Nishimatsu and its affiliate companies (hereafter collectively "Nishimatsu Group") are identified by Head Office departments, and the identified risks and opportunities are assessed by three scales: "likelihood of occurrence," and "quantitative impact" and "qualitative impact" if they manifest.

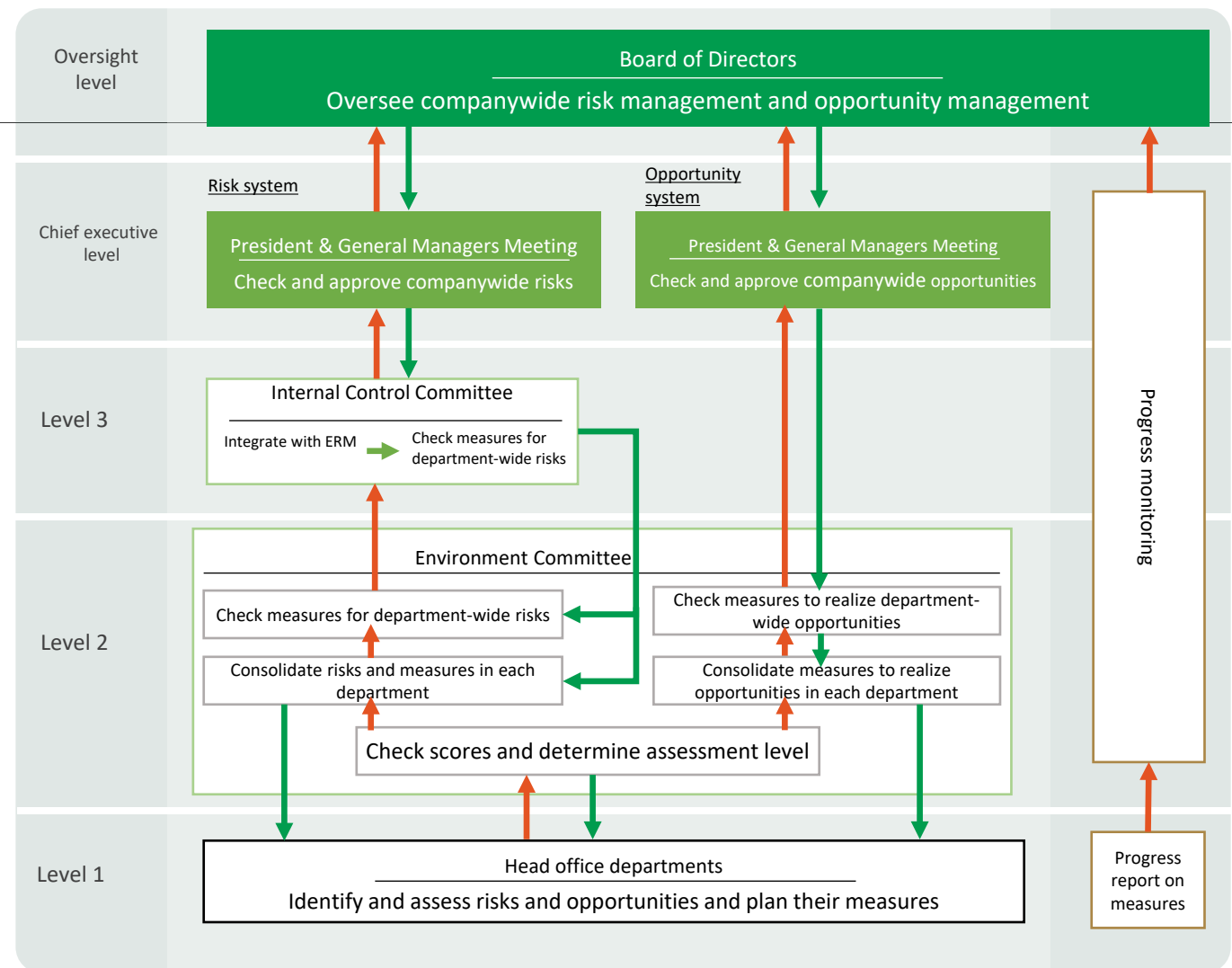
## Process for managing climate-related risks and opportunities

Nishimatsu formulates "risk response measures" and "opportunity realization measures" for climate-related risks and opportunities that have significant impacts on the Group's strategies. The assessment and progress management of risks are carried out by the Internal Control Committee, while those of opportunities are done by the Environment Committee.

## Status of integration into Enterprise Risk Management framework

For the purpose of minimizing losses and achieving sustainable growth by properly managing risks and crises in Nishimatsu Group, we have set the "Internal Control Committee" for their promotion, which also controls and manages risks related to the Group's businesses.

Climate-related risks are integrated with ERM by the "Internal Control Committee" and are reflected in the Group's strategies and addressed as companywide risks under the supervision of the "Board of Directors."



## Adopted Scenarios and Analysis Targets, Time Horizon

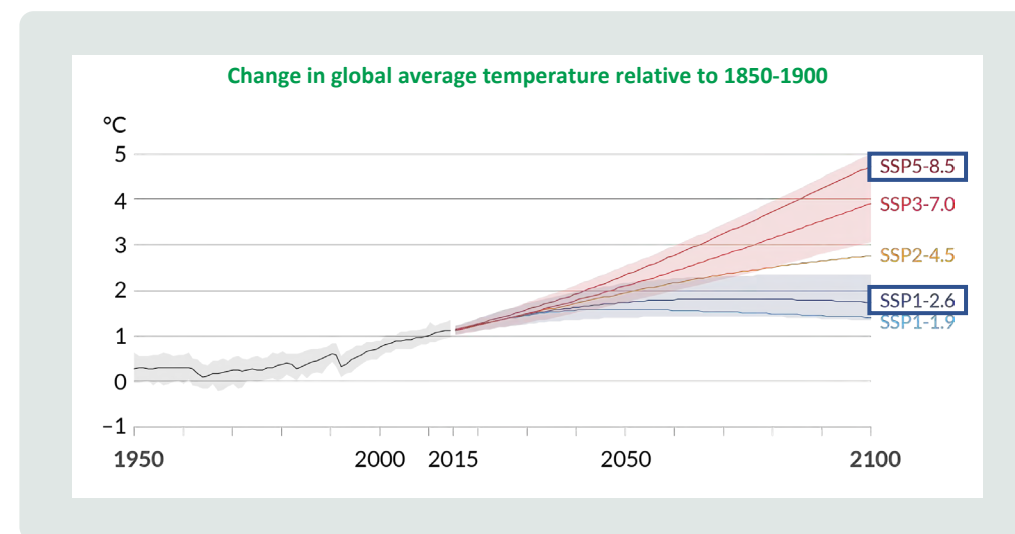
Estimated value	Scenario	Assumed environment	Analysis period
2°C	[Transition] IEA*1 SDS*2	A scenario well below 2°C, assuming all energy-related SDGs and all current net zero pledges are achieved.	2030
	[Physical] SSP*3 1-2.6	Under sustainable development, climate policies to limit the temperature rise to less than 2°C with respect to the pre-industrial level are introduced. Expected to achieve net-zero CO2 emissions in the latter half of the 21st century. Low stabilization scenario.	
4°C	[Transition] IEA STEPS*4	A scenario that reflects specific policies announced by each country at this stage. The temperature rise exceeding 2°C is assumed.	
	[Physical] SSP5-8.5	No climate policy is introduced under fossil fuel dependent development. High-level reference scenario.	

\*1 IEA: International Energy Agency; \*2 SDS: Sustainable Development Scenario

\*3 SSP: Shared Socioeconomic Pathways; \*4 STEPS: Stated Policies Scenario

Looking toward the highly uncertain future accompanied by a transition to a decarbonized society, Nishimatsu conducted a scenario analysis for each of the 2°C and 4°C situations recommended by the TCFD to determine what business issues could emerge. The scenario analysis covers not only Nishimatsu's mainstay "construction business" but also "development and real estate business" and "environment and energy business," taking into account the entire supply chain including partner companies and material procurement.

In addition, since climate-related risks can have long-term impacts, we have set the period up to 2023, the year of the medium-term management plan, as "short-term," the period from 2023 to 2030 as "mid-term," and the period after 2030 as "long-term" in accordance with the TCFD recommendations.



Source: IPCC\* AR6 WGI P.30 a) Global surface temperature change relative to 1850-1900

## Climate-related risks

Risk classification		Risk description	Impact period	Applicable scenario
Transition risk	Regulation	Increase in business costs due to lack of progress in reducing CO2 emissions in business activities if a carbon tax is introduced.	Medium / long	2°C / 4°C
	Technology	Increase in business costs due to introduction of new technology (ZEB, etc.) to real estate properties.	Short / medium / long	2°C
		Failure to receive orders due to delay in technological response to the ongoing trend toward wooden high-rise construction (sales decrease)	Short / medium / long	2°C
		Failure to receive orders due to increased demands for PC (prestressed concrete) products, i.e., increased procurement costs, if the use of PC progresses and becomes an essential requirement for construction (sales decrease)	Medium / long	2°C / 4°C
Physical risk	Chronic risk	Failure to receive orders due to deteriorating work environment caused by temperature rise and decrease in skilled workers (sales decrease)	Medium / long	2°C / 4°C
		Failure to receive orders due to difficulty in securing subcontractors and construction equipment for regular work caused by increased disaster restoration (sales decrease)	Medium / long	2°C / 4°C

## Climate-related opportunities

Opportunity classification	Opportunity description	Impact period	Applicable scenario
Resource efficiency	Cost reduction associated with improved energy use efficiency through the introduction of low-carbon technology (e.g., green building certification, etc.)	Short / medium / long	2°C
	Increase in construction sales due to growing needs to replace buildings with ZEB through promotion of green building certification, etc.	Medium / long	2°C / 4°C
Products and services	Sales increase through promotion of installation and renovation of renewable energy facilities, smart city projects, and commercialization of green infrastructure, etc. under Green Growth Strategy and Decarbonization Plan of the government (MLIT)	Medium / long	2°C
	Increase in sales of related constructions due to promotion of renewable energy-related projects, solar power generation projects, small-scale hydropower generation projects, and introduction and renovation of renewable energy facilities at dams under Green Growth Strategy and Decarbonization Plan of the government (MLIT)	Medium / long	2°C
	Sales increase due to increased demands for technology related to reuse of storage batteries, hydrogen, and CO2 along with progress in environmental technology, accompanied by a transition to a decarbonized society.	Medium / long	2°C
Market	Improved market competitiveness by proactively making additional investments in environmental measures in rental office buildings, etc. and by making it possible to meet decarbonization needs (sales increase).	Short / medium / long	2°C
Resilience	Sales increase due to increased orders for concrete housing construction as a result of the shift from wooden construction to concrete and other building materials as natural disasters increase.	Medium / long	2°C / 4°C
	Sales increase resulted from increased restoration constructions following the occurrence of severe disasters.	Medium / long	2°C / 4°C



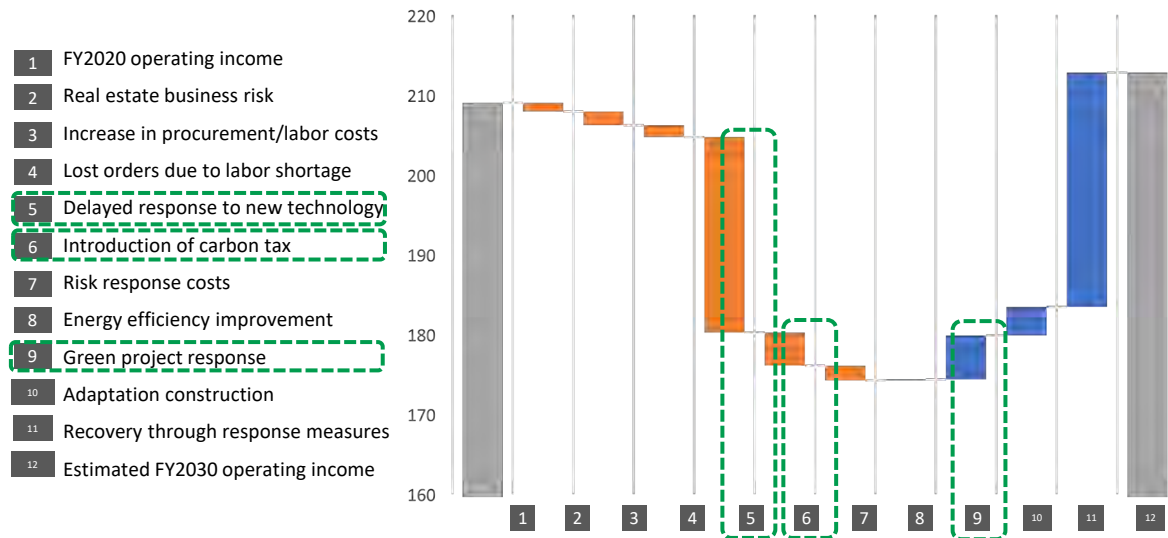
## Business impact assessment based on 2 °C scenario

### Analysis result summary

The impact of the 2 °C scenario on operating income in FY2030 resulted to be not significant if recovery with risk measures and response to opportunities are included.

- The impact of lost sales opportunities due to delay in responding to new technology, e. g. wooden high-rise construction, is relatively large. [Risk]
- If a carbon tax similar to the European one is introduced, the cost increase would have the second largest impact after the above. [Risk]
- Sales increase arising from the spread of ZEB buildings, as well as expansion of sales opportunities from new environmental and energy-related business projects and promotion of environmental responsiveness in the real estate business are expected. [Opportunity]

Impact verification of climate change factors on operating income (2 °C scenario)



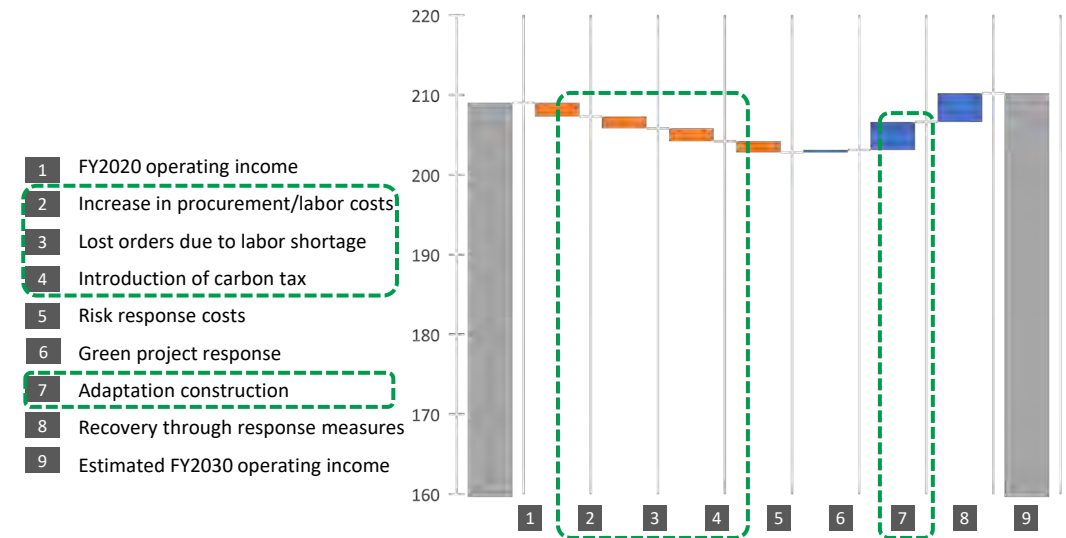
## Business impact assessment based on 4 °C scenario

### Analysis result summary

The impact of the 4 °C scenario on operating income in FY2030 resulted to be not significant if recovery with risk measures and response to opportunities are included.

- Although there is no factor that has a significant overall risk impact, it is assumed that there will be roughly the same level of impact from increased procurement/labor costs and risk of lost orders due to rising temperatures and increased natural disasters, as well as the risk of increased costs associated with the introduction of a carbon tax. [Risk]
- Opportunity factors are limited compared to 2 °C, with many opportunities for adaptation measure constructions associated with disaster preparedness and restoration. [Opportunity]

Impact verification of climate change factors on operating income (4 °C scenario)



## Response to business impacts and relation to Medium-Term Management Plan 2023

	Business impact	Response	Relation to Medium-Term Management Plan 2023	Remarks	
Construction business	▼ Increase in business costs due to the introduction of carbon tax	<ul style="list-style-type: none"> <li>Introduce energy-saving / environmental technology, and promote renewable electricity</li> </ul>	○	"Promotion of Net Zero CO2 Emissions in Business Activities" <small>*Promotion of the ZERO30 roadmap... See P. 9</small>	
	▼ Failure to receive orders by not responding to wooden high-rise construction trends (sales decrease)	<ul style="list-style-type: none"> <li>Research and development of wooden high-rise buildings</li> </ul>	-		Continued research at Technical Research Institute
	▼ Failure to receive orders due to increased costs for converting RC structures to PC (sales decrease)	<ul style="list-style-type: none"> <li>Strengthen collaboration with PC production companies</li> </ul>	-		
	▼ Failure to receive orders due to labor shortage resulting from the deteriorating work environment (sales decrease)	<ul style="list-style-type: none"> <li>Industry co-development and trial of robotics</li> </ul>	○	"Promotion of construction DX"	
	▼ Failure to receive orders due to difficulty in securing construction equipment and subcontractors in connection with increased disaster restoration work (sales decrease)	<ul style="list-style-type: none"> <li>Promote unmanned and automated civil engineering works</li> <li>Strengthen relationships with N-NET companies</li> </ul>	○	"Completion of unmanned technology for mountain tunnels and automated construction technology for shields"	Elemental technology to be completed in 2023 Overall completion in 2027
	△ Increase in construction sales due to the needs to convert buildings to ZEB	<ul style="list-style-type: none"> <li>Promote ZEB and energy conservation in new and existing properties</li> </ul>	○	Establishment of environmental design technology (ZEB)	Under development at ZEB Promotion Office
	△ Increase in sales of renewable energy-related constructions	<ul style="list-style-type: none"> <li>Accumulate renewable energy-related construction achievements</li> </ul>	○	"Accumulation of construction achievements for renewable energy projects"	
	△ Sales increase due to the shift of housing to disaster-resistant concrete buildings	<ul style="list-style-type: none"> <li>Develop and study new housing needs</li> </ul>	-		
	△ Sales increase resulting from the increase in disaster restoration constructions	<ul style="list-style-type: none"> <li>Strengthen relationships with N-NET companies</li> <li>Implement construction technology through application of unmanned construction technology</li> </ul>	○	"Strengthen relationships with N-NET companies" <small>*N-NET companies: member companies of Nishimatsu Construction Association</small> "Complete unmanned and automated technology"	
Development / real estate	▼ Increase in business costs due to the introduction of new technology to real estate properties	<ul style="list-style-type: none"> <li>Promote ZEB and energy conservation in new and existing properties</li> <li>Active use of renewable electricity menu</li> </ul>	-		Construction of ZEB Ready rental buildings and development of Nearly ZEB Promotion of renewable electricity
	△ Cost reduction through decarbonization of real estate properties				
	△ Sales increase due to the response to decarbonization needs				
Environment / energy	△ Sales increase due to promotion of energy-creation business	<ul style="list-style-type: none"> <li>Promote energy-creation business</li> <li>Develop business partners</li> </ul>	○		"Development of energy creation business (renewable energy business)"
	△ Increase in green business sales based on environmental technology				



## Scenario

### 2 °C World

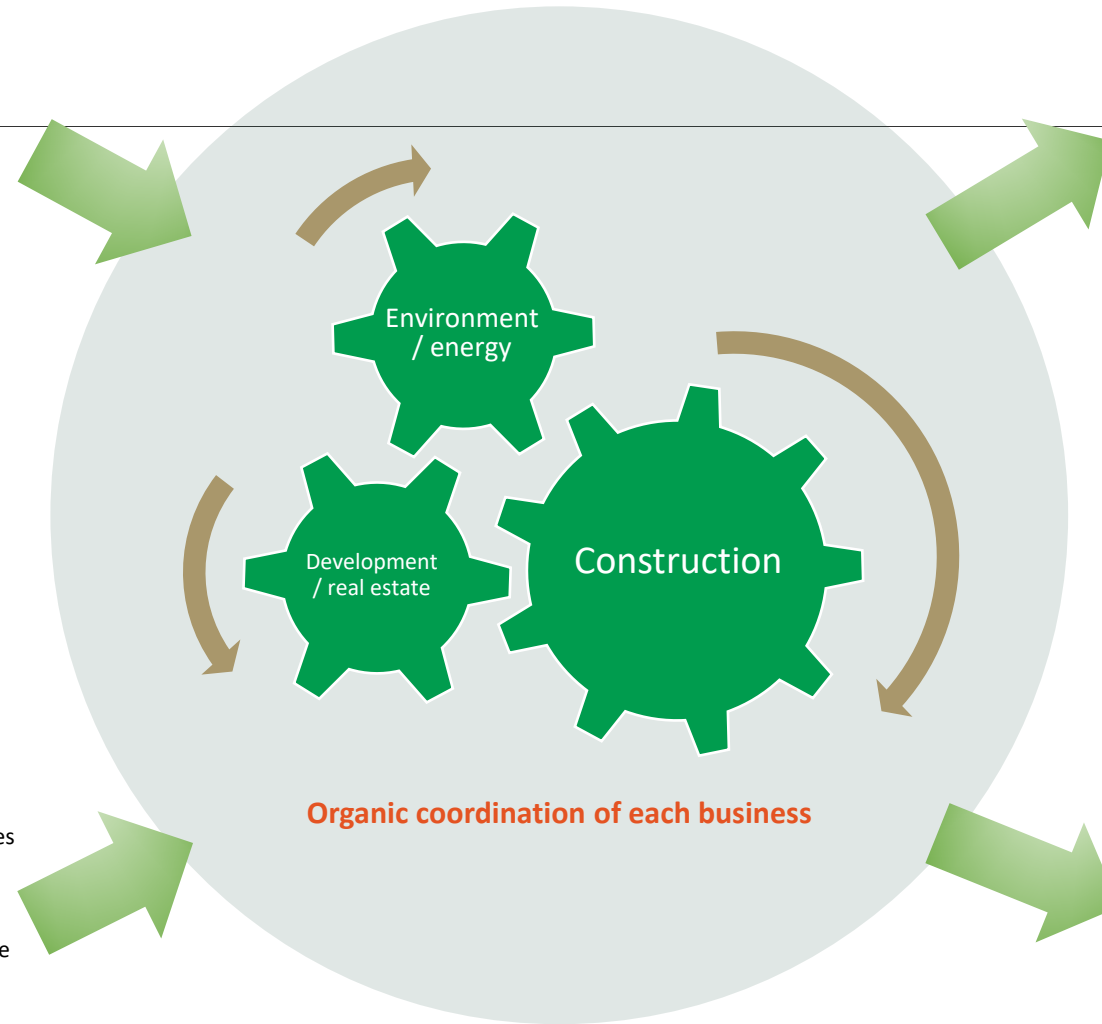
#### Sustainability-conscious society

- ◆ Tighter regulations to decarbonize and reduce environmental burdens
- ◆ Increased demands for environmental considerations
- ◆ Requests for companies to take actions to reduce environmental burdens

### 4 °C World

#### Fossil fuel dependent society

- ◆ Increased natural disasters caused by rising temperatures
- ◆ Oriented to the development of economy and technological innovation (accelerated globalization)
- ◆ Companies focus on BCP response and disaster resilience



## Action

### 2 °C World

#### Promotion of business activities in response to decarbonized society

- ◆ Promote energy-creating business
- ◆ Strengthen response to ZEB and new technology, and build up renewable energy-related construction achievements
- ◆ Supply rental properties with improved environmental performance by strengthening collaboration among business divisions

### 4 °C World

#### Promotion of business activities in response to disasters and deteriorating work environment

- ◆ Promotion of construction DX
- ◆ Focus on automation and labor savings in construction
- ◆ Strengthen collaboration with affiliate companies to secure manpower

## ZERO30: CO2 reduction activities toward 2030 \*domestic construction business

Main measure		Year	2021 Target	2021 results	2023 Target	2027 Target	2030 Target
		Volume	341.5 billion yen	290.2 billion yen	361 billion yen	400 billion yen	429.3 billion yen
Introduction of renewable electricity	CO2 emissions reduction by renewable energy		▲659t-CO2	▲748t-CO2	▲5.3k t-CO2	▲11.5k t-CO2	▲16k t-CO2
	Introduction rate in construction activities		2%	2%	20%	43%	60%
	Introduction rate other than construction activities such as offices		15%	17%	25%	45%	60%
On-site environmental measures (Energy conservation)	CO2 emissions reduction by energy conservation		▲1.7k t-CO2	▲1.8k t-CO2	▲2.7k t-CO2	▲3.8k t-CO2	▲4.6k t-CO2
	Introduction of diesel oil combustion accelerators		30%	50%	60%	85%	100%
	Use of biodiesel fuel		200,000 liters	64,000 liters	210,000 liters	240,000 liters	260,000 liters
	Number of sites where N-TEMS is installed <small>*Nishimatsu Tunnel Energy Management System</small>		4 sites	5 sites	4 sites	5 sites	5 sites
CO2 emissions reduction by technological innovation			▲0k t-CO2	▲0k t-CO2	▲1k t-CO2	▲3k t-CO2	▲6k t-CO2
Amount of energy created (renewable energy generation)			Approx. 0k MWh	Approx. 0k MWh	Approx. 13k MWh	Approx. 61k MWh	Approx. 97k MWh

Starting in 2021, Nishimatsu has been promoting "ZERO30," a unique initiative for decarbonization, with 2030 as its goal. "ZERO30" aims to minimize CO2 by implementing energy saving and renewable energy utilization as much as possible in our business activities, but for the remaining CO2 emissions (36k t-CO2) equivalence, we intend to consider this as "environmental contribution" and offset it (net zero) through energy creation (renewable energy generation) business. In FY2022, we will strive to reduce CO2 emissions through the full-scale introduction of "renewable electricity" and implement effective measures such as active deployment of energy-creating business to achieve the goal of "ZERO30."

## ZERO30: CO2 emissions results and target for 2030 \*domestic construction business

Subject	Unit	Base year	2021 results	Target (2030)	Base year ratio
Scope 1 & 2	t-CO2	2020	54k t-CO2	36k t-CO2	▲39%

## Response to SBT and RE100

In June 2022, Nishimatsu acquired SBT\*1 certification (WB2 °C) for the Group's overall GHG reduction targets.

**【Companies taking action】** <https://sciencebasedtargets.org/companies-taking-action>

We also joined RE100 \*2 in September 2021 and have committed to use renewable energy for 60% of all electricity consumption by 2030 and 100% by 2050.

**【RE100 Members】** <https://www.there100.org/ja/node/149?page=25>

\*1 SBT: Science Based Targets consistent with the Paris Agreement.

\*2 RE100: A global initiative that aims for companies to cover 100% of the electricity used in their businesses with renewable energy.