



momo.com Inc.



2022 TCFD Report

Task force on
Climate-related
Financial
Disclosures



Contents

Chairman's Message 3

1 momo Profile 4

2 Preparation of the Report 5

- 2.1 Basis for Report 5
- 2.2 Purpose of Report 5
- 2.3 Scope and Period of the Report 5

3 TCFD Disclosure Items 6

- 3.1 Governance 6
- 3.2 Strategy 8
- 3.3 Risk Management 25
- 3.4 Metrics and Targets 28

4 Environmental Sustainability Milestones 31

5 Appendix 32

- TCFD Disclosures Comparison Table 32

List of Figures & Tables

Fig. 1 Climate governance framework	6	Table 1 Climate-related topics reported to the Sustainable Development Management Committee and the Board of Directors in 2022	7
Fig. 2 Node-removal operating model	9	Table 2 Six strategic dimensions	8
Fig. 3 Distribution center ventilation and tunnel air design	14	Table 3 GHG reduction targets	11
Fig. 4 momo value chain	15	Table 4 GHG emissions over the past three years	12
Fig. 5 Climate-related risk and opportunity identification process	16	Table 5 Description of "go paperless" promotion	12
Fig. 6 Matrixes of climate-related risk and opportunity topics	17	Table 6 Warehouse waste recovery volume	13
Fig. 7 Ranking of the financial impact of climate-related risks/opportunities	24	Table 7 Length of time for climate change risks and opportunities	16
Fig. 8 Three lines of defense for risk management and management process	25	Table 8 Climate-related risk topics	18
		Table 9 Climate-related opportunity topics	20
		Table 10 Climate-related risks and opportunities and the value chain	21
		Table 11 Three lines of defense for risk management	25
		Table 12 Risk response measures	26
		Table 13 Risk types and management metrics	28
		Table 14 Short-, medium- and long-term targets and achievement status for climate-related risks	29



Contents

Chairman's Message

CH 1. momo Profile

CH 2. Preparation of the Report

CH 3. TCFD Disclosure Items

CH 4. Environmental Sustainability Milestones

CH 5. Appendix

Contents

Chairman's Message

CH 1. momo Profile

CH 2. Preparation of the Report

CH 3. TCFD Disclosure Items

CH 4. Environmental
Sustainability Milestones

CH 5. Appendix

Chairman's Message



Extreme climate change has become a major strategic issue at the national development level. momo.com Inc. believes that a responsible enterprise should formulate a well-defined climate governance strategy. For this reason, momo.com Inc. published the first TCFD report of e-commerce industry in Taiwan, in accordance with the Task Force on Climate-related Financial Disclosures (TCFD) framework released by the Financial Stability Board. This TCFD report reveals the risk management and low-carbon transition pathways that have been mapped out, aiming at engaging stakeholders through core competency and driving Taiwan e-commerce operators towards sustainability transformation.

In March 2023, the United Nations' Intergovernmental Panel on Climate Change (IPCC) released its Sixth Assessment Synthesis Report, which reveals that nearly half of the world's population now lives in areas highly susceptible to climate change, and that floods, droughts, and storms have caused 15 times more fatalities in highly vulnerable areas than in other regions over the past decade. In reality, there were floods taking place in Australia, South Africa, Pakistan and China in 2022, while droughts also occurred in Brazil and some European countries. On the other hand, Taiwan also experienced water shortage due to a pronounced drop in precipitation, posing a huge threat to southern Taiwan. As seen in our experience and life, extreme climate change is becoming most imminent.

In recognition of the potential impact of green swan from climate change on the economic stability and corporate operations, momo has recently developed business strategy in recent years by factoring in the environmental mitigation and adaptation. momo particularly focuses on the three priorities in "warehousing," "packaging" and "logistics," in addition to developing the metrics of "green life e-commerce" and short/intermediate/long-term goals.

For example, momo's large distribution centers installed with solar power systems are taking a step-by-step approach to generate green energy for self-use. Meanwhile, we are actively building a circular packaging ecosystem, developing new environmentally friendly packaging materials, applying AI technology to create the "Optimal Packaging Suggestions" module, and streamlining the standard operating procedures for packaging, which will help frontline workers lower the use of cushioning material and boost the utilization of eco-friendly packaging materials.

To cut down the carbon footprint of the last-mile delivery, momo constantly scales up distribution centers and satellite warehouses to achieve "short-chain logistics" and joins hands with logistics operators and suppliers to implement node removal and consolidation initiatives. In recent years, we are dedicated to build up a green fleet by purchasing trucks that are all Tier 1 energy-efficient vehicles, and we also introduce commercial three-wheeled electric scooters with a loading capacity three times that of conventional scooters.

This TCFD report facilitates the stakeholders to grasp momo, in terms of climate-related transition risks, physical risks, opportunities, and financial impact assessment. Looking into the future, momo will continue to leverage the positive influence as a leading brand in Taiwan's e-commerce sector amidst a highly volatile environment, and thereby strengthen the climate risk resilience of the total value chain.

Chairman of momo.com Inc

Contents

Chairman's Message

CH 1. momo Profile

CH 2. Preparation of the Report

CH 3. TCFD Disclosure Items

CH 4. Environmental
Sustainability Milestones

CH 5. Appendix

momo Profile

momo.com Inc. (hereinafter momo), a leading online retailer listed on the Taiwan Stock Exchange, is a member of the Fubon Group, headquartered in Neihu District, Taipei. Our major lines of business include TV shopping, online shopping, mail-order catalogues, travel-related services, personal insurance agency, property insurance agency, etc. Currently the largest B2C virtual shopping channel in Taiwan and with over 11.8 million registered members, our mission is to "improve the quality of people's lives by providing premium products at affordable prices and excellent services" and to establish ourselves as a virtual shopping platform of choice for consumers and suppliers.

Company	momo.com Inc.
Date of Incorporation	September 27, 2004
Headquarters	4F., No.96, Zhouzi St., Neihu Dist., Taipei City
Paid-in Capital	NT\$2,184,912,600
Stock Symbol	8454
Headcount	3,035 (as of the end of 2022)
Product Services	TV shopping, online shopping, and catalog shopping
Management Team	Chairman Daniel Tsai / President Jeff Ku



Contents

Chairman's Message

CH 1. momo Profile

CH 2. Preparation of the Report

CH 3. TCFD Disclosure Items

CH 4. Environmental
Sustainability Milestones

CH 5. Appendix

Preparation of the Report

(1) Basis for the Report

Recommendations of the Task Force on Climate-related Financial Disclosures (hereinafter referred to as TCFD).

(2) Purpose of the Report

momo attaches importance to the effects of climate change on the Company's operations and stakeholders and assumes corporate responsibility for implementing environmental sustainability. We have prepared this report, in alignment with the TCFD framework, which explains the climate-related risks and opportunities identified by the Company and the associated management practices, and strengthens engagement with stakeholders to demonstrate our commitment to sustainable operations.

(3) Scope and Period of the Report

This report centers around momo, whose disclosure period runs from January 1, 2022 through December 31. If cited without additional notes, information accessed is between January 1, 2022 and December 31.



TCFD Disclosure Items

(1) Governance

1 Climate governance framework and management authority and responsibility

momo has a Board of Directors as the highest governance body of the Company, which is charged with nominating senior management and formulating the corporate social responsibility and sustainability strategy. The Sustainable Development Management Committee, established by resolution at the 21st meeting of the 7th Board of Directors on July 27, 2022, is a functional committee tasked with preparing annual plans and strategic directions for sustainable development. The committee is composed of independent directors and directors, with the President as the executive director and the top executives of each department, division, and office as ex-officio members. It is responsible for allocating core

resources and setting action targets in corporate governance, environmental sustainability, product responsibility, customer commitment, employee well-being, and social care.

The Sustainable Development Management Committee holds at least four work meetings and executive director meetings each year to ensure effective horizontal and vertical communication. It reports to the Board of Directors every quarter on the execution of essential projects. The secretariat is the Department of Sustainable Development, which is attached to the Finance & Accounting Division and is responsible for coordinating and promoting inter-departmental ESG projects and tracking their effectiveness.



Fig. 1 Climate governance framework

Contents

Chairman's Message

CH 1. momo Profile

CH 2. Preparation of the Report

CH 3. TCFD Disclosure Items

CH 4. Environmental
Sustainability Milestones

CH 5. Appendix

Environmental action task force - Environmental Management Committee

The Environmental Management Committee comprises 18 representatives from momo's related departments. It works on inter-departmental environmental projects, including ISO 14064-1 Greenhouse Gas Inventory, ISO 14001 Environmental Management System, and ISO 14067 Carbon Footprint Inventory. The committee meets every quarter to keep track of the execution of the projects and evaluate their performance.

2 Board oversight of climate-related risks

The Board of Directors keeps an eye on the implementation of corporate sustainability as well as overseeing the Company's overall operational risks, developing strategies, and identifying operational, financial, and tax risks. momo has counted climate-related risks among the critical operational risks, with the climate-related topics reported to the Sustainable Development Management Committee and the Board of Directors in 2022 set out in the table below:

Table 1 Climate-related topics reported to the Sustainable Development Management Committee and the Board of Directors in 2022

Meeting	Motions and Report Items
Sustainable Development Management Committee	<p>The committee held two meetings in 2022 and presented the following resolutions to the Board of Directors:</p> <ul style="list-style-type: none"> momo's sustainability plan for the next three years (2022-2024), which includes corporate human rights risk management, sustainable supply chain management, improved stakeholder engagement, and TCFD Introduction of the SBTi commitment and adoption of plans in 2022 2021 ESG Implementation Results Report & 2022 ESG Excellence targets Communication at the 3rd stakeholder forum in 2021
Board of Directors	<ul style="list-style-type: none"> Proposal for GHG inventory and verification schedule for momo and its subsidiaries in the consolidated financial statements Report on the execution of GHG inventory and verification in the 2nd and 3rd quarters

3 Remuneration and performance evaluation mechanism

Under the Rules for Performance Evaluation of Board of Directors and Functional Committees, momo conducts annual internal evaluations of the Board of Directors, its members, and functional committees, and at least once every three years, runs a performance evaluation by an external professional and independent organization or team of experts and academics, covering the extent of ESG engagement. Following the internal and external performance evaluations, the results are forwarded to the Remuneration Committee, which submits a report to the Board with recommendations for improvement.

To build on ESG initiatives, momo has incorporated climate topics into a compensation management scheme for its personnel. In 2021, the Sustainable Development Management Committee decided to include 5% ESG indicators in the annual performance evaluation of all top executives (including those at the division level and those in the departments and offices under the President's command). In 2022, it resolved to raise the percentage of ESG indicators from 5% to 10%. By linking compensation and performance evaluation to climate-related topics, momo is able to continue internalizing green management and make steady progress towards the goal of being "Taiwan's No. 1 green life e-commerce."



- Contents
- Chairman's Message
- CH 1. momo Profile
- CH 2. Preparation of the Report
- CH 3. TCFD Disclosure Items**
- CH 4. Environmental Sustainability Milestones
- CH 5. Appendix

(2) Strategy

The year 2020 marked momo's "Year of the Environment." Following the introduction of ISO 14064-1 GHG Inventory in 2016, we obtained the ISO 14001 Environmental Management System certification for the first time in 2019. We were awarded the "Online Shopping Packaging Reduction Mark" by the Environmental Protection Administration of the Executive Yuan. Meanwhile, we have established six strategic dimensions, including green partnership, green packaging, green transportation, green warehousing, green operations, and climate action, to push forward various low-carbon transition programs.

In 2022, momo committed to planning the science-based targets (SBT). momo expects to increase the use of renewable energy year by year by installing the solar power system in own warehouse and purchasing renewable sources, as well as continuing to engage with employees and suppliers to drive the low-carbon transition of the value chain.

1 Green e-commerce strategic dimensions

The objectives and implementation of the six green e-commerce strategic dimensions are described below, with consideration given to the characteristics of the non-physical retail sector and a focus on momo's climate change mitigation and adaptation efforts with respect to the green packaging, green transportation, and green warehousing dimensions:



Table 2 Six strategic dimensions

Strategic Dimension	Action Plan
Green Partnership	Promoting circular boxes with suppliers
	Promoting node-removal programs with brands
	Working with distributors on transport efficiency projects
Green Packaging	Packaging and plastic packaging materials inventory and reduction program
	Circular packaging initiatives
Green Transportation	Short-chain distribution
	Shared carbon saving project
	Carbon reduction project for own-vehicle operation
Green Warehousing	Guiding Fu Sheng Logistics Co., Ltd. on energy management
	Installation of the solar power system in own warehouses
Green Operations	Environmental assessment for new large distribution centers
	Administrative papers reduction
Climate Action	Reduction of waste per capita in the headquarters complex
	Green procurement policy development and implementation
	GHG inventory and expansion of the scope of the inventory
Climate Action	Commitment to join SBTi to initiate total carbon emission reduction plans
	Establishment of an efficient energy management system

1.1 Green Partnership

Promoting circular boxes with suppliers

- To eliminate the use of general cardboard boxes, reduce resource consumption and waste disposal costs, momo provides suppliers with reusable logistics boxes, and in 2022 we negotiated a deal with seven suppliers for a lease, leading to a cumulative use of 288 circular boxes and a decrease of 2.2 tonnes of carbon emissions.

Node-removal program

- Since 2018, momo has been pushing for node-removal transportation. By 2022, 13 suppliers and 25 brands had partnered with us for the node-removal program.
- The node-removal program is growing to encompass 69 categories, including nappies, toilet paper, water and beverages, detergents, and more. The number of node-removal shipments reached 1,143,693 in 2022, up 86% from 2021, saving 75.39 tonnes of CO₂e.

Node-removal operating models

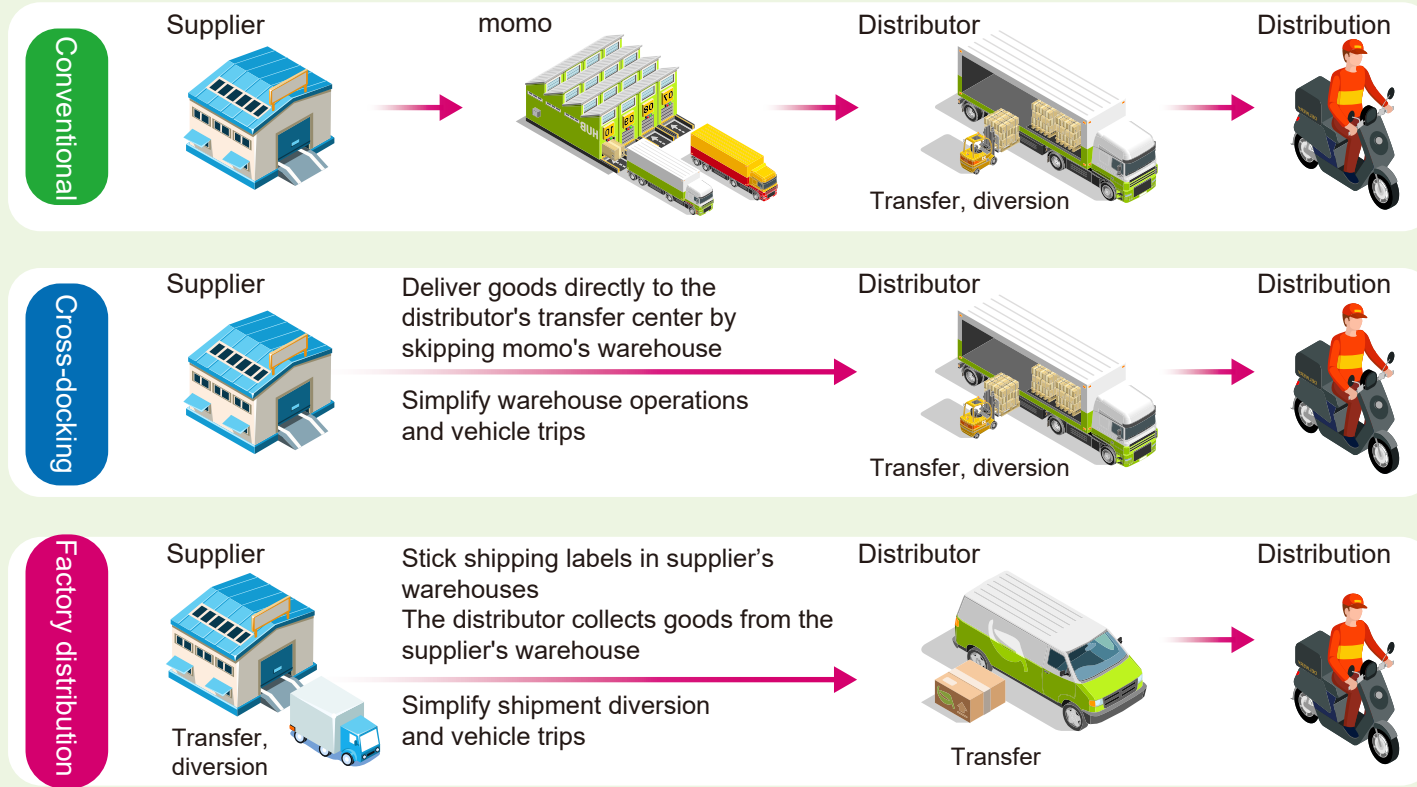


Fig. 2 Node-removal operating models

Transport efficiency improvement program for distributors

- In 2022, the total number of locations for convenience store (the four major convenience store chains), Taiwan Mobile stores and iBox pick-up reached 13,000, and the range of products available for pick-up service extended from room-temperature products to low-temperature and fragile products. In 2022, the number of pick-ups at convenience stores hit approximately 5.546 million, up 43% compared to the same period in the baseline year 2021.
- We plan to expand cooperation with the convenience store chains to allow consumers to use the return service at the nearest store so that logistics workers can collect returns at the same time as they are delivering the goods to the establishments, thus reducing the number of trips to collect returns from door to door.
- We plan to collaborate with distribution operators. When the goods are shipped from momo's warehouses in the central and southern regions, the courier service provider can deliver the goods directly to the specified convenience store for pick-up, cutting the number of trips to the northern warehouse for concentrated transportation.

Contents

Chairman's Message

CH 1. momo Profile

CH 2. Preparation of the Report

CH 3. TCFD Disclosure Items

CH 4. Environmental
Sustainability Milestones

CH 5. Appendix

1.2 Green packaging

By responding to the Environment Protection Administration's "Parties Subject to and Means for Online Shopping Packaging Restrictions," which is to come into effect in 2023, momo has cut down on packaging material and innovated packaging material technology in advance. With the aid of big data analytics and systems to analyze the location in which the product is warehoused and packaged for outbound shipments, we decrease the use of cross-warehouse shipments in separate cartons and of cardboard boxes and packaging materials, thus boosting the loading and utilization rates of distribution vehicles.

Circular packaging initiatives

- B2C reusable bags can be placed at over 10,000 recovery locations in mailboxes, i-Boxes, and Simple Mart stores across Taiwan, and we continue negotiating with our partners and convenience store chains over recycling channels, with 22,822 units shipped in 2022.
- In collaboration with the Tzu Chi Foundation's seven "Tzu Chi Environmental Education Stations," they provide recovery locations and dispatch volunteers to assist in the selection of cardboard boxes that is up to standard.
- We have set up circular box recovery stations for employees at the momo headquarters and the Ruiguang office building and have raised awareness by publishing bulletins.
- We plan to operate a "Green Life Membership" segment, where consumers can freely choose to use circular packaging and order consolidation, to cultivate a customer base for sustainable consumption.

Packaging material recycling and reduction

- We use 100% recycled pulp to produce original-color cartons with less than 30% of the printing area.
- By raising the number of carton sizes to 33, a wide choice of carton sizes leads to a decrease in the consumption of cushioning materials and lowers the space left in the online shopping package.
- We increased the proportion of our imported goods shipped in green packaging and in original boxes to 46.9% in 2022, up 5.9% from 2021. We have also worked with vendors of imports to ensure that products are packaged by them in the same way as momo intends to sell them, thus saving the waste of packaging materials for repackaging.
- We offer suppliers smaller sizes of momo labels, fine-tune packaging for specific product types, and develop paper packaging materials.

- The average weight of packaging materials per unit in 2022 was 204.9 grams, down 6.8% (15.0g less) from 2021; cushioning material use was 17.6% lower than the same period in 2021.

Innovations in packaging material technology

- We applied AI technology to develop the "Optimal Packaging Suggestions Module" to help frontline workers select the most suitable packaging size and streamlined the packaging SOPs.
- The share of recycled plastic in eco-friendly recycled bags reached 30% in 2022, and the printing area of the recycled bags are less than 20%..
- We promote hydrolyzed gummed paper tape made from FSC-certified pulp and vegetable starch, to produce an adhesive that becomes sticky when exposed to water.
- We promote FSC-certified honeycomb paper bags to minimize the use of cushioning materials.
- The cardboard boxes are made from 100% internationally certified recycled pulp.
- Reusable bags are made from recycled plastic formed by thermally melting waste plastic film collected from warehouses and can be reused up to 25 times.



Contents

Chairman's Message

CH 1. momo Profile

CH 2. Preparation of the Report

CH 3. TCFD Disclosure Items

CH 4. Environmental Sustainability Milestones

CH 5. Appendix

1.3 Green Transportation

momo's two-pronged approach of "green fleet" and "reducing the carbon footprint of transportation" not only lessens the carbon footprint of logistics and transportation but also creates a green transportation action plan to boost the efficiency of logistics fleet.

Green fleet

- All vehicles purchased are environmentally friendly, with 144 trucks and 145 scooters meeting Tier 1 energy efficiency and Tier 2 energy efficiency requirements, respectively, and all fossil fuel vehicles are tested for emissions as required by law. Moving forward, we will continue to grow electric vehicles' share in logistics and transportation services.
- With the introduce of commercial three-wheeled electric scooters by the end of 2022, carbon emissions during transportation are expected to be reduced, and the container capacity of the electric scooters is about three times bigger than that of the large containers of existing scooters, allowing more cargo to be carried and boosting transportation efficiency.
- Our own fleet is regularly on maintenance programs to extend the life of vehicles and cut down the resource consumption associated with the replacement of broken vehicles.

Shortening the last-mile delivery and reducing the carbon footprint of transportation

- We have built 54 main warehouses and satellite warehouses all over Taiwan, with AI systems in place to map out the best or shortest distribution routes and integrate various logistics nodes to drive short-chain distribution.
- With the in-house shipment transfer mode, we minimize the need to carry shipments to specific consolidation warehouses and then transfer them out for distribution.
- By teaming up with the existing logistics systems of the four major convenience store chains, pick-up service at Taiwan Mobile stores, and i-Boxes, we combine and deliver shipments from different consumers to individual stores, thus shortening the last-mile distance for distribution. As the average distribution distance for a parcel is 0.7 kilometers in the last mile of delivery, the overall kilometers saved for the convenience store channels in 2022 were 3.882 million, cutting energy consumption by about 2,508.5 GJ and carbon emissions by about 231.4 tonnes.
- In collaboration with suppliers and distributors on the "node-removal (factory distribution / cross-docking) project," we have ramped up the types of shipments to be distributed,

bringing down the number of home delivery transfer trips by 2,239 and further reducing the ton-kilometers of transfer by 320,818, for a total decrease of 75.39 tonnes of CO₂e emissions and 3,224.75 GJ of energy consumption in 2022.

1.4 Climate action

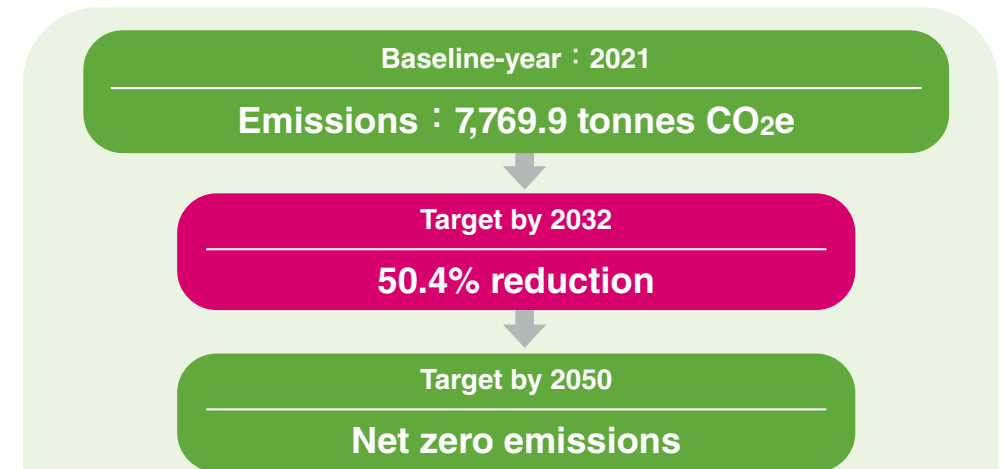
momo formed an "Environmental Management Committee," formulated environmental safety and health management policies, and regularly tracked and operated the environmental management system on a daily basis. Since introducing ISO 14064-1 GHG Inventory in 2016, we have passed a third-party verification every year, brought in the ISO 14001 Environmental Management System at the end of 2018, and acquired the ISO 14001 certification in 2019 and again in 2022.

In addition, committed to joining the SBTi in 2022, momo sets annual carbon reduction goals and actions to achieve net zero carbon emissions by 2050. It is slated to pass an SBTi audit in 2024. In 2023, momo introduced the ISO 14067 Carbon Footprint Inventory and is scheduled to apply for the Carbon Footprint Label to furnish consumers with transparent information on carbon emissions from e-commerce services.

GHG reduction and management

momo set GHG reduction targets in 2022, and the targets are as follows:

Table 3 GHG reduction targets



Note: The baseline-year emissions were Scope 1 and Scope 2 from the headquarters complex, the Northern Distribution Center and the four main warehouses (Luzhu, Linkou, Lusi and Nangong).

- Contents
- Chairman's Message
- CH 1. momo Profile
- CH 2. Preparation of the Report
- CH 3. TCFD Disclosure Items**
- CH 4. Environmental Sustainability Milestones
- CH 5. Appendix

The GHG emissions of momo for the last three years are as follows:

Table 4 GHG emissions over the past three years

Direct / Indirect Emissions	Scope	2020	2021	2022
Direct emissions (tonnes CO _{2e})	Scope 1	337.92	384.99	1,595.48
Indirect emissions (tonnes CO _{2e})	Scope 2	5,353.62	7,384.91	13,240.45
	Scope 3	3,663.9	2,204.74	1,524,208.69
Total emissions		9,355.43	9,974.64	1,539,044.62
Emissions per capita		3.8	3.6	2.7

Note 1: Inventory boundaries over the years: 2020 - Headquarters complex, Northern Distribution Center; 2021 - Headquarters complex, Northern Distribution Center and four main warehouses (Luzhu, Linkou, Lusi, and Nangong); 2022 - momo and its domestic subsidiaries (Fuli Personal Insurance, Fuli Comprehensive Insurance, Bebe Poshe International, Fu Sheng Logistics, Prosperous Living Co., Ltd.).

Note 2: The GHGs counted were carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, sulfur hexafluoride, and nitrogen trifluoride.

Note 3: Emissions per capita: The calculation method for 2022 was "GHG (Scope 1 and 2) emissions / the workforce of momo and its subsidiaries (Fuli Personal Insurance, Fuli Comprehensive Insurance, Bebe Poshe International, Fu Sheng Logistics, Prosperous Living Co., Ltd.) (including workers from employment agencies)," which differed from that for 2020 and 2021.

1.5 Green operations

Paper reduction and paperlessness

momo is going paperless in three ways - "consumer channel," "supplier," and "internal sign-off" - to not only minimize the use of paper but also to improve operational efficiency. By going paperless, momo cut down carbon emissions by 431.6 tonnes in 2022.

Table 5 Description of "go paperless" promotion

Directions for Going Paperless	Description	Performance in 2022
Consumer Channel	Introducing e-receipts in 2015 with the use of the Internet and voice confirmation in place of consumer sales return certificates, as well as the switch from payment receipts in paper to electronic format by email for the sale of travel itineraries.	<ul style="list-style-type: none"> • The total reduction in paper consumption of approx. 55.91 million sheets
Supplier	Streamlining the process of suppliers checking accounts by using the B2B value-added center over the Internet to verify statements and issue the receipts of payments for goods and sponsorship and the returns allowance slips, cutting the use of traditional paper receipts and paper-based methods for account checks, as well as saving postal processes.	<ul style="list-style-type: none"> • 80.75% paperless operations for suppliers checking accounts • The total reduction in paper consumption of approx. 576,500 sheets
Internal Sign-off	Reducing the amount of paper used in the office and enhancing the transparency of the sign-off process.	<ul style="list-style-type: none"> • Introduced 71 electronic forms • Savings of 241,700 sheets thanks to electronic forms and taxi vouchers

Waste reduction

In 2022, momo instituted an annual waste reduction program, according to the ISO 14001 Environmental Management System, which addresses waste recycling, reduction, and reuse from two main operational sites, the headquarters complex and the warehouses.

- **Headquarters complex:** Since the launch of the Office Waste Reduction Program in 2020, the amount of waste has been reduced year on year by taking measures such as recycling, encouraging paper reuse, bringing one's own eco-friendly tableware, and holding video conferences. In 2022, the volume of waste per capita stood at 0.0133 tonnes, a 20.36% reduction against the baseline year of 2020, with a total of 9.87 tonnes recovered.
- **Warehouse:** Dedicated to boosting the resource recovery rate in the warehouse, momo scaled up the statistical area in 2022, and the total volume of the waste amounted to approximately 568.6 tonnes, and the recycling volume totaled around 3,085.15 tonnes. Going forward, momo will actively pursue the optimal use of warehousing resources and promote the recycling of resources.

Table 6 Warehouse waste recovery volume (In tonnes)

Item	2020	2021	2022
Cardboard box recovery	1,497.9	2,431.93	3,001.97
Plastic recovery	19.92	48.82	81.59
Bubble wrap recovery (Note 2)	0.116	0.713	1.59
Total resources recovery	1,517.93	2,481.46	3,085.15

Note 1: Scope of disclosure: 2020 - Northern Distribution Center; 2021 - Northern Distribution Center, 4 main warehouses (Luzhu, Linkou, Lusi, Nangong); 2022 - 100% data coverage, warehouses operated and controlled by momo.

Note 2: Bubble wrap recovery commenced in Q4 2020.

Green procurement

Since 2021, momo has introduced a green procurement policy, prioritizing the purchase or lease of products with energy-saving and environmental labels. In 2022, we scaled up and brought in products or services with carbon footprint reduction labels, FSC labels, etc., with the amount of green procurement totaling NT\$778,866,963.

1.6 Green warehousing

momo is actively working towards net zero carbon reduction and mitigating the effects of climate change by installing a solar power system in the distribution center and introducing automated facilities. In view of the potential for climate change to exacerbate short-term and long-term disasters, we have also considered environmental factors in the location selection and design of our logistics and warehousing facilities to bolster our resilience to climate change.

Renewable energy and building energy efficiency

- The Northern Distribution Center uses a wide range of eco-friendly building materials and energy-efficient designs, including double-layered walls, multi-layered low-E glass, tunnel air and drencher systems, natural ventilation systems, and rainwater recycling for planting and irrigation. The Southern Distribution Center and the Central Distribution Center are designed based on the green building concept and are scheduled to commence operation in 2023 and 2027, respectively. Through the use of normally-open sliding doors, exhaust air vents, slow-speed fans, and oblique-flow fans, it is possible to bring down the radiant heat absorption by external walls, induce tunnel air, and direct natural ventilation and convection, effectively cutting the energy consumption of air-conditioning.
- The completed Northern Distribution Center and the Southern and Central Distribution Centers under construction and planning are all fitted with solar power generation facilities, with the former generating approximately 1,100,000 kWh of electricity per year and the latter expected to produce approximately 1,300,000 kWh of electricity each upon inauguration.



Contents

Chairman's Message

CH 1. momo Profile

CH 2. Preparation of the Report

CH 3. TCFD Disclosure Items

CH 4. Environmental
Sustainability Milestones

CH 5. Appendix

Environmental assessment

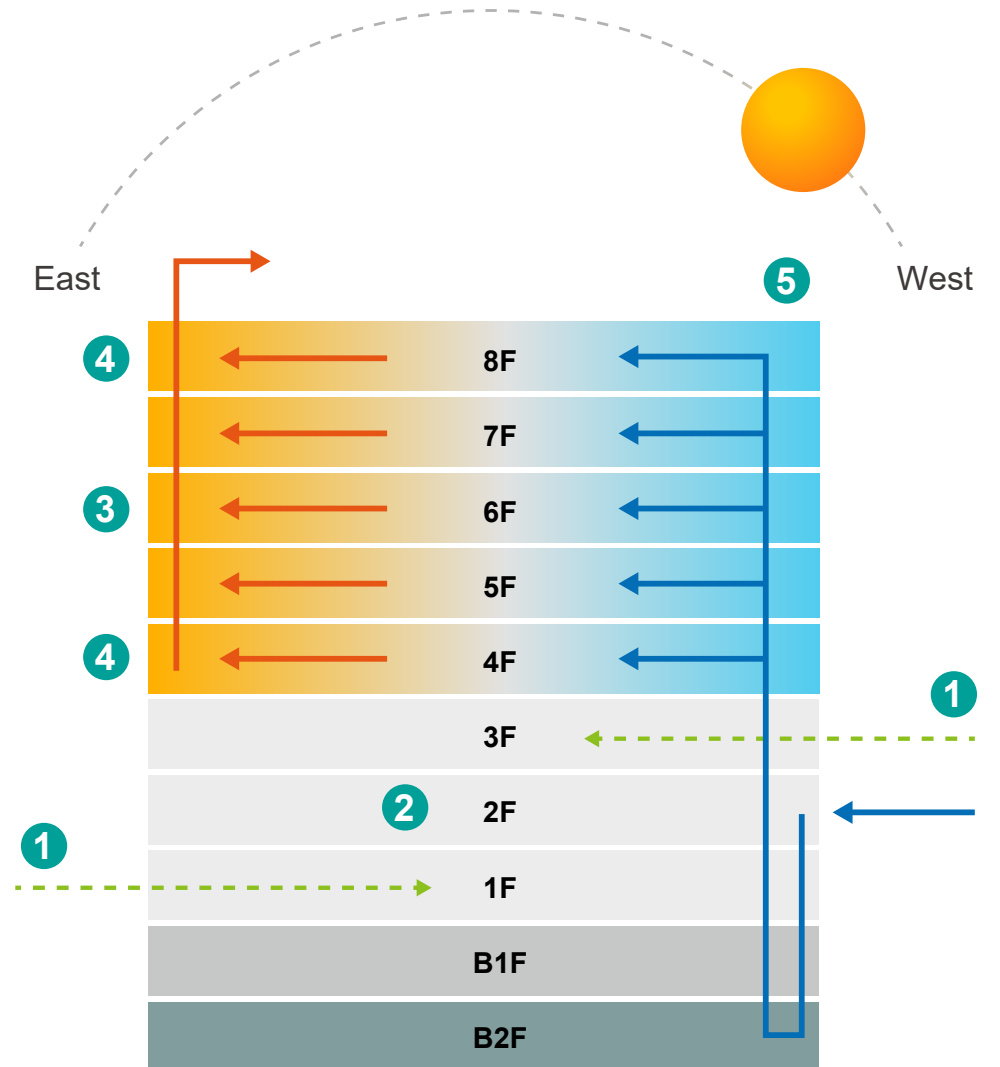
- A comprehensive environmental assessment is conducted for every major distribution center prior to construction, including effluent control, soil liquefaction assessment, soil, and groundwater level monitoring, traffic impact assessment, etc. In addition, a green belt is planned and built to ensure that the original surface runoff diversion function is not affected during heavy rainstorms and to meet flood control needs, while an expert review meeting is held to revamp the plant establishment plans with expert advice to ensure that the impact is minimized.

Flood control

- We have built an effluent control facility for the Central Distribution Center under construction. The drainage ditches, water collecting wells, and stormwater inflow pipes around the site channel water into the raft-foundation detention pond, whose level is regulated by pumps and control valves to cope with the detention volume during rainstorms after the development of the site.

Southern Distribution Center Ventilation Design, Tunnel Air Design

- 1st floor, 3rd floor: natural ventilation
- 2nd floor: primary air handling unit + small air supply fan
- 5th-7th floors: Ceiling air handling unit + jet air outlet
- 4th & 8th floors: precision air conditioners
- Whole building: Environment detection system



Installation of variable frequency water pump for ice and water volume adjustment according to usage and time of day
To achieve flexible air conditioning capacity allocation

Fig. 3 Distribution center ventilation and tunnel air design

Contents

Chairman's Message

CH 1. momo Profile

CH 2. Preparation of the Report

CH 3. TCFD Disclosure Items

CH 4. Environmental Sustainability Milestones

CH 5. Appendix

2 Climate-related risk and opportunity identification process

momo also attaches significance to the implications of climate change on the Company's overall operational value chain and analyzes the potential climate-related risks and opportunities along the value chain:

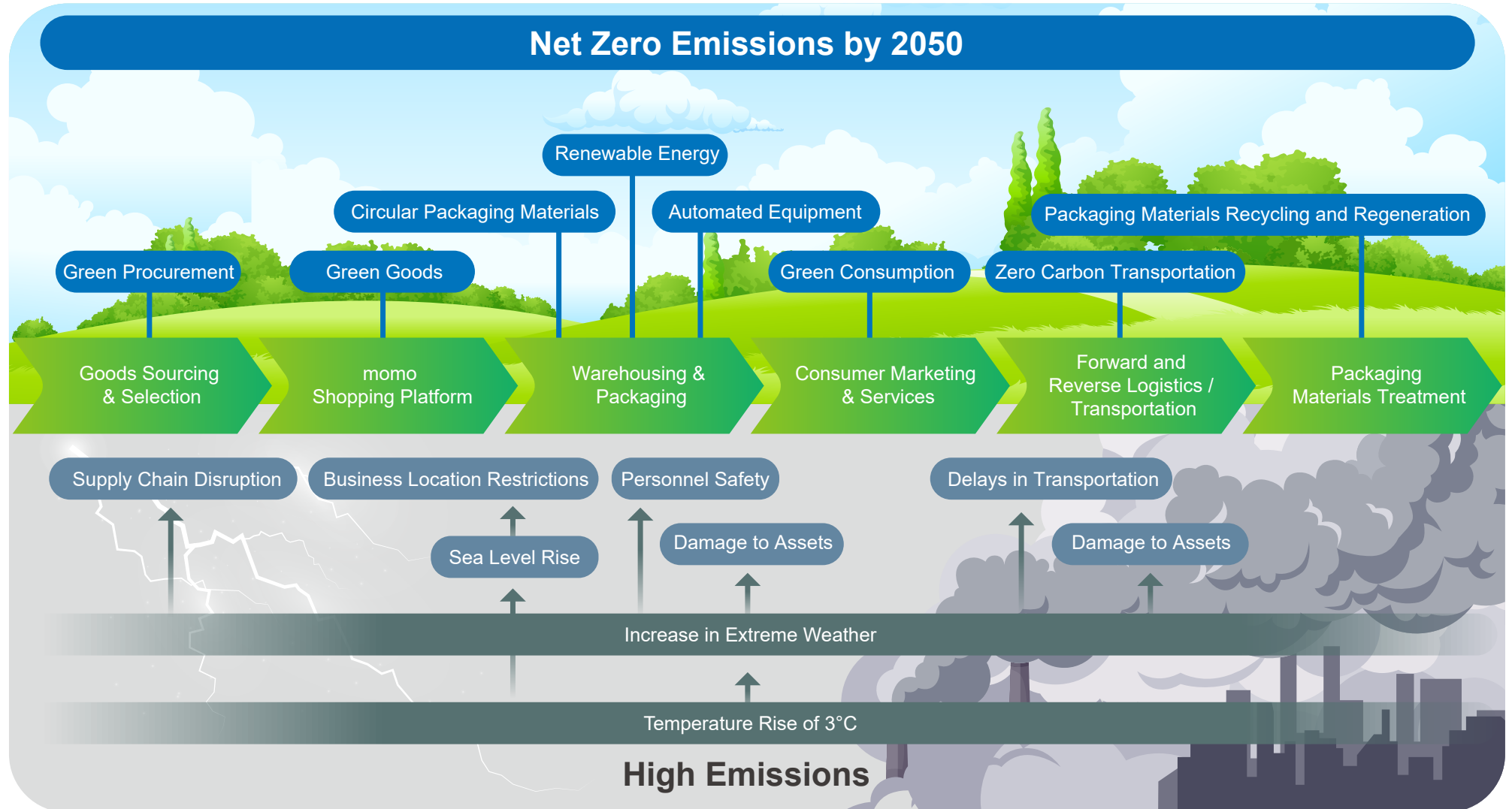


Fig. 4 momo value chain

- Contents
- Chairman's Message
- CH 1. momo Profile
- CH 2. Preparation of the Report
- CH 3. TCFD Disclosure Items**
- CH 4. Environmental Sustainability Milestones
- CH 5. Appendix

Through the climate risk and opportunity identification process described below, momo keeps informed of the short-, medium- and long-term topics on climate-related risks and opportunities associated with the Company's operations in a given climate scenario and conducts financial impact analysis on the top-ranked topics in terms of their significance.

2.1 Collection of data on climate issues

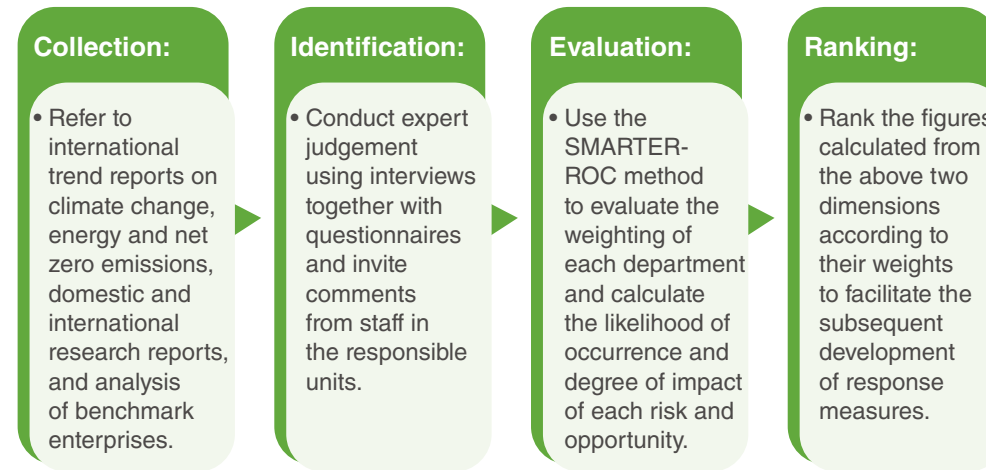


Fig. 5 Climate-related risk and opportunity identification process

According to reports regularly published by the International Energy Agency (IEA) and the Intergovernmental Panel on Climate Change (IPCC), momo has selected the Net Zero Emissions by 2050 Scenario (NZE), SSP¹ 1-2.6 and SSP 5-8.5 scenarios, and compiled a list of transition risks, physical risks and opportunity issues² that reflect the business characteristics of momo at each time scale.

Note 1: SSP stands for Shared Socioeconomic Pathway, whereby scenario simulations are carried out to assess the social and economic consequences following policy implementation.

Note 2: Transition risks refer to the financial and reputational risks facing an organization amidst changes in policy, law, technology, and markets that may be warranted by the transition to a low-carbon economy. Physical risks represent the potential financial impacts of climate change on an organization during immediate extreme weather events and long-term extreme temperature variations. Opportunities mean those that an organization can create to mitigate and adapt to climate change.

Based on the definitions of short-, medium- and long-term time horizons, the following table shows the period of occurrence of climate-related risks and opportunities:

Table 7 Length of time for climate change risks and opportunities

Duration	Length of Time	Period	Description
Short-term	0-1 year	2022-2023	In line with the Company's sustainability strategy, momo has set a short-term timeframe of 2022 to 2023.
Medium-term	1-10 years	2024-2030	Based on the IEA's World Energy Outlook 2020 report, which identifies the global energy transition and carbon reduction pathway between now and 2030, momo has set medium-term targets by analyzing the transition risks of climate change.
Long-term	11-30 years	2031-2050	In keeping with the international trend of most countries setting net-zero emissions targets by 2050, momo has set net-zero carbon emissions targets by 2050.

2.2 Climate scenario description

To get a good grip on the risks that momo may encounter in the years ahead under the influence of extreme climate and the potential development opportunities towards net zero emissions, three climate scenarios were adopted for the simulation of climate-related risks and opportunities, including NZE, SSP 1-2.6 and SSP 5-8.5 scenarios:

- NZE scenario: To achieve the goal of keeping the Earth's warming below 1.5°C, the IPCC published a special report in 2018 recommending that the world should take action to cut emissions by half by 2030 and reach net zero emissions by 2050. In the IEA's World Energy Outlook report released in 2021, NZE represents the scenario in which countries are most active in promoting reduction measures, indicating that they will achieve net zero emissions by 2050. The application of this scenario could echo the future global trend of actively pushing reduction policies.

Contents

Chairman's Message

CH 1. momo Profile

CH 2. Preparation of the Report

CH 3. TCFD Disclosure Items

CH 4. Environmental
Sustainability Milestones

CH 5. Appendix

- SSP 1-2.6 and SSP 5-8.5 scenarios: The IPCC's Sixth Assessment Report (AR6) published in 2021 changes the RCP scenario used in the previous AR5 to the SSP scenario by incorporating factors such as population growth, economic development, technological innovation, corporate governance and behavioral change. SSP 1-2.6 represents a scenario where the world is moving towards low GHG emissions, while SSP 5-8.5 signals a scenario in which the global market is consolidating, and the successful resolution of many environmental issues has led to a widespread belief that even with a full commitment to fossil fuels, it is possible to make progress towards a high level of emissions in a sustainable manner.

2.3 Methodology for assessing climate-related risks and opportunities

After creating a list of risk and opportunity topics, the relevant departments assist in identifying and evaluating the risks and opportunities, ranking the importance of the departments corresponding to each topic, calculating the weight percentage of each department in the topic, and consulting common methods employed in risk management practice. The following formula is applied to assess the significance of the risks and hazards with respect to the degree of harm caused by each risk:

$$\text{Risk hazard} = \text{likelihood of occurrence} * \text{level of impact}$$

2.4 Analysis of climate-related risk and opportunity topics

Through the climate-related risk and opportunity identification process described above, momo in 2022 identified a total of 9 transition risks, 7 physical risks, and 7 opportunity topics. A matrix of topics for climate-related risks and opportunities plotted based on risk hazard values is shown below:

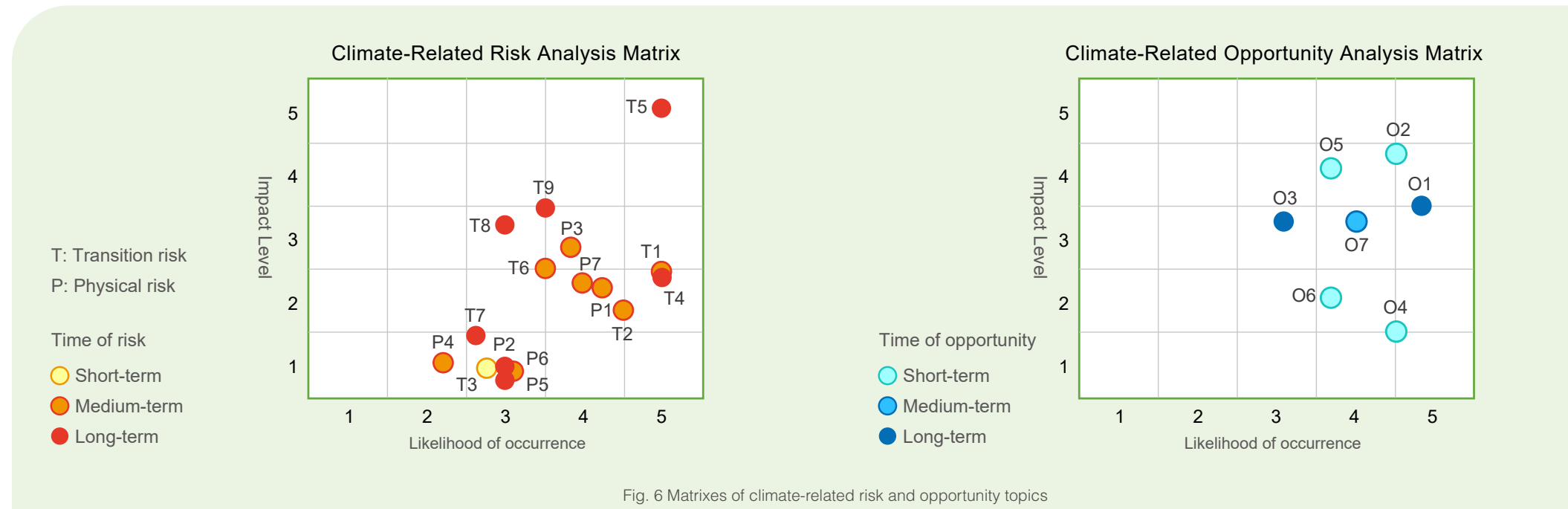


Fig. 6 Matrixes of climate-related risk and opportunity topics

Contents

Chairman's Message

CH 1. momo Profile

CH 2. Preparation of the Report

CH 3. TCFD Disclosure Items

 CH 4. Environmental
Sustainability Milestones

CH 5. Appendix

The climate-related risk and opportunity topics identified are enumerated below according to the time frame of occurrence:

Table 8 Climate-related risk topics

Order	No.	Type	Risk Topic	Description	Duration
1	T5	Transition Risk	Zero carbon building conversion	In view of the trend of low-carbon development and zero-carbon buildings, momo will incur higher operating costs in upgrading existing buildings.	Long-term
2	T1	Transition Risk	Renewable energy upgrades	To meet international and Taiwanese government requirements on the use of renewable sources by enterprises, momo needs to raise the proportion of renewable energy used in the operations, which in turn will lead to higher operating costs.	Medium-term
3	T4	Transition Risk	Electric vehicles in place of fossil-fuel vehicles	In line with the low carbon development trend, the promotion of electric vehicles in lieu of fossil-fueled vehicles will lead to higher operating costs as momo seeks to upgrade the existing logistics fleet.	2022-2032, Long-term ³
4	T9	Transition Risk	Insufficient sustainability	If the Company does not take a proactive approach to sustainability, it risks losing favor with consumers.	Long-term
5	P3	Physical Risk	Extreme weather leading to supply chain disruptions	The Company's operations and customers' rights are undermined when its business premises are exposed to extreme weather conditions such as typhoons, rainstorms, and floods, which cause power cuts, traffic interruptions, and equipment damage, resulting in supply chain disruptions.	Medium-term
6	P1	Physical Risk	Damage to assets and equipment	The Company's assets and equipment (e.g., office locations, logistics fleet, warehousing locations, merchandise) are damaged due to extreme weather conditions such as typhoons, rainstorms, and floods, which affects the normal operations and the frequency of annual maintenance of the equipment.	Medium-term
7	T8	Transition Risk	Stagnation in sustainability performance	The Company's stagnating sustainability performance has led to a dip in sustainability ratings and a loss of investor interest.	Long-term
8	P7	Physical Risk	Rising average temperatures	The rise in average temperature has resulted in higher energy consumption for air conditioning, emergency power supply, and electricity costs at business locations.	Medium-term

Note 3: This topic has two possibilities: According to momo's target for bringing in electric scooters by 2022 and achieving a 100% share of electric scooters in the total number of scooters by 2032, the period is set between 2022 and 2032. momo expects to introduce 925 electric trucks by 2050, so the timeframe is long-term.

Contents

Chairman's Message

CH 1. momo Profile

CH 2. Preparation of the Report

CH 3. TCFD Disclosure Items

CH 4. Environmental
Sustainability Milestones

CH 5. Appendix

Order	No.	Type	Risk Topic	Description	Duration
9	T6	Transition Risk	Net zero technology development	As a result of the net-zero emissions trend, the Company has devoted itself to research and development of net-zero technologies, which in turn has led to higher R&D costs or investment failures.	Medium-term
10	T2	Transition Risk	Carbon fee increase	Under the emerging regulations relating to carbon pricing, the Company is required to pay a carbon fee, which in turn increases its operating costs.	Medium-term
11	T7	Transition Risk	Negative environmental news	With government and community awareness of the environment on the rise, the Company needs to deploy its staff to respond to public opinion if negative environmental news is exposed or, worse, risk a shutdown or climate lawsuit.	Long-term
12	P2	Physical Risk	Additional equipment for extreme weather	To prevent the Company from being exposed to extreme weather events, such as typhoons, heavy rainfall, and flooding, which would seriously hamper the Company's operations, the costs associated with the installation of flood warning system equipment at the Company's business locations have increased.	Medium-term
13	P5	Physical Risk	Flooding of warehouses and premises	Global sea level rise has resulted in the flooding of warehouses and premises in low-lying areas, incurring additional relocation costs and higher insurance costs.	Long-term
14	T3	Transition Risk	Investment in packaging material reduction technology	Following the trend of legalizing the reduction of online shopping packaging volume, the increase in the use of recycled materials, circular boxes / reusable bags, and the development of weight reduction technology for packaging materials will lead to a rise in operating costs.	Short-term
15	P6	Physical Risk	Higher personnel costs due to warming	As the average temperature rises, there is an increased chance of employees leaving their workplace due to the temperature rise, as well as a higher risk of personal safety issues (proportion of outdoor work) and greater insurance costs.	Long-term
16	P4	Physical Risk	Extreme weather causing casualties	Casualties caused by extreme weather events such as typhoons, rainstorms, and heat waves push up medical and insurance expenses.	Medium-term

Contents

Chairman's Message

CH 1. momo Profile

CH 2. Preparation of the Report

CH 3. TCFD Disclosure Items

CH 4. Environmental
Sustainability Milestones

CH 5. Appendix

Table 9 Climate-related opportunity topics

Order	No.	Type	Opportunity Topics	Description	Duration
1	O2	Opportunity	Logistics and transport efficiency improvements	Through the R&D and innovation of logistics-related technologies, the Company's transportation efficiency is boosted to reduce carbon emissions in the process, while customer satisfaction is enhanced through time savings in distribution, leading to higher revenue.	Short-term
2	O1	Opportunity	Zero carbon logistics	The Company develops more efficient ways of transport and gains the opportunity to expand its logistics business and tap into new markets as a result of creating zero carbon distribution.	Long-term
3	O5	Opportunity	Green goods	As consumer behavior changes, the preference for more energy-efficient electrical equipment and environmentally friendly products is on the rise. The Company responds to this trend early to improve customer satisfaction, driving up its revenue.	Short-term
4	O7	Opportunity	Proactive sustainability	momo's proactive approach to sustainability continues to win the hearts of investors.	Medium-term
5	O3	Opportunity	Zero carbon warehousing	The Company turns existing and future warehouse buildings into more energy-efficient ones and gains the opportunity to break into new markets by creating zero-carbon warehousing.	Long-term
6	O6	Opportunity	Environmental sustainability regulations	If the Company responds early to the government's growing requirements for environmental sustainability in logistics and packaging materials, it will become a benchmark case for the industry, which will, in turn, boost its goodwill and revenue.	Short-term
7	O4	Opportunity	Packaging materials R&D	To reduce the carbon emissions of its operations, the Company has invested in the development of packaging materials for its products, enabling itself to expand into new business areas.	Short-term

Contents

Chairman's Message

CH 1. momo Profile

CH 2. Preparation of the Report

CH 3. TCFD Disclosure Items

CH 4. Environmental
Sustainability Milestones

CH 5. Appendix

2.5 Climate-related risks/opportunities in relation to momo's operational value chain

Table 10 Climate-related risks and opportunities and the value chain

Topic	Nodes of Risk					
	Goods Sourcing & Selection	momo Shopping Platform	Warehousing & Packaging	Consumer Marketing & Services	Forward and Reverse Logistics / Transportation	Packaging Materials Treatment
Zero carbon building conversion			V			
Renewable energy upgrades			V			
Electric vehicles in place of fossil-fuel vehicles					V	
Insufficient sustainability		V		V		
Extreme weather leading to supply chain disruptions	V		V		V	
Damage to assets and equipment			V		V	
Stagnation in sustainability performance	V	V	V		V	V
Rising average temperatures			V			
Net zero technology development	V		V		V	V
Carbon fee increase	V	V	V	V	V	V
Negative environmental news	V		V	V		
Additional equipment for extreme weather			V			
Flooding of warehouses and premises			V			
Investment in packaging material reduction technology			V			V
Higher personnel costs due to warming			V		V	
Extreme weather causing casualties			V		V	

- Contents
- Chairman's Message
- CH 1. momo Profile
- CH 2. Preparation of the Report
- CH 3. TCFD Disclosure Items**
- CH 4. Environmental Sustainability Milestones
- CH 5. Appendix

Topic	Nodes of Opportunity					
	Goods Sourcing & Selection	momo Shopping Platform	Warehousing & Packaging	Consumer Marketing & Services	Forward and Reverse Logistics / Transportation	Packaging Materials Treatment
Logistics and transport efficiency improvements					V	
Zero carbon logistics					V	
Green goods	V	V		V		
Proactive sustainability	V	V	V	V	V	V
Zero carbon warehousing			V			
Environmental sustainability regulations		V	V			
Packaging materials R&D			V			V

3 Assessment of the financial impact of climate-related risks and opportunities

In the calculation of the materiality of risk hazards, the first three topics are all about transition risks, including "In view of the trend of low carbon development and zero-carbon buildings, momo will incur higher operating costs in upgrading existing buildings (T5)," "To meet international and Taiwanese government requirements on the use of renewable sources by enterprises, momo needs to raise the proportion of renewable energy used in the operations, which in turn will lead to higher operating costs (T1)" and "In line with the low carbon development trend, the promotion of electric vehicles in lieu of fossil-fueled vehicles will lead to higher operating costs as momo seeks to upgrade the existing logistics fleet (T4)."

Further, as the Company has included the impact of extreme weather and natural disasters on the Company's operations as one of the major operational risks, the first-ranked topic among the physical risks, "The Company's operations and customers' rights are undermined when its business premises are exposed to extreme weather conditions such as typhoons, rainstorms, and floods, which cause power cuts, traffic interruptions, and equipment damage, resulting in supply chain disruptions (P3)," was incorporated into the financial impact assessment together with the first three transition risk topics:

Transition risk (T5):

In view of the trend of low-carbon development and zero-carbon buildings, momo will incur higher operating costs in upgrading existing buildings.

- Impact: Under the IEA's net zero by 2050 roadmap, all countries and regions are required to fulfil zero-carbon requirements for new buildings by 2030. Additionally, according to Taiwan's Pathway to Net-Zero Emissions in 2050, 100% of new buildings and more than 85% of existing buildings will need to reach near zero carbon emissions by 2050, and momo's revamp of current buildings will push up operating costs in keeping with this trend.
- Period of occurrence of the issue: long-term (2031-2050)
- Potential financial impact (in NTD): Calculated based on a one-off upgrade of the distribution center to a green building, lighting and air-conditioning equipment to a Tier 1 energy-saving facility, upgrade of leased buildings and warehouses to diamond-grade green buildings.
- **Average one-year potential financial impact: approximately 0.19% of revenue in 2022**

Transition risk (T1):

To meet international and Taiwanese government requirements on the use of renewable sources by enterprises, momo needs to raise the proportion of renewable energy used in the operations, which in turn will lead to higher operating costs.

- Impact: According to the IEA's net zero by 2050 roadmap, conventional energy will be phased out by 2030, and momo's efforts to ramp up the share of renewable energy to keep up with this trend will drive up the operating costs.
- Period of occurrence of the issue: medium-term (2025-2030)
- Potential financial impact (in NTD): With the year 2021 as the baseline year, we took into account factors such as annual electricity consumption growth, increased renewable energy generation for own consumption at new distribution centers, annual carbon reduction percentages, and purchased electricity.

- **Average one-year potential financial impact: approximately 0.06% of revenue in 2022**

Transition risk (T4):

In line with the low carbon development trend, the promotion of electric vehicles in lieu of fossil-fueled vehicles will lead to higher operating costs as momo seeks to upgrade the existing logistics fleet.

- Impact: According to the IEA net zero by 2050 roadmap, the proportion of electric vehicles will reach 20% by 2030 and 60% by 2040. Moreover, the Taiwanese government has announced that it plans to end the sale of fossil fuel cars and scooters by 2040, and momo's purchase of electric vehicles in response to this trend will drive up the operating costs.
- Period of occurrence of the issue: Electric scooters in short- and medium-term (2022-2032), electric trucks in the long-term (2031-2050)⁴
- Potential financial impact (in NTD): Calculated based on one-off replacement with and purchase of electric scooters and construction of charging piles, and one-off substitution with electric trucks.

- **Average one-year potential financial impact: electric scooters and electric trucks represented approximately 0.01% and 0.04% of revenue in 2022, respectively.**

⁴Note 4 The period of occurrence is calculated on the basis of momo's separate targets for bringing in electric scooters and electric trucks as financial impact. Electric scooters will constitute 100% of the total scooters by 2032, and the number of electric trucks will hit 925 by 2050.

Physical risk (P3):

The Company's operations and customers' rights are undermined when its business premises are exposed to extreme weather conditions such as typhoons, rainstorms, and floods, which cause power cuts, traffic interruptions, and equipment damage, resulting in supply chain disruptions.

- Impact: The frequency and intensity of extreme weather events such as typhoons, rainstorms, and floods grow in the aftermath of climate change. Disruptions to momo's operations and supply chain due to flooding caused by extreme weather will lead to lower revenue.
- Period of occurrence of the issue: medium-term (2024-2030)
- Potential financial impact (in NTD): By assuming that a strong typhoon strikes that causes a one-day disruption to operations and considering future revenue growth rates, we calculated the potential impact of a one-day disruption.

- **Potential financial impact: approximately 0.64% of revenue in 2022**

momo's top three climate change opportunities in order of significance are: "Through the R&D and innovation of logistics-related technologies, customer satisfaction is enhanced, leading to higher revenue (O2)," "The Company develops more efficient ways of transport and gains the opportunity to expand logistics business and tap into new markets as a result of creating zero carbon distribution (O1)" and "As consumer behavior changes, the preference for more energy-efficient electrical equipment and environmentally friendly products are on the rise. The Company responds to this trend early to improve customer satisfaction, driving up its revenue (O5)." The financial impact of the three material climate opportunity topics is described below:

Opportunity (O2):

Through the R&D and innovation of logistics-related technologies, the Company's transportation efficiency is boosted to reduce carbon emissions, while customer satisfaction is enhanced through time savings in distribution, leading to higher revenue.

- Impact: By boosting logistics efficiency, customer satisfaction with momo's services grows, while maintaining customer stickiness and attracting new customers have, in turn, driven up revenue.

- Period of occurrence of the issue: short-term (2022-2023)
- Potential financial impact: As of December 2022, momo had completed the construction of 35 satellite warehouses across Taiwan and promoted short-chain logistics in conjunction with 19 main warehouses while building an AI system to map out the optimal or shortest distribution routes. We also rolled out the "3-hour Supermarket Express Delivery" service in Taipei and New Taipei City to achieve the goal of fast delivery of fresh products. This service has slashed distribution time by nearly 50% compared to the previous 6-hour delivery service in Taipei and New Taipei City. The integration of the various logistics nodes effectively shortens the goods' delivery distance to the customers and can cut down the carbon footprint during transportation. Going forward, momo will continue pushing ahead with short-chain logistics strategy to provide low-carbon and efficient transportation services and to maintain steady revenue growth by consolidating consumers' trust in momo's green brand and increasing their repurchase rate.

Opportunity (O1):

The Company develops more efficient ways of transport and gains the opportunity to expand its logistics business and tap into new markets as a result of creating zero carbon distribution.

- Impact: Moving forward, Fu Sheng Logistics Co., Ltd. will continue to increase the proportion of electric vehicles year by year in alignment with momo's green vehicle fleet strategy while building up the capacity of logistics business so that momo can become the first operator in Taiwan to provide low to zero carbon distribution services, matching the expectations of the government and the market for net zero carbon emissions, and gaining opportunities to develop new markets for logistics business.
- Period of occurrence of the issue: long-term (2031-2050)
- Potential financial impact (in NTD): Projected revenue growth of Fu Sheng Logistics Co., Ltd. based on logistics and transportation market demand in 2050.
- **Potential financial impact: approximately 1.58% of revenue in 2022**

Opportunity (O5):

As consumer behavior changes, the preference for more energy-efficient electrical equipment and environmentally friendly products is rising. The Company responds to this trend early to improve customer satisfaction, driving up its revenue.

- Impact: According to a survey entitled "Willingness to Adopt Net-Zero Sustainable Practices" conducted in 2022 by the Industrial Technology Research Institute's Industry, Science and Technology International Strategy Center (ISTI), up to 90.9% of respondents had either "already" bought or were "likely" to purchase products with the Energy Saving Label or Tier 1 Energy Efficiency Label only when purchasing domestic appliances; 60.4% of respondents were "very likely" and "somewhat likely" to choose to buy seasonal food products produced in Taiwan; nearly 60% were "very likely" and "somewhat likely" not to use disposable or single-use plastic products. The survey indicated that consumers are placing a premium on the product's environmental performance. In addition to promoting the reduction of packaging materials, e-commerce operators are also steadily broadening their range of eco-friendly items.
- Period of occurrence of the issue: short-term (2022-2023)
- Potential financial impact (in NTD): Projected sales growth of momo's "Green Life" platform.
- **Potential financial impact: approximately 0.73% of revenue in 2022**

The above topics for climate-related risks and opportunities are ranked as follows according to the magnitude of the financial impact:

Unit: financial impact equivalent to a percentage of revenue in 2022

Risk		Year	Opportunity	
0.19%	Switch to zero-carbon buildings	2050	New market for zero carbon logistics	1.58%
0.04%	Switch to electric trucks	2031		
0.64%	Supply chain disruptions due to extreme weather	2030	Response to the rise of green consumption awareness	0.73%
0.06%	Purchase of renewable energy	2024		
0.01%	Switch to electric scooters	2023		
		-		
		2022		

Fig. 7 Ranking of the financial impact of climate-related risks/opportunities

(3) Risk Management

1 Integration of climate-related risks with the overall risk management system

momo stipulated the "Risk Management Regulations" on October 29, 2018, incorporating climate change as one of the significant operational risks and carrying out procedures to identify climate-related risks and opportunities, as well as formulating response strategies against risks, executing them layer by layer and tracking the effectiveness of risk management via three lines of defense for risk management.

The Board of Directors is the highest decision-making body for risk management, which implements and ensures the effective operation of the Company's risk management mechanism and assumes ultimate responsibility for risk management, while the President convenes responsible units to carry out risk management measures according to the type of risk. The risk management operation is divided into three lines of defense: first, the contact person at each unit or for each business activity; second, the heads of the units at each level; and third, management, for undertaking risk assessment and monitoring. The Auditing Office, an independent department under the Board of Directors, is tasked to perform internal audits and inspect and evaluate the execution of internal controls, compile the results of each unit's own evaluation and submit them to the Sustainable Development Management Committee and the Board of Directors for them to look into the effectiveness of the Company's risk management.

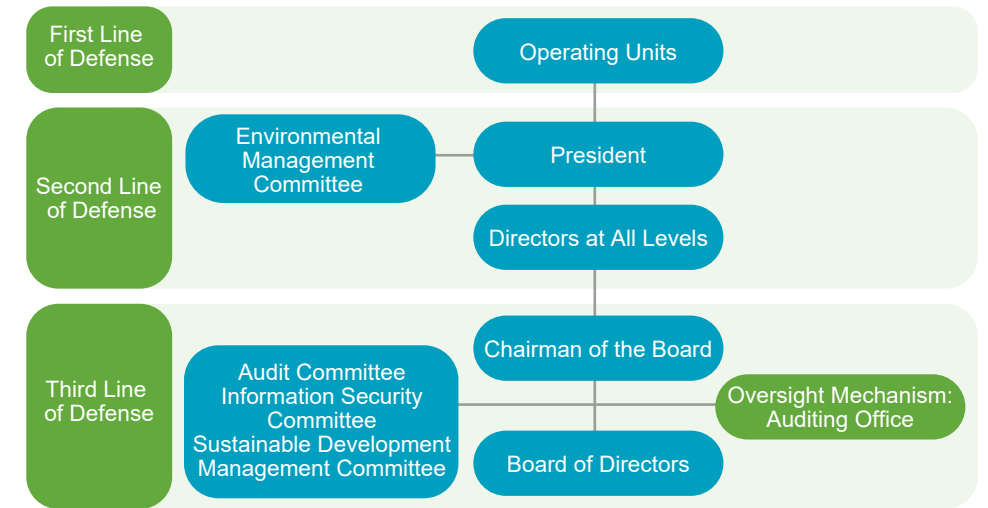


Fig. 8 Three lines of defense for risk management and management process

Table 11 Three lines of defense for risk management

Three lines of defense for risk management	
First Line of Defense Operating units	It is the front line for initial risk detection, assessment, and control, identifying the sources of risk and analyzing and assessing the impact of risks as they occur in the course of daily business and responding to them.
Second Line of Defense Directors at all levels	It is responsible for the risk management of the relevant business, regularly reviews the risks and control points of the assigned tasks, pays attention to the latest regulatory updates and business-related letters or directives published by the competent authorities, and may revise the relevant internal regulations when necessary.
Third Line of Defense Management	<ol style="list-style-type: none"> 1.Scrutinizes the integrity of the risk management mechanisms associated with the types of risks in the Company 2.Monitors and controls the risks associated with each unit 3.Assesses the likelihood and impact of risks and incorporates them into operational strategies and decisions
Oversight Mechanism Auditing Office	<ol style="list-style-type: none"> 1.Schedules the annual audit plan based on the assessment of the risk level of each business activity 2.Performs audits, reports audit results, and follows up on deficiencies 3.Compiles risk management data from time to time and reports to the Board of Directors

2 Climate-related risk management measures

momo places emphasis on the potential and actual impact of low-carbon transition and climate disasters on the Company's operations and puts in place appropriate management measures against risk types such as policies and regulations, technology, market, goodwill, immediacy, and long-term:

Table 12 Risk response measures

Types of Risk	Description
Policies and Regulations	<p>1. Carbon reduction requirements: In the FSC's "Sustainable Development Roadmap for Listed Companies," it is scheduled that all listed companies shall complete their GHG inventories by 2027 and pass the verification of the inventories by 2029. In addition, the Climate Change Response Act promulgated in 2023 mandates the establishment of a "carbon fee review committee" by the competent authorities to set the carbon fee rate and levy carbon fees on enterprises. In anticipation of the regulations, momo has carried out relevant programs for carbon reduction:</p> <ul style="list-style-type: none"> • Introduced ISO 14064-1: Initiated the ISO 14064-1 GHG Inventory in 2016 and has passed the third-party verification annually. • Introduced ISO 14001: Introduced ISO 14001 Environmental Management System in 2018, set specific management objectives, and obtained certification in 2019 and again in 2022 to sustain the operation of the Environmental Management System. • Built own renewable energy system: Used unused roof of own warehouse to build solar energy facilities to produce renewable energy for own use, reducing carbon emission and saving energy at the same time and mitigating the impact of future carbon charges on operating costs. • Introduced ISO 14067: Introduced ISO 14067 Carbon Footprint Inventory in 2023 to keep track of carbon emissions at all stages of the life cycle and to obtain a carbon label. <p>2. Online shopping packaging reduction requirements: In 2023, the Environmental Protection Administration (EPA) is set to officially legalize the reduction of online shopping packaging volume by regulating three items: packaging material, average packaging material weight reduction rate and packaging weight ratio. To fulfill the online shopping packaging reduction requirements, momo has been participating in the "Online Shopping Packaging Reduction Project" organized by the EPA since 2019, and in addition to actively attending the relevant public hearings to promote the legalization, momo has been awarded the "Online Shopping Packaging Reduction Label" for the following actions:</p> <ul style="list-style-type: none"> • Packaging materials: We use original-color cardboard boxes and eco-friendly recycled bags made of recycled pulp with up to 30% of recycled plastic. • Packaging weight ratio: We conduct regular order sampling and perform order weight ratio auditing and guidance for products that fail to meet the ratio. • Average packaging material weight reduction rate: The average weight of packaging material per unit in 2022 was 204.9 grams, down 6.8% (15.0 grams less) from 2021, and cushioning material use was 17.6% lower than the same period in 2021. • Promoting circular packaging: We estimate that we can ship 3,500 orders in circular cartons and an average of over 2,500 orders in reusable bags each month. We will continue to ramp up the number of warehouses for shipments in circular packaging and scale up the recovery channels for circular boxes and reusable bags. • Sustainable supply chain: We encourage brand suppliers to use "momo circular boxes" for incoming goods to reduce the use of cardboard boxes.
Technology	<p>momo attaches significance to the trend of low carbon and energy efficiency and has advanced the planning in two major directions, namely office operations and logistics, in response to the risks that technological transitions may bring to the Company's operations:</p> <p>1. Electronic operations: We are promoting paperless applications in our consumer channels, suppliers, and internal sign-off processes, and we will continue to push for an integrated service platform for electronic receipts, the use of a B2B value-added center, and the optimization of our internal eflow system for electronic forms.</p> <p>2. Circular carrier use: We collect plastic waste film from our warehouses, heat-melt it to form recycled plastic, and turn it into reusable bags, which can be reused up to 25 times. There are over 10,000 recovery stations throughout Taiwan. We also encourage brand suppliers to use circular boxes for warehousing and reusable bags for shipping and continue to develop paper filler materials.</p> <p>3. Short-chain logistics network and node removal: We have expanded our warehousing locations and worked with suppliers on two express shipment modes, namely factory distribution, and cross-docking, to shorten the delivery time and distance and substantially cut the carbon footprint in the distribution process and to enhance consumers' satisfaction with and trust in momo's services by delivering their orders quickly.</p> <p>4. Digital Empowerment: We have used AI data to develop the "Optimal Packaging Material Suggestion" module, which analyzes historical packaging experience and product sizes, and incorporates eco-friendly packaging material suitability assessment to minimize the use of filler materials. In addition, we have developed the "Shortest Distribution Route Suggestion" module, which is used in conjunction with the short-chain logistics network and the establishment of an electric vehicle fleet to reduce the carbon footprint of last-mile delivery.</p>

Contents

Chairman's Message

CH 1. momo Profile

CH 2. Preparation of the Report

CH 3. TCFD Disclosure Items

CH 4. Environmental
Sustainability Milestones

CH 5. Appendix

Contents

Chairman's Message

CH 1. momo Profile

CH 2. Preparation of the Report

CH 3. TCFD Disclosure Items

CH 4. Environmental
Sustainability Milestones

CH 5. Appendix

Types of Risk	Description
<p>Market</p>	<p>To address the market risks that may arise from customers' demand for carbon reduction in logistics and the rise in awareness of green consumption, momo is pushing the management measures for this risk type in terms of green logistics and green goods:</p> <ol style="list-style-type: none"> Promoting green logistics services: We scale up green logistics services by using transport vehicles with energy efficiency certification, and continuing to purchase electric vehicles, coupled with the deployment of technologies that reduce transport mileage, such as short-chain distribution and node removal. Green goods promotion: A Green Life platform opened in 2019 to sell products with environmental and energy-saving certifications in response to the heightened consumer awareness of sustainability and environmental protection in recent years. Moreover, a "Green Life Membership" scheme launched in 2023 encourages members to choose circular packaging or order consolidation for shipment.
<p>Goodwill</p>	<ol style="list-style-type: none"> Stakeholder communication and response: momo has been examining stakeholder engagement topics related to the business through the Sustainable Development Management Committee annually since 2019 and engaging with stakeholders in a variety of formats, including stakeholder forums. This year momo published first TCFD report on climate-related issues to inform stakeholders of the Company's proactive approach to climate change.
<p>Immediacy</p>	<p>In response to extreme weather conditions that may cause power outages, traffic disruptions, equipment damage, and other problems, which may disrupt supply chains and compromise the Company's normal operations and customer rights:</p> <ol style="list-style-type: none"> Cooperation with suppliers to develop action plans for transportation and storage to cope with extreme temperature changes: We strengthen suppliers' cooperation in warehousing if they are unable to deliver products and services as scheduled due to natural disasters. Our fleet inspects the condition of vehicles before departure, records the weather conditions on the day of the accident, and works on ways to avoid weather-related accidents. We built warehouses that are energy efficient, flood-proof, and designed to combat the urban heat island effect.
<p>Long-term</p>	<p>As sea level rise may result in restrictions on the business locations and loss of assets, we take the following management actions:</p> <ol style="list-style-type: none"> Warehouse construction: Prior to the construction of warehouses, we assess the conditions of the geographical area and environmental factors and their impact on the environment by reference to flooding simulations and other data, and take mitigation and adaptation measures. Operations management: We maintain 24-hour warehousing operations without interruption and establish a horizontal link between units for emergencies. Logistics and transportation management: Through the short-chain logistics network along with data system computing and linkage, we cooperate with various distribution operators in response to order transfer arrangements to minimize the risk of not being able to supply goods in time.

(4) Metrics and Targets

Since setting 2020 as the "Year of the Environment," momo has been actively undertaking various climate initiatives and targets to cut down carbon and waste.

The year 2022 marked a pivotal year for momo in dedication to environmental sustainability. Since introducing the ISO 14064-1 GHG Inventory in 2016, we have accomplished 100% coverage in 2022, in addition to passing the annual third-party verification, and pledged to bring in the SBT targets in the same year.

In view of the potential risk impact of climate change on stakeholders, momo will continue to deepen the climate risk response and adaptation efforts to maintain stable operations and build up the Company's sustainable resilience.

1 Climate-related risk metrics

To effectively integrate climate topics into the Company's three lines of defense for overall risk management, momo has further set management metrics as follows based on the foregoing climate risk types:

Table 13 Risk types and management metrics

Types of Risk	Metrics	Metrics Management Pathway	Risk & Opportunity Topics
Policies and Regulations: The impact of future carbon charges on operating costs in light of relevant regulations	Green Buildings	<ul style="list-style-type: none"> Completion and opening of the green building-compliant distribution center 	T5 Zero Carbon Buildings
	Energy Efficiency Improvement	<ul style="list-style-type: none"> Increase in the use of renewable sources Reduction in carbon emissions Reducing the proportion of non-renewable fuels for transportation 	T1 Renewable Energy T4 Electric Vehicle Fleet
Market: Growing awareness of green consumption and carbon reduction in logistics and transportation processes	Eco-friendly and Energy-efficient Product Sales	<ul style="list-style-type: none"> Promoting the Green Life platform 	O1 Zero Carbon Logistics
	Logistics and Transportation Efficiency Improvement	<ul style="list-style-type: none"> Short-chain logistics network 	O2 Logistics Innovation
Technology: Technological improvements and innovations	Waste Reduction	<ul style="list-style-type: none"> Reduction of operational waste Reduction of packaging materials 	
	Stakeholder Communication	<ul style="list-style-type: none"> Public disclosure of climate-related risk management practices 	
Goodwill: Stakeholder engagement			
Immediacy: Extreme weather causing supply chain disruptions			
Long-term: Impact of sea level rise on operations	Uninterrupted Supply	<ul style="list-style-type: none"> Uninterrupted warehousing operations Suppliers on schedule with warehousing 	P3 Extreme Weather Causing Supply Chain Disruptions

2 Short-, medium- and long-term targets and achievement status for climate-related risk management

momo has set short-, medium- and long-term targets for transition risks in terms of policies and regulations, markets, technology and goodwill, according to the management metrics for each risk type, as shown in the table below.

Table 14 Short-, medium- and long-term targets and achievement status for climate-related risks

Metrics	Metrics Management Pathway	Short-term Targets (2023)	Medium to Long Term Targets (2024-2027)	Achievement Status(2022)
Green Buildings	Completion and opening of the green building-compliant distribution center	<ul style="list-style-type: none"> Complete the construction of the Southern Distribution Center under the green building standards. 	<ul style="list-style-type: none"> Complete the construction of the Central Distribution Center under the green building standards. 	<ul style="list-style-type: none"> Southern Distribution Center was under construction with green building standards.
Energy Efficiency Improvement	Increase in the use of renewable sources	<ul style="list-style-type: none"> Transfer of solar energy from the Northern Distribution Center for self-consumption. Install a solar energy system with an installed capacity of approx. 1,200.42 kWp in the Southern Distribution Center for self-generation and self-use. 	<ul style="list-style-type: none"> Reach an annual carbon reduction rate of 3.2% in Scopes 1 and 2 from 2025 to 2027 from purchased electricity. Install a solar energy system with an installed capacity of approx. 1,200 kWp in the Central Distribution Center for self-generation and self-use. Maintain and operate the solar energy system in the self-built warehouse. 	<ul style="list-style-type: none"> Northern Distribution Center generated 1.17 GWh of solar power for 2022
	Reduction in carbon emissions	<ul style="list-style-type: none"> Cut 2,300 trips in node-removal distribution. Build satellite warehouses on an ongoing basis. Full range of returns open to warehouse distribution, plus a flexible service for "convenience store returns" and "home delivery returns." Increase convenience store pick-up channels and express store pick-up services. Plan to collaborate with distribution operators. When the goods are shipped from warehouses in the central and southern regions, distribution operators can deliver the goods directly to the specified convenience store for pick-up, reducing the number of trips for concentrated transportation. 	<ul style="list-style-type: none"> Save 2,500 trips by 2025 and 3,800 trips by 2027 for node-removal transportation. Continuously monitor equipment power consumption and phase out old equipment through the system. 	<ul style="list-style-type: none"> A total of 13 suppliers joined the node removal program, saving 2,239 trips. Constructed 19 main warehouses and 35 satellite warehouses.
	Reducing the proportion of non-renewable fuels for transportation	<ul style="list-style-type: none"> Introduce a cumulative total of 50 three-wheeled commercial electric scooters, representing a 25.6% share. 	<ul style="list-style-type: none"> Have a 50% share of electric scooters by 2025. Have a 90% share of electric scooters by 2028. 	<ul style="list-style-type: none"> Introduced three-wheeled commercial electric scooters.
Eco-friendly and Energy-efficient Product Sales	Sustainable consumption initiatives	<ul style="list-style-type: none"> Raise the annual sales growth rate to 30% for the Green Life platform. Initiate Green Life membership to operate a green consumer base. 	<ul style="list-style-type: none"> Maintain a 25% annual sales growth rate for the Green Life platform. Incorporate local and sustainable products into the Green Life platform (including shipments in boxes, charity packaging, etc.) 	<ul style="list-style-type: none"> The Green Life platform's annual performance grew by 42% over 2021, with 312 more items sold than in 2021.
Waste Reduction	Reduction of operational waste	<ul style="list-style-type: none"> Decrease paper consumption per capita by 5% from the baseline year (the baseline year to be updated upon ease of the epidemic). Cut waste per capita in the headquarters complex by 3% against the baseline year (the baseline year to be updated upon ease of the epidemic). 	<ul style="list-style-type: none"> Decrease paper consumption per capita by 8% from the baseline year. Cut waste per capita in the headquarters complex by 5% against the baseline year. 	<ul style="list-style-type: none"> Paper consumption per capita is down by 17.14% from 2020. The headquarters complex saw a 20.18% reduction in waste per capita over 2020.

Contents

Chairman's Message

CH 1. momo Profile

CH 2. Preparation of the Report

CH 3. TCFD Disclosure Items

CH 4. Environmental Sustainability Milestones

CH 5. Appendix

Contents

Chairman's Message

CH 1. momo Profile

CH 2. Preparation of the Report

CH 3. TCFD Disclosure Items

CH 4. Environmental
Sustainability Milestones

CH 5. Appendix

Metrics	Metrics Management Pathway	Short-term Targets (2023)	Medium to Long Term Targets (2024-2027)	Achievement Status(2022)
Waste Reduction	Reduction of packaging materials	<ul style="list-style-type: none"> Initiate Green Life membership to encourage consumers to choose circular packaging for shipment, accurately distribute circular packaging, and opt for orders for goods consolidation. Expand the number of warehouses from which reusable bags are shipped to own warehouses across Taiwan to 25%. Promote the ipack to automatically detect the size of goods and press and fold the carton boxes. Develop paper cushion materials instead of plastic cushion materials. Bring in and guide at least 10 suppliers to use circular boxes for incoming shipments and scale up the use for product types and returns. Develop packaging rules and related supporting measures to bring suppliers under packaging reduction requirements. Short-version home delivery orders go online to reduce paper consumption 	<ul style="list-style-type: none"> Cut the use of sealing tape, plastic materials, etc. by 20%. Bring average packaging material weight reduction rate to 35% over 2019. Expand the ratio of the warehouses from which reusable bags are shipped to own warehouses across Taiwan to 65%. Bring in and guide at least 20 suppliers to use circular boxes for shipments. Enhance supplier packaging reduction counseling and compliance audits 	<ul style="list-style-type: none"> Cooperated with Simple Mart in 2022, with over 800 stores in Taiwan becoming new recovery stations for reusable bags, for a total of over 10,000 recovery stations nationwide and 22,822 units shipped. Cooperated with another seven "Tzu Chi Environmental Education Stations" to promote the recycled box. Brought in and guided 7 suppliers to use circular boxes for shipments, for 288 circular boxes used in total. The average weight of packaging material per unit in 2022 was 204.9 grams, down 6.8% (15.0 grams less) from 2021; cushioning material use was 17.6% lower than in the same period in 2021. Self-imported goods in green packaging shipped in original boxes reached 46.9%. The number of carton sizes rose to 33.
Waste Reduction	Increase in the proportion of eco-friendly packaging materials used	<ul style="list-style-type: none"> Initiate a carton box weight reduction project to cut the weight of some carton box types. Conduct research and development of paper-based cushioning materials. 	<ul style="list-style-type: none"> Continually develop new environmentally friendly packaging materials. 	<ul style="list-style-type: none"> Introduced 100% recycled pulp carton boxes. Adjusted carton outer pattern printing area to below 30% in 2021. Used 30% recycled material and reduced printing area to below 20% of the total packaging bag area.
Stakeholder Communication	Public disclosure of climate-related risk management practices	<ul style="list-style-type: none"> Publish the first TCFD report in Taiwan's e-commerce industry Introduce ISO 14067 Carbon Footprint Inventory and plan to apply for carbon footprint labeling. 	<ul style="list-style-type: none"> Complete review of SBT targets in the first half of 2024. Complete the Carbon Disclosure Project (CDP) questionnaire by 2025. Periodically re-execute the identification of climate-related risks and opportunities. 	<ul style="list-style-type: none"> Carried out again the identification of climate-related risks and opportunities.

Contents

Chairman's Message

CH 1. momo Profile

CH 2. Preparation of the Report

CH 3. TCFD Disclosure Items

CH 4. Environmental
Sustainability Milestones

CH 5. Appendix

Environmental Sustainability Milestones

2016

- Established the CSR Committee and voluntarily compiled the first Corporate Social Responsibility (CSR) Report
- Completed "ISO 14064-1 GHG Inventory" verification and continued to pass verification every year thereafter

2017

- Inaugurated the Northern Distribution Center with a 4,500-ping solar power system on the roof

2018

- Initiated "node-removal" transportation model and worked with suppliers and logistics service providers to reduce mileage and carbon emissions

2019

- Obtained the "ISO 14001 Environmental Management System" certificate and passed the retest for 3 consecutive years
- Launched "Green Life" on the e-commerce platform
- Participated in the "Online Shopping Packaging Reduction Program" organized by the EPA and received the "Online Shopping Packaging Reduction Label"

2020

- Developed momo's "Sustainable Living Blueprint," with a focus on the 12 UN Sustainable Development Goals (SDGs) and defined 5 strategic dimensions of sustainability
- Introduced the TCFD framework for climate-related financial impact assessment
- Led the industry with "reusable bags," which can be reused up to 25 times

2021

- Renamed "CSR Committee" "Sustainable Development Management Committee"
- A total carbon emissions reduction program cut carbon emissions by 11% (2018 baseline year)

2022

- Upgraded the Sustainable Development Management Committee to a functional committee under the Board of Directors
- Green Life platform saw a 42% uplift in performance, with over 5,000 items available for sale
- Named a constituent stock of the FTSE4Good Taiwan ESG Index
- Received a silver medal in the Environment category of the 2nd Taiwan Sustainability Action Awards (TSAA)
- Received a bronze medal in the 2022 National Enterprise Environmental Protection Award
- Collaborated with Tzu Chi Environmental Education Stations to promote the circular cardboard box project
- Committed to join the international advocacy group SBTi and announced to achieve net zero carbon emissions by 2050

Contents

Chairman's Message

CH 1. momo Profile

CH 2. Preparation of the Report

CH 3. TCFD Disclosure Items

CH 4. Environmental
Sustainability Milestones

CH 5. Appendix

TCFD Disclosures Comparison Table

Area	TCFD Recommended Disclosures	Corresponding Report Sections
Governance	Describe the Board's oversight of climate-related risks and opportunities.	III, 1), 2
	Describe management's role in assessing and managing climate-related risks and opportunities.	III, 1), 1
Strategy	Describe the climate-related risks and opportunities the organization has identified over the short-, medium-, and long-term.	III, 2), 2
	Describe the impact of climate-related risks and opportunities on the organization's businesses, strategy, and financial planning.	III, 2), 2
	Describe the resilience of the organization's strategy, taking into consideration different climate-related scenarios.	III, 2), 2
Risk Management	Describe the organization's processes for identifying and assessing climate-related risks.	III, 2), 2
	Describe the organization's processes for managing climate-related risks.	III, 3), 2
	Describe how processes for identifying, assessing, and managing climate-related risks are integrated into the organization's overall risk management.	III, 3), 1
Metrics and Targets	Disclose the metrics used by the organization to assess climate-related risks and opportunities in line with its strategy and risk management process.	III, 4), 1
	Disclose greenhouse gas (GHG) emissions and the related risks.	III, 2), 1
	Describe the targets used by the organization to manage climate-related risks and opportunities and performance against targets.	III, 4), 2



Task force on Climate-related Financial Disclosures

24-hour service hotline: (+886)0800-777-959