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Disclosure Based on the Task Force on Climate-related Financial Disclosures (TCFD) Recommendations

In line with the Task Force on Climate-related Financial Disclosures (TCFD) recommendations established by the Financial Stability Board (FSB), RS Technologies has assessed and managed risks and opportunities related to climate change, and has been examining information disclosure required by the TCFD framework.
Below, RS Technologies discloses relevant information analyzed based on scenarios in line with the four items recommended for disclosure in the TCFD recommendations: governance, strategy, risk management, and indicators and targets.
RS Technologies will continue to enhance information disclosure in line with the TCFD recommendations, appropriately respond to all risks, including climate change, and aim to realize a sustainable society and enhance corporate value.

Disclosure Based on TCFD Recommendations

Based on its corporate philosophy of "Respect the global environment, earn the trust of people, be creative and challenge ourselves", RS Technologies aims to become a leading company of a comprehensive eco-solution and become friendly to the environment through its ecology business. As part of this, RS Technologies has been working to resolve ESG issues with reference to international guidelines and SDGs.

This time, RS Technologies will disclose information based on the TCFD framework to strengthen its response to climate change risks and opportunities and further promote CSR management.

Governance

RS Technologies recognizes climate change as an extremely important management issue. The Risk Management Committee, which manages the risks of the entire Group, is responsible for addressing sustainability-related issues in order to formulate and implement action policies and promote company-wide initiatives to address a wide range of sustainability issues, including climate change.

The Risk Management Committee is composed of all inside and outside directors under the chairpersonship of the CEO. Through strong cooperation with each division of RS Technologies, decisions made by the Committee are linked to various company's wide activities.

In principle, the Committee meets twice a year. In addition to discussions on climate risks, the Committee also discusses non-climate change issues such as human capital and governance systems.

Any matter that is judged by the Committee to have a significant impact on business activities or financial conditions is reported to the Board of Directors, where it is discussed and resolved twice a year. Decisions made by the Board of Directors are coordinated through the Risk Management Committee and shared from the general managers of each division to their members.



Strategy

We use scenario analysis to assess the impact of climate change on our business and formulate countermeasures. In the scenario analysis, we set two world views, namely a 4°C scenario and a 1.5°C scenario, centering on our wafer reclaimed business, and analyzed them over the year of 2030 and 2050, respectively. Through this analysis, we clarified the impacts and challenges of climate change in each scenario, and identified potential risks and opportunities that may pose to our business.

Based on the results of this analysis, we formulated and implemented countermeasures to address issues related to climate change. The following is an overview of each scenario and references to each scenario.

4℃ Scenario	This scenario assumes that the average temperature will increase by approximately 4℃ by the year of 2100 compared to pre-industrial temperatures. This scenario assumes that current climate-related targets and initiatives will continue but will not be further strengthened. As a result, extreme weather events will increase intensity as temperatures rise, and impacts such as droughts are predicted.	Reference Scenario ・RCP8.5 (IPCC AR5) ・ STEPS (IEA WEO 2023)
1.5℃ Scenario	This scenario aims to limit the temperature rise to within about 1.5 by the year of 2100 compared to pre-industrial temperatures. In this scenario, new regulations and innovations are expected to be introduced and decarbonization efforts will be strengthened.	Reference scenario ・RCP2.6 (IPCC AR5) ・APS/NZE (IEA WEO 2023) ・SDS (IEA WEO 2019)

-Scenario Analysis Results -

The table below summarizes the future global impacts of climate change identified through scenario analysis.

Classification	Cause	Category	Impact on our company	Time axis	Impact assessment	
					4° C scenario	1.5° C scenario
Change	Carbon Pricing	Risk	Increase operating costs due to introduction of carbon tax	Medium- to Long-term	-	Medium
	Renewable energy and energy conservation policies	Risk	Higher electricity prices due to promotion of renewable energy policies	Medium- to Long-term	-	Medium
		Opportunity	Increase sales of the wafer reclaimed business due to increased opportunities for the use of test wafers (monitor wafers and dummy wafers) in manufacturing processes due to an increase in the production volume of semiconductor chips used in renewable energy and energy-saving equipment	Medium- to Long-term	Medium	Large
Physical	Increase in average temperature	Risk	Increase operating costs due to increased use of air conditioners	Medium- to Long-term	Small	Small
	Intensification of abnormal weather	Risk	Business suspension damage caused by disruption of commuting routes due to typhoons and floods	Short-term to Long-term	Medium	Small

*[Definition of time horizon] Short term: reporting period of financial statements (1 year), Medium term: ~5 years, Long term: over 5 years
*[Definition of assessment] Large: Large impact, Medium: Unknown impact, Small: Small impact, -: No impact

Considerations for each scenario are as follows.

・4°C Scenario

This scenario is based on the average temperature rises by approximately 4°C by the year of 2100. it is assumed that the current climate targets and measures will continue, but no further measures will be taken. As a result, extreme weather events are expected to intensify due to rising temperatures.

A hazard map was used to investigate possible damage to our factory in Japan due to floods and storm surges. It was found that due to the location characteristics of our factory in Japan, direct damage to our factory is not expected. However, it was confirmed that there is a risk that our factory will cease operations due to disruption of commuting routes due to floods and storm surges.

In response to the above risk, we have established a decentralized system that enables us to provide our services at our three factories in Japan, Taiwan, and China. For example, in the event that our Sanbongi Plant, which is our main factory in Japan for wafer reclaimed business, is damaged and forced to suspend operations, our Taiwan subsidiary will temporarily cover demand in Japan. In addition, when the supply chain is disrupted due to abnormal weather, we are taking advantage of the fact that our factories are resistant to direct disaster damage, and we are working to strengthen our resilience by constantly securing sufficient materials necessary to continue our business.

・1.5°C Scenario

The scenario which limits temperature rise to 1.5°C by the year of 2100 assumes that new regulations and technological innovations will be introduced to strengthen decarbonization efforts. In particular, energy costs, especially for electricity, are expected to rise due to an increase in the global share of renewable energy, resulting in a rise in electricity prices and an increase in our operating costs. In addition, the introduction of a new carbon tax as a means of transitioning to a decarbonized society is expected to generate additional expenditures corresponding to our emissions.

On the other hand, the number of semiconductor chips manufactured for use in energy-saving and renewable energy equipment is also expected to increase as we promote energy-saving and renewable energy policies. The utilization rate of monitor wafers (test wafers) in the manufacturing process is also expected to increase, resulting in an increase in demand for our wafer reclaimed business. This will reinforce projected increase in global demand for semiconductors from a climate change perspective.

In response to the above risks, we have installed and utilized a solar power generation facility on the premises of our Sanbongi Plant

since 2013. In addition to continuing to utilize the existing facilities, we are considering the construction of a new mega solar power plant that will generate approximately half of the electricity consumed at our Sanbongi Plant, aiming to reduce energy costs and carbon dioxide emissions by increasing the utilization rate of renewable energy.
In addition, we are also considering the utilization of a business related to vanadium redox flow electrolytes, which has a long life and high safety, operated by our subsidiary LE System Co., Ltd.

In terms of opportunities, we are currently working on an investment plan to respond to the growing demand for semiconductors, including increasing the production of reclaimed wafers in Japan, Taiwan and China to over 890,000 wafers per month by 2026. By continuously improving our production capacity, we will realize the opportunities identified in this analysis and promote our contribution to climate change mitigation.

・Financial impact of identified risks

To assess the financial impact of the above risks on us, we estimated the financial impact as of 2030 and 2050 as follows:

Projected Financial impact	Description of calculation method	4° C Scenario		1.5° C Scenario	
		2030	2050	2030	2050
Carbon Tax	Calculated using carbon tax representative values for developed countries that have declared net zero emissions (IEA WEO 2023), assuming that our company's emissions are the same as the actual values in 2023 for each time frame.	0	0	-356.4	-636.5
Electricity prices	Calculated by deriving rates of increase from electricity prices reported in IEA WEO 2019, assuming that our company's electricity consumption is the same as the actual values in 2023 for each time frame.	+31.8	+59	-68	-72.6
Air conditioning use	Air conditioning use is calculated from electricity use in 2023. The impact is estimated from changes in air conditioning use per person due to rising temperatures.	-1.2	-4.5	-1	-3.9
Loss caused by business suspension	Referring to the Flood Control Economy Manual (Ministry of Land, Infrastructure, Transport and Tourism), the depth of inundation and river grade caused by floods are investigated using hazard maps from factory's addresses and major roads in the vicinity. The annual average loss caused by business suspension is estimated from the number of days the factory has been suspended and the number of days it has been suspended depending on the depth of inundation.	-34.5	-51.7	-12.1	-17.2

(M yen)

Risk management

The Risk Management Committee identifies and manages climate change-related risks and opportunities. The Risk Management Committee extracts climate change-related risks from each business unit of RS Technologies and handles them centrally. As a specific process, each business unit first identifies the climate change-related risks in its own division and evaluates them collectively.

The assessment process involves detailed qualitative and quantitative analysis. Specifically, the Risk Management Committee determines whether a risk is material to RS Technologies based on multiple indicators such as the likelihood of occurrence and the magnitude of financial impact. The results of this assessment are further scrutinized by the Risk Management Committee to determine its importance and priority.

As for identified material risks, the Risk Management Committee formulates strategies and measures to minimize them and realize opportunities. This process is also reported to the Board of Directors, who oversee the progress of these initiatives.

Through this systematic and comprehensive approach, we continuously monitor the potential impacts and opportunities of climate change, and take appropriate actions for each.
The identified climate-related risks are integrated into RS Technologies-wide risk management process and are evaluated relative to other management issues.

Indicators and Targets

Since 2023, we have calculated greenhouse gas emissions from our business activities (Scope1 and 2 emissions). Scope1 and Scope2 emissions were 3,408.6t-CO2 and 15,952.9 t-CO2, respectively.

*"Scope of calculation ... RS Technologies (Head office & Sanbongi Plant), DG Technologies Co., Ltd., Union Electronics Solution Co., Ltd."

	Fiscal 2023 emissions	Ratio
Scope 1	3,408.6 t-CO2	18%
Scope2	15,952.9 t-CO2	82%
Total	19,361.5 t-CO2	100%

Scope1... Greenhouse gases directly emitted by us (e.g., use of gas)

Scope2... Greenhouse gases indirectly emitted by us (e.g., use of purchased electricity)

At present, RS Technologies has not set specific emission reduction targets, but is currently considering such targets in line with the Paris Agreement and the Japanese government's 2030 greenhouse gas emission reduction target. In particular, while referring to the Japanese government's ambitious target of “reducing greenhouse gas emissions by 46% from the fiscal 2013 level by 2030”, RS Technologies will formulate a feasible and effective emission reduction strategy to contribute to the realization of a sustainable society. Specific numerical targets will be announced based on the results of future studies.

At present, RS Technologies is implementing the following 2 measures to address the risk of carbon tax.
First, since 2013, RS Technologies has installed a solar power generation facility on the premises of the Sanbongi Plant and has been promoting its utilization. In addition to continuing to utilize this facility, RS Technologies is considering the construction of a new mega solar facility that will cover approximately half of the electricity demand of the Sanbongi Plant. This mega solar facility will be able to cover approximately half of the electricity consumption of the Sanbongi Plant, which accounts for approximately 82% of RS Technologies’ total Scope2 emissions.

Furthermore, RS Technologies is also considering utilizing the vanadium redox flow electrolyte-related business operated by LE System Co., Ltd., a subsidiary of RS Technologies. This technology has a long life and high safety, and is promising as a large-scale energy storage solution. This enables efficient storage and supply of electricity from renewable energy sources, and is expected to create a more stable clean energy environment.

Through the above initiatives, RS Technologies will strive to contribute to a sustainable society and to solve the important issue of reducing carbon dioxide emissions across its business model.