2023

TCFD Report

Task Force on Climate Related Financial Disclosures

KSECO Kung Sing Engineering Corporation

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Preface

In the past decade, the problem of global warming has become increasingly serious, and human activities are the cause of global warming and rapid climate change. The world is jointly facing the threat of extreme climate. In 2020, China also promoted Corporate Governance 3.0 – a blueprint for sustainable development by the Financial Supervisory Commission, hoping to remind companies to pay attention to ESG issues and refer to relevant international standards (Climate-related Financial Disclosure Code (TCFD) , standards issued by the US Sustainability Accounting Standards Board (SASB)) strengthen the disclosure of information in corporate sustainability reports.

KUNG SING Engineering has been compiling corporate social responsibility reports since 2014, and changed its name to "Sustainability Report" in 2021 to align with international ESG and SDGs. In the report, it discloses the risks and opportunities of climate change to the company, and its impact on the company. Financial impact and other related information are handled by the ESG work promotion group and reported to the board of directors every year.

In 2023, we established the Sustainable Development Committee in August to identify sustainability issues of concern to stakeholders, and listed the ESG work promotion group under it to be responsible for ESG-related promotion and implementation. The ESG work promotion group holds meetings twice a year to report the implementation status to the Sustainability Committee, which supervises the work, reviews it every six months and reports to the Board of Directors.

To sum up, in order to comply with the trend, we prepared this report with reference to the four major aspects of the international TCFD regulations to conduct climate-related financial disclosures:

Governance: The Board of Directors is the highest oversight body and management assesses and manages climate-related risks and opportunities.

Strategy: Identify short, medium and long-term climate-related risk opportunities and the impact of climate-related issues on the company's operations and finances.

Risk management: The process for identifying, assessing and managing climate-related risks.

Indicators and targets: Evaluate whether indicators are consistent with company strategy and risk management, and disclose Scope 1 and 2 greenhouse gas emissions and related risks.

Company official website

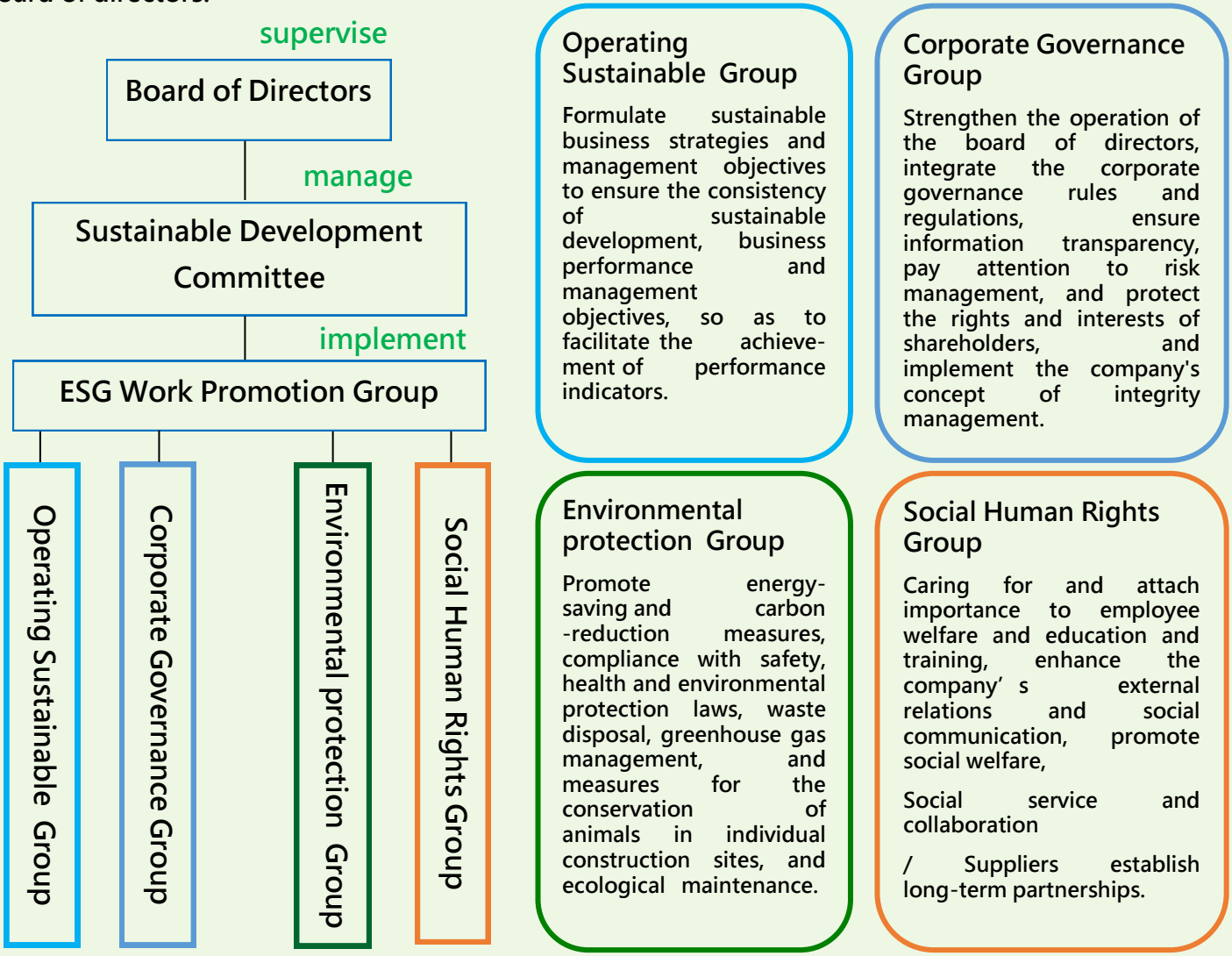
Sustainability Report

Governance

Climate change governance structure

The KUNG SING Engineering Board of Directors is the highest supervisory unit for climate change management and is responsible for reviewing annual risk management operations and implementation. The impact of climate change is one of the key risks companies face. The board of directors oversees the management of issues related to risks and opportunities brought about by climate change through the risk management supervision mechanism.

Before 2022 (inclusive), the general manager will appoint the administrative department to form an ESG work promotion group, which will be responsible for assisting and organizing other departments to promote, collect and implement ESG-related work, and report to the company's highest governance body (board of directors). In August, the Sustainable Development Committee was established to discuss and formulate sustainable development and climate change management plans, supervise the implementation of the ESG work promotion group, and report directly to the board of directors.



Board of Directors Supervision Mechanism

The Board of Directors of Industry and Information Engineering has established an Audit Committee and a Salary and Remuneration Committee. In August 2023, a new Sustainable Development Committee was added, which is responsible for the supervision and management of issues related to sustainable development and climate change. The Board of Directors is the highest supervisory unit of each functional committee.

Board of Directors

Supervise the company's policies, strategies and implementation results in sustainable management.

- Review the ESG and TCFD implementation results of the previous year in May every year.
- Risk management for the current year is reviewed every December.

Management Responsibilities

The Sustainable Development Committee is the highest organization for ESG and climate change management in the KUNG SING engineering industry. It is responsible for formulating short, medium and long-term goals and development strategies for ESG, climate change risks and opportunities, as well as greenhouse gas reduction management. It is reviewed every six months and Report to the Board of Directors.

The ESG work promotion group is composed of senior executives from various departments of the company. It consists of four groups. It collects issues of concern to stakeholders for analysis and review, lists major impactful issues of concern, and combines climate change risks and opportunities with greenhouse Gas reduction targets are incorporated into management and implementation, and meetings are held every six months to discuss and report to the Sustainable Development Committee.

Sustainable Development Committee

Meeting frequency: every six months

Responsibilities:

It is composed of independent directors who guide the management team to formulate the company's ESG and TCFD vision and strategies, promote the company's sustainable development and create diversified comprehensive performance, and report to the board of directors every six months.

ESG work promotion group

Meeting frequency: every six months

Responsibilities:

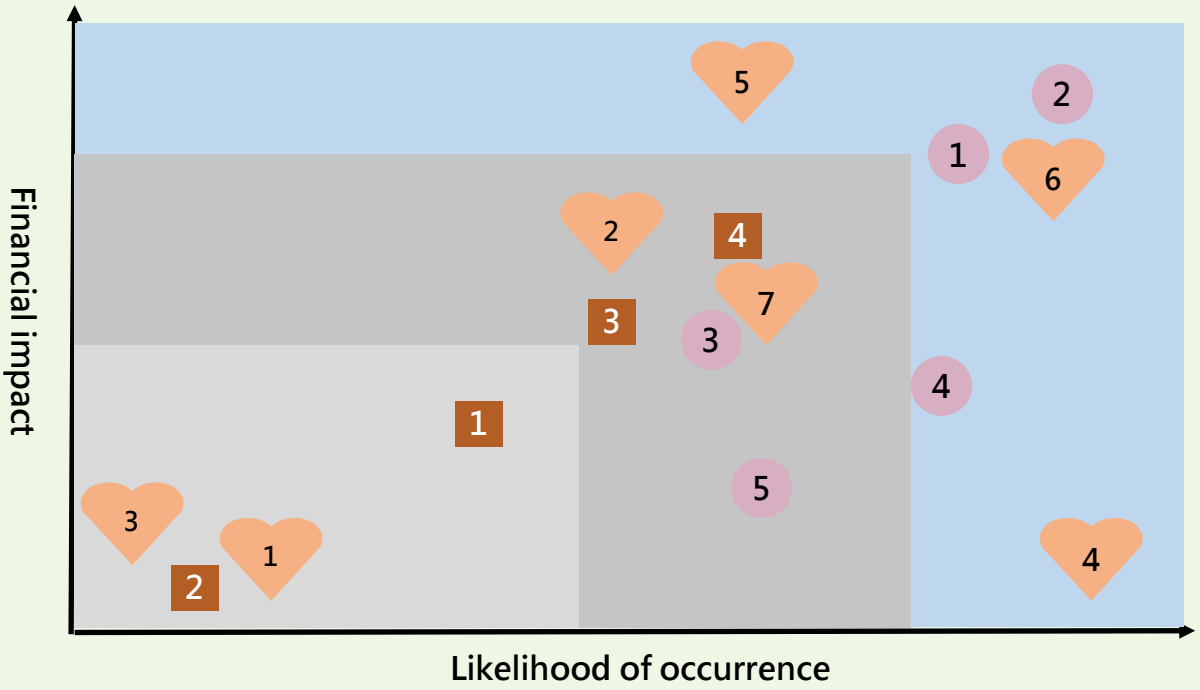
It is composed of senior managers from various departments to formulate the company's ESG and TCFD vision and strategies, and promote the implementation of ESG (including TCFD) related operations by its four groups.

Strategy

Management period: short-term 1-3 years (2022~2024), medium-term 3-10 years, and long-term 10-25 years.

Analyze the likelihood of climate-related risks and opportunities occurring and their financial impact, explore the company' s business opportunities, and discuss response strategies.

Climate change risk and opportunity matrix



entity risk

1. Operation interruption or loss caused by extreme weather events (such as: typhoon/flood)
2. Water shortage
3. Mandatory water conservation efficiency, recycling and other standard requirements
4. Global warming causes increased water and electricity consumption and thermal injuries to employees

Transi-tion risk

1. Total greenhouse gas control and carbon tax and carbon fee
2. Renewable energy related regulations increased
3. Uncertainty in the development of energy-saving and carbon-reducing construction technologies
4. Use of renewable energy equipment increased
5. Environmental assessment commitments and voluntary agreements

Chance

1. Reduce paper usage
2. Energy-saving buildings used in construction
3. Use low-carbon energy
4. Increase in public sector incentives
5. Become a green supply chain and gain exposure and chances of winning bids
6. Enhance corporate reputation
7. Improve climate adaptability and emergency response capabilities

Assessment of risks and opportunities related to climate change

The ESG work promotion team, composed of senior executives from various departments of the company, identified 4 physical risks, 5 transformation risks and 7 opportunities, and then distinguished short, medium and long-term time horizons, as well as the likelihood of occurrence and degree of financial impact. Divided into three levels: low, medium and high.

Risk type	project	time range	probability of occurrence	financial impact	Impact on the company
physical risk	Operation interruption or loss caused by extreme weather events (such as typhoons/floods and droughts)	short term	Low	Low	Low
	water shortage	long term	Low	Low	Low
	Mandatory water conservation efficiency, recycling and other standard requirements	long term	middle	middle	middle
	Global warming causes increased water and electricity consumption and thermal injuries to employees	long term	middle	middle	middle
Transition risk	Total greenhouse gas control and carbon tax and carbon fee	short term	high	high	high
	Increased regulations related to renewable energy	short term	high	high	high
	Uncertainty in the development of energy -saving and carbon-reducing construction technology	medium and long term	middle	middle	middle
	Increased use of renewable energy equipment	medium and	high	Low	Low
	Environmental Assessment Commitments and Voluntary Agreements	short、medium and long term	middle	Low	Low

Opportunity type	project	time range	probability of occurrence	financial impact	Impact on the company
Resources and Energy	Reduce paper usage	short term	Low	Low	Low
	Energy-saving buildings used in construction	medium and long term	middle	middle	middle
	Use low carbon energy	long term	Low	Low	Low
market	Increased public sector incentives	medium and long term	high	Low	middle
	Become a green supply chain and gain exposure and chances of winning bids	medium and long term	middle	high	high
reputation/ resilience	Improve corporate reputation	medium and long term	high	high	high
	Improve climate adaptability and emergency response capabilities	medium and long term	middle	middle	middle

Climate change-related risks, opportunities, financial impacts and response measures

Climate change-related risks, opportunities, financial impacts and response measures

Risk type	project	Risk Statement/ potential financial impact	coping strategies
physical risk	Operation interruption or loss caused by extreme weather events (such as typhoons/floods and droughts)	1. Affect employees' work (health health, safety, absence). 2. Affect the progress of the construction period. 3. Asset value decreases.	Develop contingency plans for emergency disasters such as typhoon and flood prevention (possible situations and handling measures). Establish an emergency disaster response team for typhoon and flood prevention (organizing personnel for various tasks, making rosters, and arranging day and night shift schedules). Establish disaster notification and emergency response procedures for typhoon and flood prevention (emergency disaster and accident notification phone numbers and windows for each unit) Regularly conduct emergency disaster response drills and training for typhoon and flood prevention.
	water shortage	Operating costs increase.	Set up rainwater collection and recycling facilities on the roofs of offices and dormitories. Set up groundwater collection and recovery facilities for earth excavation and dewatering operations at the construction site.
	Mandatory water conservation efficiency, recycling and other standard requirements	Operating costs increase.	Install water-saving toilets, spray faucets and shower facilities. Rainwater and groundwater are recycled, filtered and reused. Wastewater collection and recycling facilities for bathrooms and washing facilities are installed for filtering and reuse.
	Global warming causes increased water and electricity consumption and thermal injuries to employees	Operating costs increase.	Use power-saving LED light bulbs and energy-saving air conditioning equipment. Sprinkler systems are installed on the roofs of offices and dormitories, and indoor air conditioners are equipped with electric fans to reduce indoor temperatures. The outdoor passage lighting at the construction site uses solar energy storage equipment. Sun-shaded rest stations are set up at the construction site, drinking water and salt tablets are provided for workers, and necessary emergency treatment equipment and medicines for heat stroke and other heat treatment are provided.

Risk type	project	Risk Statement/ potential financial impact	coping strategies
Transition risk	Total greenhouse gas control and carbon tax and carbon fee	The government has proposed a draft amendment to the Greenhouse Gas Reduction and Management Act in 2022. It is expected to achieve the net-zero emission target by 2050 and develop a carbon trading market and carbon fees.	Formulate short, medium and long-term energy conservation and carbon reduction strategies. It is expected that in the short term (within 1-3 years), half of the official vehicles (excluding engineering vehicles) will be replaced by hybrid vehicles; in the medium term (3-10 years), official vehicles (excluding engineering vehicles) will be replaced. all official vehicles (excluding engineering vehicles) will be replaced by electric vehicles in the long term (10-25 years) to achieve the goal of energy conservation and carbon reduction. The company's short, medium and long-term energy saving and carbon reduction strategies are written into the subcontracting contract, requiring the manufacturer's vehicles and machinery entering and exiting the construction site to comply with the company's energy saving and carbon reduction strategies.
	Increased regulations related to renewable energy	Operating costs increase.	The temporary power contract capacity application for the construction site is lower than the 800kW (watt) stipulated in the regulations. If there is a shortage, the zoning application method shall be adopted; the construction site shall use solar power storage equipment as much as possible, such as warning lights, street lighting, etc.; power-consuming equipment shall adopt energy-saving first-class products. , such as: air conditioning and refrigeration; our company and subcontractors use power-saving products for machinery and equipment.
	Uncertainty in the development of energy-saving and carbon-reducing construction technology	1. Increase in operating costs. 2. Capital expenditure increases.	Use mature energy-saving and carbon-reducing construction technologies, such as replacing temporary RC construction access roads with steel trestles. Use furnace stone powder to replace a certain proportion of cement in the concrete mix. The cement mortar used in construction masonry projects will be replaced by "ready-mixed mortar".
	Increased use of renewable energy equipment	Capital spending increased.	Use solar energy storage equipment, such as warning lights, street lighting, etc.
	Environmental Assessment Commitments and Voluntary Agreements	Operating costs increase.	"Environmental Assessment Commitment" is a promise made by the owner or builder in the construction industry. The company is the contractor or builder and must comply with the contract requirements to achieve the above-mentioned owner or builder's promise. The relevant costs must be included in the contract amount between both parties.

Opportunity type	project	Opportunity Description/Potential Financial Impact	coping strategies
Resources and energy	Reduce paper usage	1.Electronic documents, Change and improve management management model, strengthen Information security. 2.Reduced operating costs.	Electronic management: establish an electronic document management center to convert original written materials such as contract documents, construction drawings, receipts and receipts, signatures and inspection and verification reports into electronic files for construction site personnel and related personnel to use IPAD and other equipment online Read, inspect and check, sign, sign for receipt, sign for, process and store.
	Energy-saving buildings used in construction	Operating costs are reduced.	Introduce relevant building materials and equipment for energy-saving buildings into building development projects.
	Use low carbon energy	Operating costs are reduced.	Carbon Inventory collects, analyzes and summarizes the carbon energy content of various materials and machines during the construction process, and then selects low-carbon energy materials and machines.
market	Increased public sector incentives	Operating costs are reduced.	Construction sites and departments are required to actively participate in various award submissions and competitions in the public sector.
	Become a green supply chain and gain exposure and chances of winning bids	Revenue increased.	The processes from procurement, construction, safety and health management, and environmental protection are in line with greening. When purchasing, choose environmentally friendly raw material suppliers to supply environmentally friendly and energy-saving materials. During the construction process, construction tools and components should be selected that are energy-saving, disassembly, reusable, long-lasting, and recyclable. In terms of safety and health management, efforts should be made to avoid or reduce harm to the human body to the greatest extent, such as: reducing the harm to the human body caused by radiation, noise, abnormal high and low temperatures, abnormal air pressure, and harmful solid, gas, and liquid chemical substances. In terms of environmental protection, efforts should be made to avoid or reduce environmental pollution to the greatest extent, such as reducing air and water pollution caused by construction waste, residual soil, dust, waste water and oil pollution.
reputation/ resilience	Improve corporate reputation	Revenue increased.	Actively participate in various green supply chain-related certifications and ISO verifications.
	Improve climate resilience and emergency response capabilities	1. Reduced operating costs Low. 2. Capital expenditure minus few.	In view of the impact of various climate anomalies and changes on the construction process of the project, the impact is classified through risk analysis, and emergency response measures are implemented according to the impact situation to reduce losses.

Risk management

The main purpose of risk management is to use the most economical and effective principle to reduce the scope of impact before a loss occurs, and to respond to the loss in the fastest possible way to improve the negative impact in order to maintain the enterprise. stable income. As the international situation and socio-economic environment continue to change, companies often face many uncertain variables, which also bring many risks and challenges to their operations. In view of this, corporate risks should be continuously assessed and managed from beginning to end, so as to minimize losses and allow the enterprise to obtain due benefits; the basis for relevant assessment and analysis should be a clear understanding of risk events, and then Understand and analyze and classify, based on objective records and statistics, and then provide a correct, scientific, systematic and organized assessment to the decision-makers of the company's operation and management, in order to clearly understand the scope of influence of various risks. Then formulate the best management strategies so that the company can achieve risk control and sustainable operations.

Climate risk assessment, identification and management process

Collection of data on climate-related risks	risk identification and Analysis and evaluation	Risk control and response strategies	risk monitoring and Report
The ESG work promotion team collects information related to climate change at home and abroad and conducts risk classification.	Analyze the climate risks that may have an impact on the company, identify them according to risk type and degree of occurrence, assess the company's financial impact, and then analyze and evaluate possible opportunities. Risk section: 4 items of entity risks and 5 items of transformation risks. Opportunity section: divided into 3 items: resources and energy, 2 items: market, and 2 items: reputation/ resilience.	Discuss risk control and response strategies with 9 risks and 7 opportunities for continuous improvement and review .	The ESG work promotion team implements the aforementioned process and reports the implementation status to the Sustainability Development Committee every six months, which is continuously monitored by the Sustainability Development Committee and reported to the Board of Directors every six months.

Integration of risk management

In order to ensure the company's stable operation and sustainable development, the company formulated "Risk Management Policies and Procedures" in 2020 to establish an overall risk management system, and the company's highest risk management supervision unit, the board of directors, and the responsible units: The audit committee, general manager, audit office, and various risk management units jointly participate in promoting implementation. Every year, each risk management unit regularly identifies relevant risks that may affect the sustainable development of the enterprise, selects risk management areas, and based on the latest internal audit developments and The guidelines require monitoring potential risks and implementing preventive measures to strengthen risk management.

The Company examines its business and operating characteristics and incorporates all the following risk categories into management:

Item	Risk projects
1	Interest rate change risk
2	Exchange rate change risk
3	Climate change and environmental risks
4	occupational safety risks
5	Raw material prices and supply chain risks
6	Information security risks
7	Strategic and operational risks
8	Capital expenditure risk
9	legal risks
10	Manage risk
11	corporate image risk

In accordance with the international TCFD guiding principles, Industry and Information Engineering established the Sustainable Development Committee in 2023, which holds two meetings each year. The ESG work promotion group established under it uses the TCFD framework to identify climate-related risks and opportunities, and transforms the original " The third risk item "Climate Change and Environmental Risks" of "Risk Management Policies and Procedures" has more intensively analyzed and evaluated 4 physical risks, 5 transition risks, and 7 opportunities of climate change, and managed related response measures. and action plans, the committee reports to the board of directors every six months.

Metrics and Goals

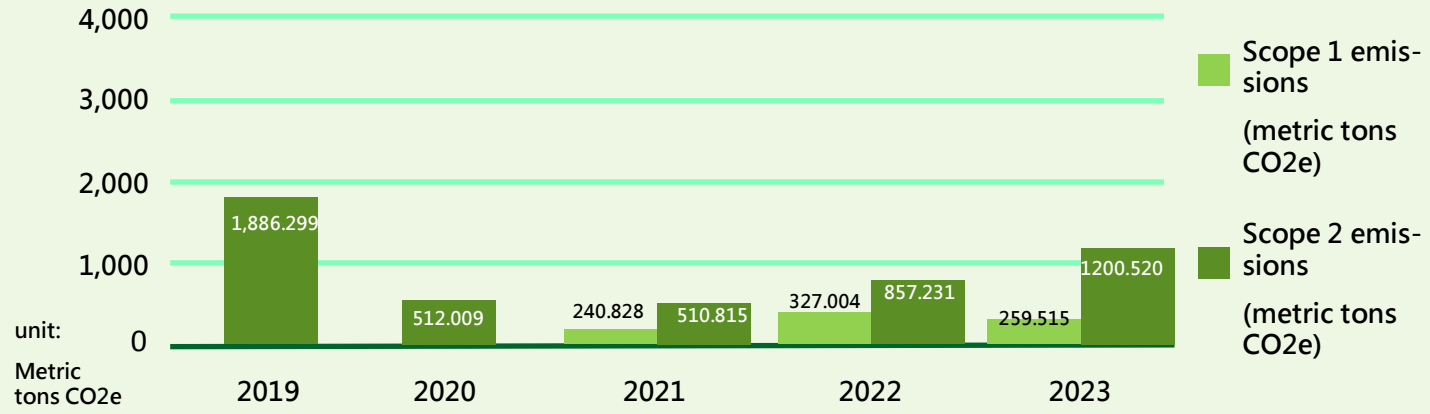
Greenhouse gas emission indicators and targets

In response to the Environmental Protection Agency's push to amend the Greenhouse Gas Reduction and Management Act, in addition to amending the bill to the "Climate Change Response Act" and incorporating the "2050 net-zero emissions" target into law, the government will also launch "carbon pricing" With the completion of a "carbon inventory" mechanism, Taiwan has also officially aligned its carbon reduction trend with international standards.

Since 2018, Industry and Information Technology Engineering has comprehensively counted the emissions of greenhouse gas category 2 in all operating areas of the parent company. At that time, category 2 was the company' s largest carbon emission, so 2018 was used as the base year to plan future carbon reduction goals. Starting from 2021, Scope 1 will be included in statistics, and starting from 2022, we will plan to promote carbon inventories, and report the implementation status of the plan to the board of directors every quarter. We will gradually plan to include Scope 3 in statistics.

As of the end of 2023, the company's greenhouse gas emission statistics are as follows:

	Category 1 (gasoline, diesel)		Category 2 (Taipower Electric Power)		Category 1 + Category 2
Year / Region	total usage (liter)	Greenhouse gas emissions (metric tons CO2e)	Total electricity consumption (kWh)	Greenhouse gas emissions (metric tons CO2e)	emission of greenhouse gases (metric tons CO2e)
2023	112,672.20	259.515	2,391,135	1,200.520	1,460.035
2022	140,826.45	327.004	1,694,980	857.231	1,184.235
2021	93,083.52	240.828	1,017,559	510.815	751.643
2020	(not counted)	(not counted)	1,019,938	512.009	512.009
2019	(not counted)	(not counted)	3,705.891	1,886.299	1,886.299
Remark	The above data comes from our company' s statistics on gas bills and Taipower electricity bills. The company's current base year is 2018, and the greenhouse gas emissions for that year were 3,234.903 metric tons of CO2e. Greenhouse gas calculation method: Before 2021: Calculation of carbon emission coefficients announced by the Energy Bureau of the Ministry of Economic Affairs. After 2022: The total carbon emission figures revealed on Taipower' s electricity bills and gas receipts.				



Greenhouse gas emission reduction information			
Year	Greenhouse gas emissions (CO2e) Scope 1+Category 2 (metric tons)	Cumulative carbon reduction (mt)	Carbon reduction rate % compared to the current year compared with the base year
2023	1,460.035	1,774.868	54.87
2022	1,184.235	2,050.668	63.39
2021	751.643	2,483.260	76.76
2020	512.009	2,722.894	84.17
2019	1,886.299	1,348.604	41.69

Execution focus	2023target rate(Note 1)	2023Actual achieve-ment rate	Achieve √; Not achievedX
Base year-Carbon re-duction rate	40%	54.87%	√

Note 1: According to the next-year target set in last year's annual report, the carbon reduction rate in 2023 will be 40% lower than the base year.

Note 2: Both Scope 1 and 2 will increase in 2023 compared with last year. This is mainly due to the fact that Tamkang Bridge, Papaya Creek Bridge and other projects have entered the mid-project stage. Foreign workers have increased, the use of machinery and electricity in the projects has increased significantly, and four additional projects under construction were added last year. , and there is still settlement work for the completed project, so there are still office electricity bills and official vehicle fuel.

Greenhouse gas emission intensity

$$= \frac{\text{Total greenhouse gas emissions}}{\text{Turnover for the year}}$$

*In 2023, some projects have entered the mid-term stage and four new projects have been added. The completed projects still have settlement operations and office electricity consumption. Therefore, the overall electricity and machine tool consumption has increased significantly, and energy emissions have increased slightly compared with last year. But overall, greenhouse gas emission intensity in 2023 will still be reduced by 68.24% compared with the base year.

Energy emission intensity and per capita emissions					
project	2019	2020	2021	2022	2023
total energy emissions (metric tons CO2e)	1,886.299	512.009	751.643	1,184.235	1,460.035
Number of employees	401	261	297	521	616
Average emissions per person(metric tons CO2e/person)	4.70	1.96	2.53	2.27	2.37
Greenhouse gas emis-sion density(metric tons CO2e/turnover)	0.45	0.17	0.21	0.26	0.27
Remark	In 2018, per capita emissions were 5.78, and greenhouse gas emission density was 0.85.				

Greenhouse gas reduction plan goals:

Short-term goals (2022-2024)	Mid-term goals (~2030)	Long-term goals (~2045)
1.Using 2018 as the base year, reduce greenhouse gas emissions by more than 2% every year. 2. Use solar warning lights in the work area. 3. Replace half of official vehicles (excluding engineering vehicles) with oil Electric hybrid car. 4. The new subcontracting contract writes in the company's short, medium and long -term energy saving and carbon reduction strategies, requiring the manufacturer's vehicles and machinery entering and exiting the construction site to comply with the company's energy saving and carbon reduction strategies.	1. It is expected that the cumulative carbon reduction will reach 50% by 2030. 2. Replace all official vehicles (excluding engineering vehicles) with hybrid vehicles. 3. All subcontracting contracts include the company's short-, medium-, and long-term energy-saving and carbon-reducing strategies, and the manufacturers' vehicles and machinery entering and exiting the construction site are required to comply with the company's energy-saving and carbon-reducing strategies.	1. Aim to move towards net-zero carbon emissions. 2. Replace all official vehicles (excluding engineering vehicles) with electric vehicles Train. 3. Effectively reduce carbon emissions generated during the construction process. 4. All machinery and equipment used by our company and subcontractors shall be Use energy-saving products.

Other indicators and targets

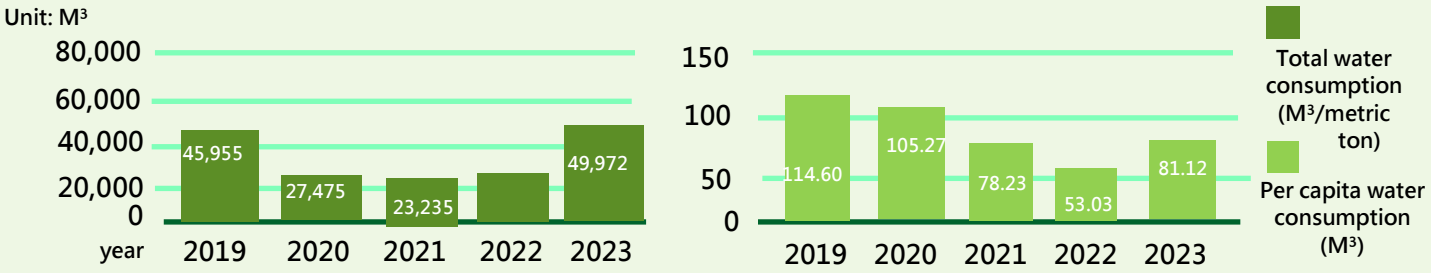
water resources management

Water resources management is a subject we attach great importance to. In recent years, water from the sedimentation tank will be extracted from the construction site for on-site watering and recycling.

All water sources of our company come from water plants. All used water is discharged into general sewage sewers, and the drainage volume is equal to the water consumption.

The statistical scope includes the head office and various construction sites, but does not include subsidiaries.

Water consumption over the years (M³)					
project	2019	2020	2021	2022	2023
Total water consumption (M³/metric ton)	45,955	27,475	23,235	27,629	49,972
Annual growth rate of water consumption (%)	-34.94%	-40.21%	-15.43%	18.91%	80.87%
Number of employees (person)	401	261	297	521	616
Per capita water consumption (M 3/person)	114.60	105.27	78.23	53.03	81.12
Water intensity (metric tons/turnover)	10.93	8.87	6.54	5.97	9.40
Remark	Since the statistical scope has been expanded to all construction sites since 2018, 2018 is used as the base year. The total water consumption in 2018 = 70,631M³, the per capita water intensity is 126.13M³/person, and the water intensity is 18.53.				



The total water consumption in 2023 is 49,972M³. Although it has increased compared with the previous year, the main reason is that the number of employees (including foreign workers) has increased by 95 compared with the previous year, and some projects have entered the mid-term stage, and four new projects have been added. The completed projects are partly due to There are still settlement operations and office water consumption, so the overall water consumption increases. However, compared with the base year, the cumulative reduction still reached 29.25%, and per capita water use also decreased by 35.69% compared with the base year.

Water consumption reduction information						
project	Total water consumption (M³)	Cumulative reduction of total water consumption (M³)	Decrease rate % compared to the current year compared with the base	Per capita water consumption (water intensity M³/person)	Cumulative water consumption reduction per capita (M³)	Per capita water consumption reduction rate % compared with
2023	49,972	20,659	29.25	81.12	45.01	35.69
2022	27,629	43,002	60.88	53.03	73.10	57.96
2021	23,235	47,396	67.10	78.23	47.90	37.98
2020	27,475	43,156	61.10	105.27	20.86	16.54
2019	45,955	24,676	34.94	114.60	11.53	9.14

Water resource reduction plan

Short-term goals (2022-2024)	Mid-term goals (~2030)	Long-term goals (~2045)
1. Taking 2018 as the base year, the annual water consumption growth rate will decrease by more than 2%. 2. The sprinkler equipment in the work area uses recycled water. 3. Recycling of waste water from car wash stations.	1. It is expected that the cumulative reduction will reach 10% by 2030. 2. The construction site offices and dormitories adopt water-saving marking sanitary ware.	1. Aim to achieve an annual growth rate of no less than 3% of the base year. 2. Set up rainwater collection and recycling facilities on the roofs of offices and dormitories. 3. Set up groundwater collection and recovery facilities for earth excavation and dewatering operations at the construction site.

waste management

project	Earthmoving volume in 2023 (metric tons)	Earthmoving volume in 2022 (metric tons))	Volume increase compared to the previous year (metric tons)
Earth moving and abandonment	120,691	107,438	+13,253

project	Waste volume in 2023 (metric tons)	Waste volume in 2022 (metric tons)	Volume increase compared to the previous year (metric tons)
construction waste	0	1,449	-1,449

area	Amount of domestic waste in 2023 (metric tons)	Amount of domestic waste in 2022 (metric tons)	Increase in quantity (metric tons) compared with the previous year
Head office and construction sites of various contracted projects	1,213.92	913.41	300.51

waste intensity				
year	Total waste (earth + construction waste + domestic waste) metric tons	Turnover (thousand yuan)	density	Reduction target achieved √; not achieved X
2023	121,904.92	5,314,403	22.94	√ (3.37% reduction)
2022	109,800.41	4,624,692	23.74	not applicable

Waste reduction plan goals:

For waste reduction, we use 2022 as the base year, and hope to reduce the intensity by 2% per year as the reduction target, to achieve a 10% reduction by 2030 (mid-term), and to achieve a 3% annual reduction as the long-term goal after the mid-term.

Short-term goals (2022-2024)	Mid-term goals (~2030)	Long-term goals (~2045)
1.The head office implements the reduction of personal waste. 2. The head office responds to the Taipei City Government’ s initiative to “ban disposable and melamine tableware.”	1. Promote construction sites to respond to the "ban on disposable and melamine tableware". 2. Promote the implementation of reducing personal domestic waste at all construction sites.	1. Promote paperless forms and electronic file management.

Action plan planning and execution

Strategy	Action plan
Carbon inventory planning	Starting from 2022, we will formulate a carbon inventory schedule and report the implementation progress to the board of directors every quarter.
Import TCFD	Pay attention to the issue of climate change and discuss response strategies to various risks and opportunities.
supply chain management	Plan and establish a carbon reduction mechanism for subcontractors. The company's short, medium and long-term energy saving and carbon reduction strategies are written into the contract, and the manufacturer's vehicles and machinery entering and exiting the construction site are required to comply with the company's energy saving and carbon reduction strategies.
Electronic documents	Electronic management: establish an electronic document management center to convert original written materials such as contract documents, construction drawings, receipts and receipts, signatures and inspection and verification reports into electronic files for construction site personnel and related personnel to use IPAD and other equipment online Read, inspect and check, sign, sign for receipt, sign for, process and store.
Establish sustainable development committee	Strengthen ESG and climate risk management, deepen the management mechanism, hold meetings every six months to review, and report operational implementation status to the board of directors.
Situational Resilience Analysis	Based on the TCFD recommended guidelines, the most serious scenarios of transformation risks and physical risks were studied and the two scenarios of RCP2.6 and RCP8.5 in the assessment report AR5 published by IPCC were selected to simulate the transformation risks and physical risks of construction and construction. and opportunities (see simulation analysis on next page).

environmental resilience

The Company's scenario analysis is constructed using publicly available data sources, including assessments and reporting on climate emission pathways by the United Nations Intergovernmental Panel on Climate Change (IPCC) and the International Energy Agency (IEA). The time frame used is 2023 to 2050.

According to the assessment report released by the United Nations Intergovernmental Panel on Climate Change (IPCC), four climate change scenarios are proposed using the "Representative Concentration Pathway" (RCP):

Situation items	context	content
1	RCP2.6 Low Emission Scenario	Limiting global warming to less than 2°C (compared to pre-industrial times), also known as the 2°C scenario.
2	RCP4.5 Moderate emissions scenario	The 2° C limit is still not reached and the 1.5° C target is considered likely to produce about 2.4° C of warming.
3	RCP6.0 Medium and High Emissions Scenario	Greenhouse gas emissions peak around 2060 and begin to decline towards the end of the century, and are thought to potentially produce 2.8°C of warming.
4	RCP8.5 High emissions scenario	Consistent with current policies, it is a high-emissions scenario with possible warming of up to 4.3° C.

Under the IPCC RCP (Representative Concentration Pathway) 2.6, the Taiwanese government's "Taiwan Climate Change Estimation Information and Adaptation Knowledge Platform Project" (TCCIP) proposed an analysis of extreme climate events (such as typhoons and heavy rains) indicating the number of typhoons that will invade Taiwan in the future. will decrease, but the proportion of strong typhoons will increase, the rainfall intensity will increase, and the frequency and intensity of heavy rains will continue to increase. Therefore, the increased severity of extreme weather events such as typhoons and floods will lead to damage to facilities/ equipment, and the impact of extreme weather events on suppliers' operations and production will lead to product supply interruptions/delays, thereby increasing operating costs. It is initially estimated that operating costs will increase slightly.

Under the IPCC RCP8.5 scenario, countries do not take any measures, leading to higher and higher temperature rises, resulting in intensified climate extreme events. The severity of extreme weather events such as typhoons and floods will be higher, resulting in more severe damage to facilities/equipment. Extreme weather events will also impact suppliers' operations and production, resulting in product supply interruptions/delays, thereby increasing operating costs. Preliminary estimates indicate a significant increase in operating costs.

appendix

TCFD disclosure comparison table

Target	TCFD Recommends Disclosure Project	Corresponding chapters of this report	Number of pages
governance	How boards of directors oversee climate-related issues	● Climate change governance structure ● Board of Directors Supervision Mechanism	04 05
	How management assesses and manages climate-related issues	● Climate change governance structure ● Management Responsibilities	04 05
Strategy	Short, medium and long-term climate-related risks and opportunities identified by the company	● Climate change risk and opportunity matrix ● Assessment of risks and opportunities related to climate change	06 07
	The impact of climate-related issues on a company' s business model, strategy and financial planning	● Climate change-related risks, opportunities, financial impacts and response measures	08
	The potential impact of different scenarios on the organization' s business, strategy and financial planning	● Action plan planning and execution	17
risk management	Process for identifying and assessing climate-related risks	● Risk assessment, identification and management process	11
	Climate-related risk management processes	● Risk assessment, identification and management process	11
	Explain how the above identification and management processes are integrated into the company's overall risk management system	● Integration of risk management	12
Indicators and Target	Evaluate whether indicators are consistent with company strategy and risk management	● Greenhouse gas emission indicators and targets	13
	Disclosure of Scope 1, Scope 2 and Scope 3 (if applicable) greenhouse gas emissions and related risks	● Greenhouse gas emission indicators and targets	13
	Management objectives and related performance	● Greenhouse gas emission indicators and targets	13

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TCFD Report

Kung Sing Engineering Corporation