北京控股有限公司
BEIJING ENTERPRISES HOLDINGS LIMITED

2024

CLIMATE ACTION PROGRESS REPORT

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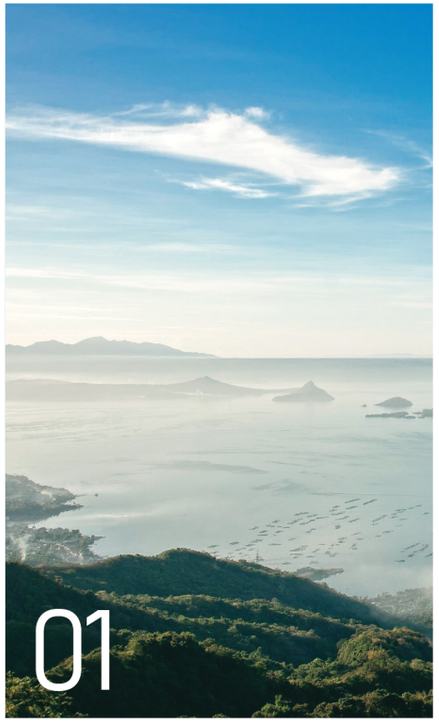

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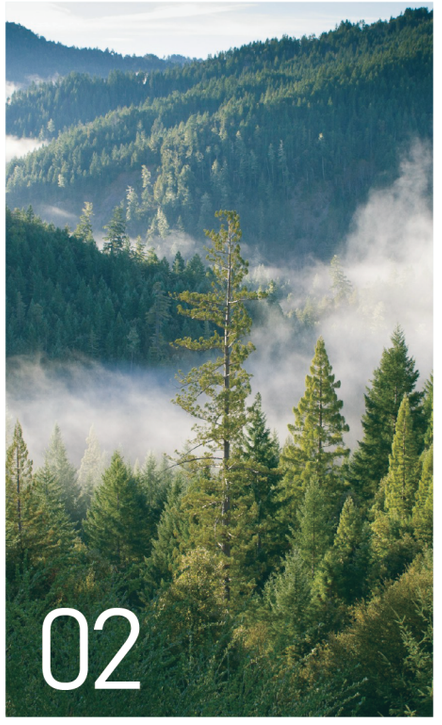

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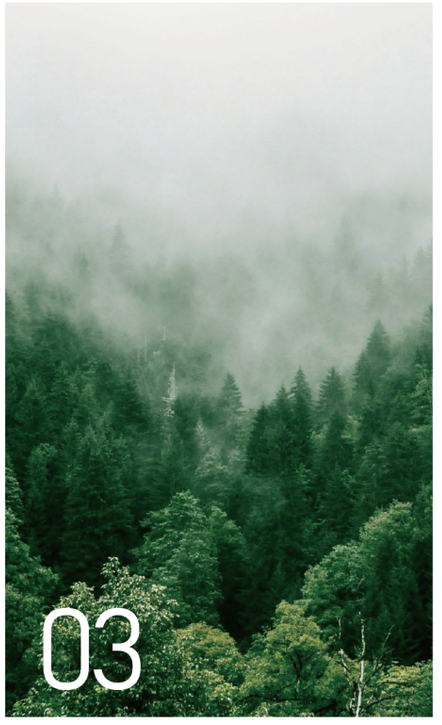

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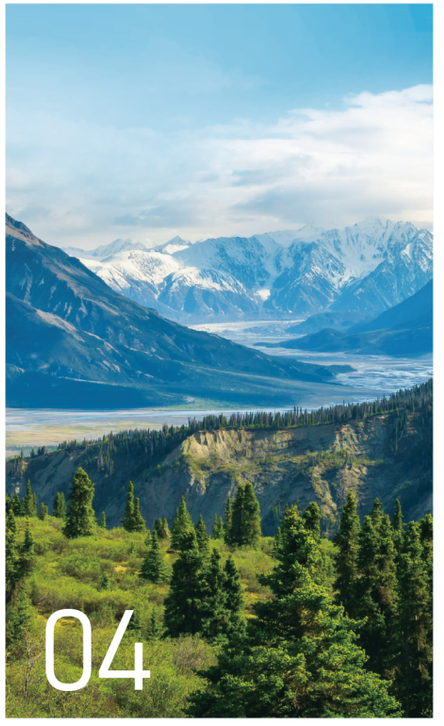

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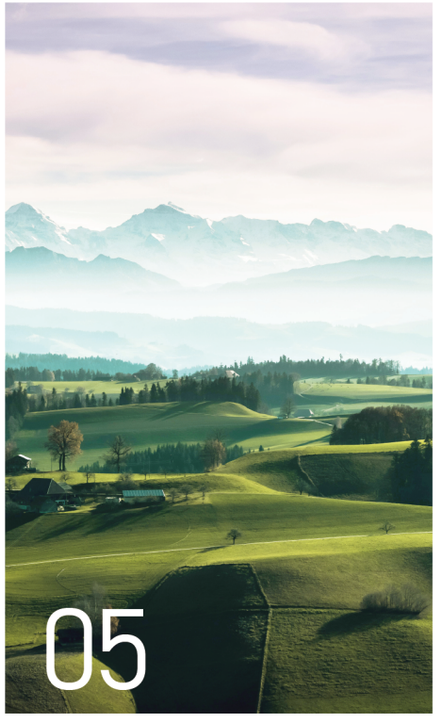


Climate Action

About This Report

This report is the second climate action progress report released by Beijing Enterprises Holdings Limited (BEHL). It serves to comprehensively present BEHL's strategic planning, management system, and specific practices for addressing climate change. BEHL's Board of Directors guarantees that there are no false records, misleading statements, or material omissions in the Report and assumes individual and joint responsibility for the truthfulness, accuracy, and completeness of its contents.

BEHL supports global climate actions. This progress report details BEHL's response to climate change across three key business segments within its consolidated scope: gas, environment, and beer. The primary disclosure criteria focus on Beijing Gas, BE Environment, and Yanjing Brewery. This report discloses BEHL's climate-related risk management and responses in four areas: climate governance, climate mitigation strategies, climate risk management, and metrics and targets. Moving forward, BEHL aims to enhance its investments and initiatives in addressing climate change, striving for significant improvements in the effectiveness of its climate response while contributing to the achievement of carbon peaking and neutrality goals and global climate goals.

The data and information presented in this report are sourced from BEHL's official documents and internal statistical systems, encompassing the gas business (Beijing Gas), environment business (BE Environment, BE Environment Technology, EEW GmbH), and beer business (Yanjing Brewery).

For the convenience of expression and reading, in this report, Beijing Enterprises Holdings Limited is hereinafter referred to as "the Company", and the Company and its subsidiaries are hereinafter referred to as "BEHL" or "we". Names of the subsidiaries are as follows:

Beijing Gas	Beijing Gas Group Co., Ltd.
BE Environment	Beijing Enterprises Environment Group Limited
BE Environment Technology	Beijing Enterprises Holdings Environment Technology Co., Ltd.
EEW GmbH	EEW Energy from Waste GmbH
Yanjing Brewery	Beijing Yanjing Brewery Co., Ltd.

This report has been prepared in line with the *International Sustainability Standards Board* (ISSB) *Climate-related Disclosures (IFRS S2)* framework, the *GHG Protocol Corporate Accounting and Reporting Standard*, and *HKEX's Environmental, Social and Governance Reporting Code*.

This report contains certain forward-looking information and statements of opinion, including but not limited to underlying assumptions, preconditions, greenhouse gas (GHG) emission targets, climate change risk assessment ratings, financial estimates of energy conservation and emission reduction measures, and action plans for addressing climate change risks. Due to the potential impact of external variables, the actual development of events or trends mentioned in this Report may differ from the predictions made herein. If the aforementioned forward-looking statements diverge from actual developments due to the emergence of new information, changes in market conditions, or other uncontrollable factors, the Company shall not be obligated to update or revise these statements, nor shall it bear any legal responsibility for any discrepancies.

This report is published in Chinese and English and is available in print and electronic formats. It can be viewed or downloaded on the website of BEHL (http://www.behl.com.hk).

Message to Stakeholders

In November 2024, the 29th session of the Conference of the Parties to the *United Nations Framework Convention on Climate Change (COP29)* [1]was successfully convened in Baku, the capital of Azerbaijan. The conference aimed to advocate for the reduction of GHG emissions globally, address global climate change, and promote sustainable human development collaboratively. As a responsible major nation, China's actions on climate change matters have garnered widespread international attention, making the timely disclosure of progress towards its "3060" carbon peaking and carbon neutrality goals an important issue for the international community. Promoting these goals not only reflects China's significant transformation of its development model but also represents a solemn commitment and positive contribution to global climate governance. Additionally, Chinese enterprises must undertake practical and feasible measures to reduce GHG emissions. This approach aligns with national strategies and represents an essential choice for achieving sustainable development and undertaking international responsibility for climate change.

BEHL recognizes that climate change is a longstanding global environmental issue impacting the balance of the ecosystem. The increasing frequency and intensity of extreme weather events directly affect the operations of utilities, and that also profoundly and significantly influences daily production, business activities, and financial conditions. These effects encompass various aspects, including infrastructure, supply chain resilience, and employee health and safety. Furthermore, climate change has spurred a transition in the global energy system from traditional to renewable energy, compelling utility companies to implement measures to adapt to this new energy revolution and contribute to mitigating climate change.

As a responsible enterprise, BEHL has established itself as a key participant in addressing climate change. The gas business segment faces the structured transition to clean energy. Natural gas, recognized as a transitional energy source, can promptly respond to extreme weather and intermittent shortages in renewable energy, thereby stabilizing the supply of essential energy. Its environment segment emphasizes sustainable resource utilization and clean energy conversion while contributing to the development of waste-free cities and the promotion of a circular economy to mitigate the adverse impacts of climate change. The beer business actively engages in the intelligent upgrading and transformation of production techniques and processes, fostering multi-dimensional carbon reduction and efficiency improvements through technological innovations and green management practices, thus achieving a dual benefit of delaying climate change while enhancing economic performance. Additionally, based on the industry attributes and operational characteristics of each business segment, targeted, scientifically-informed carbon reduction goals have been established, alongside the implementation of specific initiatives to address climate change.

Climate change serves as a pivotal driver for stimulating transition to corporate innovation, exploring emerging markets, and building up sustainable competitive advantages, and it impels global companies to reassess their development strategies and operational models. BEHL upholds the mission of "serving the national carbon peak and carbon neutrality strategies, promote sustainable urban development, and make cities more livable and beautiful." while actively addressing climate change challenges. Through strategic industrial upgrades and strategic layout optimization, BEHL collaborates closely with government entities, research institutions, and industry partners to drive a technology-driven green and low-carbon transition, fostering a sustainable future for urban environments. We maintain transparent and effective communication with stakeholders, and ensures that individuals from diverse backgrounds can promptly understand its transformation and progress, take part in our green and low-carbon development journey, and collectively contribute to a new chapter in our history.

Embrace potential to expand into new horizons; accelerate the journey towards new areas.Looking ahead, we will continue to capitalize on key opportunities for transition to green development, expedite the pace of industrial upgrading, and adjust energy structure. We will collaborate with stakeholders who care for and support BEHL to deepen and strengthen its path toward high-quality development. I am confident that through our collective efforts, BEHL will make significant progress towards achieving carbon peaking and carbon neutrality goals and contribute meaningfully to addressing global climate change challenges.

Chairman of the Board

Mr. YANG Zhichang

[1] https://unfccc.int/cop29

Progresses

Governance

BEHL has continually improved its climate governance structure while strengthening the coordination and linkage mechanisms between its headquarters and business segments. The gas, environment, and beer segments have established climate change management systems to ensure full coverage and closed-loop management across all operations.

As part of this governance structure, the headquarters and various business segments have integrated climate risk identification, assessment, and response mechanisms into their annual business management processes, thereby improving the overall responsiveness at BEHL.

Strategies

BEHL has actively promoted its four climate mitigation strategies—"proactive strides," "forward-looking planning," "win-win collaboration," and "low-carbon operation"—and is fully committed to implementing the national carbon peaking and neutrality strategy. The Company has developed the *BEHL Carbon Peaking Action Plan* and established specific, feasible emission reduction measures and implementation pathways tailored to the unique circumstances of each business segment, thereby scientifically advancing its green and low-carbon transition initiatives.

Carbon Peaking Strategies at BEHL

Driving the upgrading of industrial structure

- Driving the upgrading of industrial structures and exploring strategic layouts in hydrogen energy and energy storage sectors;
- Actively developing integrated energy-powered heating and cooling systems to optimize the energy structure;
- Expanding the waste incineration combined heat and power supply industry to contribute to a better ecological environment.

Promote low-carbon production and lifestyle

- Fostering process innovation and energy-saving transformations across various business segments to reduce carbon emissions;
- Enhancing energy efficiency and facilitating cooperation between upstream and downstream components of the industrial chain to enable a collective transition to green and low-carbon practices.

Sharpening green and low-carbon innovation capabilities

- Promoting collaboration in green technology innovation, strengthening technological advancements and their industrialization, and harnessing digitization to accelerate the transition to green and low-carbon practices;
- Establishing a energy consumption and carbon emission management system and refining carbon emission management capabilities.

Exploring carbon asset management

- Exploring carbon asset management to bolster carbon sink capabilities and actively participating in carbon trading;
- Promoting carbon-neutral certification and enhancing the supportive role of green finance to reduce financing costs for green projects.

During the reporting period, the environment and beer businesses conducted climate scenario analyses separately, performed stress tests to assess their resilience to climate change, identified climate-related risks, and developed corresponding response strategies and plans.

Risk Management

BEHL has enhanced its climate-related risk and opportunity management system by implementing the four steps of "identification, assessment, analysis, and management." Key progress has been made in the following areas:

Expansion of risk identificaiton scope

The identification of climate risks has been broadened to include the environment and beer businesses, addressing major physical risks such as extreme heat, extreme cold, and extreme precipitation.

Climate Adaptation Analysis

The environment and beer businesses concentrated on the effects of events such as high heat and water scarcity on production systems and supply chains. They conducted assessments of adaptive capacity and developed preliminary diagnostics and response plans.

Quantitative Analysis of Financial Impact

An evaluation of both the short-term and long-term impacts of climate change on the operations of gas, environment, and beer businesses was conducted, providing data support for investment decisions.

Metrics and Targets

BEHL actively responds to the national carbon peaking and neutrality strategy by integrating the principles of green development throughout its production and operation processes, with a commitment to achieving the carbon peaking target by 2030. The Company has established regular monitoring metrics across various business segments in accordance with the *BEHL Carbon Peaking Action Plan* and has set phased goals related to key quantitative metrics, including renewable energy usage, installed renewable capacity, and renewable space heating area. This approach facilitates the steady implementation and evaluation of tasks associated with reaching carbon peaking.

In 2024,

BEHL reported a total GHG emission density of

14,300 tons of carbon dioxide equivalent per RMB billion of revenue,

reflecting a

4.67 % decrease compared to 2022.

01

Climate Governance

BEHL acknowledges that an effective governance system is essential for addressing climate change. The Company has formed a top-down climate governance framework and developed supportive policies and systems to comprehensively guide and supervise climate response matters across the board.

BEHL has established a robust climate risk management system at the corporate level and created a three-tier sustainability governance structure encompassing governance, management, and execution.

Climate Change Governance System at BEHL

Governance Board of Directors	• The highest decision-making body for BEHL's climate change work, responsible for approving climate-related matters such as policies, strategies, targets, work planning and risk assessment results and keeping the sustainability work of the Company overall in line with the business strategies of the Company • The Board of Directors, by granting mandates to the Sustainability Committee, which assists in overseeing the implementation of the Company's climate change initiatives. The Board of Directors regularly receives and reviews work reports from the committee
Management Sustainability Committee	• The unit in BEHL shouldering primary responsibilities for climate change work, mainly reviews the Company's climate change strategies, goals and plans • The Committee should understand and assess the potential impact of climate change risks, deliberate on management of climate change risks, make decisions in daily operations, allocate resources and make and execute plans. It also provides recommendations to the Board of Directors on climate change management strategies
Execution Sustainability Working Group Sustainability liaison officer for departments at headquarters and sustainability working groups in subsidiaries	• Responsible for the organization, implementation and coordination of climate change work plans, regularly monitoring initiatives against climate change risks and changes in risks, and reporting to the Board of Directors • Responsible for the day-to-day management and implementation of climate change work, and facilitating all functional departments and subsidiaries to identify climate change risks and take countermeasures

To promote climate change management, the Company has formulated the *Policy of Climate Change Response*, which incorporates climate change response into its daily operation management, and which states its commitments on three dimensions: mitigation[2], adaptation[3], and adaptive capacity[4]. This policy demands compliance by BEHL headquarters and its subsidiaries to jointly press ahead with climate response. The subsidiaries of BEHL have been very cooperative, devising climate governance structures based on their own characteristics and gradually carrying out the climate change response work.

[2]Mitigation: A human intervention to reduce emissions or enhance the sinks of greenhouse gases. IPCC, https://www.ipcc.ch/site/assets/uploads/sites/2/2022/06/SR15_Annexl.pdf

[3]Adaptation: In human systems, the process of adjustment to actual or expected climate and its effects, in order to moderate harm or exploit beneficial opportunities. In natural systems, the process of adjustment to actual climate and its effects; human intervention may facilitate adjustment to expected climate and its effects. IPCC, https://www.ipcc.ch/site/assets/uploads/sites/2/2022/06/SR15_Annexl.pdf

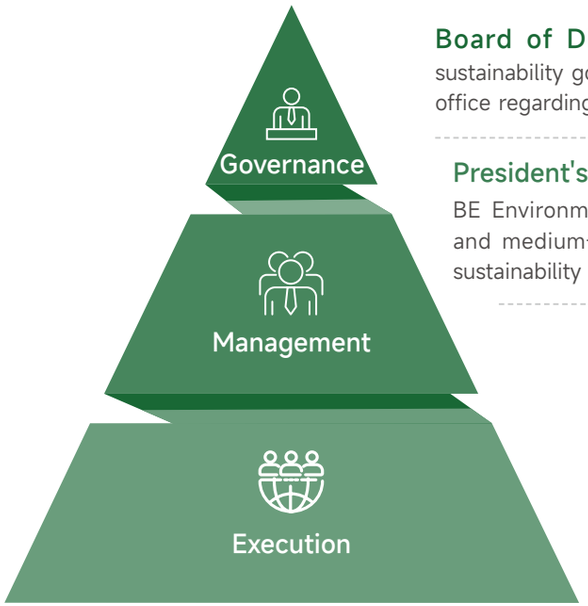
[4]Adaptive capacity: The ability of systems, institutions, humans and other organisms to adjust to potential damage, to take advantage of opportunities, or to respond to consequences. IPCC,https://www.ipcc.ch/site/assets/uploads/sites/2/2022/06/SR15_Annexl.pdf

Gas Business

Beijing Gas emphasizes the importance of addressing climate change in major decision-making processes. Beijing Gas fosters cross-departmental collaboration by dismantling traditional business barriers and promoting strategic synergies between its natural gas operations and low-carbon sectors, including renewable energy and hydrogen. Beijing Gas continuously improves its institutionalized, specialized, and international climate governance framework while supporting the transition to green and low-carbon practices.

Environment Business

BE Environment has established a sustainability governance structure characterized by a clear hierarchy and defined responsibilities, covering three levels of "governance, management, and execution."



Board of Directors: As the highest decision-making body within the sustainability governance structure, the Board listens to reports from the CEO's office regarding BE Environment's sustainability matters.

President's Office Meeting: This body is responsible for approving the BE Environment's sustainability management measures, strategies, goals, and medium- to long-term plans, as well as supervising the progress of sustainability initiatives.

Sustainability Working Group: This group is tasked with the daily management and coordination of sustainability activities. Its responsibilities include developing management methodologies, setting strategic goals and plans, creating work plans, and tracking progress toward these goals.

Departments at Headquarters: Each department, according to its functional division of labor, designates a sustainability liaison officer, who is responsible for various tasks related to sustainability within the department's scope of operations.

Beer Business

Yanjing Brewery has established a clear and comprehensive organizational structure and developed management systems to address climate change, providing explicit arrangements and guidelines for promoting climate-related initiatives.

Board of Directors

The Board of Directors is responsible for reviewing and approving Yanjing Brewery's climate change-related agenda, strategies, plans, and goals, and overseeing the implementation of these strategies;

Environmental, Social, and Governance (ESG) Development Committee

The ESG Development Committee manages Yanjing Brewery's ESG activities. This includes researching climate change-related policies, formulating, supervising and reviewing climate change goals, strategies, risks, opportunities, measures, and policy advocacy. The Committee also leads the specific work of the ESG subgroups and regularly reports to the Board of Directors;

ESG Subgroups(Environmental Group, Social Group, and Governance Group)

The ESG subgroups promote and implement policies and action plans aligned with Yanjing Brewery's strategy and ESG objectives. They are responsible for communicating with subsidiary companies and coordinating the implementation of related initiatives.

02

Climate Response Strategies

BEHL has always been pursuing green development. In line with its actual circumstances, the Company has formulated a climate response strategy featuring "proactive strides, forward-looking planning, win-win collaboration and low-carbon operations", which promotes the sustainable development of BEHL.

Proactive strides

BEHL proactively aligns itself with the national climate change adaptation strategy and planning, and contributes to China's transition to green energy;

Forward-looking planning

BEHL keeps up with new trends and focuses on the development of strategic emerging industries, relentlessly pursuing green, high-quality and sustainable development;

Win-win collaboration

BEHL actively engages in R&D innovation and industry exchanges, and contributes its own wisdom to promote coordinated carbon reduction efforts along the entire industrial chain across multiple industries;

Low-carbon operations

BEHL implements concrete and effective energy conservation, emission reduction, and pollution prevention measures to reduce the environmental impact of its operations and support the industry's zero-carbon endeavors.

In 2024, BEHL actively addressed the challenges posed by climate change. BEHL prepared the *BEHL Carbon Peaking Action Plan*. This plan delineates three primary action pathways aimed at facilitating the Company's transition to green and low-carbon development and supporting the execution of the national carbon peaking and neutrality strategy.

Strengthening the commitment to the transition to green and low-carbon development while establishing and enhancing market competitive advantages

01

Promote the transformation and upgrading of energy structure and formulate a clean energy strategy in line with the sustainable development goals. Relying on the existing industrial foundation and resource advantages, we will actively explore the diversified layout of emerging energy fields and strengthen the synergy between upstream and downstream of the industrial chain. By integrating core elements such as technology, talent and capital, we will gradually break through the key bottlenecks in the process of transformation and enhance the comprehensive competitiveness of enterprises in the green and low-carbon economy.

Building clean, efficient, and low-carbon management capabilities while leveraging technological innovation's supportive and leading role

02

Comprehensive management of energy consumption and carbon emissions in key energy-consuming units must be strengthened. Subsidiaries should be encouraged to undertake energy-saving renovations and implement measures to improve energy efficiency for critical equipment, increasing the proportion of clean energy consumption and fostering model subsidiaries for energy conservation and carbon reduction. Concurrently, priority must be given to promoting the innovation and application of green and low-carbon technologies, utilizing internal advantages such as R&D, talent, and application scenarios. Strengthening collaboration with external green and low-carbon technology innovation entities and accelerating the research and commercialization of clean energy and low-carbon technologies is also essential.

Venturing into low-carbon emerging fields to create growth driver for green development.

03

In alignment with the carbon peaking and neutrality strategy, it is important to develop green and low-carbon project design and operation, carbon asset development, and carbon market trading. This involves fostering technological resources in advance, enhancing strategic cooperation with industry leaders, exploring pilot project development, seeking green finance and government investment, and improving the returns on green and low-carbon ventures.

Gas Business

Beijing Gas embraces the mission of "practicing safety and sustainability, empowering a better life" and actively implements strategies to address climate change. Beijing Gas reshapes its business ecosystem comprehensively, positioning itself as a market benchmark in the field of green energy.

Beijing Gas aims to integrate new energy elements, such as hydrogen energy and integrated energy-powered heating, into its traditional business operations. Leveraging its inherent advantages, Beijing Gas seeks to set market standards in green energy. Concurrently, Beijing Gas explores energy conservation and carbon reduction potential, focusing on upgrading key energy consumption technologies, optimizing its energy structure, driving transition to green and low-carbon practices through technological innovation, and advancing the gas industry towards enhanced environmental protection and efficiency. Additionally, Beijing Gas proactively lays out its carbon peaking and neutrality strategy, identifies new opportunities for green and low-carbon projects, and develops carbon reduction initiatives tailored to its gas characteristics. Strengthening collaboration to promote pilot implementations, actively seeking policy and financial support, and creating new growth avenues for its gas business are also its key priorities.

Environment Business

Building on the foundation of improved climate governance, BE Environment actively seeks to balance environmental protection with profitability by formulating strategic actions conducive to sustainable development. The organization supports the construction of an ecological civilization and promotes the achievement of sustainability goals. In 2024, BE Environment concentrated on its core business, deeply advanced the circular economy, leveraged technological potential, and expanded its industry chain touchpoints. For instance, the Beijing Gaoantun Project has witnessed a comprehensive income increase of approximately 25%. Simultaneously, BE Environment is committed to its social responsibility as a utility by providing waste disposal services for remote small communities and exploring new fields and business models, such as its participation in the Xiangyang Wu'an Environmental Protection Energy Power Plant Project, which has led to breakthroughs in light asset business. Furthermore, BE Environment prioritizes meticulous management, enhances its refined management capabilities, develops a dynamic governance mechanism, and ensures the establishment of sustainable strategic resilience in response to climate change trends.

the Beijing Gaoantun Project has witnessed a comprehensive income increase of approximately

25%

Beer Business

Yanjing Brewery actively implements strategies to address climate change and promotes carbon reduction through multidimensional technological innovation and green management. Yanjing Brewery plans to increase the proportion of new energy and green electricity usage to over 10% of total electricity consumption while continuing to innovate key processes and pursue green facility renovation to minimize resource consumption.

Yanjing Brewery plans to increase the proportion of new energy and green electricity usage to over

10%

Technological innovation

Yanjing Brewery is dedicated to intelligent upgrades and transformations, updating outdated equipment to enhance energy and resource utilization efficiency. Additionally, Yanjing Brewery optimizes the bottle filling production line by replacing traditional equipment with efficient and intelligent production systems to reduce energy consumption and emissions.

Green management

Yanjing Brewery is fully committed to enhancing both the quantity and quality of green factories, which has significantly increased the overall number of such facilities within the group. Yanjing Brewery actively builds a green supply chain system that fosters collaborative innovation across the industry chain through environmentally responsible management and marketing practices, maximizing resource utilization while minimizing environmental impacts. Furthermore, Yanjing Brewery participates in carbon dioxide verification and compliance efforts, completing data accounting and system reporting as required to attain carbon quota rewards.

Scenario Analysis

BEHL has formed short, medium, and long-term time frames informed by both internal and external environments, while conducting climate risk and opportunity assessments tailored to each specific timeframe.

BEHL utilizes internationally recognized models proposed by the Intergovernmental Panel on Climate Change (IPCC) and the International Energy Agency (IEA) to select physical and transitional risk scenarios that align with its specific circumstances. BEHL conducts stress tests across various business segments to adapt to climate change, thereby enabling the formulation of more reliable strategic plans for future development.

	Scenario 1 High-emission scenario	Scenario 2 Baseline-emission scenario	Scenario 3 Low-emission scenario
Public scenario references	• Shared Socioeconomic Pathways (SSP) 5-8.5 proposed by the Intergovernmental Panel on Climate Change (IPCC) • Stated Policies (STEPS) scenario proposed by the International Energy Agency (IEA)	• Shared Socioeconomic Pathways (SSP) 2-4.5 defined by the IPCC • Announced Pledges Scenario (APS) proposed by the IEA	• Shared Socioeconomic Pathways (SSP) 1-2.6 defined by the IPCC • Net Zero Emissions by 2050 Scenario (NZE) proposed by the IEA
Explanation	• In this scenario, GHG emissions increase rapidly within this century, doubling by 2050; the global average temperature rises by more than 4° C above pre-industrial levels by 2100. The physical risk reaches its peak and increases over time. • This scenario assumes the continuation of all climate change policies introduced in the previous year, along with policies firmly communicated and committed to by national regulatory authorities. The established policy scenario anticipates a gradual implementation of these measures. According to current policy projections, global energy demand is expected to increase by approximately 1% annually by 2030, with renewable energy set to meet this demand entirely. Furthermore, clean energy investments are projected to rise by approximately 1.5 times the current level.	• In this scenario, GHG emissions peak around 2040 and then decline, with the global average temperature rising by more than 2°C above pre-industrial levels by 2100. From now to 2050, the physical risks play out in ways similar to the low-emissions scenario, but begin to moderate after the mid-century, converging towards the risk situation of the low-emissions scenario. • This scenario assumes all climate commitments made by governments globally, presuming that all announced targets, including long-term net-zero emissions and energy access goals, can be met in a timely and complete manner. Fueled by enhanced policy support, the development of hydrogen energy, as well as carbon capture, utilization, and storage projects, is progressing at an unprecedented pace. These policies aim to assist industries in decarbonizing, producing low-emission fuels, and enabling direct air capture projects to remove carbon from the atmosphere.	• In this scenario, the global average temperature rises by around 1.5℃ before 2100; the odds of physical risks occurring are relatively low, but it is likely to be a significant risk • This scenario assumes that the global energy sector will achieve net-zero carbon dioxide emissions by 2050, with the oil, gas, and coal industries expected to markedly and swiftly reduce methane emissions. Between now and 2030, the majority of global carbon dioxide reductions on the path to achieving net-zero emissions will result from technologies that are currently available. However, by 2050, nearly half of the emissions reductions will be derived from technologies that are presently in the demonstration or prototype phase.

Climate Related Risks and Opportunities

BEHL has developed a “”likelihood-impact” matrix (see figure) to prioritize and manage various risks, thereby enhancing operational efficiency. By conducting a comprehensive analysis of the probability of climate risk occurrence and the severity of its impact on business operations, BEHL derives its risk assessment results.

Physical Risk Assessment Methodology

BEHL categorizes the likelihood and impact of risks and opportunities into five levels, utilizing a 5-point scale. The risk levels are defined based on the product of likelihood and impact, which determines the prioritization of risks and opportunities. BEHL implements distinct management procedures for short-, medium-, and long-term risks and opportunities according to these rankings. Acute and severe risks will be prioritized, while chronic or mild risks will be monitored over a longer period. Existing risk control mechanisms and response measures will be evaluated to ascertain their effectiveness in controlling or mitigating risks, after which appropriate follow-up measures will be proposed.

- 20-25 points

Extremely high: Immediate action is required, and planning of the corresponding management strategies need to be prioritized (substantive impact)

- 10-19 points

High: Planning of corresponding management strategies is needed, and implementation needs to be tracked (substantive impact)

- 5-9 points

Moderate: No action is needed currently, but changes, if any, need to be monitored continuously

- 3-4 points

Low: Treated as general risk

- 1-2 points

Very low: Can be temporarily ignored

Climate Risk/Opportunity Scoring Matrix

Physical Risks

Physical risk refers to the potential for extreme or gradual weather events induced by climate change to adversely impact a company's assets, operations, supply chain, and financial health. Based on the characteristics and duration of climate events, physical risks can be classified into two categories: acute risks and chronic risks. Acute risks encompass severe weather events, such as typhoons, rainstorms, and heatwaves, while chronic risks are characterized by gradually accumulating environmental pressures, including rising sea levels, long-term temperature increases, and diminishing water resources.

In 2024, the global average temperature is expected to remain at historically high levels, accompanied by an increase in extreme weather events. The *China Climate Bulletin 2024*, released by the National Climate Center, indicates that the annual average temperature in China was 1.01°C higher than the historical norm (1991-2020), marking the highest level recorded since 1951. Various regions have experienced unprecedented high temperatures and heavy rainfall, particularly in Beijing, Tianjin, Hebei, East China, and Northeast China[5], leading to significant challenges for energy supply, urban drainage, and safe on-site operations.

BEHL operates a diverse range of business segments both domestically and internationally, spanning over 30 provincial-level administrative regions, including Northeast China, North China, Northwest China, East China, Central South China, Southwest China, as well as Hong Kong, Macao, and Taiwan. Additionally, BEHL manages multiple projects in various countries and regions, including Germany, the Netherlands, Luxembourg, Portugal, and Malaysia, which exhibit distinct climate zone characteristics and diverse operational environments.

In the climate risk assessment 2024, each business segment of BEHL selected three different climate scenarios for analysis based on their climate sensitivity, operational characteristics, and project locations: SSP1-2.6 (low emission scenario), SSP2-4.5 (baseline emission scenario), and SSP5-8.5 (high emission scenario). A range of methodologies, including physical climate risk models, were employed to comprehensively analyze the implications of physical risks.

[5]National Climate Center: China Climate Bulletin 2024, official website of China Meteorological Administration, released in March 2025. Link: https://www.cma.gov.cn/zfxxgk/gknr/qxbg/202503/t20250302_6886935.html

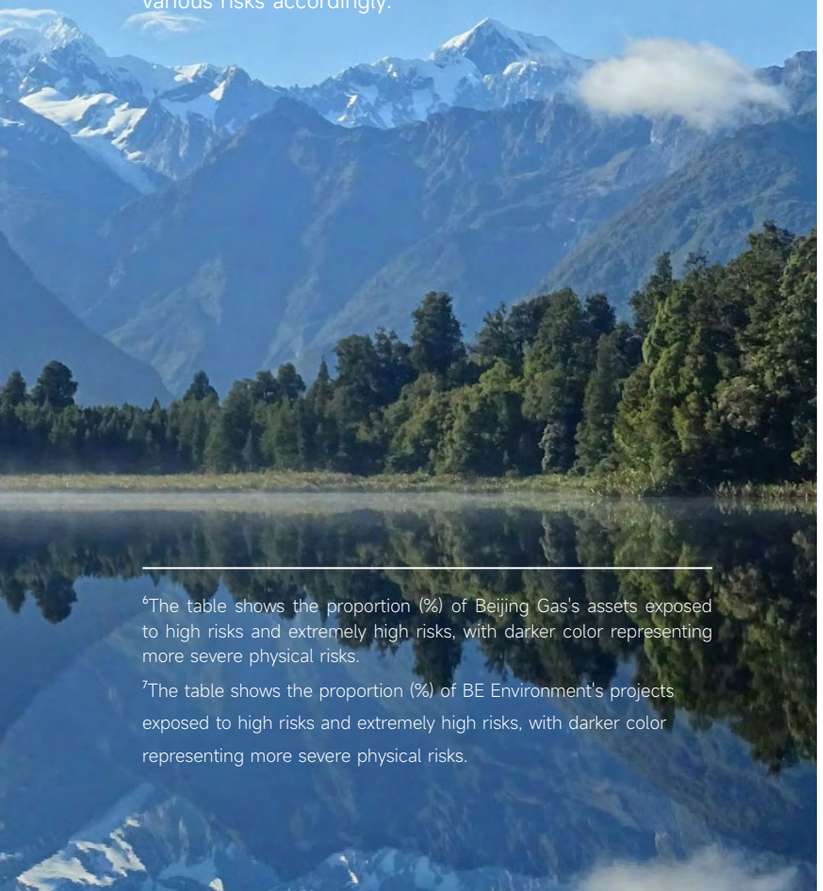
Physical Risk Impact Analysis at BEHL

Physical risks	Trend	Impacted operating regions	Duration of impact	Impact on BEHL and its business segment			
				Headquarters	BE Environment	Beijing Gas	Yanjing Brewery
Extreme precipitation	↗	Beijing, Tianjin, Hebei, Jiangsu, Zhejiang, Hubei, Hunan, Heilongjiang and other places	Short, medium and long term	The risk of flooding affecting employee commuting and office spaces will increase. IT equipment is vulnerable to moisture damage, escalating the likelihood of interruptions during critical meetings and operational coordination.	Garbage collection and transportation may be hindered, resulting in waste accumulation and disrupting normal project operations. Furthermore, the infrastructure and equipment of waste-to-energy projects are susceptible to damage.	Gas supply equipment, storage tanks, and pressure regulating stations may experience flooding, leading to malfunctions, corrosion, and damage. The accumulation of water at LNG receiving stations disrupts operations, causing power outages and supply chain interruptions, which adversely impact the reception and distribution of liquefied natural gas. This also heightens safety risks for employees during operation and maintenance.	Damage to production facilities leads to interruptions in energy supply, adversely affecting production and increasing costs. Employee commuting and workplace safety risks are elevated, contributing to higher operational expenses. Traffic disruptions hinder the efficiency of product transportation, resulting in decreased revenue. Moreover, the threat of water source pollution jeopardizes the quality of production water, while flooding-related price increases for raw materials drive up operational expenses.
Extreme heat	↗	North China, East China, Central South, Southwest China and other regions	Short, medium and long term	The air conditioning load surges in summer, leading to increased cooling energy consumption in the computer room. This situation can result in employee heatstroke and decreased production efficiency in the office.	Core equipment, such as incinerators and flue gas treatment systems, is at risk of shutdown due to reduced heat dissipation efficiency. Employees are also susceptible to heatstroke risks, while elevated temperatures may accelerate garbage decay and intensify odor control challenges.	The rising demand for refrigeration has placed significant pressure on the gas supply system, necessitating an increase in supply capacity to meet user needs. Additionally, the growing LNG evaporation rate affects storage and replenishment speeds, while pipeline expansion and deformation heighten the risk of leaks. Moreover, the costs of equipment maintenance and station ventilation will surge, and outdoor workers face increased safety risks.	Poor barley harvests will drive up material prices on the high plateau, contributing to increased operating costs. Rising refrigeration costs, coupled with prolonged high-temperature vacations, may detrimentally affect productivity, leading to higher expenses and decreased revenue. Furthermore, the risk of employee heatstroke and associated health issues heightens operational costs.
Extreme cold	↘	Northeast, North China, Northwest China and other places	Short, medium and long term	Heating energy consumption around the headquarters building in Beijing will rise, while sudden extreme cold weather will negatively impact commuting and transportation. Consequently, the likelihood of malfunctions in office network equipment due to low temperatures will increase.	Incineration efficiency is compromised, resulting in higher energy consumption. The transportation and storage of garbage are disrupted, leading to fluctuations in processing capacity and a decline in processing efficiency.	The rising demand for heating will place significant pressure on the gas supply system, necessitating an increase in supply capacity to meet user needs. Additionally, road and logistics transport disruptions adversely affect the stability of gas distribution and supply. Pipelines and valves are susceptible to freezing and rupture, resulting in increased damage to facilities, while the safety risks faced by outdoor workers will escalate.	Poor barley harvests will lead to an unstable supply of raw materials, resulting in price increases and higher operating costs. Damaged production facilities affect critical processes such as saccharification and fermentation, leading to reduced production efficiency. Additionally, adjustments to process parameters are required to adapt to low temperatures, increasing research and development costs and operational expenses for insulation. Furthermore, decreased beer consumption may adversely impact revenue.
Typhoon	↗	Jiangsu, Shandong, Hainan, Guangxi, Hong Kong, and other coastal areas	Short, medium and long term	Extreme weather conditions, such as strong wind and rain, can impact employee attendance and the stability of data center operations. During periods of heavy rainfall, certain floors may experience water seepage, which places added pressure on backup power sources.	High-altitude structures, including factories and chimneys, are vulnerable to damage from strong winds. The risk of leachate overflow from the garbage storage pit increases during rainstorms, potentially polluting soil and water. Electrical equipment may suffer power outages, disrupting normal project operations. Additionally, garbage transportation may be obstructed or interrupted, jeopardizing processing capacity stability.	Coastal LNG receiving stations are at risk of backflow, which can cause damage to facilities and equipment. This situation also increases safety risks for employees.	Employee commuting and workplace safety risks are rising, leading to higher operational expenses. Damage to buildings and production facilities results in asset loss and necessitates additional capital investment. Furthermore, international freight disruptions are inflating the cost of overseas barley.

Physical risks	Trend	Impacted operating regions	Duration of impact	Impact on BEHL and its business segment			
				Headquarters	BE Environment	Beijing Gas	Yanjing Brewery
Drought and pressure of water shortage	↗	Beijing, Shandong, Hunan, Heilongjiang, and other places	Medium and long term	The demand for water-saving equipment will increase, while the frequency of irrigation for green plants and replenishment of water towers will decrease. Consequently, it is essential to enhance daily water monitoring in office buildings and to develop water reuse systems in public areas.	Due to limited cooling water allocation, some projects necessitate the use of reverse osmosis (RO) concentrate recovery systems, which increase operational complexity and costs. Additionally, the cost of water-saving renovations will rise.	Some LNG receiving stations require renovations of their water storage tanks due to inadequate fire and cooling water reserves. The frequent operation and shutdown of spray facilities in the tank area during dry seasons elevate operational risks.	Poor barley harvests or declines in quality will lead to an unstable supply of raw materials, which increases prices and operating costs. Moreover, damage to water sources elevates pollutant concentrations, resulting in higher procurement and treatment costs for high-altitude materials. Changes in water quality also affect product flavor, necessitating increased research and development investments to maintain quality and ultimately driving up costs.
Sea level rise	↗	Tianjin, Jiangsu, Hong Kong and other coastal regions	Long term	If sea levels continue to rise, the lower-level water pump room, elevator basements, and underground equipment could face risks of water ingress or saltwater corrosion. Therefore, it is essential to enhance the power anti-seepage and equipment sealing systems.	Coastal landfills and plant bottoms are impacted by rising groundwater levels, increasing the risk of leachate leakage. Access to coastal zone projects necessitates a reassessment of boundary protection measures.	The infrastructure of the receiving station is vulnerable to environmental changes, leading to equipment damage and malfunctions. This situation elevates operational risks and increases asset maintenance costs along the sea freight route.	Coastal farmland may become submerged by seawater, resulting in soil structure damage that negatively affects barley production and pricing, ultimately increasing raw material costs. Furthermore, the encroachment on coastal land for industrial purposes will lead to a reduction in available space for industrial purposes.
Global warming	↗	All the operating regions	Medium and long term	If a warm winter results in reduced heating loads, the operational and maintenance strategies of the energy system must be adjusted. Concurrently, climate change impacts the energy consumption forecasts within the annual budget, complicating carbon asset management.	Organic waste decomposes prematurely in high-temperature environments, leading to unstable leachate composition, which necessitates upgraded monitoring and response measures. During warm winter seasons, the power generation load of heating projects declines, and revenue fluctuations widen.	Continuous warm winters contribute to increased uncertainty in heating demand, while maintenance costs for gas supply facilities will also rise.	The consumption patterns shift in response to seasonal temperature changes, with summer sales potentially increasing but exhibiting volatility. Consequently, cold chain logistics and production capacity scheduling must be dynamically adapted.

Risk Exposure Levels at Each Business Segment

This analysis examines the physical risks facing Yanjing Brewery, Beijing Gas, and BE Environment, while evaluating the negative impacts of various climate threats across different time horizons: short term (1-5 years), medium term (5-15 years), and long term (over 15 years). The evaluation encompasses different climate scenarios, including high emission, baseline emission, and low emission scenarios. The findings will rank the various risks accordingly.



Gas Business

Types of physical risks	Low-emission scenario			Baseline-emission scenario			High-emission scenario		
	Short term	Medium term	Long term	Short term	Medium term	Long term	Short term	Medium term	Long term
Extreme precipitation	39.09%	40.98%	0.10%	44.04%	0.10%	39.21%	38.76%	0.10%	0.10%
Extreme heat	47.23%	53.48%	46.33%	38.39%	41.45%	85.49%	68.49%	44.69%	87.3%
Extreme cold	46.13%	43.49%	1.34%	2.81%	46.13%	46.13%	1.34%	8.77%	1.34%
Typhoon	0%	0%	0%	3.63%	0%	0%	0%	0%	0%
Sea level rise	0%	0%	0%	0%	0%	0%	0%	0%	0%
Global warming	0%	0%	0%	0%	0%	0%	0%	0%	0%

Beijing Gas's Exposure to Physical Risks[6]

Diagram: 0-25% 25-50% 50-75% 75-100%

Environment Business

Types of physical risks	Low-emission scenario			Baseline-emission scenario			High-emission scenario		
	Short term	Medium term	Long term	Short term	Medium term	Long term	Short term	Medium term	Long term
Extreme heat	44%	44%	50%	44%	44%	50%	44%	44%	100%
Rainstorm and flood	44%	44%	50%	44%	44%	62%	44%	44%	100%
Typhoon and strong winds	62%	62%	68%	62%	62%	69%	62%	62%	100%
Extreme cold	25%	25%	50%	25%	25%	62%	25%	25%	100%
Pressure of water shortage	44%	44%	50%	44%	44%	62%	44%	44%	100%

BE Environment's Exposure to Physical Risks[7]

Diagram: 0-25% 25-50% 50-75% 75-100%

[6]The table shows the proportion (%) of Beijing Gas's assets exposed to high risks and extremely high risks, with darker color representing more severe physical risks.

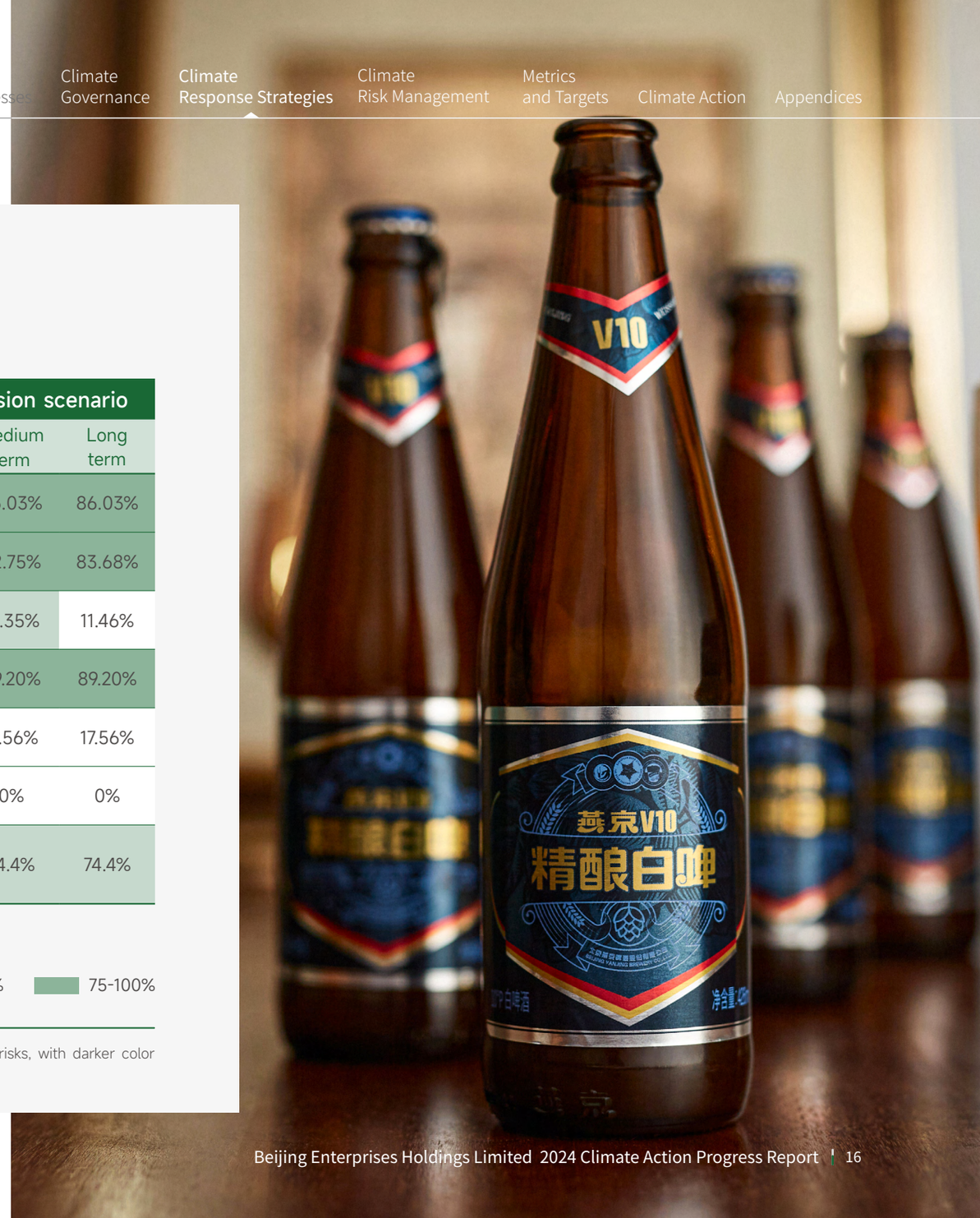
[7]The table shows the proportion (%) of BE Environment's projects exposed to high risks and extremely high risks, with darker color representing more severe physical risks.

Beer Business

Types of physical risks	Low-emission scenario			Baseline-emission scenario			High-emission scenario		
	Short term	Medium term	Long term	Short term	Medium term	Long term	Short term	Medium term	Long term
Extreme precipitation	76.01%	77.35%	77.35%	77.71%	77.35%	79.44%	77.71%	86.03%	86.03%
Extreme heat	80.09%	78.79%	81.09%	80.09%	81.09%	81.09%	80.09%	82.75%	83.68%
Extreme cold	72.34%	71.35%	71.35%	71.35%	71.35%	71.35%	71.35%	71.35%	11.46%
Drought	2.96%	7.67%	9.69%	5.29%	7.67%	7.67%	7.67%	89.20%	89.20%
Typhoon	10.73%	10.73%	10.73%	10.73%	10.73%	10.73%	10.73%	17.56%	17.56%
Sea level rise	0%	0%	0%	0%	0%	0%	0%	0%	0%
Decreased water resources	69.36%	69.36%	69.36%	69.36%	69.36%	69.36%	69.36%	74.4%	74.4%

Yanjing Brewery's Exposure to Physical Risks[8] Diagram: 0-25% 25-50% 50-75% 75-100%

[8]The table shows the proportion (%) of Yanjing Brewery's assets exposed to medium risks, high risks and extremely high risks, with darker color representing more severe physical risks.



Transition Risk

The transition risk refers to the systemic risks arising from policy adjustments, technological innovations, or shifts in market preferences during the transition to a low-carbon economy. Transition risk primarily stems from the impact of climate policies, such as carbon pricing and carbon taxes, on high-carbon industries, as well as the complexities associated with replacing traditional energy sources with clean energy. These risks are specifically manifested in four key aspects:

Policy and regulatory risks

Mandatory emission reduction policies, including carbon taxes and emissions trading systems (ETS), increase operating costs for enterprises.

Disruptive technological risks

Breakthroughs in clean energy technologies, such as renewable energy and energy storage, may undermine the competitiveness of traditional high-emission industries.

Market and demand risks

Shifts in consumer and investor preferences toward low-carbon products and services may result in diminished demand for high-carbon assets.

Legal and reputational risks

Failure to meet emission reduction commitments may lead to litigation or harm to brand value, including allegations of "greenwashing."

BEHL conducts a comprehensive assessment to identify transition risks within its subordinate business segments, while prioritizing key risks and developing appropriate risk management measures.

Transition Risk Impact Analysis at BEHL

Transition risks	Description	Related business segments	Impact on BEHL and its business segment
Policy and regulatory risks	• Transition to a low-carbon energy mix (natural gas consumption peak) • Stricter methane emission control policies • Stricter carbon pricing mechanism • Policy compliance caused by the continuous upgrading of emission standards • Surging carbon cost (rising carbon price)	Gas business Environment business Beer business	• Beijing Gas: Tightening regulations regarding carbon emissions reduction and environmental disclosure will compel Beijing Gas to enhance its monitoring and disclosure systems, resulting in increased operational costs. • BE Environment: Stricter carbon emission regulations are anticipated to elevate compliance costs, including expenditures related to carbon taxes and investments in emissions monitoring. Additionally, the transition to a cleaner energy structure necessitates that companies accelerate the adoption of clean energy, thereby increasing operating costs. Furthermore, low-carbon requirements imposed by the supply chain may jeopardize the stability of the existing supplier network. • Yanjing Brewery: The expansion of the carbon market will likely result in higher carbon emission costs for Yanjing Brewery, potentially impacting its production costs and profitability. Stricter emission reporting requirements will lead Yanjing Brewery to prioritize low-energy suppliers, which may affect the stability of its existing supply chain.
Disruptive technological risks	• Technological iteration and competition (increased energy efficiency requirements/ replacement by emerging processing technologies) • The pressure of rising costs brought by green electricity technology	Environment business Beer business	• BE Environment: Uncertainty regarding the compatibility of new technologies and the return on investment significantly impacts projects' economic viability. Increasingly stringent emission standards and region-specific policies will intensify regulatory pressures. The heightened competition in the waste incineration sector will result in a sustained increase in R&D investments. Furthermore, rising public environmental expectations pose risks related to public opinion. The tension between expectations for carbon market expansion and local economic requirements complicates technology selection processes. • Yanjing Brewery: Yanjing Brewery's decision to source environmentally friendly raw materials may lead to higher procurement costs, directly influencing operational expenses. Furthermore, the transition to low-carbon practices in green product research and production—including process optimization and equipment upgrades—will necessitate substantial additional investments.

Transition risks	Description	Related business segments	Impact on BEHL and its business segment
Market and demand risks	• Energy consumption structure change (transition from end use energy to non fossil energy)	Gas business Beer business	• Beijing Gas: Upstream natural gas supply prices may fluctuate due to the impacts of transition to low-carbon practices, which directly drives up procurement and operating costs. Additionally, a decrease in demand for natural gas from end-users will result in reduced gas supply, thereby affecting the growth of core business revenues. Furthermore, increasingly stringent gas price regulations compress profit margins and heighten operational pressures. • Yanjing Brewery: As consumers' environmental awareness continues to rise, green products are gradually becoming the prevailing trend in market consumption. This structural transformation is anticipated to significantly increase demand for environmentally friendly beer products. If Yanjing Brewery does not capitalize on this strategic opportunity in a timely manner, it may face a competitive disadvantage in the expanding green consumption market.
Legal and reputational risk	• Corporate management and governance • Corporate reputation (valuation discount caused by high carbon asset exposure/ doubts about greenwashing)	Environment business Beer business	• BE Environment: The waste incineration business often encounters resistance from communities for environmental concerns, such as dioxin emissions. Some individual projects illustrates that the public is highly sensitive to emission data, which can escalate into mass protests that may jeopardize the project's continuation. If fly ash treatment and other processes fail to meet the latest environmental standards, they not only risk incurring daily fines from the environmental authorities but also jeopardize governmental collaboration. In the long term, such adverse events can diminish the competitive advantage when bidding for new construction projects and hinder market expansion. • Yanjing Brewery: Exposure of environmental lawsuits in the media can significantly damage brand reputation and result in a loss of market share, particularly among younger consumers who display a lower tolerance for environmental issues. The direct economic losses arising from administrative penalties could reach tens of millions and may trigger a cascade of repercussions, including collective lawsuits by investors and the potential delisting of products from sales channels. These risks can severely impact valuation and cash flow, obstructing the transition towards high-end and environmentally friendly product structures.

Transition Risk Assessment at Each Business Segment

This analysis examines the transition risks associated with Yanjing Brewery, Beijing Gas, and BE Environment. It evaluates the negative impacts of various climate risks across different time frames: short term (1-5 years), medium term (5-15 years), and long term (over 15 years). Additionally, it examines the implications of different climate scenarios, including high emission, baseline emission, and low emission scenarios, and ranks the various risks accordingly.

Gas business

转型风险类型	Low-emission scenario			Baseline-emission scenario			High-emission scenario		
	Short term	Medium term	Long term	Short term	Medium term	Long term	Short term	Medium term	Long term
Transition to a low-carbon energy mix	High risk	Extremely high risk	Extremely high risk	High risk	High risk	Extremely high risk	Moderate risk	High risk	High risk
Stricter methane emission control policies	High risk	Extremely high risk	Extremely high risk	High risk	High risk	High risk	Moderate risk	Moderate risk	Moderate risk
Stricter carbon pricing mechanism	Moderate risk	High risk	High risk	Moderate risk	Moderate risk	High risk	Low	Moderate risk	Moderate risk
Energy consumption structure change	High risk	High risk	High risk	High risk	High risk	High risk	Low	Moderate risk	Moderate risk

Transition Risk Impact Analysis at Beijing Gas

Diagram: Low and extremely low risk | Moderate risk | High risk | Extremely high risk

Major transition risks

- Risk of transition to a low-carbon energy mix
- Risk of stricter methane emission control policies
- Risk of stricter carbon pricing mechanism
- Risk of energy consumption structure change

Response measures

- Beijing Gas actively explores the integration of traditional natural gas, hydrogen energy, and biomethane to enhance market competitiveness.
- Beijing Gas establishes methane emission control technology system, upgrades pipeline monitoring capabilities, strengthens methane leak detection and repair processes, and reduces emission intensity.
- Beijing Gas optimizes carbon asset strategies, promotes the adoption of low-carbon technologies, and minimizes carbon emission costs.
- With “Energy Plus” as the focal point, Beijing Gas creates a safe, efficient, green, and intelligent energy ecosystem through technological combination, innovative scenario development, and market collaboration.

Environment business

Types of transition risks	Low-emission scenario			Baseline-emission scenario			High-emission scenario		
	Short term	Medium term	Long term	Short term	Medium term	Long term	Short term	Medium term	Long term
Corporate management and governance	100%	100%	100%	100%	100%	100%	100%	100%	62%
Technologiacl iteration and competition	54%	54%	87%	54%	54%	81%	54%	54%	54%
Corporate reputation	100%	100%	100%	100%	100%	100%	100%	100%	56%

Transition Risk Impact Analysis at BE Environment[9] Diagram: 0-25% 25-50% 50-75% 75-100%

Major transition risks

- Risk of technological iteration and competition
- Risk of corporate reputation
- Risk of corporate management and governance

Response measures

- BE Environment establishes a dynamic technology monitoring mechanism, devises a pathway for lean technology upgrades, and ensures that the technological trajectory evolves in alignment with policy requirements and market trends.
- BE Environment develops a full-process"monitoring-response-repair" mechanism for reputation management, enhances community communication, guides public opinion, and ensures ESG information disclosure to maintain credibility.
- BE Environment creates a full-process governance optimization system based on a “prevention-control-improvement” cycle, enhances technical operational efficiency through lean management practices, strengthens the ESG governance framework and information disclosure mechanisms, and systematically improves resilience against policy transformation risks.

[9]The table shows the proportion (%) of BE Environment's projects exposed to high risks and extremely high risks, with darker color representing more severe physical risks.

Beer Business

Types of transition risks	Low-emission scenario			Baseline-emission scenario			High-emission scenario		
	Short term	Medium term	Long term	Short term	Medium term	Long term	Short term	Medium term	Long term
Risk of transition to a low-carbon energy mix	22	20	18	22	22	18	25	25	25
Change in carbon pricing mechanism	43	60	77	43	60	77	45	45	45
Corporate reputation	25	42	77	25	25	77	28	28	28

Transition Risk Impact Analysis at Yanjing Brewery

Diagram: 0-25 25-50 50-75 >75

Major transition risks

- Risk of transition to a low-carbon energy mix
- Risk of change in carbon pricing mechanism
- Risk of corporate reputation

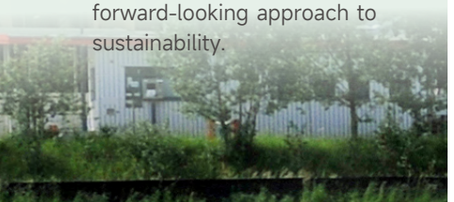
Response measures

- Yanjing Brewery is actively promoting the substitution of traditional coal-fired power with clean energy sources such as natural gas. Additionally, Yanjing Brewery is planning to establish green factories that meet international standards to facilitate the transition to clean production from the source.
- Yanjing Brewery is committed to continuous efforts in energy conservation and emission reduction, accelerating the transition to low-carbon practices process by optimizing production processes and energy structures. Furthermore, Yanjing Brewery aims to enhance its engagement in the carbon trading market to improve carbon emission asset management.
- To prevent the risk of greenwashing, Yanjing Brewery improves the internal audit risk control system, establishes a regular environmental information disclosure mechanism, and enlists third-party organizations to independently verify key data, including carbon emissions. This approach ensures the authenticity and transparency of its sustainability commitments.

Transition Opportunities

BEHL recognizes the potential impacts of transition risks and opportunities on its strategic planning, supply chain, and various other operational facets. Therefore, utilizing existing information—including market conditions, regulatory frameworks, and technological advancements—along with industry characteristics, we conduct comprehensive impact path analyses to capitalize on industry opportunities and promote sustainable development.

We systematically identify and respond to diverse climate-related risks while actively exploring the resultant development opportunities from a strategic perspective. By thoroughly integrating climate transition opportunities into the daily operations and long-term development strategies, BEHL has successfully achieved the dual objectives of risk management and opportunity capitalization, thereby demonstrating its forward-looking approach to sustainability.



Transition Opportunity Impact Analysis at BEHL

Transition opportunities	Description	Related business segments	Impact on BEHL and its business segment
Policy driven opportunities	• Seizing the opportunity presented by the carbon peaking and neutrality policy to develop new energy infrastructure, including hydrogen and photovoltaic systems, implementing circular economy models, and promoting green certification products.	Gas business Beer business	• Beijing Gas: Enterprises are transforming from single gas suppliers to comprehensive energy service providers, creating a new situation of coordinated development of "gas, heat and electricity". • Yanjing Brewery: In the context of policy-driven circular economy development, the company's initiatives to enhance the construction of a resource recycling and reuse system not only effectively reduce production costs but also create a win-win situation for both economic and environmental benefits.
Technological innovation opportunities	• Achieving efficiency breakthrough through intelligent transformation (energy management system) and cutting-edge environmental R&D (ultra-low emission incineration)	Gas business Environment business Beer business	• Beijing Gas: By effectively integrating information systems—such as urban gas planning and construction, production and operations, and customer service—Beijing Gas establishes a digital support system that encompasses the entire urban gas business chain. This initiative facilitates the transition of the traditional pipeline network into a data-driven platform. • BE Environment: Changes in technology have emerged as a crucial lever for BE Environment to capitalize on transition opportunities. Through innovations in processes, iterations of equipment, and comprehensive system upgrades, BE Environment overcomes the technological bottlenecks associated with traditional incineration power generation. This approach extends the value chain from single-treatment methodologies to energy cascade utilization, transitioning from passive emission reduction to proactive carbon asset management. • Yanjing Brewery: Enhancing energy efficiency and expanding the use of renewable energy have become key strategies for business sustainable development. By optimizing production processes, upgrading energy-efficient equipment, and implementing energy management systems, Yanjing Brewery can significantly reduce energy consumption per unit. Additionally, increasing investments in both the procurement and self-construction of clean energy sources—such as solar and wind power—not only lowers carbon emissions but also improves the stability and cost-effectiveness of energy supply.
Market demand driven opportunities	• Responding to the trend of green consumption, developing low-carbon product lines, creating ESG brand premiums, and exploring emerging markets	Gas business Beer business	• Beijing Gas: The introduction of integrated energy service solutions signifies a fundamental shift for Beijing Gas from being a resource sales provider to focusing on customer demand solutions. • Yanjing Brewery: By optimizing logistics transportation routes and promoting the use of new energy heavy-duty trucks, Yanjing Brewery can significantly reduce carbon emissions and operational costs during the transportation process. This approach not only enhances logistics efficiency but also aligns with the trend of green, low-carbon development, contributing to the establishment of a more sustainable supply chain system.
Reputation value-added opportunities	• Establishing a transparent governance system with real-time data disclosure, implementing a public participation mechanism through transparent factories, and reshaping the industry's credibility benchmarks	Environment business	• BE Environment: TCorporate reputation management has emerged as a fundamental strategic tool for waste-to-energy companies seeking to overcome the challenges of community opposition and secure sustainable development resources. This approach has shifted from passively responding to public opinion to actively shaping industry standards, effectively converting public trust into tangible competitive advantages.

Transition Opportunity Assessment at Each Business Segment

This analysis examines the transition opportunities for Beijing Gas, BE Environment, and Yanjing Brewery, evaluating the positive impacts of various climate opportunities across different time frames: short term (1-5 years), medium term (5-15 years), and long term (over 15 years). It also assesses different climate scenarios—high emission, baseline, and low emission—prioritizing a range of opportunities accordingly.

Gas Business

Types of transition opportunities	Low-emission scenario			Baseline-emission scenario			High-emission scenario		
	Short term	Medium term	Long term	Short term	Medium term	Long term	Short term	Medium term	Long term
Development of natural gas business	High risk	High risk	High risk	High risk	Extremely high risk	Extremely high risk	Extremely high risk	Extremely high risk	Extremely high risk
Expansion into new energy business	Extremely high risk	Extremely high risk	Extremely high risk	High risk	Extremely high risk	Extremely high risk	High risk	High risk	High risk
Increased energy efficiency	High risk	High risk	High risk	Moderate risk	High risk	High risk	Moderate risk	Moderate risk	Moderate risk

Beijing Gas's Exposure to Transition Opportunity

Diagram: Low and extremely low risk | Moderate risk | High risk | Extremely high risk

Major transition opportunities[10]

- Development of natural gas business
- Expansion into new energy business

Response measures

- Beijing Gas emphasizes the transition from coal-fired to gas-fired and the substitution of industrial fuels while expanding smart gas solutions and comprehensive energy services to enhance the value of the natural gas business.
- Beijing Gas focuses on optimizing the energy mix and facilitating transition to low-carbon practices by promoting the deep integration of natural gas and renewable energy sources. Beijing Gas establishes a safe, clean, and efficient multi-energy complementary system to support the coordinated development of natural gas-fired combined cooling, heating and power (CCHP).

[10]The *Climate Action Progress Report 2023 of Beijing Enterprises Holdings Limited* indicates that the development of the natural gas business and the establishment of the new energy business receive comparatively high scores across three scenarios. These two areas are recognized as the primary climate opportunities for Beijing Gas.

Environment Business

Types of transition opportunities	Low-emission scenario			Baseline-emission scenario			High-emission scenario		
	Short term	Medium term	Long term	Short term	Medium term	Long term	Short term	Medium term	Long term
Corporate management and governance	37%	37%	44%	37%	37%	63%	37%	37%	25%
Change in technology	62%	62%	87%	62%	62%	81%	62%	62%	49%
Financial activities	63%	63%	100%	63%	63%	100%	63%	63%	44%
Corporate reputation	81%	81%	94%	81%	81%	100%	81%	81%	62%

BE Environment's Exposure to Transition Opportunity[11]

Diagram: 0-25% 25-50% 50-75% 75-100%

Major transition opportunities

- Change in technology
- Corporate management and governance
- Corporate reputation
- Financial activities

Response measures

- In the realm of technological innovation,BE Environment has established a collaborative innovation system that integrates industry, university, and research institutions. Through joint R&D with universities focused on key technologies, such as optimizing new incinerators, BE Environment has created a "pilot-evaluation-promotion" mechanism. For instance, in the Changde Project, specific technological improvements—such as enhancements to the combustion system—have significantly reduced energy consumption and led to the development of a replicable standardized solution. BE Environment has implemented talent training and technology tracking mechanisms to ensure sustained advantages in technological leadership.
- Regarding governance efficiency improvement,BE Environment has formed a professional team dedicated to monitoring policy developments and ensuring that technological iterations meet regulatory requirements. Furthermore, BE Environment actively contributes to the formulation of industry standards and promotes the integration of technical specifications, such as fly ash treatment, with its own practices. Finally, BE Environment strengthens execution guarantees by optimizing processes through digital monitoring and quarterly audits, integrating compliance requirements into overall evaluations, and building a control system that emphasizes both institutional and cultural dimensions.
- In terms of brand building, BE Environment has established a multidimensional credibility system. This includes fostering technical trust through emission data that surpass EU standards and real-time public disclosures, enhancing social identity through public engagement initiatives like "transparent factories," broadening influence through all-media dissemination, and developing a rapid-response public opinion management mechanism.
- Concerning financial activities,BE Environment explores exclusive financial instruments and intends to establish a quantitative evaluation system for environmental benefits. BE Environment plans to build an intelligent fund management framework to precisely match income and expenditure through algorithmic predictions. Additionally, BE Environment implements full-cycle investment controls, utilizing stress testing and dynamic models to enhance fund efficiency. Simultaneously, the rotation mechanism within the financial team ensures a high level of synergy between financial decisions and business needs.

[11]The table shows the proportion (%) of BE Environment's assets exposed to high risks and extremely high risks, with darker color representing more severe physical risks.

Beer Business

Types of transition opportunities	Low-emission scenario			Baseline-emission scenario			High-emission scenario		
	Short term	Medium term	Long term	Short term	Medium term	Long term	Short term	Medium term	Long term
Improved energy efficiency	123	123	123	123	123	123	123	123	123
Renewable energy use	23	123	123	23	78	123	23	78	78
Exploration of new products and services	78	123	123	78	78	123	78	78	78

Transition Opportunity Assessment at Yanjing Brewery

Diagram: 0-25 | 25-50 | 50-75 | >75

Major transition opportunities

- Improved energy efficiency
- Renewable energy use
- Exploration of new products and services

Response measures

- Yanjing Brewery implements a green building renovation project that aims to enhance thermal energy recycling efficiency by optimizing the design of the water tank pipeline system, thereby comprehensively improving energy efficiency throughout the production process.
- In terms of energy structure transformation, efforts will be focused on promoting projects such as distributed photovoltaic power generation.
- At the product level, Yanjing Brewery launches a new green product line, which involves stringent criteria for screening environmentally friendly raw material suppliers and the comprehensive use of recyclable and biodegradable packaging materials to ensure low-carbon and environmentally friendly attributes throughout the product lifecycle.

Climate Adaptation Analysis

All business segments at BEHL place significant emphasis on their capacity to adapt to climate change. By taking multidimensional measures such as technological innovation, infrastructure enhancement, and optimization of resource management, they effectively tackle the escalating climate challenges while ensuring the sustainable development of their operations.

Gas Business

Beijing Gas is confronted with physical risks, including extreme heat, extreme cold, and extreme precipitation, as well as transition risks associated with the transition to a low-carbon energy mix and methane emission control. Currently, Beijing Gas is addressing these risks through several measures: establishing an emergency response system for extreme weather, conducting preventive maintenance of facilities, deploying new energy initiatives, and participating in low-carbon technology development, as well as international collaborations. Looking ahead, Beijing Gas plans to enhance the resilience of its infrastructure to climate change by integrating climate assessments into investment decisions, establishing a platform for innovation in new energy technologies, deepening efforts in methane emission reduction, and promoting R&D of negative carbon technologies, such as carbon capture, utilization, and storage (CCUS). These initiatives aim to comprehensively bolster its capacity to adapt to climate change and contribute to achieving the carbon peaking and neutrality goals.

Risk Adaptation Measures at Gas Business

Types of climate risk	Current measures	Future response plan
Physical risk	• Formulating emergency plans, establishing an emergency command system, conducting regular safety training and emergency drills focusing on rainstorms and high temperatures to strengthen employees' emergency response capabilities. • Ensuring employee safety, which includes distributing protective materials and managing outdoor operation schedules appropriately; conducting preventive maintenance on production facilities, which involves installing insulation in cold weather and intensifying pipe network inspections during rainstorms. • Collaborating with the Meteorological Bureau in climate analysis and forecasting, allowing for proactive resource management; Expanding the peak load regulating resource pool and promoting self-owned emergency reserve facilities; Leveraging an integrated regulation and supply platform for gas-fired combined cooling, heating and power (CCHP) to ensue coordinated supply; purchasing natural disaster insurance for production facilities and personal safety insurance for employees to mitigate the financial impact of extreme weather events.	• Enhancing Infrastructure Resilience: strengthening the monitoring and risk assessment of climate change impacts, which includes incorporating medium- and long-term climate factors into the planning and design of new projects, as well as improving facility design and construction standards. • Integrating Climate Assessment into Investment Decision-Making: Considering climate risks and opportunities in strategic planning, business operations, and investment decisions to proactively address potential challenges.
Transition to a low-carbon energy mix	• Expanding the natural gas industry chain, such as investing in the Shaanxi-Beijing pipeline and the Tianjin Nangang LNG receiving station; constructing gas sourcing and dispatch management systems to optimize resource allocation through digital technologies. • Developing renewable energy sectors, including photovoltaics, wind power, energy storage, and hydrogen energy. As of the end of 2023, the contracted capacity for distributed photovoltaics was approximately 6.5 MW, and applications for the establishment of demonstration projects for hydrogen refueling stations have been submitted. • Undertaking research projects, such as the *Research and Demonstration Verification of Hydrogen Compressed Natural Gas Adaptability Evaluation*, and aiding in exploring pathways for zero-carbon energy transmission.	• Prioritizing the development of core technologies for CCUS and exploring collaborative application models with power generation enterprises. • Actively exploring the combination of traditional natural gas with hydrogen energy and biomethane; promoting the diversification of gas supply sources • Establishing a dedicated R&D team focused on emerging trends in the new energy industry; facilitating technological breakthroughs and the translation of research achievements through collaboration with research institutions.

Types of climate risk	Current measures	Future response plan
Methane emission control	• Editing the national standard titled *Greenhouse Gas Emission Accounting and Reporting Requirements Part 48: Urban Gas Supply Enterprises* to promote testing standards, and translating the *Best Practice Guidelines for MGP Methane Emission Reduction*. Establishing digital corrosion control platform, developing high-sensitivity laser detection equipment, aimed at reducing the risk of pipeline leakage. • Participating in international initiatives includes signing the MGP and establishing the China Oil and Gas Methane Alliance.	• Strengthening inter-industry cooperation, establishing emission factor libraries and promoting best practices, experiences, and digital governance, which achieves closed-loop management of methane emissions.
Failed investment in new technologies	• Conducting research on integrated natural gas hydrogenation stations and hydrogen compressed natural gas; promoting the construction of projects such as the Wangsiying hydrogenation station, while collaborating with Sinopec to explore the development of green hydrogen pipelines entering Beijing.	• Focusing on CCUS, new energy storage and other fields to enhance independent innovation capabilities.
Changes in market demand	• Developing integrated energy services and providing a multi-energy supply of cooling, heat, and electricity. • Transitioning from a focus on gas to an emphasis on energy, the development of distributed energy businesses aims to meet diverse energy demands.	• Mainly venturing into industries such as hydrogen energy within low-emission scenarios to capture market share in the clean energy sector.
Stakeholder concerns	• Joining the International Gas Union (IGU) and serving as its chairman; hosting the 2025 World Gas Conference, and sharing experiences in methane emission reduction at international conferences such as COP28 to enhance the influence in the industry. • Organizing a seminar entitled Methane Emissions Reduction to Support Urban Gas Carbon Neutrality, and launching the China Methane Emission Control Initiative for City Gas Enterprise.	• Expanding the use of renewable energy, optimizing internal carbon asset management, and enhancing transparency in environmental performance.

Environment Business

Drawing from the SSP2-4.5 scenario, BE Environment has systematically developed climate adaptation improvement plans. This plan focuses on five key areas: climate change and extreme weather, policy response, technological innovation, market & reputation, and supply chain & finance. Specific measures will be implemented in three stages—short, medium, and long term—to enhance climate resilience and promote sustainable development.

By progressively implementing the aforementioned systematic measures, BE Environment will enhance its climate adaptation capabilities while ensuring stable business operations and facilitating transition toward green, low-carbon development. It is projected that by 2030, BE Environment's carbon emission intensity will decrease by **40%**, and the proportion of renewable energy will increase to **30%**, positioning it as an industry leader in climate resilience.

Risk Adaptation Measures at Environment Business

Types of climate risk	Current measures	Future response plan
Response to climate change and extreme weather	• Establishing a risk assessment system that covers all projects. • Piloting climate monitoring equipment and warning mechanisms in key areas.	• Regularly updating risk reports. • Conduct mandatory climate assessments for new projects.
Policy response	• Forming a working group to apply for financial and tax subsidies and technology R&D funds. • Building technical cooperation with international institutions under the *Belt and Road* initiative.	• Exploring cutting-edge technologies such as carbon capture, utilization, and storage (CCUS).
Technological innovation	• Completing the renovation of the waste incineration plant's gas-fired combined power-heating supply system. • Conducting wind and solar resource assessment for projects. • Piloting circular economy industrial park planning at three waste incineration plants.	• Promoting hydrogen production technology after the fine classification of garbage matures; cooperating with chemical industrial parks to pilot the use of garbage derived hydrogen for industrial decarbonization. • Synthesizing waste-to-energy projects and renewable energy, and creating a diversified clean energy supply system.
Market & reputation	• Deployment of compact facilities across in five central and western provinces. • Launching a monitoring app, establishing an open day for projects, and creating a Waste-to-Energy Science Museum.	• Installing small-scale disposal facilities in the surrounding counties of pilot cities to undertake the rural waste management business. • Acquire two incineration projects.
Supply chain & finance	• Intelligent classification pilot in communities. • Seeking green finance and government investment.	• Issuing REITs-like products. • Lowering the cost of green financing below the benchmark interest rate by 30%.

Beer Business

Yanjing Brewery has systematically undertaken climate adaptation assessments. By identifying and analyzing significant physical and transition risks, Yanjing Brewery has developed targeted response strategies aimed at enhancing operational resilience and capitalizing on opportunities for low-carbon transition.

Risk Adaptation Measures at Yanjing Brewery

Types of climate risk	Current measures	Future response plan
Extreme precipitation	• Establishing a comprehensive environmental management system along with emergency response procedures; and organizing factory layouts in multiple locations to mitigate the impact of localized risks on operations.	• Establishing Detailed Emergency Plans: Developing emergency plans that include criteria for activation, an emergency contact network, and specific response steps to be taken in the event of an emergency. • Strengthening Preventive Emergency Preparedness: Enhancing the ability to respond quickly to sudden environmental events by pre-planning and implementing preventive measures, which involves organizing simulation exercises, conducting routine inspections, and promptly addressing identified issues. • Regularly Maintaining the Drainage System: Periodically inspecting the drainage pipe network to ensure its operational capacity during rainstorms, preventing ponding and waterlogging. • Ensuring Emergency Water Supply: Establishing protocols to guarantee that sufficient emergency water is available to sustain normal production operations and ensure a stable supply of water resources during emergencies.
Extreme heat	• Promoting the use of clean energy and accelerating the transition to green production technologies.	• Developing High-Temperature Response Plans: Establishing meteorological monitoring systems in key facilities to provide real-time alerts and accurate predictions of high-temperature weather; expanding the areas of wetlands, green spaces, and water bodies within operational sites to mitigate elevated temperatures. • Improving Employee Welfare: Implementing measures such as providing subsidies for high temperatures, increasing rotational leave, and enhancing heatstroke prevention medical care for employees. • Optimizing Production Environment: Enhancing airflow and reducing heat accumulation by optimizing fans and exhaust systems; adopting environmentally friendly cooling materials and innovative insulation technologies to improve overall efficiency.
Extreme cold	• Recycling and utilizing heat energy generated during the production process to further reduce reliance on external energy sources; implementing green building upgrades by incorporating low thermal conductivity materials for roofs and exterior walls to effectively minimize heat loss, which addresses potential risks of operational disruptions and increased energy costs due to extreme cold weather.	• Anti-Freeze Measures: Conducting comprehensive inspections for cold and freezing conditions on production equipment and pipelines, and implementing insulation and heat tracing in areas susceptible to freezing. • Antifreeze Warning System: Designating a responsible individual to monitor weather warnings issued by the meteorological bureau; activating the antifreeze warning system immediately when the temperature drops to 0° C or below, particularly during cold waves or forecasts of sharp temperature declines. • Emergency Response Grading: Classifying emergency responses into different levels based on the severity of extreme cold weather and the extent and impact on production and operations.
Drought	• Developing water resource management systems, adopting water-saving technologies, and enhancing employees' awareness regarding water conservation.	• Early Drought Disaster Risk Management: Implementing drought disaster risk management strategies to effectively reduce risks through prediction, early warning, preparedness, prevention, and associated activities. • Improving Water Utilization Efficiency: Promoting water-saving technologies and the use of circulating water systems; reviewing and optimizing high water-consuming processes to minimize unnecessary water resource consumption. • Optimizing Water Structure: Storing rainwater and wastewater for recycling and utilization in production environments with lower water resource requirements, thereby reducing dependence on fresh water sources.

Risk Adaptation Measures at Yanjing Brewery

Types of climate risk	Current measures	Future response plan
Decreased water resources	• Promoting water-saving technologies, establishing and implementing targets for reducing water consumption per ton of alcohol.	• Collaborative R&D of Water-Saving Crops: Collaborating with raw material suppliers to jointly invest in R&D resources, focusing on the cultivation of key water-saving raw materials such as barley, rice, and hops. • Cooperation with Community in Water Resource Management: Working with local communities to protect and manage water sources, ensuring the sustainable use of these resources.
Transition to a low-carbon energy mix	• Promoting distributed photovoltaic projects to replace coal with relatively clean energy sources such as natural gas.	• Setting energy management goals and optimizing energy structure • Pursuing technological transformations to achieve energy-saving and consumption-reducing effects. • Building green factories and upholding green, energy-saving, and efficient production processes in the construction of factories.
Carbon pricing mechanism	• Reducing carbon emissions, and saving carbon quotas through energy conservation and emission reduction.	• Promoting low-carbon transition and environmental management in business operations to reduce carbon emissions. • Increasing the proportion of renewable energy use. • Increasing inputs in the carbon market and enhancing capacity building for relevant personnel.
Reputational risks caused by high emissions and greenwashing	• Strengthening internal audit and control to reduce the risk of greenwashing.	• Regularly publishing environmental, social, and governance (ESG) reports to improve information transparency. • Strictly adhering to relevant laws and regulations to mitigate reputation risks associated with excessive emissions.

Financial Impact Assessment

Climate change has significantly impacted the financial health of enterprises. BEHL's gas, environment, and beer businesses have conducted detailed financial analyses to assess both the short-term and long-term effects of climate change on their operations. In response to these findings, they have developed appropriate strategies to ensure financial stability and promote sustainable development.

Gas Business

Beijing Gas, in accordance with the International Sustainability Standards Board (ISSB) Climate-related Disclosures (IFRS S2) framework, analyzes the impacts of physical risks and transition risks on its operations and financial status in different climate scenarios. Thus Beijing Gas assesses potential climate risk factors under various scenarios and quantifies the impact of climate factors on assets, revenue, costs, and cash flows.

Regarding the financial impact of physical risks, Beijing Gas has conducted a thorough assessment of three primary risks: extreme heat, extreme cold, and extreme precipitation. In terms of transition risks, Beijing Gas has concentrated on examining the impact of transition to a low-carbon energy mix , methane emission control, and increased pricing of GHG emissions . In light of the carbon peaking and neutrality policy, Beijing Gas urgently needs to transition from its traditional natural gas business and actively develop its new energy sector.

Assessment of the Impact of Climate Change on Beijing Gas's Financial Indicators

Climate scenario	Major risks/opportunities		Operating income	Cost	Profit and loss	Cash flow
High emission scenario	Physical risk	Extreme heat		+	−	−
		Extreme cold		+	−	−
		Extreme precipitation		+	−	−
Low emission scenario	Transition risk	Transition to a low-carbon energy mix	−	+	−	−
		Methane emission control		+	−	−
		Increased pricing of GHG emissions		+	−	−
		Changes in market demand	−	+	−	−
	Transition opportunities	Development of the natural gas business	+	+	+	+
		Expansion into the new energy business	+	+	+	+

Assessment of the Financial Impact Severity of Climate Change on Beijing Gas

Climate scenario	Major risks/opportunities		Financial impact (RMB Million)		
			< 500	500-1,500	>1,500
High emission scenario	Physical risks (long-term)	Extreme heat	✓		
		extreme cold	✓		
		extreme precipitation	✓		
Low emission scenario	Transition risks (medium-term)	Transition to a low carbon energy mix			✓
		Methane emission control	✓		
		increased pricing of GHG emissions	✓		
		changes in market demand			✓
	Opportunities (medium-term)	Development of natural gas business		✓	
		Expansion into new energy business			✓

Beijing Gas has developed a comprehensive risk management system to address the challenges posed by climate change. While the financial impact of short-term entity risks remains manageable, it is essential to plan ahead for the costs associated with medium- and long-term prevention and control measures. The company is committed to enhancing its quantitative data collection on emerging risks, such as methane emissions, to provide more accurate support for future decision-making.

Environment Business

Based on various climate scenarios (SSP1-2.6, SSP2-4.5, SSP5-8.5), BE Environment systematically evaluated the potential impacts of climate risks on corporate finance from 2025 to 2050. BE Environment has developed an annualized risk cost growth model to quantitatively analyze the comprehensive financial implications of eight major risk factors, including extreme weather and technological changes, thereby providing data support for long-term strategic decision-making.

Risk Cost Growth Rate (2025-2050)

Type of risks	SSP1-2.6 (low emissions)	SSP2-4.5 (baseline)	SSP5-8.5 (high emissions)
Extreme heat	3.5%-4%	3.5%-4%	6.5%-7%
Rainstorm and flood	3%-4%	5%-5.5%	8.5%-9%
Typhoon	2%-2.5%	1.5%-2%	4%-4.5%
Extreme cold	2%-2.5%	2%-2.5%	3.5%-4%
Business management	6%-6.5%	3.5%-4%	2%-2.5%
Water resource	3.5%-4%	3.5%-4%	4%-4.5%
Technology	6%-6.5%	4.7%-5.2%	3%-3.5%
Reputation	4.5%-5%	4%-4.5%	3%-3.5%

Based on three climate scenarios—SSP1-2.6 (low emissions), SSP2-4.5 (baseline), and SSP5-8.5 (high emissions)—BE Environment experiences significant differences in financial impact. In low emission scenarios, technological advantages can mitigate the effects of weather; in baseline scenarios, a balance must be struck between scale and cost. Conversely, high emission scenarios face severe risks of imbalances in income and expenditure.

Financial Impacts in Three Scenarios

Indicators	SSP1-2.6 (low emissions)	SSP2-4.5 (baseline)	SSP5-8.5 (high emissions)
Operating income	The short-term impact of extreme weather is relatively modest, with fluctuations in waste volume leading to a slight decrease in power generation revenue. Nonetheless, advancements in environmental technology yield additional subsidies, ensuring that the expected short-term impact remains below RMB5 million.In the medium to long term, income demonstrates a stable growth trajectory.	The impacts across short, medium, and long-term horizons are all projected to be under RMB5 million. Extreme weather influences waste transportation; however, electricity demand remains stable, and price fluctuations are manageable.	Regarding the near-term impact, it is estimated to approach RMB5 million. If no strategic adjustments are made in the medium to long term, this impact may further escalate. Extreme weather exacerbates the volatility of waste supply, and failure to adhere to environmental standards could lead to fines or project suspensions, significantly affecting incomes.
Cost	In the short term, equipment maintenance costs may rise due to factors such as damage from equipment freezing caused by extreme cold weather. However, long-term investments in energy-saving and emission reduction technologies can effectively decrease overall energy costs, resulting in a comprehensive impact of less than RMB 5 million.	Although maintenance and operation costs for equipment will increase, economies of scale and operational optimization partially mitigate these rising costs, with impacts at each stage remaining below RMB 5 million.	The costs associated with equipment upgrades, environmental treatment, and maintenance will significantly escalate, and expenses at each stage may approach or even exceed RMB 5 million.
Profit and loss	In the short term, fluctuations are relatively minor, while stable growth is sustained in the medium to long term, primarily attributed to cost savings and subsidies arising from technological advantages.	Although there may be a slight decline in the short term due to rising costs outpacing income growth, the situation is expected to improve gradually in the medium term with the realization of economies of scale, ultimately stabilizing in the long term.	While short-term losses are a possibility, failure to implement effective transformations in the medium term may lead to an escalation of these losses, thereby posing certain risks to long-term development.
Net cash flow	Short-term cash inflows from operating activities may experience a slight decrease; however, increases in subsidies and effective cost control will contribute to a stable upward trend in medium- to long-term cash flows.	Both cash inflows and outflows from operating activities will rise, but effective money management will ensure that short-term, medium-term, and long-term cash flows remain at reasonable levels.	Cash inflows from operating activities significantly decline, while cash outflows rise due to increasing costs. This deterioration in short-, medium-, and long-term cash flows places considerable strain on funding availability.
Key response measures	Leveraging the benefits of environmental technologies to secure subsidies and optimize energy utilization efficiency.	Controlling costs and consolidating market share by capitalizing on economies of scale and optimizing operational management.	Increasing investments in technological R&D, enhancing environmental standards, expanding financing channels, and implementing strategic transition.

Beer Business

Yanjing Brewery has developed a comprehensive climate risk financial analysis system aligned with the ISSB IFRS Sustainability Disclosure Standards. By organizing historical financial data and interviewing key departments, Yanjing Brewery specifically assesses the impact of significant climate risks on production costs, asset values, and profit levels. The analysis employs three gradient units—0.1%, 1%, and 10%—to measure the extent of financial impact, thereby providing a quantitative basis for risk management decisions.

1. Current Financial Impact Assessment

The current financial impact assessment of Yanjing Brewery covers several dimensions, including technology costs related to equipment and facilities, investments in personnel and equipment insurance, and expenditures for extreme weather responses. This assessment prioritizes the evaluation of how each factor influences Yanjing Brewery's costs, assets, and profits[12].

Risk type		Annual impact (RMB 10000)	Percentage of operating costs	Percentage of fixed assets	Percentage of net profit	Main dimensions impacted
Physical risk	Extreme heat	500-1,500	0.06%	0%	0.71%	Investment in cooling facilities, high temperature subsidies, and price increases in raw materials
	Extreme cold	> 1,500	0.04%	0.02%	0.78%	Thermal insulation equipment, cold-proof materials, and equipment depreciation
	Extreme precipitation	500-1,500	0.01%	0.02%	0.46%	Flood prevention facilities, material reserves, and loss of raw materials
	Drought	< 500	-	<0.01	<0.01	Investment in water-saving and water reuse, related technologies, equipment development, and introduction Investment in water monitoring and metering devices
	Total	> 2,000	0.12%	0.04%	2.04%	-
Transitioh risk	Carbon pricing mechanism	< 500	0.03%	-	0.29%	Purchasing green electricity and green certificates
	Energiewende	500-1,500	0.03%	0.02%	0.62%	Purchasing cleaning equipment and developing cleaning technology
	Total	500-2,000	0.06%	0.02%	0.91%	-

2. Analysis of Expected Financial Impact

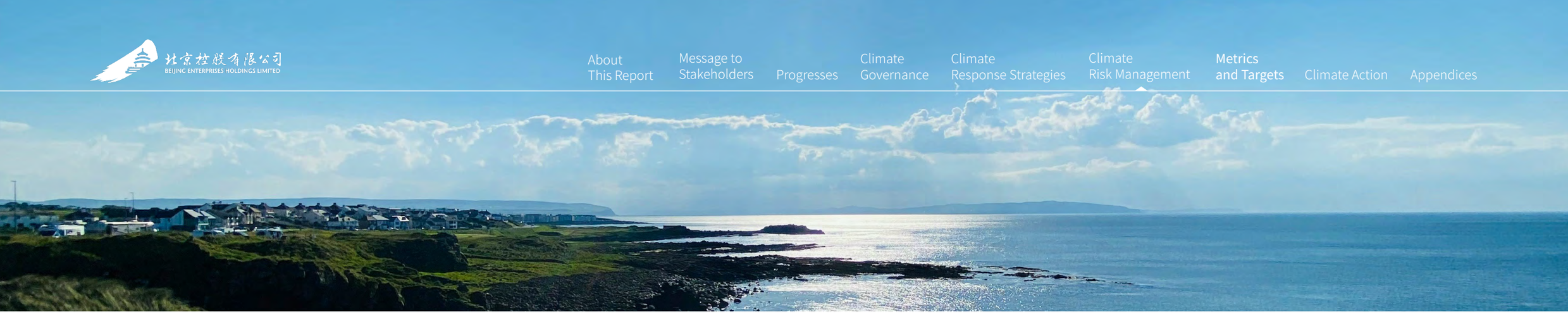
Yanjing Brewery conducts qualitative forecasts of climate change risks and their medium-to-long-term financial impacts based on current financial assessments, combined with market trends and policy analysis, to provide forward-looking references for strategic decision-making. The company has evaluated the effects of significant physical risks, transition risks, and opportunities on revenue, costs, and cash flows.

Major risks/opportunities			Operating income	Cost	Cash flow
Physical risk	Acute risk	Extreme preeipitation	—	+	—
		Extreme heat	—	+	—
		Extreme cold	—	+	—
	Chronic risk	Drought	—	+	—
		risk	—	+	—
Transition risk	Policy and regulatory risk	Transition to a low carbon energy mix	+	+	—
		Carbon pricing mechanism	—	+	—
	Reputational Risk	Corporate Reputation	—	+	—
Transition opportunitie	Product and service	Exploration of new products and services	+	+	+
	Resource and energy utilization	Improved energy efficiency	+	+	—
		Use of renewable energy	+	—	—

[12]Common costs, such as insurance expenses, have been consolidated and adjusted to eliminate the potential for double counting.
Percentage of total operating costs: Annual climate-related costs/Total operating costs×100%;
Proportion of total fixed assets: Annual climate-related asset investment/Total fixed assets×100%;
Percentage of net profit: Total amount of annual climate financial impact/Net profit attributable to shareholders×100%

03

Climate Risk Management



BEHL considers climate risk management a crucial lever for sustainable development and fully incorporates it into its overall risk management framework. BEHL employs specialized assessment tools and standardized management processes to regularly identify and assess climate risks and opportunities. This comprehensive approach sorts climate change-related risks and opportunities, analyzes their potential impact on business operations, financial performance, and strategic development. BEHL establishes a graded and classified response mechanism, ensuring that the Company not only addresses the challenges posed by climate change but also seizes the development opportunities associated with a low-carbon economy.

Climate Risk and Opportunity Management Process

01 Identification

- Organizing departments and business segments to regularly conduct climate risk identification in accordance with national policies, regulations, and the current business operation status.
- Engaging in-depth communication with stakeholders regarding the material climate issues to accurately understand their concerns and needs; identifying and categorizing climate-related physical risks, transition risks, and opportunities that BEHL faces in the short, medium, and long term.

02 Evaluate

- Fully assessing the identified risks from two dimensions: the likelihood and potential impact of climate risks; forming a climate risk inventory, which clarifies the specific impact of each type of risk.
- Submitting the climate risk list to the Board of Directors for approval as the official reference and guidance document for climate change-related work.

03 Analysis

- Sorting out existing response measures for material climate risks and opportunities, assessing the effectiveness of control measures and identifying management gaps.
- Measuring potential financial impacts of climate risks and opportunities, and analyzing the economic feasibility of response measures.

04 Management

- Developing and optimizing response plans for climate risks and opportunities based on evaluation results and following the principle of both mitigation and adaptation to enhance management efficiency.
- Building a scientific climate change management indicator system, setting quantifiable phased goals, and regularly monitoring and assessing the implementation effectiveness to provide essential data to support climate risk management performance.

Under the overall guidance of the Sustainability Committee, business segments at BEHL apply differentiated and systematic risk management practices tailored to their industry characteristics and operational realities, which comprehensively enhance the Company's climate adaptability and resilience to transition.

Gas Business

Beijing Gas has established a systematic climate risk management system that integrates specialized management processes, evaluation methods, and response plans. This system is subject to regular review and supervision, enabling effective control of climate risks and opportunities. Additionally, the system delineates the responsibilities of relevant departments to ensure the efficient execution of climate risk management activities.

Environment Business

BE Environment incorporates climate change risks into its comprehensive risk management framework, ensuring strict review and oversight to maintain control over these risks. Simultaneously, BE Environment coordinates various business departments to identify and analyze risk factors, clarify major risks, formulate management measures, and regularly publish *Risk Management Reports* to predict and respond to material risks.

Beer Business

Yanjing Brewery continuously improves its climate risk management system by integrating climate issues into its ESG materiality library. Yanjing Brewery conducts materiality assessments to evaluate the potential impact of its performance on climate issues concerning the economy, environment, and society. Yanjing Brewery follows a systematic approach of risk identification, risk assessment, risk prioritization, financial impact analysis, and risk response to develop appropriate management strategies and solutions for identified climate risks and opportunities.

04

Metrics and Targets

BEHL has thoroughly integrated climate action goals into its corporate strategy and established an indicator system that encompasses both short-term actions and long-term visions. Based on international standards and industry practices, BEHL establishes quantifiable and traceable climate performance targets, systematically evaluates the effectiveness of emission reduction efforts and adaptability, and ensures the coordinated advancement of climate risk management alongside business development.

Targets and Pledges

BEHL actively responds to the national carbon peaking and neutrality strategy, implements the concept of green development throughout the entire production and operation process. The company has committed to achieving the carbon peak target by 2030. At the same time, based on industry characteristics and development stages, each business segment has set scientifically-tiered carbon reduction targets and established a dynamic management mechanism of monitoring, evaluation and optimization.

Carbon Reduction Targets for Business Segments at BEHL

Gas

- By 2025, total carbon dioxide emissions will be limited to **629,600** tonnes, while methane emission intensity will be constrained to below **0.12%**. The renewable energy used will reach the equivalent of **14,400** tonnes of standard coal.
- By 2030, total carbon dioxide emissions will be limited to **813,200** tonnes, while methane emission intensity will approach **near zero**. The renewable energy used will reach the equivalent of **33,000** tonnes of standard coal.

Environment

- By 2030, EEW GmbH will achieve **carbon neutrality**.
- By 2030, BE Environment will treat **8** million tonnes of solid waste with a renewable energy installed capacity of **550,000** kilowatts.
- By 2040, BE Environment's carbon emission intensity per unit product in household waste-to-energy business will decrease by **45%** compared to 2024 levels.

Beer

- By 2025, total carbon dioxide emissions will be **571,000** tonnes, with Scope 1 emissions at **208,776** tonnes of carbon dioxide equivalent and Scope 2 emissions at **269,511** tonnes of carbon dioxide equivalent.
- By 2028, **carbon peaking** will be achieved

Indicator Performance

BEHL actively promotes collaborative management of greenhouse gas emissions across its business segments. BEHL continuously improves its carbon data management mechanism and seeks to establish a carbon emission accounting system that covers the entire value chain, ensuring the completeness, scientific rigor, and accuracy of carbon emission data. Concurrently, BEHL implements carbon reduction projects, consistently decreasing carbon emission intensity through technological innovation and operation optimization, with a commitment to minimizing its impact on climate change.

In 2024,

the total greenhouse gas emission density at BEHL was **14,300** tonnes of carbon dioxide equivalent per RMB billion of revenue,

reflecting a **4.67** % decrease compared to 2022.

Greenhouse Gas Emissions by Business Segments at BEHL in 2024

	Scope 1[13] (tonnes CO_2 equivalent)	Scope 2[14] (tonnes CO_2 equivalent)	Total (tonnes CO_2 equivalent)	Emission density (10,000 tonnes CO2 equivalent/ RMB 1 billion in revenue)
Gas	294,804.05	159,142.59	453,946.64	0.73
Environment	86,924.18	27,399.11	114,323.29	1.24
Beer	309,806.36	321,713.03	631,519.39	4.95

Greenhouse Gas Emission Level at BEHL[15]

Indicator	Unit	2022	2023	2024
Scope 1 emission	10,000 tonnes CO_2 equivalent	79.8	69.4	69.2
Scope 2 emission	10,000 tonnes CO_2 equivalent	39.2	51.7	50.8
Total greenhouse gas emissions	10,000 tonnes CO_2 equivalent	119.1	121.2	120.0
Total density of greenhouse gas emissions	10,000 tonnes CO_2 equivalent/ per RMB 1 billion in revenue	1.50	1.47	1.43

[13]Direct greenhouse gas emissions (Scope 1) encompass direct emissions from stationary combustion (liquefied natural gas, diesel) and fuel combustion by vehicles (gasoline). The liquefied natural gas emission factor references the *Guidelines for Accounting Methods and Reporting Guide for Greenhouse Gas Emissions from Industrial and Other Industries Enterprises* issued by the National Development and Reform Commission of the People's Republic of China on July 6, 2015; diesel and transport vehicle emission factors reference *Appendix II: Environmental KPIs Reporting Guide in How to Prepare an Environmental, Social and Governance Report* published by the Stock Exchange of Hong Kong Limited in March 2020.

[14]Indirect greenhouse gas emissions (Scope 2) come from purchased electricity consumption. The purchased electricity emission factor references the *Announcement on the Release of 2022 Power Carbon Dioxide Emission Factors* issued by the Ministry of Ecology and Environment of the People's Republic of China on December 26, 2024.

[15]This table provides an overview of emission at BEHL. The data related to its water business is excluded from the consolidated financial statements and is not factored into the overall assessment of total performance.

05

Climate Action

BEHL actively responds to the national "3060" target by integrating low-carbon development into its long-term strategic planning. BEHL coordinates energy conservation and carbon reduction efforts across various business segments, enhances refined management throughout all processes, continuously seeks sustainable pathways for the integrated development of economic and environmental benefits, and offers practical insights for the industry's green transition.

Gas

Developing hydrogen energy supply system

Beijing Gas actively promotes the development of the hydrogen energy supply system by formulating and implementing the **"N+1+X"** strategy. This strategy integrated biogas resources into the network following purification and established multiple hydrogen production and refueling stations on the outskirts of Beijing. In 2024, Beijing Gas successfully constructed the Wangsiying Gas-Hydrogen Demonstration Station, which has a daily hydrogen refueling capacity of **one tonne**, sufficient to meet the hydrogen demand of over a hundred delivery trucks and tour buses in the region. This initiative provides robust support for hydrogen energy applications in transportation.

High-Quality integrated of natural gas and new energy

Beijing Gas emphasizes the optimization of the energy structure and the establishment of low-carbon industrial system. Beijing Gas promotes the deep integration of natural gas with new energy, with a focus on the coordinated development of gas, heat, and electricity. Leveraging the advantages of efficient natural gas utilization technology, Beijing Gas has innovatively developed an integrated energy service system that integrates safety, low-carbon solutions, energy-saving measures, economic efficiency, and intelligence. Beijing Gas has also undertaken a number of demonstration projects, including those in the Rongdong area of the Xiong'an New Area, Beijing City Sub-center 6# Energy Station, the Beijing Universal CCHP Energy Center, and CNPC Innovation Base Data Center. Through multi-energy coupling and intelligent scheduling technology, Beijing Gas has achieved efficient integration and intensive utilization of energy resources.

Environment

Optimizing equipment energy efficiency

In the Changde Waste-to-Energy Project, BE Environment implemented several technical transformation measures, including the optimization of the ash conveying process, the installation of heat tracing devices, and the addition of gas storage tanks. Additionally, a compressed air storage tank was integrated into the chemical water workshop to regulate the system's pressure drop to within **0.05Mpa**. These measures successfully reduced the daily power consumption of the air compressor by **2,000kWh** and significantly improved equipment energy efficiency.

Recycling of waste heat from circulating water

In 2024, BE Environment's Tai'an Project and the thermal company continued to advance the collaboration on waste heat recovery from circulating water at the steam turbine condenser. This project, which was signed in 2021 and began trial operations in 2023, has a cooperation period of 30 years. The Tai'an Project transports circulating water at 30 °C to the thermal company, which utilizes a heat pump to extract heat energy. The resulting circulating water at 16 °C is then returned through a closed pipeline without any losses, ensuring zero loss of circulating water while effectively utilizing waste heat.

Beer

Building digital energy management system

Yanjing Brewery is advancing the development of a digital energy management system that collects real-time energy consumption data throughout the production process via intelligent sensor networks. This system optimizes energy consumption through big data analysis, enabling the automatic identification of abnormal operating conditions, such as equipment being unloaded. It intelligently adjusts operating parameters to maintain equipment within the optimal energy efficiency range, thereby significantly enhancing overall energy efficiency.

Developing renewable energy sources

Yanjing Brewery has established rooftop photovoltaic power generation systems to supply clean electricity to several production and office areas. Additionally, Yanjing Brewery utilized biomass waste fermentation to produce biogas, which replaces traditional boiler fuels. Furthermore, Yanjing Brewery is gradually promoting the electrification of its logistics equipment by replacing diesel-powered forklifts with electric models. This shift significantly reduces fossil energy consumption and facilitates the green transition of production and operations.

Future Plans

To systematically advance its low-carbon transition efforts, BEHL has developed the *Carbon Peaking Action Plan of BEHL* and established a leadership group focused on carbon peak and carbon neutrality initiatives. The plan aims to drive green transition across various business segments through multiple measures, including the upgrading of industrial structures, the promotion of low-carbon production and lifestyles, the strengthening of green low-carbon innovation capabilities, and the exploration of carbon asset management, thus providing a robust foundation for achieving sustainability goals.

Gas

Guided by the carbon peaking and neutrality goals and grounded in the core concept of "energy plus," Beijing Gas establishes a green development system that includes clean energy, low-carbon management, digital innovation, and related fields.

Industrial Transformation

Beginning with the Beijing-Tianjin-Hebei distributed photovoltaic demonstration project, Beijing Gas will gradually expand to include high-quality projects beyond Beijing. Simultaneously, efforts will focus on creating a full hydrogen energy industry chain demonstration system, with a target of achieving a renewable energy-powered heating area of **3.7** million square meters by 2030.

Green and Low-Carbon Management

Beijing Gas implements closed-loop management of methane emissions through measures such as leak detection and repair (LDAR) detection and pipeline network renovations. Additionally, Beijing Gas will establish an emission factor library, enhance the carbon management system, and actively engage in carbon market trading.

Digital Innovation

Efforts will concentrate on R&D in cutting-edge areas, including smart pipeline networks and zero-carbon buildings, while accelerating the pace of digital transition.

Environment

BE Environment centers on waste-to-energy operations and develops carbon peaking action plans that focus on operation optimization, technological innovation, carbon asset management, and business expansion.

Operations Management

By strengthening safety and environmental controls while enhancing refined management practices, BE Environment continuously improves operational efficiency.

Technological Innovation

BE Environment will focus on creating a green, low-carbon, resource-efficient, and intelligent business system, with plans to invest over RMB **55** million in R&D by 2025.

Carbon Asset Management

BE Environment will obtain carbon neutrality certification for all incineration projects by 2030 through the establishment of a carbon screening system and participation in green certificate trading.

Business Expansion

BE Environment will emphasize expanding collaborative waste disposal, hazardous waste recycling, and heat/power operations to form a complete solid waste treatment industry chain.

Beer

Yanjing Brewery will advance its carbon peaking plans through technological innovation, green management, and the application of new energy.

Promoting Technology

Yanjing Brewery will invest RMB **578** million in innovation to renovate intelligent equipment and upgrade its bottle-filling production lines, which is expected to result in an annual reduction of **11,273** tonnes of carbon dioxide emissions.

Green Factories

Yanjing Brewery plans to establish **16** national-level green factories by the end of the 14th Five-Year Plan. Yanjing Brewery aims to develop a green supply chain system that encompasses the entire product lifecycle while strengthening collaborative emission reductions across upstream and downstream operations.

New Energy Application

Yanjing Beer expects the green electricity usage ratio exceeding **10%** by 2025 and continues to promote cleaner production plans to reduce resource consumption and pollutant emissions through process innovation.

Appendices

Appendix 1 TCFD Guidance

Recommendation	Recommended disclosures	Chapters	Pages
Governance	a) Describe the board's oversight of climate-related risks and opportunities	Climate Governance	P5-P6
	b) Describe management's role in assessing and managing climate-related risks and opportunities	Climate Governance	P5-P6
Strategy	a) Describe the climate-related risks and opportunities the organization has identified over the short, medium, and long term	Climate Mitigation Strategy	P12-P26
	b) Describe the impact of climate-related risks and opportunities on the organization's businesses, strategy, and financial planning	Climate Mitigation Strategy	P8-P10
	c) Describe the resilience of the organization's strategy, taking into consideration different climate-related scenarios, including a 2' C or lower scenario	Climate Mitigation Strategy	P8-P11
Risk management	a) Describe the organization's processes for identifying and assessing climate-related risks	Climate Risk Management	P36-P37
	b) Describe the organization's processes for managing climate-related risks	Climate Risk Management	P36-P37
	c) Describe how processes for identifying, assessing, and managing climate-related risks are integrated into the organization's overall risk management	Climate Risk Management	P36-P37
Metrics and Targets	a) Disclose the metrics used by the organization to assess climate-related risks and opportunities in line with its strategy and risk management process	Metrics and Targets	P39-P43
	b) Disclose Scope 1, Scope 2, and, if appropriate, Scope 3 greenhouse gas emissions, and the related risks	Metrics and Targets	P40
	c) Describe the targets used by the organization to manage climate-related risks and opportunities and performance against targets	Metrics and Targets	P39-P43

Appendix 2 Parameters Selection for Scenario Analysis

BEHL constructs scenarios using publicly available data sources, including assessments and reports on climate emission pathways from the Intergovernmental Panel on Climate Change (IPCC) and the International Energy Agency (IEA). For physical risks, the main parameters considered in the scenario analysis are listed in Appendix 3 Risk Assessment Indicators. As for transition risks, the main parameters/assumptions considered in the scenario analysis are as follows:

Driving Factors for Transition Risks under Different Scenarios

Transition risks		Drivers	Low-emission scenario	Baseline-emission scenario	High-emission scenario
Risk category	Risk sub-category				
Policy & legal	Transition to a low carbon energy mix	Natural gas usage in Beijing	Beijing's natural gas usage peaks in 2025 and then declines		
		China's natural gas usage	China's natural gas usage continues to decline, down by 55% in 2050 over the 2021 level	China's natural gas usage continues to grow, plateaus in 2040 and then starts to decline, with natural gas accounting for 14.5% and 10% of energy consumption in 2030 and 2050 respectively	China's natural gas usage continues to grow, accounting for 14.9% and 15.3% of energy consumption in 2030 and 2050 respectively, not expected to pose risks
		Renewable energy usage/ supply	By 2050, nearly 90% of electricity will come from renewable sources	Renewable energy accounts for 18.07% and 53.19% of energy supply 2030 and 2050 respectively	Renewable energy accounts for 15.5% and 31.76% of energy supply in 2030 and 2050 respectively
		Energy consumption limit per unit of product/ output	Energy consumption limits per unit of product/ output are gradually tightened	Energy consumption limits per unit of product/output are gradually tightened	Energy consumption limits per unit of product/output will not be further tightened, nor is it expected to pose risks
	Methane emission control	Requirements for methane emission control	Methane emission control requirements are gradually tightened	Methane emission control requirements are gradually tightened	Methane emission control requirements will not be further tightened, not expected to pose risks
	Increased pricing of carbon emissions	China's carbon pricing	USD 90, 160 and 200 (2020) in 2030, 2040 and 2050 respectively	USD 30, 95 and 160 (2020) in 2030, 2040 and 2050 respectively	USD 17 (2019) in 2025; USD 30, 45, and 55 (2020) in 2030, 2040 and 2050 respectively
Disruptive technological risks	Changes in technology	The adoption of low-carbon technologies accelerates	Low-carbon technologies are rapidly promoted. Traditional technologies are gradually phased out.	Although low-carbon technologies are increasingly promoted, traditional technology still retains a significant market share.	The low-carbon technology progresses slowly, and traditional technology continues to dominate the industry.
Market and demand risks	Changes in market and demands	New market entrants	Significant increase in demand for carbon neutral LNG and new energy development	Increase in demand for carbon-neutral LNG and new energy development	Slow increase in demand for new energy development
Legal and reputational risks	Corporate management and governance	Comprehensive corporate management	Mandatory climate governance requires the establishment of a specialized committee and the setting of aggressive emission reduction targets.	Climate governance mechanism is progressively improved, organizations should retain the flexibility to adjust the pace for transition independently.	Traditional management models are still used without prioritizing climate governance.
	Reputational risks caused by high emissions and greenwashing	Negative screening in investment portfolios	Investors draw the deepest revulsion to greenwashing behavior and exclude it from investment options	Investors develop distrust towards greenwashing behavior and consider excluding it from investment options	Investors are not be affected in their decisions by greenwashing behavior

Transition Opportunitiese		Drivers	Low-emission scenario	Baseline-emission scenario	High-emission scenario
Opportunity category	Opportunity sub-category				
Products and services	Development of natural gas business	China's natural gas usage	China's natural gas usage continues to decline, down by 55% in 2050 over the 2021 level	China's natural gas usage continues to grow, plateaus in 2040 and then starts to decline, with natural gas accounting for 14.5% and 10% of energy consumption in 2030 and 2050 respectively	China's natural gas usage continues to grow, accounting for 14.9% and 15.3% of energy consumption in 2030 and 2050 respectively
	Expansion into new energy business	Renewable energy usage/ supply	Significant increase in renewable energy usage; by 2050, renewable energy will account for 90% of energy supply	Gradual increase in renewable energy usage; renewable energy will account for 18.07% and 53.19% of energy supply in 2030 and 2050 respectively	Slow increase in renewable energy usage; renewable energy will account for 15.5% and 31.76% of energy supply in 2030 and 2050 respectively
	Exploration of new products and services	Consumer acceptance of the green premium	Nearly all consumers acknowledge green premium. A significant majority are willing to accept a premium of up to 30%.	More than 60% of consumers recognize the green premium, and some start to accept a premium of up to 30%.	More than 60% of consumers recognize the green premium, and most are inclined to accept prices that increase by up to 10%. Only a small proportion of consumers are willing to tolerate a premium of up to 30%.
Energy use	Increased energy efficiency	Resource efficiency	Significant increase in energy utilization efficiency	Gradual increase in energy utilization efficiency	Slow increase in energy utilization efficiency
	Use of renewable energy	Renewable energy	The supply capacity of renewable energy will double	The installed capacity of renewable energy will more than double	The supply capacity of renewable energy will more than double
Technological innovation	Changes in technology	The adoption of low-carbon technologies accelerates	Low-carbon technologies are rapidly promoted. Traditional technologies are gradually phased out.	Although low-carbon technologies are increasingly promoted, traditional technology still retains a significant market share.	The low-carbon technology progresses slowly, and traditional technology continues to dominate the industry.
Value added in reputation	Corporate reputation	Negative screening in investment portfolios	Investors draw the deepest revulsion to greenwashing behavior and exclude it from investment options	Investors develop distrust towards greenwashing behavior and consider excluding it from investment options	Investors are not be affected in their decisions by greenwashing behavior
Policy-driven	Corporate management and governance	Comprehensive corporate management	Mandatory climate governance requires the establishment of a specialized committee and the setting of aggressive emission reduction targets	Climate governance mechanism is progressively improved, but organizations can retain the flexibility to adjust the pace of transition independently	Traditional management models are still used without prioritizing climate governance
	Financial activities	Support in green finance	Rapid growth in green credit and bond	Green financial instruments gradually develop	Green financial instruments slowly develop

Appendix 3 Risk Assessment Indicators

Assessment Indicators of Physical Risks

Risk category	Risk subcategory	Assessment dimension		Assessment indicators (measuring unit)
Acute	Extreme heat	Likelihood		Average number of days exceeding 35° c(days/year)
		Impact	Severity	Average surface temperature during extreme heat (°C)
			Sensitivity	Whether the high temperatures would cause reduced or suspended production, lower work efficiency, personnel health issues, equipment damage or depreciation, or increased cooling costs, etc
		Adaptation		Whether resilience measures have been or are planned to be implemented to address this risk
	Extreme cold	Likelihood		Average number of days below -4° C(days/year)
		Impact	Severity	Average temperature during extreme cold (°C)
			Sensitivity	Whether extreme cold would cause energy supply shortages, reduced or suspended production, lower work efficiency, personnel health issues, equipment damage or depreciation,or increased heating costs, etc
		Adaptation		Whether resilience measures have been or are planned to be implemented to address this risk
	Typhoon	Likelihood		Average number of days with maximum daily wind speeds exceeding Class 6 on the Beaufort scale (mean wind speed > 10.8m/s) as adopted by China Tropical Cyclone Data Center (days/year)
		Impact	Severity	Average wind speed of tropical cyclones (m/s)
			Sensitivity	Whether typhoons would cause energy supply shortages, reduced or suspended production, personnel health issues, equipment damage or depreciation, and a significant increase in manpower and costs to cope, etc
		Adaptation		Whether resilience measures have been or are planned to be implemented to address this risk
	Extreme precipitation	Likelihood		Average number of days with flood inundation depth/rainfall height exceeding 50mm (days/year)
		Impact	Severity	Average flood inundation depth/rainfall height (mm)
			Sensitivity	Whether extreme precipitation would cause energy supply shortages, reduced or suspended production, personnel health issues, equipment damage or depreciation, and a significant increase in manpower and costs to cope, etc
		Adaptation		Whether resilience measures have been or are planned to be implemented to address this risk

Risk category	Risk subcategory	Assessment dimension		Assessment indicators (measuring unit)
Chronic	Sea level rise	Likelihood		Probability of sea level rise occurring
		Impact	Severity	Sea level rise height (△ m)
			Sensitivity	Whether sea level rise would cause reduced or suspended production, personnel health issues, equipment damage or depreciation, and a significant increase in manpower and costs to cope, etc
		Adaptation		Whether resilience measures have been or are planned to be implemented to address this risk
	Global warming	Likelihood		Probability of global warming occurring
		Impact	Severity	Average surface temperature rise under global warming (△° C)
			Sensitivity	Whether rising temperatures would cause reduced or suspended production, lower work efficiency, personnel health issues, equipment damage or depreciation, and higher cooling costs, etc
		Adaptation		Whether resilience measures have been or are planned to be implemented to address this risk
	Drought and pressure of water shortage	Likelihood		The number of days (days/year) when the meteorological drought composite index (MCI) reaches or exceeds the moderate drought level, and the likelihood of water resource reduction (%)
		Impact	Severity	Average MCI value under drought and pressure of water shortage faced (%)
			Sensitivity	Whether the drought and water resource pressure would cause an increase in raw material costs and R&D costs
		Adaptation		Whether resilience measures have been or are planned to be implemented to address this risk

Assessment Indicators of Transition Risks/Opportunities

Assessment dimension	Assessment indicators
Likelihood	The probability of this risk/opportunity occurring
Impact	The amount of decrease in operating revenue and increase in operating costs caused by this risk; The amount of revenue increase and operating cost decrease caused by this opportunity
Adaptation	Whether resilience measures have been or are planned to be implemented to address this risk, or whether measures have been or are planned to be implemented to seize this opportunity