

## Welcome to your CDP Climate Change Questionnaire 2022

## **C0.** Introduction

### **C0.1**

#### (C0.1) Give a general description and introduction to your organization.

SHIMIZU CORPORATION

Lines of Business: Construction, Architecture, Civil Engineering and Property Services (General Construction Business)

SHIMIZU aims to be a company that achieves sustainable growth while contributing to the creation of safe, comfortable living environments for people.

SHIMIZU works to develop various kinds of environmental technology, establish an organizational structure, and engage in substantial environmental activities that address the environmental issues of each age. Our goal is to be a company that contributes to the creation of sustainable communities.

## **C0.2**

#### (C0.2) State the start and end date of the year for which you are reporting data.

	Start date	End date	Indicate if you are providing emissions data for past reporting years
Reporting	April 1,	March 31,	No
year	2021	2022	

## **C0.3**

#### (C0.3) Select the countries/areas in which you operate.

China Ghana Hong Kong SAR, China India Indonesia Japan Malaysia Philippines Singapore



Taiwan, China Thailand United States of America Viet Nam

## **C0.4**

(C0.4) Select the currency used for all financial information disclosed throughout your response.

JPY

## **C0.5**

(C0.5) Select the option that describes the reporting boundary for which climaterelated impacts on your business are being reported. Note that this option should align with your chosen approach for consolidating your GHG inventory.

Financial control

## C-CN0.7/C-RE0.7

## (C-CN0.7/C-RE0.7) Which real estate and/or construction activities does your organization engage in?

New construction or major renovation of buildings

## **C0.8**

## (C0.8) Does your organization have an ISIN code or another unique identifier (e.g., Ticker, CUSIP, etc.)?

	Provide your unique identifier
Yes, an ISIN code	JP3358800005

## **C1. Governance**

## C1.1

(C1.1) Is there board-level oversight of climate-related issues within your organization?

Yes

### C1.1a

(C1.1a) Identify the position(s) (do not include any names) of the individual(s) on the board with responsibility for climate-related issues.



Position of individual(s)	Please explain
President	At Shimizu, the President is our board-level position charged with the highest level of responsibility for climate-related issues. The President is responsible for climate change on two levels: 1. Our Board of Directors makes management decisions based on the Shimz Vision 2030 (our long-term Group strategy for 2030) and the Mid-Term Management Plan of Shimizu Group (2019-2023) - both of which feature climate change as core elements of our business strategy. The President is therefore charged with the highest level of managerial responsibility to address climate-related issues based on our two business strategies. 2. At the executive level, we have a committee known as the "SDGs and ESG Promotion Committee", chaired by the president and of which five directors are members. Based on decisions made by the Board regarding SDGs and ESG promotion, this Committee implements relevant measures including climate-related actions. As the chairperson, the President is also assigned to the highest level of executive responsibility regarding climate change. As a directly controlled organization by the President, 'Environmental Strategy Office' was founded in 2021 according to the proposal by the President and the approval by the Board of Directors. The office aims to enhance our environmental management strongly and create new environmental values. The office also surveys the trend related to the climate change and report the result to SDGs and ESG Promotion Committee.

## C1.1b

#### (C1.1b) Provide further details on the board's oversight of climate-related issues.

Frequency with which climate- related issues are a scheduled agenda item	Governance mechanisms into which climate-related issues are integrated	Please explain
Scheduled – all meetings	Reviewing and guiding strategy Reviewing and guiding major plans of action Reviewing and guiding risk management policies Reviewing and guiding business plans Setting performance objectives Overseeing major capital expenditures,	At Shimizu, the Board makes management decisions regarding the Shimz Vision 2030 (our long-term Group strategy for 2030) and the Mid-Term Management Plan (2019-2023). The Shimz Vision 2030 outlines our long- term commitment to three values, one of which is called "realizing a sustainable society", including our specific commitments to using sustainable energy and reducing CO2 emissions in all of our business activities. The Mid-Term Management Plan likewise features our targets for non-financial KPIs, with our Environmental KPI being linked to CO2 emissions reduction in our construction business. Because the two strategies noted above serve as the most high- level form of our climate strategy, the Board effectively



ac	equisitions and	reviews and guides our climate strategy, major action
div	vestitures	plans, and business plans, sets performance
Mc	onitoring and	objectives, and oversees progress made against
OV	verseeing progress	targets included in our business strategies. In order to
ag	painst goals and	supplement these elements, the Board also receives
tar	rgets for addressing	direct reports from the "SDGs and ESG Promotion
	imate-related issues	Committee", regarding climate-related risk
		management, annual budgets, the annual monitoring
		of implementation and performance objectives, etc.
		The Committee serves as a key governance body that
		oversees the execution of Board-level decisions and
		the identification of any risks regarding climate change
		at the operational level. The Committee reports to the
		Board prior to each Board meeting.

## C1.1d

(C1.1d) Does your organization have at least one board member with competence on climate-related issues?

	Board member(s) have competence on climate-related issues	Criteria used to assess competence of board member(s) on climate-related issues
Row 1	Yes	Shimizu corporation has appointed the director and senior managing executive officer to be in charge of the environment throughout the company. This officer goes through our environmental activity cycle by approving company-wide environmental activity plans and receiving reports on annual environmental activity performance. He also serves as top management for the continuation of ISO14001. In addition, this officer has a high ability to deal with climate change issues, such as approving/Sign Off for the answers to the CDP questionnaire and confirming the contents of TCFD disclosure of Shimizu Group. This officer has experience and knowledge about ISO14001 of Shimizu Group and environmental management, and is familiar with sustainability including climate change issues, and it can be judged that he has high ability.

## C1.2

## (C1.2) Provide the highest management-level position(s) or committee(s) with responsibility for climate-related issues.

Name of the position(s)	Responsibility	Frequency of reporting to the
and/or committee(s)		board on climate-related
		issues



Both assessing and managing climate-related risks and opportunities	More frequently than quarterly

### C1.2a

# (C1.2a) Describe where in the organizational structure this/these position(s) and/or committees lie, what their associated responsibilities are, and how climate-related issues are monitored (do not include the names of individuals).

At Shimizu, the President is the highest management-level position with responsibility for climate-related issues. As a member of the Board, the President is responsible for both assessing and managing climate-related risks and opportunities, as climate-related issues are explicitly included in our business strategies (the Shimz Vision 2030 and the Mid-Term Management Plan of (2019-2023)). Board meetings are held "more frequently than quarterly" and include climate change on the agenda as per our business strategy every meeting. Climate-related issues are monitored at the Board level through emissions-related KPIs and targets embedded into our two business strategies, and furthermore by receiving frequent updates from the "SDGs and ESG Promotion Committee" regarding progress on our management of climate-related issues. As the chairperson of the "SDGs and ESG Promotion Committee", the President is responsible for assessing and managing climate-related risks and opportunities at a more operational level as well, being directly involved in the identification of climate-related issues, both positive and negative, at a company-wide level. The Committee reports to the Board regularly at a frequency same or higher than monthly. Similarly to the Board, the Committee monitors emissions-related KPIs and targets, but at a more executive level, to ensure and monitor our progress across the entire business on implementation toward climate-related management.

## C1.3

## (C1.3) Do you provide incentives for the management of climate-related issues, including the attainment of targets?

	Provide incentives for the management of climate-related issues	Comment
Row 1	Yes	

## C1.3a

## (C1.3a) Provide further details on the incentives provided for the management of climate-related issues (do not include the names of individuals).

Entitled to incentive	Type of incentive	Activity incentivized	Comment
Board/Executive	Monetary	Efficiency	In order to mitigate the effects of climate change, we
board	reward	target	have embedded climate-related KPIs and targets into
			the "Mid-Term Management Plan <2019-2023>",



			which covers emissions reduction and improved energy efficiency. The president and other directors of the Company are responsible for achieving the goals set forth in the "Mid-term management plan <2019- 2023>", and one of the goals is the CO2 reduction rate by 2023 as a non-financial KPI. The degree of achievement of this goal is also reflected in the director's compensation.
Management group	Monetary reward	Emissions reduction target	All management set goals in the management plan of the department they lead with respect to the goals set forth in the "Medium-term Management Plan <2019- 2023>" and are responsible for achieving them. From 2022, it is mandatory to set promotion targets by 2024 that will contribute to the achievement of "SHIMZ Beyond Zero 2050" described later in C2.1a in the operation plans of all departments. Achievement of this goal is reflected in management compensation. In addition, from 2022, the CO2 emission survey at the construction site will be shifted from the sampling so far to the 100% survey, which will facilitate mutual comparison of the actual CO2 emissions during construction between departments with construction sites.
All employees	Monetary reward	Emissions reduction project	Employees who have achieved outstanding achievements related to climate change, such as the realization of advanced ZEB, the creation of renewable energy power, and the development of CO2 adsorption technology, will receive an award including monetary compensation from the president. In addition, employees who are directly involved in GHG reduction projects in-house and at customers will see the results reflected in their compensation. Furthermore, in the personnel evaluation table of all employees, the achievements of efforts to address climate-related issues are evaluated in 15% of the entire category of "items based on philosophy / vision".

## **C2.** Risks and opportunities

## **C2.1**

(C2.1) Does your organization have a process for identifying, assessing, and responding to climate-related risks and opportunities?



Yes

### C2.1a

## (C2.1a) How does your organization define short-, medium- and long-term time horizons?

	From (years)	To (years)	Comment
Short- term	0	3	Our time horizon when considering climate-related risks and opportunities aligns with our financial and strategic planning. This allows us to consider climate-related issues alongside our other business concerns, and take effective measures to address them. Our short-term time-horizon for our financial and strategic time-horizon is one year, given that we make financial plans annually and strategize on actions to take regarding immediate issues within each financial year.
Medium- term	3	10	Our mid-term time horizon when considering climate-related risks and opportunities aligns with our financial and strategic planning. This allows us to consider climate-related issues alongside our other mid- term business concerns and take effective measures to address them. Our mid-term time-horizon is set at 10 years, in line with our Mid-Term Management Plan, which sets out our financial and strategic plans for the next mid-term time-horizon.
Long- term	10	30	Our long-term time horizon when considering climate-related risks and opportunities aligns with our financial and strategic planning. This allows us to consider climate-related issues alongside our long-term other business concerns and take effective measures to address them. Our long-term time-horizon is set at 10 - 30 years, in line with our Shimz Vision 2030, which sets out our financial and strategic plans for the next long-term time-horizon. Furthermore, after the deliberation and approval of the committee, the new environmental vision 'SHIMZ Beyond Zero 2050' was formulated and disclosed with the approval of the Board of Directors, of which the President is a member. With this vision, Shimizu Group will aim to minimize business risks and maximize opportunities which are related to climate change and other environment-related issues.

### C2.1b

## (C2.1b) How does your organization define substantive financial or strategic impact on your business?

At Shimizu, it is defined that 'a significant financial impact on the business' directly affects the increase or decrease in sales and profit. Our main business can be categorized as construction business and non-construction business. Total sales reported in our financial report in FY2021



was \$1,287,352,000,000, of which \$1,163,489,000,000 came from construction (of which, \$936,043,000,000 from building and \$227,446,000,000 from civil engineering) and \$123,8603000,000 came from our non-construction business, and the proportion of ratio sales is about 90: 10. As a result, the financial impact of climate change on construction projects will be more significant than that of non-construction projects. For example, the financial change due to climate change that affects the construction business by 3% is estimated to be about 35 billion yen, while the non-construction business is estimated to be about 3.7 billion yen. In addition, employee assignments and other factors tend to be the same as the sales ratio, and under the current business ratio, the impact on the construction business is defined as a significant impact.

We identify 'a significant financial impact on the business' as the combination of the following three items.

(1) Factors affecting our business: We consider "increases in procurement and construction costs," "changes in the construction market and needs," and "relationships with stakeholders" as important factors.

(2) Impact on business: The impact on business is rated on a scale of "Large," "moderate," and "small," taking into account the relative degree of financial impact at the time the risk arises and the duration of the impact.

(3) Shimizu Group's response: The above two items are verified, and Shimizu Group's current response (technologies owned, status of technological development, etc.) is listed.

By examining the interrelationship of these three items, the Shimizu Group identifies it as the Group's "significant business strategic and financial impact" and defines it as a quantitative impact on sales above a certain percentage.

Furthermore, Shimz Vision 2030 sets the Group target in 2030 as realizing resilient, inclusive and sustainable society. The impact of climate change is considered to be a strategic impact because it is a major impediment to businesses that are being implemented to realize these societies. Especially realizing sustainable society is a business strategy that significantly contributes to achieve the SDGs targets 7, 11, 12, 13, 14, and 15, and it is defined as a significant impact that affects realizing sustainable society.

## C2.2

(C2.2) Describe your process(es) for identifying, assessing and responding to climaterelated risks and opportunities.

#### Value chain stage(s) covered Direct operations

Upstream Downstream

#### **Risk management process**

Integrated into multi-disciplinary company-wide risk management process

#### **Frequency of assessment**

More than once a year



#### Time horizon(s) covered

Short-term Medium-term Long-term

#### **Description of process**

At Shimizu, processes to identify, assess and respond to multiple risks and opportunities across the company have been incorporated as part of the management function in order to manage climate change-related risks across the Group and across the value chain.

1. Process to identify and evaluate risks and opportunities

Shimizu has established the 'SDGs and ESG Promotion Committee', which deliberates on policies and measures related to environmental issues, under the Board of Directors as a function to manage risks and opportunities related to climate change. The committee is chaired by the President and consists of the director in charge of safety and the environment, the director in charge of SDGs and ESGs, and the directors in charge of construction, civil engineering, and non-construction businesses. It is positioned as the committee with the highest responsibility for identifying and assessing climate-related risks and opportunities throughout the entire value chain.

The 'SDGs and ESG Promotion Committee' meets six times or more a year and receives reports from the Environmental Management Promotion Office and Corporate Planning Office on climate-related issues, risks and opportunities. The committee also receives reports from the company-wide 'TCFD WG' on the results of scenario analysis based on TCFD recommendations and the disclosure of "risks and opportunities" for the entire Shimizu Group value chain. The Committee deliberates on risks and opportunities from the perspective of short-, medium-, and long-term impact periods (short term: each division's three-year operational plan, medium term: the Mid-Term Management Plan <2019-2023>, and long-term: Shimz Vision 2030), and discloses the identified and evaluated results to stakeholders. The Committee also provides regular reports to the Board of Directors to assess significant transition and physical risks and opportunities that may impact the company's operations in line with the Group's long-term business strategy, Shimz Vision 2030.

Risks and opportunities identified and assessed by the SDGs and ESG Promotion Committee are developed by top management, and a process is in place to share them throughout the Group.

2. Process for addressing risks and opportunities

Responses to climate-related risks and opportunities identified and evaluated by the SDGs and ESG Promotion Committee are reflected in the company-wide business plan and the operational plans of each business unit, division and branch. Specifically, the management review by the top management (the director in charge of safety and environment) is extended to the top management of each business division, department and branch office, and measures to deal with the identified and evaluated risks and opportunities are determined. These measures are then reflected in the annual management plan prepared by each top management, the environmental activity plans of each department, and the construction plans of each construction site. The results of the activities against each plan are aggregated and reported, and the results of



verification of the status of achievement and factors for non-achievement are reflected in the next plan. By implementing this PDCA cycle, we have established a process to respond to risks and opportunities in the Group and the value chain.

## C2.2a

## (C2.2a) Which risk types are considered in your organization's climate-related risk assessments?

	Relevance & inclusion	Please explain
Current regulation	Relevant, always included	About 90% of our net sales comes from our construction business (based on FY2021 results). At the construction level, the Act on the Rational Use of Energy is constantly under close monitoring. Based on the Act, owners of buildings larger than 2,000 m2 floor space must prepare efficiency plans when applying for renovation permits. The reporting on maintenance and preservation of energy conservation measures to prefectures or other building authorization officials is mandatory as well. The Tokyo Metropolitan Government's Tokyo Cap- and-Trade Program is also a relevant regulation that is currently enacted, which makes it mandatory for large-scale facilities in Tokyo (consuming more energy than 1,500kl (crude oil equivalent) a year) to reduce their CO2 emissions. The two regulations directly impact the construction work that we base most of our net sales on and can potentially have consequences for our non-construction businesses, which includes our real estate development business. Climate-related regulation risks such as the above are identified, evaluated, and as per necessary reported to the Board of Directors by the SDGs and ESG Promotion Committee.
Emerging regulation	Relevant, always included	Although we do not necessarily identify any realistic emerging regulations in Japan such as the adoption of a carbon tax system that can greatly impact our business, we are monitoring the situation closely. Such a carbon pricing can have implications on our 211,247 t- CO2e emissions (scope 1+2 as of 2020) and is likely to have an impact on our construction-related raw material procurement costs. Otherwise, our more immediate concern is the tightening of the current regulations namely those listed above. Stricter design requirements and greater mandatory emissions requirements can be added onto these two regulations, which can impact the market toward requiring even more eco-efficient designs. This can potentially have implications as a risk for our competitiveness in the market but can also pose an opportunity if we manage to lower costs and provide eco-efficient designs. The impact will be applicable to our construction business, which currently accounts for 90% of our net sales. Climate-related regulation risks such as the above are identified, evaluated, and as per necessary reported to the Board of Directors by the SDGs and ESG Promotion Committee.



Technology	Relevant, always included	We identify technological risks and opportunities at all levels of the company. For example, for our construction business that currently accounts for 90% of our net sales, we understand that changes in the regulation and the market require us directly and indirectly to cut down on emissions. As such, we have invested in the development of ZEB (Zero Energy Building) designs that contribute to reduced energy use and CO2 emissions through the use of these buildings. The lack of technologies related to the ZEB construction will be a significant risk that we will not be able to satisfy customers' needs. Another technological risk that we identify applies to our non-construction business that currently accounts for 10% of our net sales (as of FY 2021). As we plan to expand our services regarding renewable energy such as engineering and facility management. Especially with regard to engineering, we recognize that technological investment will be key to maintaining a competitive advantage in the
		market, and have continuously made investments in this area. Climate- related technology risks such as above are identified, evaluated, and as per necessary reported to the Board of Directors by the SDGs and ESG Promotion Committee in conjunction with the Technology Strategy Committee.
Legal	Relevant, always included	In our main business of construction, we are facing very large demands from our customers, shareholders and other stakeholders to respond to "mitigation and adaptation" to climate change, and we are promoting our business related to these demands. If events such as delays in our response to mitigation (e.g., achieving our GHG emission reduction target of Ecology Mission 2030-2050) or adaptation (e.g., building disaster-resistant infrastructure) occur, there is a possible risk of being sued by stakeholders due to reduced sales or losses. To avoid this risk, we are promoting projects and activities related to "mitigation and adaptation." The above-mentioned climate-related legal risks are identified and assessed by the related unit and reported to the Board of Directors as necessary.
Market	Relevant, always included	The construction industry market is currently being driven by environmental regulations that require buildings to be designed and constructed aligned to high standards of eco-efficiency. The implications of not being able to provide low-carbon solutions will be a clear decrease in our competitiveness in the market, and a subsequent decrease in the net sales of our construction business that accounts for 95% of our net sales. As such, we have invested in the development of ZEB (Zero Energy Building) designs that contribute to reduced energy use and CO2 emissions through the use of these buildings. We have also continuously promoted hardware optimization in our construction sites and increased the use of hybrid and EV heavy machineries and construction vehicles, as well as continuing to promote LED lighting for



		temporary prefab lightings and office lighting. While maintaining competitive advantage is important, expanding into growing markets to leverage our existing resources is also important to our business growth – losing out on such opportunities is a business risk. This applies to our non-construction business that currently accounts for 5% of our net sales, and as per our Mid-term Management Plan, we intend to double this by FY2023. For example, renewable energy is an area in which we expect marked growth if we leverage our construction capabilities and resources appropriately. As per our Mid-term Management Plan, we will allocate roughly 17% of our investment over the 5 years into infrastructure, renewable energy, and new businesses (frontier businesses). Climate-related market risks such as above are identified, evaluated, and as per necessary reported to the Board of Directors by the SDGs and ESG Promotion Committee in conjunction with the Technology Strategy Committee.
Reputation	Relevant, always included	The construction industry market is currently being driven by environmental regulations that require buildings to be designed and constructed aligned to high standards of eco-efficiency. Therefore, maintaining a good reputation as a forerunner in climate change response is key to our retention and attraction of clients and projects. Therefore, it is a significant risk to decrease evaluation outside the company by promoting inappropriate business. For example, in August 2018, we were certified as an Eco First Company by the Minister of the Environment. This designation is awarded to companies that engage in innovative, original, and industry-leading business activities in the environmental area. Being a government related certification, maintenance of this reputation is crucial to retaining our public projects. Climate-related reputation risks such as above are identified, evaluated, and as per necessary reported to the Board of Directors by the SDGs and ESG Promotion Committee in conjunction with the Technology Strategy Committee.
Acute physical	Relevant, always included	Our main concern regarding acute physical risks applies mainly to our construction business that accounts for 90% of our net sales. Because construction primarily occurs outdoors, extreme weather conditions can negatively impact our productivity on our construction sites. Larger typhoons are occurring more frequently than in the past, and these typhoons pose a serious risk of delaying the progress of construction by interrupting work at the site. It also poses other significant risk to increases the possibility of physical damage to temporary facilities and structures under construction, which can delay the delivery of the project to the client. Many of the acute physical risks that can occur on site identify it as very important for us as a construction company to address the occurrence of extreme weather events, as the timing of the handover of buildings and other structures to our clients is very important.



		Climate-related physical risks such as above are identified, evaluated, and as per necessary reported to the Board of Directors by the SDGs and ESG Promotion Committee in conjunction with the Risk Management Committee.
Chronic physical	Relevant, always included	Extreme weather events caused by climate change are currently expanding worldwide and this trend is expected to continue. Increases in average temperatures have been observed worldwide, and heat stroke caused by this cause can have a serious impact on the health of employees and workers. Heat stroke can cause human suffering to employees and others engaged in the field, and also poses a serious risk of reducing the efficiency of work. In response to this, we aim to mitigate it based on our basic health and safety policy. One of our efforts to keep workers highly productive during the summer months without having them spend too much time in the sun is the Shimizu Smart Site Program. Our Smart Sites are expected to reduce our dependence on human labor in general. This will allow us to focus our human resources on critical construction phases and to be more flexible in avoiding working under extreme heat. In addition, we have improved our work clothes. The new helmets we developed have improved ventilation, with two small fans attached to the jacket. This ensures that the hot air under the jacket is always released. Climate-related chronic physical risks such as those mentioned above are identified and assessed by the SDGs and ESG Promotion Committee in conjunction with the Risk Management Committee and reported to the Board of Directors as necessary.

### C2.3

(C2.3) Have you identified any inherent climate-related risks with the potential to have a substantive financial or strategic impact on your business?

Yes

### C2.3a

(C2.3a) Provide details of risks identified with the potential to have a substantive financial or strategic impact on your business.

Identifier Risk 1 Where in the value chain does the risk driver occur? Upstream Bick type & Brimary climate related risk driver

Risk type & Primary climate-related risk driver Emerging regulation



Carbon pricing mechanisms

#### Primary potential financial impact

Increased direct costs

#### **Company-specific description**

In the 6th Basic Energy Plan, the Japanese government has set a goal of "Aiming to ensure energy-saving performance at the level of ZEH / ZEB standards for newly built houses and buildings after 2030." As a result, social changes are expected to progress toward the creation of a decarbonized society, and a variety of new regulations are expected to be tightened. As a prime example, we expect that this social change will result in the introduction of a carbon pricing mechanism in Japan, which will increase direct costs. Shimizu Corporation is working to reduce the total CO2 emissions from its operations to achieve its SBT, which has been approved as WB2D, and to achieve the Ecology Mission 2030-2050 target, which is unique to Shimizu. However, it is a financial risk that the introduction of a carbon pricing mechanism will charge additional billing to our direct CO2 emissions (Scope 1+2) which will affect our financial affairs. Our actual direct CO2 emissions (Scope 1+2) was 233,612 t-CO2 in FY2021 and financial cost will be increased by charged to such amount of emissions. CO2 emissions from our own assets (Scope 3, Category 13) was 24,138 t-CO2 in FY2021 in our investment and development business, and our management cost for these invested assets will also be increased by charged to such emissions.

#### **Time horizon**

Medium-term

#### Likelihood

Likely

#### Magnitude of impact Medium

Are you able to provide a potential financial impact figure? Yes, a single figure estimate

### Potential financial impact figure (currency)

2,513,062,500

#### Potential financial impact figure - minimum (currency)

#### Potential financial impact figure - maximum (currency)

#### **Explanation of financial impact figure**

Our total CO2 emissions (Scope 1+2) for FY 2021 was 233,612t-CO2. The International Monetary Fund (IMF) has estimated that in order to achieve emissions reductions in line with the Paris Agreement the price of carbon pricing needs to be set at \$75 per t-CO2 by 2030, and we assume the carbon price as \$75 per t-CO2. Our potential impact



related to our direct emissions would be 233,612 t-CO2 (CO2 emissions in FY2021) \* \$75 (carbon price) \*  $\cong$  130 (1USD is approximately 130JPY) = 2,277,717,000 yen. And our potential impact related to our invested assets would be 24,138 t-CO2 (CO2 emissions in FY2021) \* \$75 (carbon price) \*  $\cong$  130 (1USD is approximately 130JPY) = 235,345,500 yen. The total amount of impact is 2,513,062,500 yen.

#### Cost of response to risk

1,287,352,000

#### Description of response and explanation of cost calculation

In order to avoid financial loss related to carbon pricing, we will need to address risk factors to reduce our direct CO2 emissions (Scope 1+2). These measures include switching to LED lighting in offices and onsite, installing small-scale solar power generation equipment, and shifting energy sources from diesel fuel to electricity. Lifting operations at our sites often have used cranes fueled by diesel oil, resulting in high Scope 1 CO2 emissions. In order to shift energy from diesel oil to electricity, we are promoting the use of tower cranes operated by electricity for this lifting work whenever possible, thereby reducing CO2 emissions. We have set the cost of dealing with these risks to be 0.1% of sales on-site, taking into consideration the change from crawler cranes to tower cranes, greening of electricity, and BDF cost.

Therefore, given Company's net sales for FY 2021 are  $\pm 1,287,352,000,000$ , the risk response costs equivalent to 0.1% are [ $\pm 1,287,352,000,000^*0.001 = \pm 1,287,352,000$ ]. Shimizu Corporation plans to introduce RE power to a cumulative total of 300 MW in 2030. And in 2021, we introduced 9.5GWh of RE power to the sites.

#### Comment

Identifier

Risk 2

Where in the value chain does the risk driver occur? Direct operations

#### Risk type & Primary climate-related risk driver

Chronic physical Changing temperature (air, freshwater, marine water)

#### Primary potential financial impact

Decreased revenues due to reduced production capacity

#### **Company-specific description**

According to the IPCC and other reports, the earth's current average surface temperature is about 1°C higher than pre-industrial levels. According to the RCP8.5 scenario, an increase of about 2°C is expected by 2030. This poses a major risk to our business as many of our construction sites are located in Japan and Southeast Asia,



which tend to be hot and humid and therefore strongly affected by temperature rise. Our main business is construction business in which works are conducted mainly by human labors outdoor. Our approximately 800 construction sites employ 36,000 employees on a daily basis of which all can be subject to heat-related health risks. The number of victims of heat stroke among workers in FY2021 was 126 (164 in FY2020), and although the number is on a downward trend, the number of victims is still high. In the current construction industry, there are also scattered situations where it is difficult to secure enough skilled workers due to problems related to the working environment. If the average summer temperature continues to rise, the outdoor working environment is expected to worsen, making the problem of worker shortages even more acute, posing a major risk of reduced productivity at construction sites.

In addition, there is also a concern that heat stroke and other health hazards will increase, especially among workers working outdoors.

#### **Time horizon**

Short-term

#### Likelihood

Very likely

#### Magnitude of impact

High

Are you able to provide a potential financial impact figure? Yes, a single figure estimate

## Potential financial impact figure (currency) 11,518,541,100

Potential financial impact figure - minimum (currency)

#### Potential financial impact figure - maximum (currency)

#### **Explanation of financial impact figure**

We have approximately 36,000 field workers employed on a daily basis, representing approximately 80 million man-hours per year. In 2021 there were 126 heat-related worker incidents. The RCP2.6 scenario reports a 0.99% reduction in productivity at construction sites as a result of the impact of higher average temperatures. Our on-site digested amount for FY2021 is 1,163,489,000,000 yen, and the potential impact equivalent to 0.99% of that amount is [1,163,489,000,000 yen (FY2021 digested amount)\*0.0099 (RCP2.6 productivity reduction rate) = 11,518,541,100 yen].

#### Cost of response to risk

5,817,445,000

#### Description of response and explanation of cost calculation



In order to reduce the damage caused by heat stroke among workers due to the increase in average temperature during the summer season, it is necessary to install air conditioners and cooling systems to supply cold drinks as well as prepare heat stroke medication at all construction sites. Furthermore, increasing rest time for workers showed reduction of heat stroke. Although our conventional breaks for site workers were 3 times/day (10:00, 12:00, 15:00), we increased the number of breaks to 5 times/day (9:00, 10:00, 12:00, 14:00, 16:00) at the majority of our sites to reduce heat stroke victims. As a result, we were able to reduce the number of victims from 164 in FY2020 to 126 in FY2021. We have set that the reduction in real working hours due to a significant increase in breaks will reduce productivity and consume 0.5% of the on-site digestion (including updating the cooling system). Shimizu Corporation plans to build an efficient production system through digitalization and improve the production rate by 20% or more in 2023 compared to 2016. And in 2021, productivity was improved by 4.3%.

Our on-site digested amount for FY2020 is 1,163,489,000,000 yen, and the potential impact equivalent to 0.5% of that amount is [1,163,489,000,000 yen (FY2021 digested amount)\*0.005 = 5,817,445,000 yen].

#### Comment

### C2.4

(C2.4) Have you identified any climate-related opportunities with the potential to have a substantive financial or strategic impact on your business?

Yes

### C2.4a

(C2.4a) Provide details of opportunities identified with the potential to have a substantive financial or strategic impact on your business.

Identifier

Opp1

Where in the value chain does the opportunity occur? Downstream

#### **Opportunity type**

Products and services

#### Primary climate-related opportunity driver

Development and/or expansion of low emission goods and services

#### Primary potential financial impact

Increased revenues resulting from increased demand for products and services



#### **Company-specific description**

In the 6th Basic Energy Plan, the Japanese government has set a goal of "Aiming to ensure energy-saving performance at the level of ZEH / ZEB standards for newly built houses and buildings after 2030." It is expected that social changes will progress toward construction and various new regulations will be tightened. To facilitate this commitment, it is expected that various new regulations will be established, or existing ones strengthened with the aim to transitioning to a decarbonized society. As a result of these regulations, new buildings with high environmental performance (energy-efficient buildings) are attracting attention from customers, and demand for construction of these new buildings will increase.

We have a great amount of experience in the construction of energy-efficient buildings and energy-efficient renovations (sustainable renovations) (We actually have built 11 ZEBs cumulatively as of 2021 April.). In particular, our experience with constructing zero energy buildings (ZEB) is among the best in the industry. Based on this track record and our cutting-edge technology, we aim to increase orders for the construction and renovation of energy-efficient buildings and create significant opportunities. In the investment and development business, we will also increase opportunities to improve our reputation by providing tenants with ZEB and BEMS (Building Energy Management System) compliant properties (We actually achieved RE100 at our invested asset, Yokohama GranGate Building in 2021).

#### **Time horizon**

Long-term

#### Likelihood

Very likely

#### Magnitude of impact

High

#### Are you able to provide a potential financial impact figure? Yes, a single figure estimate

#### Potential financial impact figure (currency)

21,482,186,840

#### Potential financial impact figure – minimum (currency)

#### Potential financial impact figure - maximum (currency)

#### **Explanation of financial impact figure**

Shimizu Corporation's net sales from its construction business in FY 2021 was 936,043,000,000 yen. Of this amount, 51% was designed by Shimizu, and within this 45% was for office use, which includes ZEB designs. Furthermore, taking into account that the Japanese government aims for half of all new buildings by 2030 to be ZEB compliant, and ZEB conversion cost of 20%, the potential financial impact becomes [936,043,000,000 yen (Net sales from construction business in FY2021) \*0.51 (Ratio of



design by us) \*0.45 (Ratio of office use) \* 0.5 (Ratio of ZEB) \* 0.2 (Cost of ZEB) = 21,482,186,840 yen].

#### Cost to realize opportunity

147,829,000

#### Strategy to realize opportunity and explanation of cost calculation

The Company's technology strategy to enhance its position in the energy-saving business market has been developed by the technology Strategy Conference, chaired by the executive officer in charge of technology. This strategy is designed to be consistent with the technology development strategy in this area, drafted by the Technology Strategy Committee, a sub-organization. The Company's Technology Strategy Committee works with the SDGs and ESG Promotion Committee to monitor market changes and develop a strategy for technology investments. One of the key goals embedded in this strategy is to enhance our energy-saving building-related capabilities. Based on the Japanese government's plan to achieve ZEB in new buildings on average by 2030, we verified the technologies available for ZEB construction. We then identified useful existing technologies and those that needed to be developed and worked to develop new technologies. These technologies were developed by our development divisions, led by the Technical Research Institute, and are contributing to the construction of ZEBs. Shimizu Corporation is promoting ZEB construction and aims to reduce the primary energy consumption of buildings delivered to customers by 43% (compared to FY2017) by 2050. As a result, two of our ZEB construction projects were certified in FY2020 and five in FY2021. Many of the energy-saving technologies are incorporated into the buildings we design, and are expected to meet the growing demand of our clients for environmentally efficient buildings.

The cost to realize this opportunity was set to 1/2, which is obtained by multiplying the Human resources related investment amount (2019-2021) of 7,900,000,000 yen for a single year by the ratio of design-related employees (about 1,200 people). [¥ 7,900,000,000 (Human resources related investment in FY2019-2021) \* 1/3 \* 1,200 (Number of design-related employees) / 10,688 (Number of employees of our company) \* 1/2 = 147,829,000 yen]

#### Comment

## **C3. Business Strategy**

### C3.1

(C3.1) Does your organization's strategy include a transition plan that aligns with a 1.5°C world?

Row 1

#### **Transition plan**

Yes, we have a transition plan which aligns with a 1.5°C world



#### Publicly available transition plan

Yes

## Mechanism by which feedback is collected from shareholders on your transition plan

We have a different feedback mechanism in place

#### **Description of feedback mechanism**

The Shimizu Group discloses the Company's response to the low carbon transition plan in the information on climate change based on TCFD recommendations on its website and corporate report magazine, and has a mechanism to receive feedback from shareholders, etc. regarding this content. The Group has a format on its website that accepts questions from shareholders, etc., so that they can always receive opinions and inquiries, and receive feedback on the transition plan. We also have an SNS (twitter and facebook).

#### Frequency of feedback collection

More frequently than annually

#### Attach any relevant documents which detail your transition plan (optional)

## C3.2

## (C3.2) Does your organization use climate-related scenario analysis to inform its strategy?

	Use of climate-related scenario analysis to inform strategy	
Row	Yes, quantitative	

### C3.2a

#### (C3.2a) Provide details of your organization's use of climate-related scenario analysis.

Climate-	Scenario	Temperature	Parameters, assumptions, analytical choices
related	analysis	alignment of	
scenario	coverage	scenario	
Transition scenarios IEA SDS	Company- wide		Shimizu Corporation conducted a scenario analysis using the Sustainable Development Scenario (SDS) developed by the International Energy Agency (IEA) to identify and assess the risks and opportunities associated with transition scenarios. In adopting this scenario, we referred to the leading companies in climate change information disclosure based on the TCFD recommendations, and also assumed that the SDS transition scenario was the most stringent condition. Furthermore, we focused our analysis on public sector legal regulations and market changes that are



		characteristic of the construction industry. The scope of the SDS scenario analysis was defined as the "construction business" and "real estate investment and development business," with a long-term time horizon (2030-2050) considering the characteristic of the construction industry that our products (buildings) have long-term lifecycle. In addition, the business processes we analyzed were: "procurement," "direct operations", and "building operations/management".
Physical climate scenarios RCP 8.5	Company- wide	We conducted a scenario analysis using the RCP 8.5 scenario developed by the International Intergovernmental Panel on Climate Change (IPCC) to examine the risks and opportunities associated with climate-related physical risks. In adopting this scenario, we referred to the leading companies in climate change information disclosure based on the TCFD recommendations, and also assumed that the RCP8.5 physical scenario was the most stringent condition. In addition, we focused our analysis on the characteristics of the construction industry, such as the fact that most work is done outdoors and the shift to ITC (Information Technology Construction). The scope of the survey is our main businesses, "construction" and "investment and development" as that of the transition risks and opportunities, and the time horizon is set to be long (from 2030 to 2050) considering the long-term life cycle of construction products (structures). In addition, as the business processes to be analyzed, studies were conducted in "procurement," "direct operation," and "building operation.

### C3.2b

(C3.2b) Provide details of the focal questions your organization seeks to address by using climate-related scenario analysis, and summarize the results with respect to these questions.

#### Row 1

#### **Focal questions**

Transition scenarios:

Through the analysis adopting SDS, we came to understand that regulations for the construction business will be tightened relatively soon and that the construction market will undergo significant changes, and we identified transition risks and opportunities based on the analysis. With regard to the tightening of regulations, we have determined that a decline in demand for new buildings with low energy efficiency will pose a risk of



lost sales to our business, while an increase in demand for new buildings with high energy efficiency (ZEB) will provide opportunities to our business. We considered the balance between risk and opportunity and determined that the increase in the number of construction projects due to the opportunity would absorb the risk, resulting in an increase in sales. We also determined that changes in the market would provide an important opportunity to generate new needs for our business (such as the rapid expansion of renewable energy related markets).

These risks and opportunities were confirmed to be consistent with the Mid-Term Management Plan by the SDGs and ESG Promotion Committee and reported to the Board of Directors.

#### Physical climate scenarios:

As a result of analyzing the scenario, we understood that the increase in average temperature would have a significant impact on the construction projects especially in RCP8.5 scenario, and the physical risks and opportunities were identified based on the results of this analysis, including the associated changes in policies and other factors. It was determined that a rise in average summer temperatures would exacerbate the current problem of a shortage of construction workers in the construction business by worsening the outdoor working environment and would also pose a serious risk of increased health hazards such as heat stroke. In addition, changes in policies associated with physical risks, such as the National Resilience Policy to deal with severe disasters caused by abnormal weather, were judged to be an opportunity to expand orders and create new business opportunities in the construction and investment development businesses.

## Results of the climate-related scenario analysis with respect to the focal questions

Transition scenarios:

The Shimizu Group is expanding its business around the world, but its base is in Japan. Japan has a high degree of interest in energy conservation, and regulations are surely set. Expectations for the construction sector are also high, and demand for infrastructure development and ZEB construction is on the rise. These opportunities due to new market needs as approved by the Board of Directors affected directly and significantly to our Group strategy with regards to the promotion of Zero Energy Building (ZEB) construction by setting our target to make 20% of our design and construction projects ZEB-related by 2030 and the focus on construction of renewable energy facilities (including the construction of SEP vessels for offshore wind power facilities). In particular, regarding the construction of ZEB, until 2016, we had one construction record per year, but due to the promotion and strengthening of our ZEB construction, we have received orders for multiple ZEB construction from 2018 onwards. As a result, we have 13 construction records (as of April 2022) in Japan, and we have determined that there is a possibility that sales from ZEB construction will increase in the medium to long term.

#### Physical climate scenarios:

The Shimizu Group is expanding its business around the world, but its base is in Japan. Japan is located in the temperate zone, but in recent years there has been a tendency



for hot and humid summers to continue. The Shimizu Group's business, which is the construction industry sector, is often constructed outdoors and is greatly affected by such summer weather. In addition, Japan has regional characteristics that are greatly affected by recent abnormal weather (heavy rain due to large typhoons, etc.) due to conditions such as many steep rivers in a narrow land area.

The Shimizu Group has decided to focus on the development of infrastructure for the purpose of maintaining public safety, such as through the medium-term management plan. In particular, we judged it important to focus on the Fundamental Plan for National Resilience based on the results of minimizing the damage caused by the heavy rains of Typhoon No.19 in October 2019 due to the effects of Yanba Dam constructed by us. These risks and opportunities were confirmed to be consistent with the group management plan by the SDGs and ESG Promotion Committee and reported to the Board of Directors. In particular, the risk to construction sites from rising average temperatures had a direct and significant impact on our Group strategy, as the Board approved a significant increase in investment in R&D to promote productivity improvements (Shimizu Smart Site) through robotics and ICT (Information and Communication Technology).

### C3.3

## (C3.3) Describe where and how climate-related risks and opportunities have influenced your strategy.

	Have climate-related risks and opportunities influenced your strategy in this area?	Description of influence
Products and services	Yes	We reviewed transition risks and opportunities related to climate change and found that there are risks of restrictions on low energy performance buildings due to stricter GHG emission regulations, while increased opportunities of increased need for energy efficient buildings. In order to respond to this opportunity, the Board of Directors has formulated a business strategy for the medium to long term (to 2050) to expand ZEB construction performance. We set a target of achieving at least 20% ZEB by our own design by 2030, and we are entirely promoting the business to achieve this target. We have already achieved PEB (Positive Energy Building: Buildings whose energy use is less than supplied) construction in suburban areas where conditions are favorable, and Nearly-ZEB construction in urban areas of Tokyo where conditions are severe. As of April 2022, we constructed 13 ZEBs, and we are steadily increasing our achievements. The Group will further promote the design



		and construction of ZEBs to achieve the goals of our medium- to long-term strategy.
Supply chain and/or value chain	Yes	Our most important supply chain issue is to ensure that it has sufficient workers on site to perform construction work and to improve the productivity of its work. We examined physical risks related to climate change that could have a significant impact on our supply chain, and found that there are significant risks to our business, such as reduced productivity and heat stroke due to worker fatigue caused by rising average temperatures, and extended periods of work interruption caused by intensifying disasters (flooding of sites due to heavy rains, inflow of sand, etc.). In order to address these risks, we have formulated a business strategy for the medium term (from now to 2030) to minimize health hazards to construction workers and to achieve labor savings and productivity improvements at work sites by using construction robots, ICT and AI. In addition, we are promoting work style reforms at our work sites, such as shortening the outdoor working hours of workers (increasing the number of breaks during work from three to five) and implementing measures to prevent heat stroke (such as equipping air-conditioning equipment and providing water and salt supplements). As a result, we were able to reduce the number of victims of heat stroke among on-site workers from 164 in FY2020 to 126 in FY2021. Furthermore, we train skilled workers at Manufacturing Training Center. We aim to achieve our mid-term business strategies by using construction robots, ICT and Shimizu Smart Site (AI-based construction sites) to significantly improve productivity.
Investment in R&D	Yes	We reviewed the transition/physical risks and opportunities related to climate change and found that there are significant opportunities for market changes due to climate change, such as new demand in non-construction projects that can be applied to mitigation and adaptation (e.g., development of hydrogen energy utilization systems and maritime environmental cities). With these opportunities in mind, we are building a large-scale innovation center in Shiomi district of Tokyo with the aim of creating new businesses in our non- construction sector. With the aim of strongly promoting innovation in business structure, technology and human resources as indicated in 'Shimz Vision 2030', the Center will steadily promote production technology innovation and advanced technology development through open innovation, as well as the development of manufacturing human resources, with the aim of establishing and strengthening



		the management base and further increasing corporate value. The total amount of investment in R&D is expected to be approximately 50 billion. In addition, in order to meet the growing need for renewable energy in transition opportunities, we are building our own high-efficiency Self-Elevation Platform Ship (SEP Ship), which has been approved by the Board of Directors, for the construction of offshore wind power generation facilities. With this SEP ship, we aim to secure a competitive edge in the renewable energy field and further expand our engineering business. The total investment for this development is approximately 50 billion yen. Furthermore, in order to build a decarbonized society through renewable energy, we developed a hydrogen energy utilization system. The system is capable of producing and storing hydrogen using surplus electricity from solar power generation, and converting it into electricity when needed, and was put into practical use in our new Hokuriku branch office building in 2021. We aim to achieve our mid-term business strategies by investing in these R&D activities.
Operations	Yes	We implement a strategy to shift the energy used at our construction sites to renewable sources of electricity in order to reduce CO2 emissions and to cope with the rising average temperatures and intensifying disasters related to the physical risks of climate change. As the first step, we are promoting measures to shift the energy used at construction sites from fossil fuels to electricity. Specifically, we are switching cranes used for lifting materials from vehicle cranes that use diesel oil to tower cranes that use electricity whenever possible, and we are also switching from on-site generators that use diesel oil to electricity purchased from the grid. As the second step, we will purchase 20 GWh of Green Power Certificates approved by the Board of Directors, offsetting 3 GWh at the site in FY2020 and offsetting 9.5 GWh in FY2021. This will enable us to change approximately 17% of the electricity used onsite (FY2021 actual) to be derived from renewable energy sources. This strategy will also enable us to achieve our approved SBT. We aim to achieve our short-term business strategy by investing in these operations.



## **C**3.4

## (C3.4) Describe where and how climate-related risks and opportunities have influenced your financial planning.

Financial planning elements that have been influenced	Description of influence
Revenues Direct costs Capital expenditures Access to capital Assets	Revenue: Our financial performance of construction business, which accounts for 90% of our net sales, is quantitatively correlated with the environmental performance of our design-build buildings. Our net sales from construction business in FY2021 is 936,043,000,000. Of this amount, 51% is from our design work in which 45% is for office use, the main target of ZEB. Furthermore, if we take into account the Japanese government's Basic Energy Plan, which calls for ZEBs to be built on average (50%), the potential impact is [936,043,000,000 yen (net sales form construction business in FY2020) * 0.51 (design-build ratio) * 0.45 (office use ratio) * 0.5 (ZEB ratio) = 107,410,934 ,200 yen]. ZEB construction increases the initial cost by about 20%, but the customer is expected to bear the incremental cost because the customer can benefit from lower running costs. Therefore, [107,410,934,200 yen (potential impact) * 20% (incremental ZEB construction cost) = 21,482,186,840 yen] is the increase in net sales, and the impact is moderate. These climate-related risks and opportunities are integrated into the financial planning process, as the Management Committee plans annual net sales according to the Mid-Term Management Plan and Long-Term Vision 'Shimz Vision 2030'. Both the Mid-Term Management Plan and the Long-Term Vision have been approved by the Board of Directors and contain elements related to climate-related emission reduction targets and technological opportunities in the construction and non-construction businesses, i.e. renewable energy businesses. The time horizon for these climate-related risks and opportunities is assumed to be long-term, beyond 2030. Direct Costs: The main climate-related risks and opportunities for direct operations apply primarily to our construction business, which represents 90% of our net sales. We know that our construction business will be significantly affected by climate change because construction is primarily conducted outdoors and extreme weather cond
	elements that have been influenced Revenues Direct costs Capital expenditures Access to capital



Production Engineering Department and Building and Construction Planning Department identified the potential impact of climate change and labor shortages on construction business net sales, so they introduced Shimizu Smart Site, a next-generation production system that uses autonomous robots to streamline repetitive tasks. The system's impact on workforce reduction (percentage reduction) is estimated to be approximately 2,500 (75%) for lifting and transport operations, 2,100 (75%) for ceiling and floor work, and 1,150 (70%) for column welding operations. This will result in a total reduction in labor equivalent to approximately 6,000 workers. According to data from the Japan Federation of Construction Industries, the annual wage for workers in the construction industry is 4,450,000 yen (FY2018 actual), so [4,450,000 yen (annual wage) \* 6,000 (number of workers reduced) \* 0.05 (Smart Site adoption rate) = 1,335,000,000 yen] will be the expenditure reduction, and the impact will be small. Labor reduction essentially maximizes efficiency and meets deadlines, while also minimizing human accidents such as heat stroke at work sites, which also contributes to increased efficiency.

This time horizon for climate change-related risks and opportunities is assumed to be mid-term, through 2030.

#### Capital expenditures:

Climate change related risks and opportunities were incorporated into the overall mid-term business plan and the draft of 'Shimz Vision 2030', which were informed by all relevant departments and ultimately approved by the Board of Directors. These two strategies outline our plans for capital expenditure and our plans for investment in the business over the next five to ten years. For example, we have identified the renewable energy sector as an important climate-related opportunity to expand our business. Services in the renewable energy sector are classified as non-construction business and currently account for 10% of our net sales (as of FY2021). According to our medium-term management plan, we plan to double this by FY2023. In accordance with our mid-term management plan, we invested 164,000,000,000 yen in infrastructure, renewable energy, and new businesses (frontier businesses) over the three years, which will have a significant impact. The time horizon for this climate change-related risk and opportunity is assumed to be short-term, through fiscal 2023.

#### Access to capital:

We recognize that investors are looking to increase their investments in companies that are performing well in terms of climate change management. With respect to passive investments, we have significantly improved our ESG disclosures and included a clear plan for ESG management in the Mid-Term Management Plan and in 'Shimz Vision 2030'. As a result, Shimizu has been selected continuously to be



included in a well-known ESG index. Access to capital is particularly important for our business. This is because, through our mid-term business plan, we aim to double our net sales from non-construction businesses over the next five years. In light of the market's growing concern about climate change, a large part of our expansion in the nonconstruction sector will be focused on eco-efficient real estate development business. We invested 7,900,000,000 yen over the three years, including human resources and capacity building to increase our access to capital in this focus area, with a medium impact. The time horizon for this climate change related risk and opportunity is assumed to be short term, through fiscal year 2023. Assets: The non-construction business, which accounts for 10% of sales as of FY2021, includes the real estate business, which leases downstream capital assets (real estate assets). In the real estate market, customers are increasingly demanding buildings with higher environmental efficiency, as climate-related factors such as emissions and energy efficiency are key selling factors for these assets. This is reflected in the financial plan of the Mid-Term Management Plan, where 500 billion yen is planned to be invested in real estate development and 100 billion yen in productivity improvement and R&D over the next five years. Most recently, we have decided to establish a major innovation center in Shiomi, Tokyo, which is expected to be completed in March 2022. This facility is being built to accelerate innovation and R&D in the areas mentioned above that impact climate-related business risks and will represent a total investment of approximately 50 billion yen. The time horizon for this climate-related risk and opportunity is expected to be short term, through fiscal year 2023.

## C3.5

(C3.5) In your organization's financial accounting, do you identify spending/revenue that is aligned with your organization's transition to a 1.5°C world?

No, but we plan to in the next two years

## C4. Targets and performance

## C4.1

(C4.1) Did you have an emissions target that was active in the reporting year?

Absolute target Intensity target



### C4.1a

## (C4.1a) Provide details of your absolute emissions target(s) and progress made against those targets.

Target reference number Abs 1
Year target was set 2018
Target coverage Company-wide
Scope(s) Scope 1 Scope 2
Scope 2 accounting method Market-based
Scope 3 category(ies)
Base year 2017
Base year Scope 1 emissions covered by target (metric tons CO2e) 216,711
Base year Scope 2 emissions covered by target (metric tons CO2e) 58,865
Base year Scope 3 emissions covered by target (metric tons CO2e)
Total base year emissions covered by target in all selected Scopes (metric tons CO2e) 275,576
Base year Scope 1 emissions covered by target as % of total base year emissions in Scope 1 100
Base year Scope 2 emissions covered by target as % of total base year emissions in Scope 2 100



## Base year Scope 3 emissions covered by target as % of total base year emissions in Scope 3 (in all Scope 3 categories)

Base year emissions covered by target in all selected Scopes as % of total base year emissions in all selected Scopes

100

Target year 2030

Targeted reduction from base year (%) 33

Total emissions in target year covered by target in all selected Scopes (metric tons CO2e) [auto-calculated]

184,635.92

- Scope 1 emissions in reporting year covered by target (metric tons CO2e) 197,887
- Scope 2 emissions in reporting year covered by target (metric tons CO2e) 35,818

Scope 3 emissions in reporting year covered by target (metric tons CO2e)

Total emissions in reporting year covered by target in all selected scopes (metric tons CO2e)

233,705

- % of target achieved relative to base year [auto-calculated] 46.042405065
- Target status in reporting year Underway
- Is this a science-based target? Yes, and this target has been approved by the Science Based Targets initiative

#### **Target ambition**

Well-below 2°C aligned

#### Please explain target coverage and identify any exclusions

This target was set in 2018 and has been endorsed by SBTi. Boundaries are Shimizu Corporation and affiliated companies (including overseas subsidiaries) described in our securities report.

Plan for achieving target, and progress made to the end of the reporting year



The Shimizu Group will strongly promote the "renewable energy conversion" of electricity used in offices. In addition, we will use RE as much as possible for the electric power used in the site, reduce the amount of fossil fuel-derived electricity used, and promote the use of alternative fuels such as BDF.

## List the emissions reduction initiatives which contributed most to achieving this target

**Target reference number** Abs 2 Year target was set 2018 **Target coverage** Company-wide Scope(s) Scope 1 Scope 2 Scope 2 accounting method Market-based Scope 3 category(ies) **Base year** 2017 Base year Scope 1 emissions covered by target (metric tons CO2e) 216,711 Base year Scope 2 emissions covered by target (metric tons CO2e) 58,865 Base year Scope 3 emissions covered by target (metric tons CO2e) Total base year emissions covered by target in all selected Scopes (metric tons CO2e) 275.576 Base year Scope 1 emissions covered by target as % of total base year emissions in Scope 1 100



Base year Scope 2 emissions covered by target as % of total base year emissions in Scope 2

100

Base year Scope 3 emissions covered by target as % of total base year emissions in Scope 3 (in all Scope 3 categories)

Base year emissions covered by target in all selected Scopes as % of total base year emissions in all selected Scopes

100

Target year 2050

**Targeted reduction from base year (%)** 63

Total emissions in target year covered by target in all selected Scopes (metric tons CO2e) [auto-calculated]

101,963.12

- Scope 1 emissions in reporting year covered by target (metric tons CO2e) 197,887
- Scope 2 emissions in reporting year covered by target (metric tons CO2e) 35,818
- Scope 3 emissions in reporting year covered by target (metric tons CO2e)

Total emissions in reporting year covered by target in all selected scopes (metric tons CO2e)

233,705

% of target achieved relative to base year [auto-calculated] 24.1174502721

Target status in reporting year Underway

Is this a science-based target?

Yes, and this target has been approved by the Science Based Targets initiative

#### **Target ambition**

Well-below 2°C aligned

#### Please explain target coverage and identify any exclusions

This target was set in 2018 and has been endorsed by SBTi. This emission has already reached the SBT target, but we will continue to set this target



in the future. The reason is that the buildings designed by us in fiscal 2020 were used in many offices where it was easy to reduce CO2 emissions. However, if this trend continues, we will change the target to WB2D.

**Plan for achieving target, and progress made to the end of the reporting year** We will confirm the GHG reduction rate in 2030 of the Group and further strengthen measures to achieve the target of 2050. In addition, we will promote the development of technologies such as DAC and CCUS, and consider offsetting them with the final emission GHG.

List the emissions reduction initiatives which contributed most to achieving this target





Base year Scope 1 emissions covered by target as % of total base year emissions in Scope 1

Base year Scope 2 emissions covered by target as % of total base year emissions in Scope 2

Base year Scope 3 emissions covered by target as % of total base year emissions in Scope 3 (in all Scope 3 categories)

79

Base year emissions covered by target in all selected Scopes as % of total base year emissions in all selected Scopes

100

Target year 2030

Targeted reduction from base year (%)

20

Total emissions in target year covered by target in all selected Scopes (metric tons CO2e) [auto-calculated]

5,938,332.8

Scope 1 emissions in reporting year covered by target (metric tons CO2e)

Scope 2 emissions in reporting year covered by target (metric tons CO2e)

Scope 3 emissions in reporting year covered by target (metric tons CO2e) 5,407,779

Total emissions in reporting year covered by target in all selected scopes (metric tons CO2e)

5,407,779

% of target achieved relative to base year [auto-calculated] 135.7375592018

Target status in reporting year Achieved

#### Is this a science-based target?

Yes, and this target has been approved by the Science Based Targets initiative

#### **Target ambition**

2°C aligned



#### Please explain target coverage and identify any exclusions

This target was set in 2018 and has been endorsed by SBTi. Boundaries are Shimizu Corporation and affiliated companies (including overseas subsidiaries) described in our securities report.

#### Plan for achieving target, and progress made to the end of the reporting year

## List the emissions reduction initiatives which contributed most to achieving this target

One reason we were able to achieve this target is due to the improvement of our energy-saving design technology. The second reason is that customers are increasingly demanding energy-saving performance in their buildings. For these reasons, we have achieved a reduction in GHG emissions for this scope.

#### **Target reference number**

Abs 4

## Year target was set

2018

Target coverage

Company-wide

Scope(s)

Scope 3

#### Scope 2 accounting method

#### Scope 3 category(ies)

Category 11: Use of sold products

#### Base year

2017

Base year Scope 1 emissions covered by target (metric tons CO2e)

Base year Scope 2 emissions covered by target (metric tons CO2e)

Base year Scope 3 emissions covered by target (metric tons CO2e) 7,422,916

Total base year emissions covered by target in all selected Scopes (metric tons CO2e)

7,422,916



Base year Scope 1 emissions covered by target as % of total base year emissions in Scope 1

Base year Scope 2 emissions covered by target as % of total base year emissions in Scope 2

Base year Scope 3 emissions covered by target as % of total base year emissions in Scope 3 (in all Scope 3 categories)

79

Base year emissions covered by target in all selected Scopes as % of total base year emissions in all selected Scopes

100

Target year 2050

Targeted reduction from base year (%)

43

Total emissions in target year covered by target in all selected Scopes (metric tons CO2e) [auto-calculated]

4,231,062.12

Scope 1 emissions in reporting year covered by target (metric tons CO2e)

Scope 2 emissions in reporting year covered by target (metric tons CO2e)

Scope 3 emissions in reporting year covered by target (metric tons CO2e) 5,407,779

Total emissions in reporting year covered by target in all selected scopes (metric tons CO2e)

5,407,779

% of target achieved relative to base year [auto-calculated] 63.133748466

Target status in reporting year Underway

#### Is this a science-based target?

Yes, and this target has been approved by the Science Based Targets initiative

#### **Target ambition**

2°C aligned


### Please explain target coverage and identify any exclusions

This target was set in 2018 and has been endorsed by SBTi.

This reduction in emissions is significantly progressing as planned, but we will continue to set this target in the future. The reason is that the buildings designed by us in fiscal 2021 were used in many offices where it was easy to reduce CO2 emissions. However, if this trend continues, we will change the target to  $1.5^{\circ}$ C.

Plan for achieving target, and progress made to the end of the reporting year The target of reducing office emissions is halfway through. In the future, we plan to work on reducing operational emissions for projects other than offices (for example, hospitals).

List the emissions reduction initiatives which contributed most to achieving this target

# C4.1b

(C4.1b) Provide details of your emissions intensity target(s) and progress made against those target(s).

Target reference number Int 1

Year target was set 2018

Target coverage Company-wide

Scope(s) Scope 1 Scope 2

Scope 2 accounting method Market-based

## Scope 3 category(ies)

## Intensity metric

Metric tons CO2e per unit revenue

### Base year

2017

Intensity figure in base year for Scope 1 (metric tons CO2e per unit of activity) 12.76



Intensity figure in base year for Scope 2 (metric tons CO2e per unit of activity) 3.47

Intensity figure in base year for Scope 3 (metric tons CO2e per unit of activity)

Intensity figure in base year for all selected Scopes (metric tons CO2e per unit of activity)

16.23

% of total base year emissions in Scope 1 covered by this Scope 1 intensity figure

100

% of total base year emissions in Scope 2 covered by this Scope 2 intensity figure

100

% of total base year emissions in Scope 3 (in all Scope 3 categories) covered by this Scope 3 intensity figure

% of total base year emissions in all selected Scopes covered by this intensity figure

100

Target year 2030

Targeted reduction from base year (%)

30

Intensity figure in target year for all selected Scopes (metric tons CO2e per unit of activity) [auto-calculated]

11.361

% change anticipated in absolute Scope 1+2 emissions 33

% change anticipated in absolute Scope 3 emissions

0

Intensity figure in reporting year for Scope 1 (metric tons CO2e per unit of activity)

13.9

Intensity figure in reporting year for Scope 2 (metric tons CO2e per unit of activity)

2.52



# Intensity figure in reporting year for Scope 3 (metric tons CO2e per unit of activity)

# Intensity figure in reporting year for all selected Scopes (metric tons CO2e per unit of activity)

16.42

% of target achieved relative to base year [auto-calculated] -3.9022386527

### Target status in reporting year Underway

Is this a science-based target? No, and we do not anticipate setting one in the next 2 years

## **Target ambition**

## Please explain target coverage and identify any exclusions

A standard physical unit is made into the amount of metric tonnes CO2 by construction/sales of 100 million yen, and is made into the management target.

Plan for achieving target, and progress made to the end of the reporting year To achieve this basic unit target, we will promote an energy shift (shift from diesel oil to electricity) during construction and reduce GHG emissions.

# List the emissions reduction initiatives which contributed most to achieving this target

# C4.2

(C4.2) Did you have any other climate-related targets that were active in the reporting year?

No other climate-related targets

# C4.3

(C4.3) Did you have emissions reduction initiatives that were active within the reporting year? Note that this can include those in the planning and/or implementation phases.

Yes



# C4.3a

# (C4.3a) Identify the total number of initiatives at each stage of development, and for those in the implementation stages, the estimated CO2e savings.

	Number of initiatives	Total estimated annual CO2e savings in metric tonnes CO2e (only for rows marked *)
Under investigation	0	0
To be implemented*	0	0
Implementation commenced*	0	0
Implemented*	2	2,160
Not to be implemented	0	0

# C4.3b

(C4.3b) Provide details on the initiatives implemented in the reporting year in the table below.





Shimizu Corporation has switched most of its own buildings to LEDs. In addition, temporary lighting at construction sites is being gradually switched to LEDs. In addition, the lighting of the office where the tenant is occupying will be switched to LED as soon as possible. As a result, CO2 emissions of about 900 tons were reduced.

## Initiative category & Initiative type

Low-carbon energy consumption Large hydropower (>25 MW)

# Estimated annual CO2e savings (metric tonnes CO2e) 1,260

Scope(s) or Scope 3 category(ies) where emissions savings occur Scope 2 (market-based)

#### Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in C0.4)

0

Investment required (unit currency - as specified in C0.4)

0

**Payback period** 

No payback

## Estimated lifetime of the initiative

Ongoing

### Comment

Shimizu Corporation has changed the electricity consumed in the head office building to zero-carbon energy derived from hydroelectric power generation. This contributed to the reduction of GHG emissions of Scope 2.

## C4.3c

# (C4.3c) What methods do you use to drive investment in emissions reduction activities?

Method	Comment
Dedicated budget	Before making investment decisions, Shimizu group weigh the likelihood of
for low-carbon	winning orders by performing a cost performance analysis a comparison of
product R&D	Research and Development costs for developing energy saving technologies and
	benefits of utility cost saving to building owners from the application of such
	technologies.
	And if it is judged that the possibility of an order is high by the result of analysis,



	research and development investment for the construction of the building where GHG emission reduction is possible will be carried out.
Internal price on carbon	Shimizu Corporation uses in-house carbon pricing as a reference for investment in emission reduction activities. The decision to purchase a Green Power Certificate also used this system. However, since the carbon price is unclear, we consider it as a reference.

# C4.5

(C4.5) Do you classify any of your existing goods and/or services as low-carbon products?

Yes

# C4.5a

(C4.5a) Provide details of your products and/or services that you classify as low-carbon products.

## Level of aggregation

Product or service

## Taxonomy used to classify product(s) or service(s) as low-carbon

No taxonomy used to classify product(s) or service(s) as low carbon

## Type of product(s) or service(s)

Buildings construction and renovation Composite materials

## Description of product(s) or service(s)

Our energy-saving buildings, renewal services, new energy facilities and so forth allow third-party building and facility operators to reduce energy consumption and GHG emissions.

i) Energy-saving buildings and energy-saving services provided by our company reduce the emissions of both scope 1 and scope 2 of a third party.

 ii) GHG emissions of scope 2 is reduced because an energy-saving building provided by our company reduces electric power and heat consumption. And, it can also contribute to the GHG emissions reduction of scope 1 by using the heat effectively. Moreover, GHG of scope 2 is reducible by practical use of renewable energy.

# Have you estimated the avoided emissions of this low-carbon product(s) or service(s)

Yes

## Methodology used to calculate avoided emissions

Other, please specify



We calculate the primary energy consumption of the building to be designed in accordance with the Energy Conservation Law. This calculated energy consumption is taken as the emission amount of low carbon products.

## Life cycle stage(s) covered for the low-carbon product(s) or services(s) Use stage

#### Functional unit used

Comparison with GHG emissions calculated to be emitted by normal buildings (non-ZEB buildings) during 50 years of operation of our designed ZEB.

#### Reference product/service or baseline scenario used

The non-ZEB building used for comparison emits GHG specified by the Energy Conservation Law, and is used as the base scenario.

# Life cycle stage(s) covered for the reference product/service or baseline scenario

Use stage

# Estimated avoided emissions (metric tons CO2e per functional unit) compared to reference product/service or baseline scenario

10,584

### Explain your calculation of avoided emissions, including any assumptions

The GHG emissions of our 38 buildings designed in 2021 are 20424t-CO2 / year calculated according to the standards of the Energy Conservation Law of 2013. The actual emission calculated from the primary energy consumption is 9840t-CO2 / year. Therefore, the amount of GHG emission reduction by our low carbon products is (20424-9840) = 10584t-CO2.

Revenue generated from low-carbon product(s) or service(s) as % of total revenue in the reporting year

12

# **C5. Emissions methodology**

# C5.1

(C5.1) Is this your first year of reporting emissions data to CDP? No

# C5.1a

(C5.1a) Has your organization undergone any structural changes in the reporting year, or are any previous structural changes being accounted for in this disclosure of emissions data?

Row 1



Has there been a structural change?

No

# C5.1b

(C5.1b) Has your emissions accounting methodology, boundary, and/or reporting year definition changed in the reporting year?

	Change(s) in methodology, boundary, and/or reporting year definition?
Row 1	No

# C5.2

(C5.2) Provide your base year and base year emissions.

## Scope 1

Base year start

April 1, 2017

Base year end

March 31, 2018

## Base year emissions (metric tons CO2e)

216,711

## Comment

The base year and base year GHG emissions of this report started in 2018 to conform to SBT.

## Scope 2 (location-based)

Base year start April 1, 2017

Base year end

March 31, 2018

## Base year emissions (metric tons CO2e)

64,591

Comment

Scope 2 (market-based)

Base year start April 1, 2017

Base year end March 31, 2018



# Base year emissions (metric tons CO2e) 58.865

#### Comment

The base year and base year GHG emissions of this report started in 2018 to conform to SBT.

#### Scope 3 category 1: Purchased goods and services

#### Base year start

April 1, 2017

#### Base year end

March 31, 2018

#### Base year emissions (metric tons CO2e)

1,566,306

#### Comment

There are many types of materials purchased by the construction industry, and many of them have unknown emission factors.

Therefore, the main materials for GHG emission calculation of Scope 3 / Category 1 are "concrete", "steel material", "reinforcing bar", "glass", and "aluminum".

#### Scope 3 category 2: Capital goods

#### Base year start

April 1, 2017

### Base year end

March 31, 2018

#### Base year emissions (metric tons CO2e)

72,906

#### Comment

Scope 3 category 3: Fuel-and-energy-related activities (not included in Scope 1 or 2)

Base year start April 1, 2017

#### Base year end March 31, 2018

Base year emissions (metric tons CO2e) 16,666

Comment



#### Scope 3 category 4: Upstream transportation and distribution

#### Base year start

April 1, 2017

#### Base year end

March 31, 2018

## Base year emissions (metric tons CO2e)

21,918

#### Comment

There are so many types of materials that the construction industry purchases, and it is not possible to know the transportation route for all materials.

Therefore, the main materials for GHG emission calculation of Scope 3 and Category 4 are "concrete", "steel material", "reinforcing bar", "glass", and "aluminum".

#### Scope 3 category 5: Waste generated in operations

Base year start

April 1, 2017

Base year end March 31, 2018

## Base year emissions (metric tons CO2e)

175,045

#### Comment

#### Scope 3 category 6: Business travel

Base year start April 1, 2017

## Base year end

March 31, 2018

## Base year emissions (metric tons CO2e)

2,083

#### Comment

#### Scope 3 category 7: Employee commuting

Base year start April 1, 2017



## Base year end

March 31, 2018

# Base year emissions (metric tons CO2e) 5,101

Comment

#### Scope 3 category 8: Upstream leased assets

Base year start April 1, 2017

Base year end

March 31, 2018

### Base year emissions (metric tons CO2e)

0

Comment

Not applicable

#### Scope 3 category 9: Downstream transportation and distribution

#### Base year start

April 1, 2017

#### Base year end

March 31, 2018

#### Base year emissions (metric tons CO2e)

0

## Comment

Not applicable

### Scope 3 category 10: Processing of sold products

Base year start

April 1, 2017

# Base year end

March 31, 2018

### Base year emissions (metric tons CO2e)

0

Comment Not applicable

#### Scope 3 category 11: Use of sold products



## Base year start

April 1, 2017

#### Base year end

March 31, 2018

#### Base year emissions (metric tons CO2e)

7,422,916

#### Comment

It is calculated based on the primary energy consumption of the building designed and constructed by our company, and has a life cycle of 50 years.

#### Scope 3 category 12: End of life treatment of sold products

Base year start

April 1, 2017

## Base year end

March 31, 2018

## Base year emissions (metric tons CO2e)

89,965

Comment

### Scope 3 category 13: Downstream leased assets

Base year start

April 1, 2017

## Base year end

March 31, 2018

# Base year emissions (metric tons CO2e) 12,551

Comment

### Scope 3 category 14: Franchises

Base year start April 1, 2017

Base year end March 31, 2018

#### Base year emissions (metric tons CO2e)

0



### Comment

Not applicable

#### Scope 3 category 15: Investments

Base year start April 1, 2017

Base year end March 31, 2018

## Base year emissions (metric tons CO2e)

0

### Comment

Not applicable

#### Scope 3: Other (upstream)

Base year start April 1, 2017

Base year end March 31, 2018

# Base year emissions (metric tons CO2e)

Comment Not applicable

### Scope 3: Other (downstream)

Base year start April 1, 2017

Base year end

March 31, 2018

## Base year emissions (metric tons CO2e)

0

Comment Not applicable

# C5.3

# (C5.3) Select the name of the standard, protocol, or methodology you have used to collect activity data and calculate emissions.

The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard (Revised Edition)



# C6. Emissions data

# **C6.1**

(C6.1) What were your organization's gross global Scope 1 emissions in metric tons CO2e?

### **Reporting year**

Gross global Scope 1 emissions (metric tons CO2e) 197.887

#### Comment

This report is SBT compliant and the Scope 1 CO2 emission boundaries include the affiliates listed in the Securities Report.

## C6.2

#### (C6.2) Describe your organization's approach to reporting Scope 2 emissions.

#### Row 1

#### Scope 2, location-based

We are reporting a Scope 2, location-based figure

#### Scope 2, market-based

We are reporting a Scope 2, market-based figure

#### Comment

Shimizu Corporation is implementing all Scope 2 CO2 emissions on a market basis. However, we also calculate CO2 emissions on a location basis.

# **C6.3**

# (C6.3) What were your organization's gross global Scope 2 emissions in metric tons CO2e?

### **Reporting year**

## Scope 2, location-based

37,695

### Scope 2, market-based (if applicable)

35,725

#### Comment

Shimizu Corporation is implementing all Scope 2 CO2 emissions on a market basis. However, we also calculate CO2 emissions on a location basis.



# **C6.4**

(C6.4) Are there any sources (e.g. facilities, specific GHGs, activities, geographies, etc.) of Scope 1 and Scope 2 emissions that are within your selected reporting boundary which are not included in your disclosure?

No

# C6.5

(C6.5) Account for your organization's gross global Scope 3 emissions, disclosing and explaining any exclusions.

## Purchased goods and services

**Evaluation status** 

Relevant, calculated

# Emissions in reporting year (metric tons CO2e)

1,497,319

## **Emissions calculation methodology**

Average data method

# Percentage of emissions calculated using data obtained from suppliers or value chain partners

100

### Please explain

All quantities of main material used are determined based on requests from suppliers.

## **Capital goods**

### **Evaluation status**

Relevant, calculated

# Emissions in reporting year (metric tons CO2e) 236,559

### **Emissions calculation methodology**

Investment-specific method

# Percentage of emissions calculated using data obtained from suppliers or value chain partners

0

## Please explain

The purchase amount of capital goods used the figures described in our securities report.



#### Fuel-and-energy-related activities (not included in Scope 1 or 2)

#### **Evaluation status**

Relevant, calculated

## Emissions in reporting year (metric tons CO2e)

16,943

#### **Emissions calculation methodology**

Average data method

# Percentage of emissions calculated using data obtained from suppliers or value chain partners

100

#### **Please explain**

Data on the amount of electricity, steam, diesel oil used are all from the supplier's report.

#### Upstream transportation and distribution

#### **Evaluation status**

Relevant, calculated

- Emissions in reporting year (metric tons CO2e) 15.877
- Emissions calculation methodology Average data method

# Percentage of emissions calculated using data obtained from suppliers or value chain partners

100

#### **Please explain**

All quantities of main material transported are determined based on requests from suppliers.

#### Waste generated in operations

#### **Evaluation status**

Relevant, calculated

## Emissions in reporting year (metric tons CO2e)

120,687

## **Emissions calculation methodology**

Waste-type-specific method

# Percentage of emissions calculated using data obtained from suppliers or value chain partners



#### 100

#### **Please explain**

Data on the amount of construction waste is all from the supplier's report.

#### **Business travel**

#### **Evaluation status**

Relevant, calculated

### Emissions in reporting year (metric tons CO2e)

2,556

#### **Emissions calculation methodology**

Average data method

# Percentage of emissions calculated using data obtained from suppliers or value chain partners

0

#### Please explain

The number of our employees depends on our management.

#### **Employee commuting**

#### **Evaluation status**

Relevant, calculated

## Emissions in reporting year (metric tons CO2e)

5,650

#### **Emissions calculation methodology**

Average data method

# Percentage of emissions calculated using data obtained from suppliers or value chain partners

0

#### **Please explain**

Classification of the work place of our employees depends on our management.

#### **Upstream leased assets**

#### **Evaluation status**

Not relevant, explanation provided

#### **Please explain**

We use leasing machines for construction and emit CO2 from their operation. Since our company calculates this CO2 emission amount by including it in scope 1 and 2, we do not calculate the emission amount in scope 3.



#### Downstream transportation and distribution

#### **Evaluation status**

Not relevant, explanation provided

#### **Please explain**

The products we serve are buildings and are not transported. We do not have downstream transportation and distribution in Scope3.

#### **Processing of sold products**

#### **Evaluation status**

Not relevant, explanation provided

#### **Please explain**

There is no possibility that the structures which our company built will be processed.

#### Use of sold products

#### **Evaluation status**

Relevant, calculated

#### Emissions in reporting year (metric tons CO2e)

5,407,779

#### **Emissions calculation methodology**

Methodology for direct use phase emissions, please specify

CO2 emissions from buildings designed and constructed by our Company are calculated by multiplying the emission factor using each primary energy consumption of each building. (This emission is only for buildings designed by our company.)

# Percentage of emissions calculated using data obtained from suppliers or value chain partners

100

#### **Please explain**

The primary energy consumption of the buildings we designed and constructed is calculated by a public third party. Emissions in this category are calculated using this number.

#### End of life treatment of sold products

#### **Evaluation status**

Relevant, calculated

Emissions in reporting year (metric tons CO2e) 69,260

#### **Emissions calculation methodology**



#### Average data method

# Percentage of emissions calculated using data obtained from suppliers or value chain partners

100

#### **Please explain**

All quantities of main material used are determined based on requests from suppliers.

#### Downstream leased assets

#### **Evaluation status**

Relevant, calculated

#### Emissions in reporting year (metric tons CO2e)

24,138

#### **Emissions calculation methodology**

Methodology for direct use phase emissions, please specify

CO2 emissions from buildings we invested & leased are calculated using the primary energy consumption of each building multiplied by the emission factor. (This amount of emissions is reported to government offices under the Energy Conservation Law.)

# Percentage of emissions calculated using data obtained from suppliers or value chain partners

100

#### Please explain

The primary energy consumption of the buildings we lease is calculated by a public third party.

Emissions in this category are calculated using this number.

#### Franchises

#### **Evaluation status**

Not relevant, explanation provided

#### Please explain

Since our company has not made franchise business.

#### Investments

#### **Evaluation status**

Not relevant, explanation provided

#### Please explain

CO2 emissions from our investment properties are calculated under Category 13 (Downstream lease assets).



## Other (upstream)

#### **Evaluation status**

Not relevant, explanation provided

### **Please explain**

There are no other emissions upstream of Scope3.

### Other (downstream)

## Evaluation status

Not relevant, explanation provided

## Please explain

There are no other emissions downstream of Scope3.

# C-CN6.6/C-RE6.6

# (C-CN6.6/C-RE6.6) Does your organization assess the life cycle emissions of new construction or major renovation projects?

	Assessment of life cycle emissions	Comment
Row 1	Yes, quantitative assessment	

# C-CN6.6a/C-RE6.6a

(C-CN6.6a/C-RE6.6a) Provide details of how your organization assesses the life cycle emissions of new construction or major renovation projects.

	Projects assessed	Earliest project phase that most commonly includes an assessment	Life cycle stage(s) most commonly covered	Methodologies/standards/tools applied	Comment
Row 1	All new construction and major renovation projects	Design phase	Whole life	GHG Protocol - Product Life Cycle Accounting and Reporting Standard	Shimizu can calculate this if the customer wants to calculate the life cycle emissions of a new building before placing an order.



# C-CN6.6b/C-RE6.6b

(C-CN6.6b/C-RE6.6b) Can you provide embodied carbon emissions data for any of your organization's new construction or major renovation projects completed in the last three years?

	Ability to disclose embodied carbon emissions	Comment
Row 1	Yes	Shimizu Corporation can calculate the amount of embody carbon emitted because it grasps the type and quantity of materials used at the design stage and calculates the scope 1 + 2 to be emitted at the construction stage.

# C-CN6.6c/C-RE6.6c

(C-CN6.6c/C-RE6.6c) Provide details of the embodied carbon emissions of new construction or major renovation projects completed in the last three years.

Year of completion 2021 **Property sector** Office Type of project New construction Project name/ID (optional) An office building constructed (designed and constructed) in Tokyo, Japan Life cycle stage(s) covered Cradle-to-gate Normalization factor (denominator) IPMS 2 – Office **Denominator unit** square meter Embodied carbon (kg/CO2e per the denominator unit) 1.2 % of new construction/major renovation projects in the last three years covered by this metric (by floor area) 44.44



### Methodologies/standards/tools applied

GHG Protocol - Product Life Cycle Accounting and Reporting Standard

### Comment

The embody carbon emissions of the targeted buildings do not include emissions from all materials.

The reason is that some of the equipment used has an unknown emission unit.

# C6.7

(C6.7) Are carbon dioxide emissions from biogenic carbon relevant to your organization?

No

# C6.10

(C6.10) Describe your gross global combined Scope 1 and 2 emissions for the reporting year in metric tons CO2e per unit currency total revenue and provide any additional intensity metrics that are appropriate to your business operations.

Intensity figure 0.000001573

Metric numerator (Gross global combined Scope 1 and 2 emissions, metric tons CO2e)

233,705

Metric denominator

unit total revenue

Metric denominator: Unit total

1,482,961,000,000

Scope 2 figure used

Market-based

% change from previous year

8

### **Direction of change**

Increased

### **Reason for change**

The sale amount of Shimizu Corporation was 1449.1 billion last time and 1483.0 billion this time. And the emissions of Scope 1 and 2 were 211,247 t-CO2 last time and 233,705 t-CO2 this time. (Total sales increased by 33.9 billion yen and CO2 emissions increased by 22,458 t-CO2.)



As a trend in the reporting year, the number of large-scale construction works has increased, and the number of heavy machinery using fossil fuels has increased. As a result, the GHG emissions of Scope 1 increased.

# **C7. Emissions breakdowns**

# **C7.1**

(C7.1) Does your organization break down its Scope 1 emissions by greenhouse gas type?

Yes

# C7.1a

(C7.1a) Break down your total gross global Scope 1 emissions by greenhouse gas type and provide the source of each used greenhouse warming potential (GWP).

Greenhouse gas	Scope 1 emissions (metric tons of CO2e)	GWP Reference
CO2	197,887	IPCC Fourth Assessment Report (AR4 - 100 year)

# C7.2

## (C7.2) Break down your total gross global Scope 1 emissions by country/region.

Country/Region	Scope 1 emissions (metric tons CO2e)
Japan	184,378
Singapore	2,346
Malaysia	339
Indonesia	2,051
Thailand	502
Philippines	2,419
Viet Nam	841
Taiwan, China	738
Hong Kong SAR, China	325
India	251
United States of America	1,309
China	1,829
Ghana	561



# **C7.3**

# (C7.3) Indicate which gross global Scope 1 emissions breakdowns you are able to provide.

By business division

## C7.3a

## (C7.3a) Break down your total gross global Scope 1 emissions by business division.

Business division	Scope 1 emissions (metric ton CO2e)
Construction site	196,039
Equipment storage/Production factry	1,400
Office	906

# C7.5

## (C7.5) Break down your total gross global Scope 2 emissions by country/region.

Country/Region	Scope 2, location-based (metric tons CO2e)	Scope 2, market-based (metric tons CO2e)
Japan	35,246	33,276
Singapore	291	291
Malaysia	73	73
Indonesia	515	515
Thailand	76	76
Philippines	574	574
Viet Nam	99	99
Taiwan, China	129	129
Hong Kong SAR, China	77	77
India	59	59
United States of America	152	152
China	365	365
Ghana	38	38

# **C7.6**

# (C7.6) Indicate which gross global Scope 2 emissions breakdowns you are able to provide.

By business division



# C7.6a

## (C7.6a) Break down your total gross global Scope 2 emissions by business division.

Business division	Scope 2, location-based (metric tons CO2e)	Scope 2, market-based (metric tons CO2e)
Construction site	21,936	21,574
Equipment storage/Production factry	6,366	6,366
Office	9,393	7,785

# **C7.9**

(C7.9) How do your gross global emissions (Scope 1 and 2 combined) for the reporting year compare to those of the previous reporting year?

Increased

# C7.9a

(C7.9a) Identify the reasons for any change in your gross global emissions (Scope 1 and 2 combined), and for each of them specify how your emissions compare to the previous year.

	Change in emissions (metric tons CO2e)	Direction of change	Emissions value (percentage)	Please explain calculation
Change in renewable energy consumption	4,148	Decreased	1.77	4,148t-CO2 is the amount of emissions reduced due to the consumption of renewal energy (about 9.5GWh) at the sites. (Market base) (4148/233705)*100=1.77%
Other emissions reduction activities	7	Decreased	0.003	Shimizu Corporation began using BDF on a trial basis in 2021. The amount used is as small as 2.7kl, but we will actively promote the introduction in the future. 2.711kl*2.585t-CO2/kl=7.01t-CO2 7.01/233705*100=0.003%
Divestment				
Acquisitions				
Mergers				
Change in output	21,565	Increased	9.23	(21565/233705)*100=9.23%



Change in methodology		
Change in boundary		
Change in physical operating conditions		
Unidentified		
Other		

# C7.9b

(C7.9b) Are your emissions performance calculations in C7.9 and C7.9a based on a location-based Scope 2 emissions figure or a market-based Scope 2 emissions figure?

Market-based

# C8. Energy

# **C8.1**

# (C8.1) What percentage of your total operational spend in the reporting year was on energy?

More than 0% but less than or equal to 5%

# **C8.2**

## (C8.2) Select which energy-related activities your organization has undertaken.

	Indicate whether your organization undertook this energy- related activity in the reporting year
Consumption of fuel (excluding feedstocks)	Yes
Consumption of purchased or acquired electricity	Yes
Consumption of purchased or acquired heat	Yes
Consumption of purchased or acquired steam	No
Consumption of purchased or acquired cooling	Yes



Generation of electricity, heat,	Yes
steam, or cooling	

# **C8.2**a

# (C8.2a) Report your organization's energy consumption totals (excluding feedstocks) in MWh.

	Heating value	MWh from renewable sources	MWh from non- renewable sources	Total (renewable and non- renewable) MWh
Consumption of fuel (excluding feedstock)	HHV (higher heating value)	0	801,692	801,692
Consumption of purchased or acquired electricity		9,543	79,546	89,089
Consumption of purchased or acquired heat		3	0	3
Consumption of purchased or acquired cooling		3	0	3
Consumption of self- generated non-fuel renewable energy		90		90
Total energy consumption		9,639	881,238	890,877

# C8.2b

## (C8.2b) Select the applications of your organization's consumption of fuel.

	Indicate whether your organization undertakes this fuel application
Consumption of fuel for the generation of electricity	Yes
Consumption of fuel for the generation of heat	Yes
Consumption of fuel for the generation of steam	No
Consumption of fuel for the generation of cooling	No



Consumption of fuel for co-generation or	No
tri-generation	

# C8.2c

# (C8.2c) State how much fuel in MWh your organization has consumed (excluding feedstocks) by fuel type.

## Sustainable biomass

Heating valu Unable to	ue o confirm heating value
Total fuel M	Wh consumed by the organization
MWh fuel co 0	onsumed for self-generation of electricity
MWh fuel co 0	onsumed for self-generation of heat
Comment	
ther biomass	
Heating valu Unable to	ue o confirm heating value
Total fuel M 0	Wh consumed by the organization
MWb fuel or	onsumed for self-generation of electricity
0	
0	onsumed for self-generation of heat

## Other renewable fuels (e.g. renewable hydrogen)

## Heating value

Unable to confirm heating value

Total fuel MWh consumed by the organization  $_{\rm 0}$ 

MWh fuel consumed for self-generation of electricity



0

# MWh fuel consumed for self-generation of heat

## Comment

#### Coal

Heating value Unable to confirm heating value
Total fuel MWh consumed by the organization
MWh fuel consumed for self-generation of electricity
MWh fuel consumed for self-generation of heat
Comment

#### Oil

Heating value HHV
Total fuel MWh consumed by the organization 801,692
MWh fuel consumed for self-generation of electricity 0

MWh fuel consumed for self-generation of heat  $_0$ 

### Comment

### Gas

Heating value

Unable to confirm heating value

Total fuel MWh consumed by the organization

0

### MWh fuel consumed for self-generation of electricity

0



# MWh fuel consumed for self-generation of heat

#### Comment

#### Other non-renewable fuels (e.g. non-renewable hydrogen)

#### Heating value

Unable to confirm heating value

#### Total fuel MWh consumed by the organization

0

### MWh fuel consumed for self-generation of electricity

0

## MWh fuel consumed for self-generation of heat

0

#### Comment

#### **Total fuel**

#### **Heating value**

Unable to confirm heating value

# Total fuel MWh consumed by the organization

801,692

### MWh fuel consumed for self-generation of electricity

0

### MWh fuel consumed for self-generation of heat

0

Comment

## **C8.2d**

(C8.2d) Provide details on the electricity, heat, steam, and cooling your organization has generated and consumed in the reporting year.

	Total Gross generation (MWh)	Generation that is consumed by the organization (MWh)	Gross generation from renewable sources (MWh)	Generation from renewable sources that is consumed by the organization (MWh)
Electricity	90	90	90	0



Heat	0	0	0	0
Steam	0	0	0	0
Cooling	0	0	0	0

# C8.2e

(C8.2e) Provide details on the electricity, heat, steam, and/or cooling amounts that were accounted for at a zero or near-zero emission factor in the market-based Scope 2 figure reported in C6.3.

Sourcing method Green electricity products from an energy supplier (e.g. green tariffs) **Energy carrier** Electricity Low-carbon technology type Solar Country/area of low-carbon energy consumption Japan Tracking instrument used Contract Low-carbon energy consumed via selected sourcing method in the reporting year (MWh) 9,543 Country/area of origin (generation) of the low-carbon energy or energy attribute Japan Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering) 2,020 Comment This zero-carbon power was consumed as energy required for on-site construction. Sourcing method Direct procurement from an off-site grid- connected generator e.g. Power purchase agreement (PPA)

### **Energy carrier**



#### Electricity

# Low-carbon technology type

Large hydropower (>25 MW)

## Country/area of low-carbon energy consumption

Japan

### Tracking instrument used

Contract

# Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)

2,827

# Country/area of origin (generation) of the low-carbon energy or energy attribute

Japan

# Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)

2,021

### Comment

This zero-carbon power was consumed as energy required in the head office building.

# C8.2g

(C8.2g) Provide a breakdown of your non-fuel energy consumption by country.

Country/area Japan

Consumption of electricity (MWh)

12,369

## Consumption of heat, steam, and cooling (MWh)

6

## Total non-fuel energy consumption (MWh) [Auto-calculated]

12,375



# **C9. Additional metrics**

# **C9.1**

(C9.1) Provide any additional climate-related metrics relevant to your business.

Description Other, please specify Reduction rate of CO2 emissions of construction sites Metric value 201,807 Metric numerator CO2 emission from construction sites in Japan Metric denominator (intensity metric only) % change from previous year 11.4 **Direction of change** Increased Please explain The Shimizu Group was greatly affected by COVID-19 in 2020, the amount of construction at the site was greatly reduced, and GHG emissions were also significantly lower than the previous year. In 2021, GHG emissions were higher than the previous year due to the recovery of on-site productivity and the increase in construction volume. However, GHG emissions in 2021 have decreased compared to 2019, and the

measures being promoted by the Group are showing results.

# C-CE9.6/C-CG9.6/C-CH9.6/C-CN9.6/C-CO9.6/C-EU9.6/C-MM9.6/C-OG9.6/C-RE9.6/C-ST9.6/C-TO9.6/C-TS9.6

(C-CE9.6/C-CG9.6/C-CH9.6/C-CN9.6/C-CO9.6/C-EU9.6/C-MM9.6/C-OG9.6/C-RE9.6/C-ST9.6/C-TO9.6/C-TS9.6) Does your organization invest in research and development (R&D) of low-carbon products or services related to your sector activities?

	Investment in Iow-carbon R&D	Comment
Row 1	Yes	As a result of scenario analysis based on TCFD recommendations, Shimizu corporation decided that new regulations due to the transition would be a



	great opportunity. In particular, we consider it important to invest in resear	
		and development of low-carbon products (ZEB), which are highly relevant to
		our strategy.

# C-CN9.6a/C-RE9.6a

(C-CN9.6a/C-RE9.6a) Provide details of your organization's investments in lowcarbon R&D for real estate and construction activities over the last three years.

#### Technology area

Unable to disaggregate by technology area

### Stage of development in the reporting year

Average % of total R&D investment over the last 3 years 21 - 40%

#### R&D investment figure in the reporting year (optional)

17,430,000,000

### Comment

R&D of our low carbon products (ZEB) is carried out in a complex system of various advanced technologies, and it is difficult to classify by technology area. Various advanced technologies are being built on building thermal performance, new building materials, building energy management systems, and renewable energy integration. We are actively investing in research and development related to the integration of these advanced technologies.

## C-CN9.10/C-RE9.10

(C-CN9.10/C-RE9.10) Did your organization complete new construction or major renovations projects designed as net zero carbon in the last three years? Yes

# C-CN9.10a/C-RE9.10a

(C-CN9.10a/C-RE9.10a) Provide details of new construction or major renovations projects completed in the last 3 years that were designed as net zero carbon.

**Property sector** Office

## Definition(s) of net zero carbon applied National/local green building council standard, please specify



Approved by the Building Energy Saving Performance Labeling System (BELS) certified by the Japan Building Center.

# % of net zero carbon buildings in the total number of buildings completed in the last 3 years

2.02

Have any of the buildings been certified as net zero carbon?  $$\operatorname{Yes}$$ 

# % of buildings certified as net zero carbon in the total number of buildings completed in the last 3 years

2.02

## Certification scheme(s)

Other, please specify

Building Energy Saving Performance Labeling System (BELS)

## Comment

Shimizu corporation has several ZEB (including ZEB ready and Nearly ZEB) construction records, but Net ZEB has two.

This is because ZEB construction is difficult in urban areas, but in the future we plan to solve this difficulty and increase the performance of Net ZEB construction.

# **C10. Verification**

# C10.1

(C10.1) Indicate the verification/assurance status that applies to your reported emissions.

	Verification/assurance status
Scope 1	Third-party verification or assurance process in place
Scope 2 (location-based or market-based)	Third-party verification or assurance process in place
Scope 3	Third-party verification or assurance process in place

# C10.1a

(C10.1a) Provide further details of the verification/assurance undertaken for your Scope 1 emissions, and attach the relevant statements.

Verification or assurance cycle in place Annual process

Status in the current reporting year



Underway but not complete for reporting year - previous statement of process attached

### Type of verification or assurance

Limited assurance

#### Attach the statement

1 ♥清水建設様\_保証報告書\_E.pdf

#### Page/ section reference

https://www.shimz.co.jp/en/company/csr/environment/data/(Section: CO2Emissions: Results and Goals)

#### **Relevant standard**

ISAE3000

# Proportion of reported emissions verified (%)

# C10.1b

(C10.1b) Provide further details of the verification/assurance undertaken for your Scope 2 emissions and attach the relevant statements.

#### Scope 2 approach

Scope 2 market-based

#### Verification or assurance cycle in place

Annual process

#### Status in the current reporting year

Underway but not complete for reporting year - previous statement of process attached

#### Type of verification or assurance

Limited assurance

#### Attach the statement

1 ◎ 清水建設様\_保証報告書\_E.pdf

#### Page/ section reference

https://www.shimz.co.jp/en/company/csr/environment/data/(Section: CO2Emissions: Results and Goals)

#### **Relevant standard**

ISAE3000

### Proportion of reported emissions verified (%)


100

### C10.1c

# (C10.1c) Provide further details of the verification/assurance undertaken for your Scope 3 emissions and attach the relevant statements.

#### Scope 3 category

Scope 3: Purchased goods and services

Scope 3: Capital goods

Scope 3: Fuel and energy-related activities (not included in Scopes 1 or 2)

Scope 3: Upstream transportation and distribution

Scope 3: Waste generated in operations

Scope 3: Business travel

Scope 3: Employee commuting

Scope 3: Use of sold products

Scope 3: End-of-life treatment of sold products

Scope 3: Downstream leased assets

#### Verification or assurance cycle in place

Annual process

#### Status in the current reporting year

Underway but not complete for reporting year - previous statement of process attached

#### Type of verification or assurance

Limited assurance

#### Attach the statement

1 ◎ 清水建設様\_保証報告書\_E.pdf

#### **Page/section reference**

https://www.shimz.co.jp/en/company/csr/environment/data/(Section: Supply chain CO2 emissions)

Relevant standard

ISAE3000

#### Proportion of reported emissions verified (%)

100

### C10.2

# (C10.2) Do you verify any climate-related information reported in your CDP disclosure other than the emissions figures reported in C6.1, C6.3, and C6.5?

No, but we are actively considering verifying within the next two years



### C11. Carbon pricing

### C11.1

(C11.1) Are any of your operations or activities regulated by a carbon pricing system (i.e. ETS, Cap & Trade or Carbon Tax)?

Yes

### C11.1a

(C11.1a) Select the carbon pricing regulation(s) which impacts your operations. Japan carbon tax

### C11.1c

(C11.1c) Complete the following table for each of the tax systems you are regulated by.

Japan carbon tax

Period start date April 1, 2021

Period end date March 31, 2022

% of total Scope 1 emissions covered by tax 99.59

Total cost of tax paid 53,991,380

Comment

### C11.1d

# (C11.1d) What is your strategy for complying with the systems you are regulated by or anticipate being regulated by?

Shimizu corporation is currently paying the carbon tax of Japan. In the future, we will carry out CO2 emission reduction activities on the assumption that carbon pricing will be introduced. It is inevitable to add indirect carbon pricing to the construction materials we purchase, but we plan to handle this price increase by passing it on to the construction cost estimate. As a business strategy, we are promoting various emission reduction activities to deal with carbon pricing that adds to CO2 directly emitted by our company. Also, in order to reduce CO2 emissions derived from electric power energy, we purchase a "Green Power Certificate" from fiscal 2020 to offset the electricity used at construction sites. In fiscal 2021, we used an offset of



9,543MWh of green power certificates to reduce emissions by approximately 4,418-CO2. This strategy will be actively promoted to achieve the medium- to long-term goals of 2030 and 2050.

### C11.2

# (C11.2) Has your organization originated or purchased any project-based carbon credits within the reporting period?

No

### C11.3

(C11.3) Does your organization use an internal price on carbon? Yes

### C11.3a

(C11.3a) Provide details of how your organization uses an internal price on carbon.

#### Objective for implementing an internal carbon price

Identify and seize low-carbon opportunities

#### **GHG Scope**

Scope 1 Scope 2 Scope 3

#### Application

Shimizu Corporation has introduced environmental accounting, and calculates expenses related to CO2 reduction (administrative activity expenses and research and development expenses). We classify these costs into three items: CO2 reduction at the construction sites, CO2 reduction at our offices, and operation CO2 reduction at the constructed buildings. In addition, we calculate the CO2 emission reduction amount of the above three items and multiply by the carbon price.

#### Actual price(s) used (Currency /metric ton)

9,750

#### Variance of price(s) used

We examined carbon prices in the range of 5,200 JPY to 18,200 JPY, but we took 9,750 JPY in consideration of cost effectiveness.

#### Type of internal carbon price

Shadow price

#### **Impact & implication**

Our Company calculates cost-effectiveness by dividing CO2 emission reduction cost (administrative activity expenses and research and development expenses) by carbon



price, which is a reference for future strategies.

In particular, determining the cost effectiveness of research and development related to ZEB will have a significant impact on our strategic decisions as we anticipate future market expansion.

In particular, regarding the emissions of our scope 3 / category 11, we use carbon prices to examine the cost-effectiveness of life cycle GHG emissions during building operation and investment in ZEB's technological development. For example, the investment amount in ZEB in 2021 is about 2.1 billion yen. If the annual Scope 3 Category 11 GHG emissions are reduced by 100000 tons, the cost-effectiveness will be 100000t \* 9750yen / 210000000yen = 0.46.

And, the CO2 emitted directly by us is approximately 233,000 tons. Multiplying this emission by the carbon price of 75 US t - CO2 gives about 2,272 million yen. The cost of reducing emissions at the site is approximately 1,287 million yen (explained in detail in C2.3a Risk 1 "Explanation of response and explanation of cost calculation"), and the cost-effectiveness of 1,287 million yen will be verified. Used for The price of CO2 emitted is 2,272 million yen, the cost for reduction is 1,287 million yen, and the cost effectiveness is 2,272 million yen  $\pm 1,287$  million yen = 1.77.

### C12. Engagement

### C12.1

(C12.1) Do you engage with your value chain on climate-related issues?

Yes, our suppliers Yes, our customers/clients

### C12.1a

(C12.1a) Provide details of your climate-related supplier engagement strategy.

#### Type of engagement

Engagement & incentivization (changing supplier behavior)

#### **Details of engagement**

Run an engagement campaign to educate suppliers about climate change

% of suppliers by number

95

% total procurement spend (direct and indirect) 95

% of supplier-related Scope 3 emissions as reported in C6.5 5.45

Rationale for the coverage of your engagement



More than 95% of Shimizu's procurement contracts with suppliers are managed by the Procurement Department at the Head Office (the remaining 5% are low-cost on-site procurement arrangements of 1 million yen or less). All procurement contracts signed at the head office are required to have our Basic Procurement Policy attached. This policy iterates our expectations toward suppliers to take environmental precautions including the reduction of climate-related impacts and reduction of construction waste. If a supplier enters into a contract with us, they will be obligated to comply with the terms of this agreement, and any supplier found to be unable to fulfill their obligations will be denied a contract. In addition, representatives of suppliers who are recommended by our departments for their outstanding environmental activities will receive an award from our president. Through these activities, our company will implement education about climate change to suppliers.

#### Impact of engagement, including measures of success

We set Scope 1+2 emissions reduction at construction sites as a KPI (approved as a WB2D of SBT) of our CO2 emissions reduction target. Our suppliers are also required to contribute to our own environmental target set in Ecology Mission 2030-2050. We also calculate CO2 emissions from suppliers' activities as our own Scope 1+2 emissions if they are emitted by onsite activities. In 2021, the total CO2 emissions of Scope1 + 2 at domestic sites (208,852 tons) increased compared to 2020 (188,271 tons), but in 2020, the impact of COVID-19 was large, and it decreased compared to 2019 (229,079 tons). The Group has set the threshold for the success of the engagement as the reduction trend of the emission, and it is judged that the engagement with suppliers has been successful due to the recent trend of emission reduction.

#### Comment

The number of suppliers in our construction business is huge. Therefore, it is very difficult for us to provide individual training to all of our suppliers.

### C12.1b

# (C12.1b) Give details of your climate-related engagement strategy with your customers.

#### Type of engagement & Details of engagement

Collaboration & innovation Run a campaign to encourage innovation to reduce climate change impacts

#### % of customers by number

70

% of customer - related Scope 3 emissions as reported in C6.5

Please explain the rationale for selecting this group of customers and scope of engagement



ZEB is a product that can reduce the climate change impact of our construction projects. The buildings in which we are currently applying ZEB designs to are office buildings only. Therefore, the customer group we engage with on climate change are corporate customers considering the construction of an office building. In FY2021, the total number of projects we designed and constructed was 99, in which 44 were office buildings (roughly 44%). We assumed that opportunities to propose the impact of ZEB to customers is about 1.5 times of the actual performance, the ratio of clients that we engage with on climate-related products (ZEB) is set as about 70%. By adopting our ZEB designs, customers are able to reduce their Scope 2 emissions and help us to reduce our Scope 3 category 11 emissions during the operational phase of the buildings after the construction is complete.

#### Impact of engagement, including measures of success

We set Scope 1+2 emissions reduction at construction sites as a KPI (approved as a SBT) of our CO2 emission reduction target. Emissions reduction during operation of buildings we designed is also in our own environmental target, Ecology Mission 2030-2050. Engaging with customers on ZEB adoption is also very important activity for us because we focus on expanding our ZEB construction business as an important strategy. As a result of our proactive engagement, we have seen an increase in ZEB design uptake. In addition, we have been able to significantly reduce CO2 emissions from our customers' operations, contributing to the reduction of Scope 3 (Category 11) emissions.

The Group has set the threshold for the success of the engagement as the reduction trend of the emission of Scope 3 Category 11, and judges that the engagement with customers has been successful based on the tendency to reduce emissions per floor area.

FY2020 emissions: 43,219 tons / total floor area: 696,369 m2 = 0.06 t-CO2 / m2FY2021 Emissions: 100,670 tons / Total floor area: 1,944,166 m2 = 0.05 t-CO2 / m2

### C12.2

# (C12.2) Do your suppliers have to meet climate-related requirements as part of your organization's purchasing process?

Yes, climate-related requirements are included in our supplier contracts

### C12.2a

(C12.2a) Provide details of the climate-related requirements that suppliers have to meet as part of your organization's purchasing process and the compliance mechanisms in place.

Climate-related requirement Setting a science-based emissions reduction target

Description of this climate related requirement



Shimizu Corporation has established a basic procurement policy and procurement guidelines, which describe climate-related requirements.

The basic content is, first of all, strict adherence to the law.

The second is the promotion of environmental activities toward the transition to a lowcarbon society.

This climate-related requirement must be met as part of the contract between us and our suppliers. This climate-related requirement that we conclude with our suppliers is an essential activity to achieve SBT and is essential to realize a low-carbon society.

% suppliers by procurement spend that have to comply with this climaterelated requirement

95

% suppliers by procurement spend in compliance with this climate-related requirement

95

Mechanisms for monitoring compliance with this climate-related requirement First-party verification Second-party verification

Response to supplier non-compliance with this climate-related requirement Retain and engage

### C12.3

(C12.3) Does your organization engage in activities that could either directly or indirectly influence policy, law, or regulation that may impact the climate?

#### Row 1

Direct or indirect engagement that could influence policy, law, or regulation that may impact the climate

Yes, we engage indirectly through trade associations

Does your organization have a public commitment or position statement to conduct your engagement activities in line with the goals of the Paris Agreement?

Yes

Attach commitment or position statement(s)

1 U SHIMZ Beyond Zero 2050.pdf

Describe the process(es) your organization has in place to ensure that your engagement activities are consistent with your overall climate change strategy



The results of direct and indirect activities where Shimizu may influence public policies are all deliberated in the SDGs and ESG Promotion Committee to ensure consistency with the stance and approach of our business strategy related to climate change. In case of appropriateness and consistency with our business strategy is confirmed, it is disclosed widely by IR and other procedures.

On the other hand, although it rarely occurs if a major deviation from the direction of policy or the activities of The Japan Business Federation (JBF) and The Japan Federation of Construction Companies (JFCC) is identified, we have a process that the Committee deliberates the policy including continuity/revision of our mid-term management plan and reports the result to the Board of Directors.

Anyway, we will continue our Group-wide CO2 emissions reduction activities against climate change.

Where the Company's medium- to long-term business strategy is judged to be consistent with the direction of public policy, the annual strategy is reflected in the short-term business action plan. Subsequently, the action plan will be reflected in the Environmental Management System (EMS) PDCA cycle for each division/department and for individual field operations.

### C12.3b

(C12.3b) Provide details of the trade associations your organization engages with which are likely to take a position on any policy, law or regulation that may impact the climate.

#### **Trade association**

Japan Business Federation (Keidanren)

Is your organization's position on climate change consistent with theirs? Consistent

# Has your organization influenced, or is your organization attempting to influence their position?

We have already influenced them to change their position

# State the trade association's position on climate change, explain where your organization's position differs, and how you are attempting to influence their position (if applicable)

The Japan Business Federation (JBF) is comprised of 1,494 representative Japanese companies, 108 national groups by major industries such as manufacturing and services, and 47 regional economic groups (as of April 1, 2022). The JBF strives to gather input from each organization on a wide range of important internal/external issues facing the business community and to achieve steady and rapid implementation. In particular, on climate change-related issues, the JBF is working closely with the Japanese government on a number of activities to assist companies as they seek to contribute to Japan's Paris Agreement commitments. JBF also compiles voluntary



environmental action plans published by domestic major industry associations as the "The Commitment to a Low Carbon Society ", which sets out policies for medium- and long-term activities by Japanese companies to prevent global warming. The Director, Senior Managing Executive Officer responsible for our company's environmental management has been appointed as a member of one of the JBF committees in charge of climate change: the Environmental and Safety Committee. This committee determines and disseminates an action policy on climate change for all Japanese companies. The committee also works closely with the Ministry of the Environment and the Ministry of Economy, Trade and Industry (METI) to provide a range of resources and information for businesses. Our Director, Senior Managing Executive Officer holds a key position on the Committee and can affect the determination of environmental action policy of the JBF.

Funding figure your organization provided to this trade association in the reporting year, if applicable (currency as selected in C0.4) (optional)

Describe the aim of your organization's funding

Have you evaluated whether your organization's engagement with this trade association is aligned with the goals of the Paris Agreement?

Yes, we have evaluated, and it is aligned

#### **Trade association**

Other, please specify The Japan Federation of Construction Companies (JFCC)

Is your organization's position on climate change consistent with theirs? Consistent

# Has your organization influenced, or is your organization attempting to influence their position?

We have already influenced them to change their position

# State the trade association's position on climate change, explain where your organization's position differs, and how you are attempting to influence their position (if applicable)

The Japan Federation of Construction Companies (JFCC) is a federation of Japanese companies engaged in the construction business and Japanese contractor groups in the construction industry. JFCC works to solve a range of fundamental problems in the construction industry, including various systems associated with the construction industry. The JFCC has Environmental Committee within the organization, and there is Climate Change Subcommittee under the Environmental Committee. The Subcommittee works on reducing CO2 emissions during the life cycle of construction projects (procurement, design, construction, operation, maintenance and demolition), which



greatly affects the construction industry.

Our Executive Officers responsible for Shimizu's environmental management, has been appointed vice chairman of one of the JFCC committees, Environment Committee. This committee determined and disseminates an action policy on climate change for the construction industry. In addition, the committee works closely with the JBF to develop various types of resources and information for member companies. Our Executive Officer holds a key position on this committee and is in a position to significantly influence the environmental action policy. There are various subcommittees (including the Climate Change Committee) under the Environmental Committee. Many of our managers are key members of these sub-committees and work to address climate change issues in the construction industry.

From April 2021, Our Chairman of the Board and Representative Director has been appointed as the Chairman of the JFCC.

Funding figure your organization provided to this trade association in the reporting year, if applicable (currency as selected in C0.4) (optional)

Describe the aim of your organization's funding

Have you evaluated whether your organization's engagement with this trade association is aligned with the goals of the Paris Agreement? Yes, we have evaluated, and it is aligned

### C12.4

(C12.4) Have you published information about your organization's response to climate change and GHG emissions performance for this reporting year in places other than in your CDP response? If so, please attach the publication(s).

**Publication** 

In mainstream reports

Status

Complete

#### Attach the document

1

0 2022 有価証券報告書.pdf

#### **Page/Section reference**

Strategy: Page9 $\sim$ 14/138 Section: Shimz Vision 2030 (Realization of a sustainable society that considers the global environment)

Governance: Page45 $\sim$ 50/138 Section: Business risks (Risk management system diagram)



Risk & opportunities: Page15 $\sim$ 21/138 Section: Business risks (Long-term climate change risk) Other: Page10 $\sim$ 13/138 Section: Promotion of ESG management

Content elements

Governance Strategy Risks & opportunities Emission targets

Comment

### C15. Biodiversity

### C15.1

(C15.1) Is there board-level oversight and/or executive management-level responsibility for biodiversity-related issues within your organization?

	Board-level oversight and/or executive management-level responsibility for biodiversity-related issues	
Row	No, but we plan to have both within the next two years	
1		

### C15.2

(C15.2) Has your organization made a public commitment and/or endorsed any initiatives related to biodiversity?

	Indicate whether your organization made a public commitment or endorsed any initiatives related to biodiversity	Biodiversity-related public commitments	Initiatives endorsed
Row 1	Yes, we have made public commitments and publicly endorsed initiatives related to biodiversity	Commitment to Net Positive Gain Commitment to not explore or develop in legally designated protected areas	SDG Other, please specify Eco First Declaration

### C15.3

### (C15.3) Does your organization assess the impact of its value chain on biodiversity?

	Does your organization assess the impact of its value chain on biodiversity?	
Row 1	No, but we plan to assess biodiversity-related impacts within the next two years	



### C15.4

# (C15.4) What actions has your organization taken in the reporting year to progress your biodiversity-related commitments?

	Have you taken any actions in the reporting period to progress your biodiversity-related commitments?		Type of action taken to progress biodiversity- related commitments	
Row Yes, we are taking actions to progress our			Education & awareness	
	1	biodiversity-related commitments	Law & policy	

### C15.5

(C15.5) Does your organization use biodiversity indicators to monitor performance across its activities?

	Does your organization use indicators to monitor biodiversity performance?	Indicators used to monitor biodiversity performance	
Row 1	No, we do not use indicators, but plan to within the next two years	State and benefit indicators	

### C15.6

(C15.6) Have you published information about your organization's response to biodiversity-related issues for this reporting year in places other than in your CDP response? If so, please attach the publication(s).

Report type	Content elements	Attach the document and indicate where in the document the relevant biodiversity information is located
No publications		

## C16. Signoff

### C-FI

(C-FI) Use this field to provide any additional information or context that you feel is relevant to your organization's response. Please note that this field is optional and is not scored.

none

### C16.1

(C16.1) Provide details for the person that has signed off (approved) your CDP climate change response.



	Job title	Corresponding job category	
Row 1	Director and Senior Managing Executive Officer	Director on board	

### SC. Supply chain module

### SC0.0

(SC0.0) If you would like to do so, please provide a separate introduction to this module.

none

### SC0.1

(SC0.1) What is your company's annual revenue for the stated reporting period?

	Annual Revenue
Row 1	1,482,961,000,000

### SC1.1

(SC1.1) Allocate your emissions to your customers listed below according to the goods or services you have sold them in this reporting period.

Requesting member KAO Corporation

#### Scope of emissions

Scope 2

Allocation level

Facility

#### Allocation level detail

Shimizu corporation build and provides buildings with high energy-saving performance at facilities (offices, factories, etc.) ordered from Kao corporation.

#### Emissions in metric tonnes of CO2e

296

#### Uncertainty (±%)

20

#### Major sources of emissions

Emissions from a buildings (Sumida Office South Building) designed and constructed by Shimizu corporation for Kao corporation.



#### Verified

No

#### Allocation method

Allocation based on another physical factor

## Market value or quantity of goods/services supplied to the requesting member 4,286

### Unit for market value or quantity of goods/services supplied

Square meters

# Please explain how you have identified the GHG source, including major limitations to this process and

#### assumptions made

CO2 emissions were determined by converting the amount of primary energy consumed by equipment including energy-saving equipment used in our design and construction.

### SC1.2

# (SC1.2) Where published information has been used in completing SC1.1, please provide a reference(s).

For the SC1.1 report information, we used the average primary energy consumption of office buildings designed and constructed by Shimizu corporation.

### SC1.3

# (SC1.3) What are the challenges in allocating emissions to different customers, and what would help you to overcome these challenges?

Allocation challenges	Please explain what would help you overcome these challenges
Customer base is too large and diverse to	The solution is to have the Company disclose the results
accurately track emissions to the	of the primary energy usage of the building operated by
customer level	the customer.

### SC1.4

# (SC1.4) Do you plan to develop your capabilities to allocate emissions to your customers in the future?

No

### SC1.4b

# (SC1.4b) Explain why you do not plan to develop capabilities to allocate emissions to your customers.

Due to the large number of customers and types of facilities, we have no plans to allocate.



### SC2.1

# (SC2.1) Please propose any mutually beneficial climate-related projects you could collaborate on with specific CDP Supply Chain members.

### Requesting member

**KAO** Corporation

Group type of project New product or service

Type of project

New product or service that reduces customers operational emissions

#### **Emissions targeted**

Actions to reduce customers' operational emissions (customer scope 1 & 2)

Estimated timeframe for carbon reductions to be realized 0-1 year

Estimated lifetime CO2e savings 4,000

Estimated payback

3-5 years

#### **Details of proposal**

By making full use of the technology for energy saving buildings owned by our company and ordering design and construction, it will be possible to reduce the life cycle CO2 at the time of facility operation and to reduce the energy cost. (Initial cost will increase slightly.)

### SC2.2

(SC2.2) Have requests or initiatives by CDP Supply Chain members prompted your organization to take organizational-level emissions reduction initiatives?

Yes

### SC2.2a

(SC2.2a) Specify the requesting member(s) that have driven organizational-level emissions reduction initiatives, and provide information on the initiatives.

**Requesting member** 



**KAO** Corporation

Initiative ID 2021-ID2

Group type of project New product or service

#### Type of project

New product or service that reduces customers operational emissions

#### Description of the reduction initiative

Designing and constructing energy-saving buildings in collaboration with the client is an initiative for us to promote ZEB's market participation.

Emissions reduction for the reporting year in metric tons of CO2e 166

# Would you be happy for CDP supply chain members to highlight this work in their external communication?

Yes

### SC4.1

#### (SC4.1) Are you providing product level data for your organization's goods or

#### services?

No, I am not providing data

### Submit your response

#### In which language are you submitting your response?

English

#### Please confirm how your response should be handled by CDP

	I understand that my response will be shared with all requesting stakeholders	Response permission
Please select your submission options	Yes	Public

#### Please confirm below

I have read and accept the applicable Terms