JINGDONG

JD.com, Inc.

2022

Environmental, Social and Governance Report

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About the Report

This report is the Environmental, Social, and Governance Report 2022 (referred to as the "ESG report" or "this report") released by JD.com to detail the ESG strategies, management, and practices of JD.com and its major subsidiaries included in its annual report.

Reference and Principles

This report is prepared in compliance with the ESG Reporting Guide from the Hong Kong Stock Exchange (HKEX), the ESG Reporting Guide from the Nasdaq Stock Market, the United Nations Sustainable Development Goals (SDGs), the GRI Standards issued by the Global Sustainability Standards Board (GSSB), the Ten Principles of the UN Global Compact, and industry standards issued by the Sustainability Accounting Standards Board (SASB). Content dealing with climate change is prepared by referring to the HKEX Guidelines on Climate Information Disclosure, and the framework suggested by the Task Force on Climate-related Financial Disclosures (TCFD).

Source of Information

The information and data in this report mainly come from the Group's internal data collection system, work reports and public information, such as annual reports and media releases. Unless specified, the monetary amounts shown in this report are all presented in RMB. For ease of presentation, "JD.com", "JD", "JD Group", "the Group", and "we" all refer to JD. com, Inc.

Reporting Scope

This annual report covers the period from January 1, 2022, to December 31, 2022 (hereinafter referred to as the "reporting period"). To make this report more comparable and forward-looking, some contents have been extended. The disclosure scope of this report is based on the boundaries of JD.com's listed entities on the NASDAQ Stock Exchange in the United States, and for the first time includes Dada Group and Deppon Express in its disclosure scope.

Reporting Principles

This report conforms to the principles of "materiality", "quantitative", "balance", and "consistency".

Materiality: We have identified and assessed key ESG issues of concern for both internal and external stakeholders of the Group. For detailed materiality assessment process and results, please refer to "Material Issues and Stakeholder Communication".

Balance: This report provides an impartial account of our performance in the areas of the environment, employees, supply chain, product services, and community.

Quantitative: We have regularly collected data on quantitative key indicators including environmental, social, and governance categories, and presented summaries and disclosures in this report. The calculation method, reference standards, and parameters for quantitative ESG data in this report have been explained, as detailed in each chapter of this report.

Consistency: The methodology employed in this report is in line with that of previous years. Any differences that could affect meaningful comparisons with previous studies have been duly explained in the relevant chapters.

Access to Report

This report is prepared in both Chinese and English. Should there be any discrepancy in meaning between the two versions, the Chinese version shall prevail. The electronic versions can be accessed on the Group's website in the section "Investor Relations".

Message from Chairman of the Board

JD is committed to a mission of "Powered by Technology for a More Productive and Sustainable World" and strives to achieve our vision of "Becoming the Most Trusted Company Worldwide". By utilizing digital intelligence to develop and manage our supply chains, JD actively embraces social responsibilities and aims to create additional value in business, industry and society. Our goal is to inspire confidence among customers, impress partners, and win the trust of the general public.

Richard Qiangdong Liu
Founder and Chairman of the Board, JD.com

In 2022 amidst a landscape of constant changes, JD has emerged as a key player in the real economy and has gained a heightened awareness of our responsibilities towards sustainable development. We recognize the importance of ensuring smooth, stable and reliable supply chains that benefit society as a whole. Our steadfast commitment remains to contribute to the transformation, upgrade, and high-quality growth of the supply chain nationwide.

To fulfill our mission, we have strategically aligned the concept of corporate sustainability with the value proposition of a "Responsible Supply Chain." This integration enables us to drive a comprehensive optimization of environmental, social, and corporate governance aspects. By doing so, we aim to meet the challenges of uncertainty with a more prudent and proactive approach.

We have taken significant steps to strengthen our corporate governance by establishing an ESG committee at the Board level. This committee ensures that environmental, social, and governance factors are effectively integrated into our decision-making processes. Additionally, we have focused on diversifying and enhancing the independence of our Board members, ensuring a more robust and objective oversight of our operations.

Managing operational risks within our supply chain is a top priority for us. We actively engage with various stakeholders, maintaining open lines of communication and addressing their expectations. By leveraging our digital and sustainable supply chain capabilities, we create value that extends beyond our organization and positively impacts society as a whole. JD is committed to continuously improving our ESG governance structure and system, driving sustainable business growth while incorporating digital innovation and intelligence into our supply chain operations.

We place great importance on information security, privacy protection, and intellectual property rights. With a combination of management practices and technological advancements, we ensure the secure and efficient operation of our platform. This reliable foundation enables us to pursue sustainable development while safeguarding the interests of our stakeholders.

Aligned with the principles of green and sustainable development, we have actively responded to the nation's call to achieve carbon peaking and carbon neutrality. Throughout our supply chain, we promote low-carbon operations and optimize resource utilization. We also encourage our supply chain partners to join us in protecting the environment and combating global climate. In 2022, we intensified our efforts to incorporate more renewable resources in our business operations, expand resource repurposing and recycling initiatives, and build responsible companies that prioritize resource efficiency and environmental eco-friendliness. Energy conservation and carbon reduction are monitored across our supply chain operations, with warehousing, transport, and store management integrated into our comprehensive planning. We also ensure responsible engineering construction to minimize our environmental impact and make a substantial contribution to green development.

Our "people-centered" approach recognizes employees as the cornerstone of corporate wealth and development. In 2022, we further reinforced our talent development system while valuing and maintaining the diversity, equality, and inclusiveness within our workforce. Enhancing employee benefits, occupational health and safety measures, and livelihood support is a priority for us.

By creating high-quality employment opportunities in the community, we strive to cultivate a sustainable supply chain and contribute to the growth of the real economy. Collaboration with our supply chain partners is strengthened, fostering fair co-development with small and medium-sized enterprises (SMEs). We implement multiple measures to assist suppliers in achieving positive environmental and social impacts, enhancing the resilience and vitality of the real economy, and driving high-quality economic and social development.

With our unwavering commitment to delivering the ultimate user experience, we continuously optimize our supply chain infrastructure and leverage reliable digital technologies to provide quality services to our customers. In 2022, we took multiple actions to further enhance our supply chain infrastructure and technology capabilities, ensuring strict control over product and service quality and protecting consumer rights. To better serve our customers with a warm and heartfelt experience, we launched faster delivery services and price protection plans. Leveraging our technological and business advantages, we actively fulfill our corporate social responsibility. In 2022, we spared no effort in supporting pandemic prevention and the delivery of related supplies through our responsible, digital, and intelligent supply chain system. We wholeheartedly serve the national rural revitalization strategy, empowering the agricultural industry and significantly increasing the income of millions of farmers. Engaging in social welfare initiatives and making charitable donations to support underprivileged students and alleviate poverty are also integral parts of our commitment to giving back to society.

Reflecting upon the past, the spectacle of vibrant life shines as bright as the dazzling glow of stars. JD remains steadfast in fulfilling our corporate social responsibility and fully embracing sustainable development principles. Moving forward, we will remain true to our original aspirations, strive to promote a real economy, and under the pragmatic and innovative spirit, we will join hands with stakeholders to draw a landscape of well-being, green and win-win sustainability.

Board Statement

The Board of Directors ("the Board") of JD.com recognizes how crucial adherence to ESG efforts is to the Group's long-term and stable operations. JD.com strictly adheres to ESG reporting guidelines and requirements of the stock exchanges where it is listed and continuously improves its ESG management mechanism and governance system. The Board also attaches great importance to the potentially hefty impact that ESG risks pose on JD.com. Taking into account the external socio-economic macro environment and the Group's development strategy, JD.com regularly performs comprehensive ESG assessments and prioritizes the findings to form major ESG efforts for management and improvement, which are then incorporated into the Group's strategies to oversee management improvement and performance.

The Board, as the highest decision-making body of JD.com's ESG operations, has an ESG Committee responsible for reviewing the ESG strategies and their effectiveness, including integrating ESG components into strategies, overseeing ESG performance and targets, and directing ESG operations overall and listening to ESG reports. Moreover, the ESG Committee helps achieve more independent, efficient, and professional ESG management for the Board, and explore new models combining ESG with the Group's business.

The ESG Committee has established a dedicated ESG Working Group (the "Working Group") that continuously embeds ESG-related risk management into the Group's daily code of conduct. The Working Group is responsible for implementing and advancing ESG-targeted tasks with ESG leaders of each subsidiary and business system and identifying and managing climate-related risks and opportunities.

During the reporting period, JD.com identified 23 strategic issues gleaned from detailed systematic stakeholder research, internal interviews, and special meetings, and evaluated and determined their ranking. This led to the creation of the materiality matrix, which is detailed in the "ESG Governance" part of this report.

JD.com has identified and assessed the potential effects of climate change on its business and operations in the short-, medium-, and long-term by examining both physical and transitional risks within its existing business. JD will continue to leverage its industry influence to promote and lead green and low-carbon initiatives throughout the value chain and consumer sectors while doing our part in boosting energy efficiency and reducing emissions.

This report provides a detailed disclosure of how far JD.com has progressed and achieved in its ESG operations during 2022. Reviewed and approved by the Board, the content of this report is crafted with accuracy, truthfulness, and integrity with no false records, misleading statements, or significant omissions.

About JD

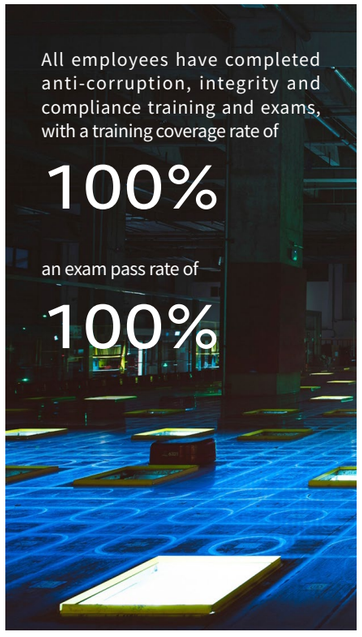
JD.com adheres to the values of putting customers first, integrity, collaboration, gratitude, dedication, and ownership. With the mission of being "powered by technology for a more productive and sustainable world",JD.com strives to become the most trusted company globally.

JD officially began its e-commerce business in 2004. In May 2014, JD.com was listed on the NASDAQ Stock Exchange in the United States, becoming the first comprehensive e-commerce company from China to successfully go public in the U.S. In June 2020, JD.com completed a secondary listing on the Hong Kong Stock Exchange, aiming to raise capital to invest in key technological innovations based on the supply chain, further enhance user experience, and improve operational efficiency.

JD.com is "a technology and services enterprise with supply chain at its core." Its business cover retail, logistics, technology, health, property development, industrial goods, private label brands, international business, and other areas of commerce. Its cutting-edge retail infrastructure enables consumers to purchase goods anytime, anywhere. JD also opens its technology and infrastructure to partners, brands, and multiple industries, providing comprehensive retail-as-a-service (RaaS) solutions that drive improvement and innovation in production efficiency across various sectors.

Annual Key Performance

A responsible supply chain consolidates the foundation of responsibility



Number of violations of information security and privacy protection
0

Number of penalty received for information security vulnerabilities or other network security breaches
0

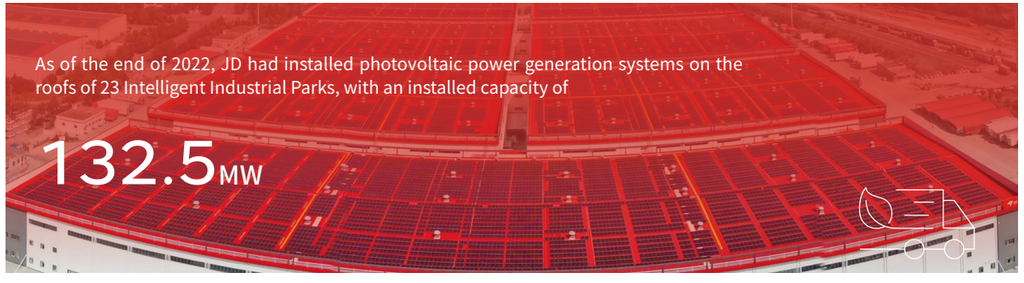
Coverage of ISO 27701 and ISO 27001 certified operations roughly
80%

Total annual investment in product research and innovation nearly
RMB 16.9 billion

Number of acquired domestic and foreign authorized patents
6,272

Number of published domestic and foreign authorized trademarks
18,424

A responsible supply chain paves the way for a green future



Green electricity supplied by distributed photovoltaic system on the roof of the JD Intelligent Industrial Park
81,970 MWh

Number of waste and used appliances recycled by JD Retail and Five Star Appliance platform over
5.9491 million

By the end of 2022, JD Logistics achieved direct delivery of tens of thousands of stock keeping units (SKUs[1]) delivered with original package (DWOP) and was expected to reduce disposable packaging by some **10 billion**, equivalent to reduced logging of some **20 million** trees

[1] SKU, or Stock Keeping Unit, is the unit of measurement for inbound and outbound inventory in e-commerce.

A responsible supply chain leads to shared development outcomes

In 2022, JD's various business units provided 2,442 offline training courses and 25,223 online training courses, covering all of its employees. Total employee training coverage
100%

The total employee training development amounted to 18,423,446 hours, averaging per employee
41.5 hours

Proportion of rural population in frontline logistics employees
80%

Collective contract employee coverage
100%

Annual employee satisfaction rate
4.51 out of 5

Number of personnel participated in employee satisfaction surveys over
720,000

Amount paid for front-line logistics employees in salary and benefits in 2022 over
RMB 44.6 billion

Best inventory turnover days of self-operated commodities
30.2 days

Number of green commodities introduced by JD.com
3 million

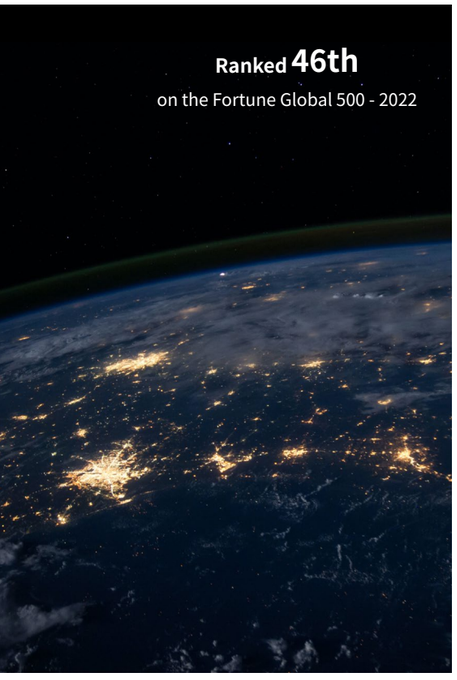
A responsible supply chain leads the trends for good consumption

During "11 · 11" sales event, 2022, JD platform provided 30-day price protection on **500 million** products, benefiting more than
380 million consumers

Survey result of JD.com's net promoter score (NPS) in 2022
65.5

JD Foundation donation made in 2022
RMB 93.48 million

Annual Honors and Awards



Ranked 46th
on the Fortune Global 500 - 2022

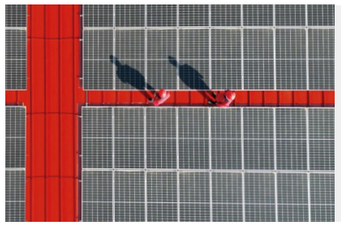
Ranked 1st
in the "Top 500 Private Companies in China 2022" by the All-China Federation of Industry and Commerce

Ranked among the World's Most Admired Companies 2022 by Fortune and ranked **1st** in social responsibility indicators for Chinese companies

Ranked 3rd
on Fortune China's Most Admired Chinese Companies 2022

Ranked among Fortune's **2022 Change the World list**

Ranked among Bloomberg Green Environmental Pioneers of Bloomberg Green ESG Pioneers



Ranked **2nd** on the "Top 100 New Real Economy-based Enterprises 2022" by the China Enterprise Evaluation Association

Ranked as China's Most Attractive Employer 2022 by Universum

ranking 3rd

among industry peers

JD (Langfang) Intelligent Industrial Park was awarded **LEED Gold** by the US Green Building Council

Selected into the 2023
Bloomberg Gender-Equality Index

Ranked **30th** among Forbes 2022 World's Best Employer for five consecutive years and ranked **2nd** among Chinese companies

JD's Integrity Innovation Project won the **"China Integrity Innovation Award"**

Ranked among the first version of the Fortune **China ESG Influence List**

JD's "Asia No.1" Taiyuan Xiaohe Logistics Park was given **a five-star rating** by the China Association of Warehouse and Distribution

The carbon neutrality logistics park solution was selected for the **2022 Annual Case of China Green Point by CBN**

01

A Responsible Supply Chain Consolidates the Foundation of Responsibility

With a"Responsible Supply Chain" as the core, JD.com fulfills its corporate mission and responsibility, fortifies its governance system and capacity building, and commits to the highest ethical business standards. With a focus on unleashing the potential of technological innovation, the Group is committed to intellectual property management, strong safeguards for network information and private data control and protection, and is building the responsibility foundation for sustainable supply chain.

Corporate Management

JD.com continues to improve its governance level, embody the concept of sustainability, and effectively control operational risks. We also maintain close communication with relevant stakeholders, and proactively respond to their needs and expectations while promoting the sustainable development of JD's supply chain ecosystem, and thus creating long-term value for all involved.

Corporate Governance

JD.com has established a scientifically developed and efficient corporate governance structure that defines distinct roles and responsibilities. The Group has set up an Audit Committee, a Compensation Committee, a Nomination Committee, and an ESG Committee under the Board to oversee the Group's various activities and ensure rational decision-making in its resource allocation and operations. The terms of reference of the Board and Committees, as well as the information relating to each director, is available on the Group's website of Investor Relations[4] and the websites of stock exchanges in which it is listed.

JD.com's Board Structure

Female members account for nearly

43%

of the Board

Ms. Xu Ran, as JD.com's first female CEO, joined the Board of JD.com in May 2023. The Board of JD.com is comprised of seven directors, including one executive director, five independent non-executive directors and one non-executive director. Four of the current directors hold doctoral degrees. The current Board members are qualitatively distinguished by their wide-ranging expertise, which encompasses business administration, law, finance, finance, economics, and the social sciences. Drawing on their professional experience in industry, finance, and risk management, they are capable of improving the enterprise's decision-making level from a holistic perspective and optimizing the top-level governance of the Board.

Currently, three members of the Board are female, and the females comprise one third or over each of the Compensation Committee, Nomination Committee and ESG Committee. In 2022, we amended the *Constitution of the Nomination and Corporate Governance Committee*, which mandates comprehensive consideration of diversity factors such as gender, race, ethnicity, country of origin, nationality, or cultural background in the Board nomination procedure. In May 2023, the Board of JD.com released *JD.com's Policy on Board Diversity* and the *Independence Standards for Independent Directors*, which furthers the requirement concerning the Board's independence and diversity, and consequently bolsters its ability in corporate governance.

[2] IR | JD.Com, Inc.

Risk Governance

JD.com has established a comprehensive risk governance system, through which we continuously identify, evaluate, prevent and manage internal and external risks. We vigorously promote a culture of risk governance and augment risk governance and mitigation capabilities.

Risk Governance System

We have constructed an integrated management and control system for enterprise security risks, keeping a close eye on the five key areas of "risk detection, incident assessment, incident handling, potential danger management, and effect appraisal", gradually extending our risk management standpoint from short-term to long-term, transcending from the present incident-handling mode to the pre-emptive "early identification and alert" approach. With the motto of "compliance represents development" in mind, we build a distinct risk management system for JD.

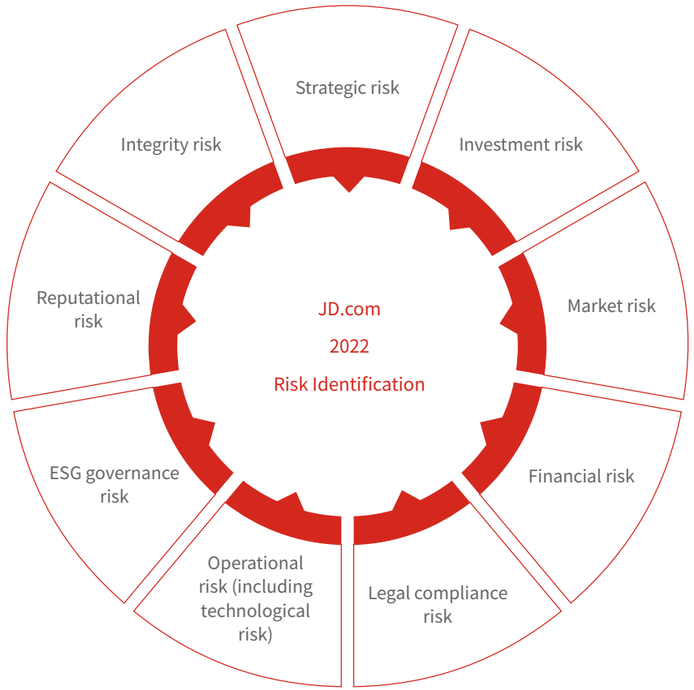
Overseen and guided by the Board, we have established an exhaustive risk mitigation and control structure. This includes a Safety and Risk Control Committee, chaired by the Group's CCO, and a Chief Security Officer responsible for the stability, reliability, and security of the Group's digital infrastructure and information systems. A special working group focusing on risk control–composed of risk control leaders from different systems, was integrated within the Safety and Risk Control Committee to comprehensively control any risk that the Group might encounter. The Committee meets weekly to analyze and evaluate risks and inform all subgroups of decisions. Each first-level division is in charge of following up risk investigation and governance, in conjunction with periodic reviews and promotion of paramount risk cases to the management and relevant departments through regular management conferences, quarterly business analysis meetings, and reporting to business groups and business units.

We attach great importance to risk management and internal control, with a focus on risk governance in the four dimensions of regulatory security, legal security, operational security, and information security. We have developed risk management systems such as the *Regulations of JD Group on Legal Risk Grading Management*, the *Contract Management System of JD Group*, and *Trade Secret Management Measures of JD Group* to ensure the smooth implementation of various risk management.

A transparent and scientific risk governance mechanism is also an essential part of JD's risk management. We clearly define the extent of punitive measures for various safety related accidents, and promptly hold the responsible departments accountable once the accident is verified. We also conduct annual self-assessments on internal control, with deductions in employee performance ratings when significant issues in a business unit or department, are discovered. These deductions are linked to the overall performance of the business groups and their respective unit leaders.

Risk Identification and Response

In 2022, we referenced the COSO[3] Enterprise Risk Management Framework and undertook risk identification and response across nine key areas: strategic risk, investment risk, market risk, financial risk, legal compliance risk, operational risk (including technological risk), ESG governance risk, reputational risk, and integrity risk. Risk exposure was assessed and analyzed via a structured management process.



We have taken the following measures to address some of the risks.

Some Risk Response Measures of JD.com in 2022

Legal compliance risk	Strictly abide by local laws and regulations for business operations and regulatory rules for compliance in the location where we operate, establish and improve an international business legal compliance system, and follow up on regulatory trends.
	Conduct current and forward-looking legal research in newly-emerged business areas. Establish research organizations to focus on data algorithms and personal information protection. Engage in communication and exchange activities with regulatory authorities, industry associations, experts and scholars. Invite experts in related fields to provide training to ensure full compliance with various legal and regulatory requirements.
	Under the framework of the Group risk management, supply legal compliance indicators to encourage awareness of pertinent risk elements and overall compliance capabilities.
Operational risk	Each business unit should maintain a keen awareness of risk management at all times, standardize business activity rules, improve business risk control systems, strictly control any negative impact on user experience and violations of platform policies, effectively protect the legitimate rights and interests of users and partners, and effectively prevent and control risks.
ESG governance risk	ESG Committee at the level of the Board to oversee and guide related matters such as climate, environment, risk, health and safety, business ethics, product safety and services, diversity and inclusiveness, and etc.
Integrity risk	Hold zero tolerance against corruption, includes establishing a comprehensive anti-corruption system, accurately identifying and evaluating integrity risks, conducting comprehensive training and education, and collaborating with industries to build an integrity ecosystem. We aim to encourage diversified participants in integrity risk governance and help enterprises develop in a healthy, safe and sustainable manner.

JD.com also evaluates and responds to major medium to long-term emerging risks, such as geopolitical risks and information security risks, to further enhance risk prevention and control awareness and capabilities.

Geopolitical risks

- Geopolitics poses certain risks to international businesses and hinders the smooth functioning of internal operations, posing challenges such as personnel recruitment restrictions, travel bans, supply chain interruption, and import-export restrictions.
- JD operates in multiple countries and regions. In the current tumultuous geopolitical environment, JD closely monitors global trends and objectively assesses geopolitical risks. JD continuously optimizes its supply chain to deal with potential risks by increasing the versatility and resilience of its domestic and international operations.

Information security risks

- Due to rapid global digitalization, there exists an increasing level of risk to information security.
- To mitigate information security risks, JD is constructing a governance model to refine its information security compliance. We are committed to enhancing the protection of systems, tools, and data, to foster a stable and healthy business environment. We strive to ensure the highest standards and procedures to protect data and information security for billions of consumers, millions of SMEs, large multinational businesses, and government users.
- To guarantee the secure operation of large-scale online promotional shopping events, such as "618" and "11 · 11", digital security is paramount to ensuring smooth business operations. JD will continue to apply advance security technologies to ensure the safety of users, enterprises, and industries and contribute to the healthy development of the information security ecosystem.

[3] COSO is the Committee of Sponsoring Organizations of the Treadway Commission

Cases of Risk Response

We conduct

1,700

internal stress tests every year

To provide stable and reliable system experiences to users and avoid application downtime caused by peak traffic and system overload, JD conducts over 1,700 internal stress tests every year and conducts timely and effective troubleshooting and elimination of testing risk points. For example, on the eve of the "618" promotion each year, we simulate temporary blackouts, network disconnection, and sudden traffic peak surges. This kind of test helps guarantee the stable operation of our system under uncertain situations.

Stress Testing of the Spring Festival Gala Red Envelope Project

JD was commissioned to conduct the Red Envelope Project during CCTV's Spring Festival Gala 2022. The technical team meticulously outlined the method, testing scope, responsible body, implementation roadmap, application profiling and hierarchical sorting of stress tests. The implementation steps of stress testing were detailed and broken down to the operational level, leading to over 1,000 tests being completed. This allowed preparations to be concluded in a timely and efficient manner. To ensure the quality and feasibility of the project, "chaos engineering" and emergency plan drills were simulated to enhance responses to unforeseen circumstances.

To address climate change risks, we have engaged in risk identification and assessment of our businesses, structure, and other aspects. We have also conducted sensitivity tests under various climate scenarios to assess possible non-financial risks that we may face. For more information, please refer to Section 2.1 of the Task Force on Climate-related Financial Disclosures (TCFD).

Risk Awareness and Culture

58

training sessions on risk management held both online and in-person

10,114

employees participated

In 2022, 58 training sessions on risk management were held both online and in-person. 10,114 employees participated.

JD has also set up risk feedback channels, and a supporting joint prevention and control information system. These measures allow employees to provide feedback on risk related issues through open channels. All employees are encouraged to report potential system risks. When an employee files a report, the system will automatically assign it to the director of the primary responsible department which will forward it to heads of related departments and then distribute it to the relevant operator, who is required to record the processing results in the system. The employee who filled the report is automatically informed of the result.

ESG Governance

JD.com adheres to the corporate mission of "Powered by Technology for a More Productive and Sustainable World" and diligently optimizes its ESG governance structure, and management system. The Group continuously communicates effectively with regulatory authorities, investors, the public and other stakeholders. This is key to forming a solid foundation for ESG governance and is instrumental to ultimately creating sustainable value for users, business partners, and society.

To strengthen ESG governance, we have instituted a dedicated ESG Committee on the Board, with the Chairman of the Board serving as the Committee Chairman to coordinate ESG governance work within the Group and integrate environmental, social and corporate governance standards and parameters into the Group's management system. We set objectives for risk control, information security, business ethics and anti-corruption, along with energy conservation and efficiency targets. We consider the completion of these targets when assessing and evaluating management performance, to realize the link between management compensation and sustainable development performance.

JD.com's ESG Governance Structure

The Board of Directors → **ESG Committee**

- ESG Committee oversees ESG matters of the Group. This includes environmental sustainability, the implementation of environmental management policies, increased environmental performance, business ethics, product safety and service quality, employee training and development, diversity and inclusiveness, community support, privacy and data security.
- The Committee helps the Board to identify and assess potential risks and opportunities regarding ESG issues.
- The Committee guides and reviews the development of ESG strategies and plans, practices and major ESG-related public disclosures and reports.

↓

Strategy Execution Committee (SEC)

- The Strategy Execution Committee (SEC) leads the ESG Working Group to develop the Company's ESG strategy and priorities.

↓

ESG Working Group

- The ESG Working Group organizes ESG requirements and goals, facilitates collaboration between ESG leaders across the Group and business units, executes and advance strategies, monitors the execution of tasks, and submits regular reports to the SEC.

↓

ESG representatives of each subsidiary group and business system

- Professionals from several subgroups and business units utilize their industry-specific knowledge, to promote the overall ESG practices of the Group and regularly update the ESG Working Group on the latest developments.

Materiality Assessment and Stakeholder Engagement

JD.com attaches great significance to communication and collaboration with stakeholders. The Group continues to proactively expand communication channels, and engages in frequent and diversified interactions with stakeholders including consumers, employees, shareholders, investors, governments and regulatory bodies, and value chain partners, to promptly respond to their expectations and requirements.

Stakeholder Engagement

Stakeholders	Material Issues[4]		Communication	
Consumers	• Product and service quality • Consumer relations • Protection of employee rights and interests	• Data security and privacy protection • Business ethics and anti-corruption	• Continuous online and offline communication (apps/websites/stores) • 24/7 customer service hotline	• Daily media communication • Social media communication • Consumer research
Employees	• Product and service quality • Consumer relations • Protection of employee rights and interests	• Data security and privacy protection • Business ethics and anti-corruption • Employee development and talent training	• All-staff emails, communication meetings, forums, employee representative congress, training activities and feedback mechanisms	• Employee service hotline, bigear@ jd. com, the Group's trade union, the Group's audit channel, etc.
Investors	• Data security and privacy protection • Corporate governance • Sustainable management and economic development	• Greenhouse gas emissions and product carbon footprint • Diversity, equality, and inclusiveness • Promote high-quality employment	• Phone calls, meetings and company visits • Corporate annual reports, quarterly reports and announcements	• Roadshow • Daily communication on sustainability and ESG related issues
Government and Regulatory Bodies	• Data security and privacy protection • Protection of employee rights and interests • Consumer relations	• Sustainable management and economic development • Promote high-quality employment • Rural revitalization and common prosperity	• Daily reports, Communication and policy recommendations • Irregular industry forums and conferences • Field investigation	• Cooperation agreements signing and strategic partnership establishment • Respond to inquiries for listed companies from regulatory agencies
Partners on the Value Chain	• Data security and privacy protection • Product and service quality	• Business ethics and anti-corruption • Consumer relations • Protection of employee rights and interests	• Daily procurement, training, and evaluation • Irregular industry forums • Supplier conferences	• Daily media communication • "Jing Dian" Academy, "Jing Mai" Platform
Communities and Environment	• Promote high-quality employment • Occupational health and safety • Protection of employee rights and interests	• Employee development and talent training • Data security and privacy protection • Intellectual property protection	• Public welfare programs and fund-raising platforms • Daily media communication • Social media communication	• CSR forums and activities • Volunteer activities

We undertake at least a comprehensive and systematic identification and analysis of material issues annually. In 2022, we distributed an ESG questionnaire to company executives, employees, and external stakeholders to gauge their level of interest in various ESG-related issues. Twenty-three strategic issues that support the creation of long-term value were identified and organized into a materiality matrix.

Material Issue Identification Process

Identification of material issues

- Based on the material issue list of JD.com in 2021, and in accordance with the *ESG Reporting Guide* from the Hong Kong Stock Exchange (HKEX), the *ESG Reporting Guide* from the Nasdaq, and with reference to local and international reporting standards, major ESG ratings, and industry sustainable development trends, JD.com sorted, summarized and updated those issues through benchmarking against industry peers and monitoring news media. As a result, 23 issues have been identified, forming a list of JD.com's material issues in 2022.

Stakeholder engagement

- Distributed questionnaires to both internal and external stakeholders through a variety of channels, including email and WeChat, to solicit comments and suggestions on the Group's ESG governance. Exactly 3,028 valid questionnaires were collected.
- Initiated special communication on ESG issues through ESG meetings targeting specific stakeholder groups.

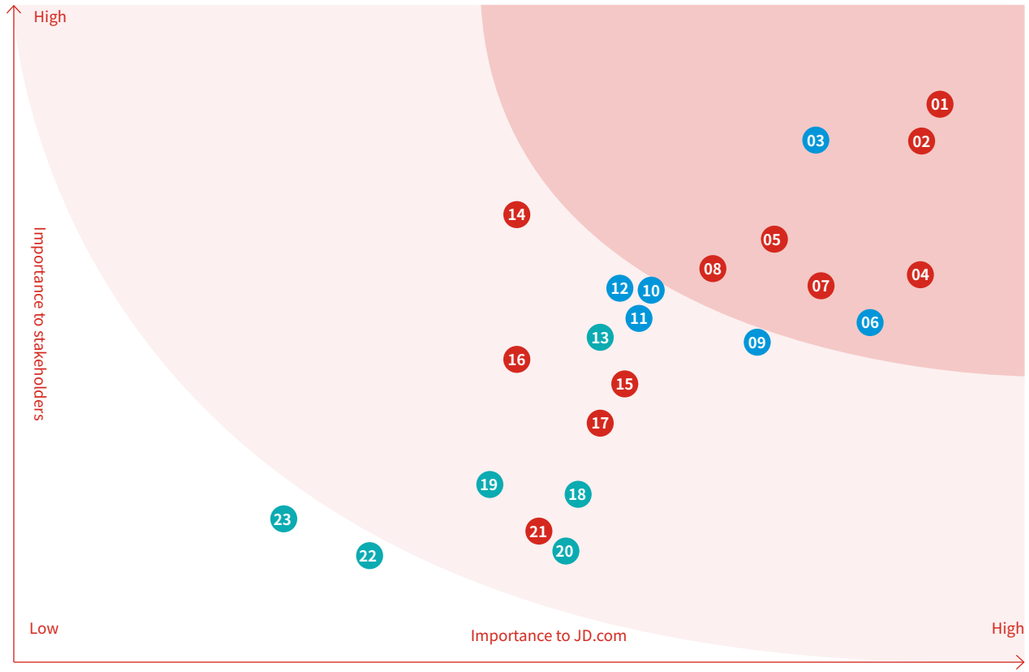
Develop and adjust the matrix

- Created a preliminary material issue matrix based on the survey results.
- Material issues were adjusted and confirmed by the leadership and ESG Working Group based on industry trends, peer comparison, and capital market concerns.

Review materiality matrix

- Submitted the adjusted materiality matrix to the ESG Committee for review and confirmation, forming the final materiality matrix.

Materiality Matrix of JD.com in 2022



Material Issues of JD.com in 2022

Environmental

- 13 Green packaging and recycling
- 18 Energy use and energy efficiency management
- 19 Addressing climate change
- 20 GHG emissions and carbon footprint
- 22 Waste management
- 23 Water management

Social

- 01 Product and service quality
- 02 Consumer relations
- 04 Occupational health and safety
- 05 Employee development and talent cultivation
- 07 Employee rights protection
- 08 Supply chain management
- 14 Anti-pandemic and disaster relief
- 15 Rural revitalization and common prosperity
- 16 Diversity, equality, and inclusiveness
- 17 Promoting high-quality employment
- 21 Philanthropy and charity

Governance

- 03 Data security and privacy protection
- 06 Technology and innovation
- 09 Intellectual property protection
- 10 Business ethics and anti-corruption
- 11 Corporate governance
- 12 Sustainable management and economic development

Compliance Governance

Taking "Achieving Success the Right Way" as its value and compliance as its foundation, JD.com has deeply integrated the concept of "Compliance Represents Development" into all business areas of the Group and adheres to a policy of achieving success through compliance governance. To ensure this, we have established a compliance system consisting of "One Principle", "Three Defensive Lines", and "Five Perspectives". A comprehensive promotion and implementation strategy, focused on accountability and rewards, ensures the enforcement of our internal control compliance management processes and adherence to ethical business standards.

One Principle

"Achieving Success the Right Way"

Guided by the concept of "Achieving Success the Right Way" and adhering to the principle of "Compliance Represents Development," the Group complies with laws and regulations, builds a culture of integrity and anti-corruption, enables effective compliance management driven by technology and data, and establishes a forward-looking, flexible, and efficient compliance system.

Three Defensive Lines

The first line	The second line	The third line
Applicable to all employees	**Applicable to risk management teams including legal, finance, information security and risk control**	**Applied to independent supervisory and audit team**
Every employee is familiar with and firmly implements JD.com's compliance system and adheres to the bottom line of compliance by resisting undesirable temptations.	All professional teams shall publicize and implement a good compliance culture, apply smart technology to all essential nodes of risk and compliance management, reduce corporate risks, and ensure long-term and stable development.	By following the compliance system and upholding the principle of fairness, justice and independence, the supervision and audit team oversees the compliance practices of each organizational unit, investigates and combats corruption, and ensures operational compliance.

Five Perspectives

Laws and regulations compliance

JD. com regards legal compliance as the basic requirement to achieve its business objectives and strictly abides by relevant national laws, regulations, and rules.

Anti-corruption and integrity compliance

JD. com has always adhered to "zero tolerance" of corruption and is determined to create an incorruptible and integrity business environment.

Information security compliance

JD.com attaches great importance to information security, ensures that employees have full access to the basic knowledge and principles of information security; establishes a sound responding process and disposal mechanism for system security, external attacks and violations; safeguards the confidentiality of information and data of the enterprise, employees and customers, making sure information and data can only be obtained and used when necessary.

Auditing compliance

JD.com strictly complies with all legal requirements for a listed company. Management provides a written statement on the effectiveness of internal controls of financial reporting in the annual report.

Transaction risk control

All business units in JD.com shall always maintain a keen awareness of transaction risk management, regulate business activities, improve the business transaction system, and connect to JD's risk control system to ensure accurate identification and intelligent confrontation of business transaction risk behaviors.

Compliance Enforcement Mechanism

Full publicity and implementation	Joint accountability	Rewards
Ensure all employees are fully aware of compliance policies through promotion and implementation.	The system of "Accountability Basics and Control" and collateral penalties are carried out in cases of major compliance issues.	Offer rewards to employees who have performed well in compliance and those who have reported violations.

JD's Compliance Management System

Business Responsibility

Adherence to business responsibility is fundamental in allowing JD.com to build a "Responsible Supply Chain", and the internal cornerstone for enhancing the business's competitive and dynamic nature. JD emphasizes four key aspects: business ethics governance, information security and privacy protection, technology innovation enhancement, and intellectual property protection. JD has implemented multiple mechanisms, such as the establishment of governance systems, comprehensive training and promotion, and accountability and rewards, to build a wholesome trustworthy better business ecosystem.

Business Ethics

JD strictly adheres to local laws and regulations for domestic and international business operations, conducts business activities in accordance with legal requirements and accepts supervision from a wide range of stakeholders, including consumers, suppliers, business partners and other parties, while strictly preventing illegal activities such as bribery, extortion, fraud, money laundering and monopoly. Guided by the concept of "Achieving Success the Right Way", JD.com shapes a corporate culture of integrity, characterized by a commitment to responsibility over commercial interests, complying with all applicable local laws to conduct business operations in a fair competitive environment, free from bribery and corruption. This in turn, effectively safeguards the Group's core fundamentals of fair, open and transparent business ethics.

Building Business Ethics System

Coverage rate of employee signature of Code of Business Conduct and Ethics

100%

JD.com prioritizes a culture of business ethics and integrity and adheres to the principle of zero tolerance for corruption. The Board regularly hears reports on progress on anti-corruption and business ethics-related tasks, reviews special issues concerning anti-corruption and business ethics, and makes suggestions for improvements.

We have implemented comprehensive anti-corruption and integrity compliance policies that combine rewards and punishments, including the *Code of Business Conduct and Ethics of JD.Com, Inc.,* the *Anti-Corruption Regulations of JD Group*, and the *Whistleblower Protection and Reward System of JD Group*. Each business department has established corresponding policies and regulations in compliance with the standards set by the Group, which contain more detailed requirements on gift-giving, banquets, samples, etc. Examples include the *Red Line Management System* of *JD Logistics* and the *Banquet Management System of JD Health*.

JD.com mandates all employees adhere to the established Code of Business Conduct. Full-time employees are required to sign the *JD Group's Employee Handbook* and *JD Group's Commitment to Anti-Corruption*. Interns, consultants, and other temporary personnel also need to sign the *Commitment to Comply with JD Group's Anti-Corruption Regulations*, ensuring a 100% coverage rate.

Entities and individuals engaged in commercial dealings with JD.com (including suppliers, contractors, subcontractors, and others) must comply with and uphold JD.com's anti-bribery and anti-corruption policies. Any and all partners working with JD.com are required to sign the *Anti-Commercial Bribery Agreement*.

Our never-ending work to enhance our anti-corruption system through innovative practices in anti-corruption, integrity and compliance is key to building a forward-looking, flexible, and efficient management system, that sustains our business development. The supervision department, which is dedicated to enforcing corruption prevention regulations, is responsible for investigating corruption across all our business lines. It has also developed specialized management systems - "Three Major Measures" for anti-corruption management and "Three Lines of Defense" for anti-corruption and integrity risk assessment.

"Three Major Measures" for anti-corruption management

Prevention of corruption

- Conduct an integrity perception index survey across all employees and managers of JD.com. The scope includes the awareness of integrity and compliance (such as familiarity with the integrity culture, recognition of the integrity system, and awareness of integrity advocacy), knowledge of penalties for non-compliance, integrity compliance actions (such as actions/motivations for reporting, actions/motivations for proactive reporting), integrity and compliance management and more. In 2022, we collected 55,800 notes and suggestions from employees and managers. To address low ratings on the integrity perception index at specific business units, we implement risk prevention in key areas and further initiatives such as collaborating with the business departments to identify, monitor and evaluate areas prone to integrity risks, and engaging in internal and external integrity and compliance advocacy.
- Conduct multi-level specialized training on integrity and compliance, which applies to all personnel, management personnel, critical roles, and core departments.
- Organize the supplier integrity and compliance conference to communicate JD's integrity and compliance standards to its suppliers and partners, and collaborate to establish an integrity and compliance ecosystem.

Crack down on corruption

- Carry out targeted actions in key areas, construct business risk-aware monitoring models and connected governance platforms, refine the anti-corruption systems and procedures, and build effective punishment frameworks and organizational structures.
- Dismiss employees who violate the *Anti-Corruption Regulations of JD Group* and add them to the discredited list. Those suspected of committing crimes shall be referred to judicial authorities.
- In 2022, JD.com concluded 248 internal corruption investigations. Another 21 employee corruption cases (including cases transferred over from the preceding years) lawfully transferred by the company to the judiciary were concluded during the reporting period.but there were no corruption litigation cases having JD.com as either the plaintiff or defendant.

Governance against corruption

- Work with the business units and specialized risk management teams to review key cases, and suggest targeted measures and rectifications for potential integrity-related risks associated with corruption cases. Self-inspection and self-correction are required from the business units to actively prevent the Group's anti-corruption, integrity and compliance risks and maintain its sustained business growth.

Build a monitoring and warning system for integrity risk indicators

The business departments established a self-inspection mechanism for anti-corruption and integrity risks. The business units are mainly responsible for maintaining risk control, preventing corruption cases, and establishing a connected integrity mechanism. The supervision department provides warnings for integrity risks, regularly reviews and improves the integrity risk monitoring and warning system, and assesses and optimizes the effectiveness of integrity risk management operations.

In 2022

the Group offered

447

in-person anti-corruption and integrity training sessions

attracting

43,938 attendees

Building a Culture of Business Ethics

JD.com provides anti-corruption training to all employees. Employees are required to participate in anti-corruption, integrity, and compliance training and assessment once a year, and then pass the relevant assessment with full marks. New employees also must complete online anti-corruption training and pass the assessment before becoming regular employees. In 2022, the Group completed online anti-corruption, integrity, and compliance training and assessments for all employees, with a 100% coverage rate and a 100% pass rate. This year, the anti-corruption, integrity and compliance training includes explaining the importance of anti-corruption, the fundamental principles of JD.com's anti-corruption, and the requirements of an anti-corruption, integrity and compliance system. Multilingual training versions were developed and produced in Chinese, English, Indonesian, Thai, etc.

100%

of directors and management have taken the training

To bolster directors and the management’s primary anti-corruption and integrity responsibilities and ability in managing integrity risk, JD.com implemented special anti-corruption training for directors and managers. In 2022, we developed a new case-study style of anti-corruption and integrity compliance training, based on business scenarios and typical cases, focusing on legal compliance, case-based learning, case-based governance, and integrity risk management. The training consisted of 64 in-person courses, with each lasting three hours on average and 100% of directors and management having taken the training, which enabled the directors and management team to become familiarized with anti-corruption laws and regulations, gain insight into the psychology of corruption, and persistently promote the formation of JD’s integrity and compliance system. ensuring that officials do not dare, are not able, and ultimately have no desire to be corrupt.

JD.com's Special Training on Integrity and Compliance Management in 2022

During the reporting period, we implemented anti-corruption training sessions for procurement and logistics suppliers both online and offline, with a total of around 9,100 suppliers participating in the training.

Integrity and Compliance Promotion and Implementation of the JD.com Supplier Conference 2022

At the Supplier Conference held by Procurement Department of JD, we conducted promotion activities for our partners and suppliers. The training focused on JD.com's core business values of the Right Way, integrity and compliance system, as well as typical anti-corruption cases and reporting channels. Through this, we sought to collaborate with our partners to cultivate an ethical business environment.

Promotion and Implementation of Integrity and Compliance at the Supplier Conference

"Sunshine Integrity Alliance"

JD.com strives to advance cooperation among all industries to create a credible and positive commercial climate and reinforce the "Sunshine Integrity Alliance" brand. As of the end of 2022, the Sunshine Integrity Alliance has served more than 700 enterprise members. The year's principal focus of the"Sunshine Integrity Alliance" encompasses:

- Held the fifth Corporate Integrity and Compliance Summit and release the "Employee Fraud Analysis Report" for the manufacturing and retail industries;

The Fifth Corporate Integrity and Compliance Summit (2022)

- Carried out the Sunshine Evolved series of online courses on corporate integrity and compliance, providing high-quality anti-corruption, integrity and compliance content;

- Released the *book Secret of Anti Corruption for Real Economy Enterprises*, which collects innovative practices of integrity and compliance from real economy enterprises such as manufacturing, retail, and service industries.

Secret of Anti Corruption for Real Economy Enterprises

Standard Certification

JD.com is a signatory to the United Nations Global Compact, recognizing and upholding the ideals of the Ten Principles initiative and integrating it into our corporate strategies and operations. We actively promote the certification of other global anti-corruption standards to meet our commitment to organizational responsibility and anti-corruption compliance. We aim to attain ISO 37001 certification within one to three years and seek external audits and certifications such as SMETA, BSCI, RBA assessments and SA8000 certifications to ensure the success of our internationalization strategy.

JD.com Won the Third "China Integrity Innovation Award"

In September 2022, JD.com was the only private enterprise among the six winners of the third "China Integrity Innovation Award." JD.com drew on its experience in innovative integrity governance to create "JD's Integrity Governance Innovation Project" which was presented in its application to the third "China Integrity Innovation Award," which is sponsored and organized by the Integrity Governance Building and Governance Research Professional Committee of the Chinese Academy of Management and the Discipline Inspection and Supervision Institute of Tsinghua University (Beijing Integrity Governance Development Research Base). JD.com was praised by evaluators for its innovation, importance, effectiveness, sustainability and promotability. The award attracted applications from 174 other companies.

JD's Integrity Governance Innovation Project won the Third China Integrity Innovation Award

Whistleblower Protection

JD has posted the *Whistleblower Protection and Reward Scheme of JD Group* on its website, encouraging suppliers, other partners, employees, and other stakeholders to become part of the supervising system for the Group's honest operation and effectively expose violations, such as corruption and official misconduct. Whistleblowers who give truthful reporting will receive cash awards based on the pertinence of clues as well as the nature and gravity of the reported cases they report. An anonymous or pseudonymous reporting system will be adopted to guarantee the confidentiality of both whistleblowers and the information they provide in various aspects such as acceptance, registration, storage, and investigation to prevent leakage or loss. Any violation of confidentiality regulations will be dealt with severely. JD prohibits any form of retaliation against whistleblowers, and violators may be held liable to legal penalties in accordance with national laws and regulations.

Public reporting channels:

1、Telephone: 400-601-3618;
2、Email: jiancha@jd.com;
3、Mailing address: Supervision Department, Tower A, Building 1, JD.com Headquarters, Kechuang 11th Street, Beijing Economic and Technological Development Zone;
4、By appointment;
5、Other forms deemed appropriate by the whistleblower.

Information Security and Privacy Protection

In 2022,

Number of information security and privacy violation cases

0

Fines levied against JD.com for information security vulnerabilities or other network security incidents

0

JD.com strictly conforms to applicable national laws, regulations and regulatory guidelines, and attaches the utmost importance to the data privacy protection of consumers, customers, suppliers, partners, employees and any other related stakeholders. Drawing on international standards and industry best practices, it has built a comprehensive information security and privacy protection management system - including policies, management, technology, supervision and training - relying on a zero-trust security framework.

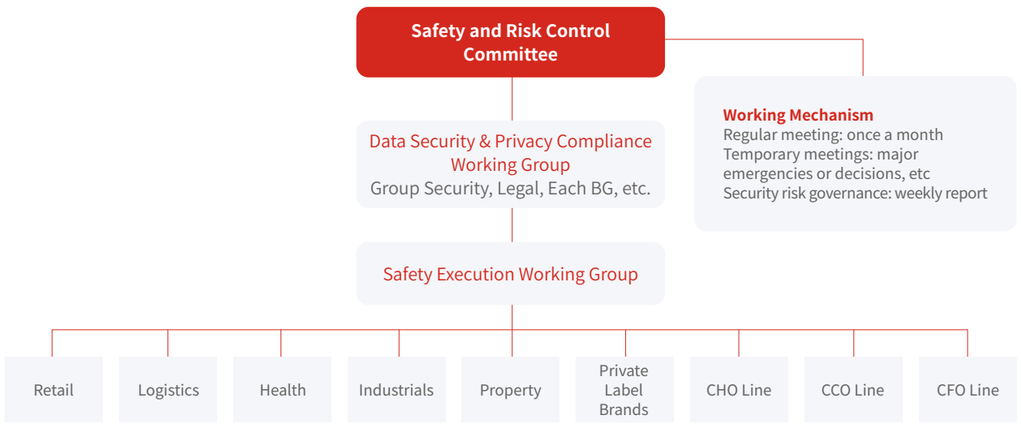
In line with relevant domestic and international legislation and regulations such as the *Data Security Law of the People's Republic of China* and the *Personal Information Protection Law of the People's Republic of China*, as well as industry-standard bodies such as ISO 27001 and ISO 27701, we continuously enhance our information security and privacy management system. We have developed 67 information security and privacy regulation systems and standards covering all existing activities, including the *Information Security and Privacy Policy of JD Group* and the *Data and Privacy Security Management Regulation of JD Group*.

In 2022, we comprehensively upgraded our information security and privacy protection measures, including host security, application security, data security, account security and application software privacy compliance.

Establish and Improve Safety Management Mechanisms

The Board and the Strategy Execution Committee of JD.com attach great importance to information security and privacy protection and participates in the strategic planning, review and decision-making of such matters.

The Board has set up a Security and Risk Control Committee as the highest management body for information security and privacy protection. This Committee is chaired by the Chief Compliance Officer (CCO) and includes the technology vice presidents from sub-groups and business lines. It regularly reports to the Board and Strategy Execution Committee (SEC). The Security and Risk Control Committee is comprised of two working groups: a data security and privacy compliance working group and a security execution working group, forming a multi-level organizational framework for safeguarding information and privacy. The Information Security Department is responsible for the Committee's daily operations, convening regular monthly meetings to review major issues, and regularly reporting to the Board and the SEC.



JD.com's Information Security and Privacy Protection Management Structure

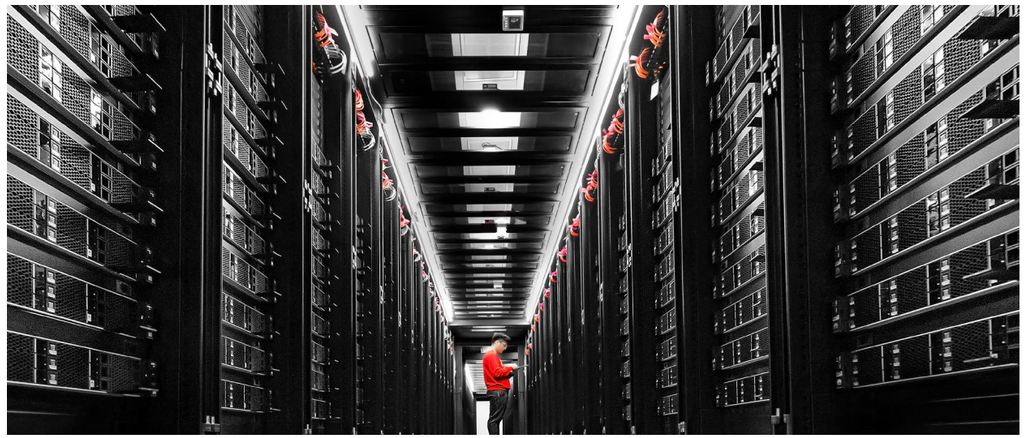
To effectively handle information security incidents caused by IT system interruptions or cyberattacks, we are constantly revising and improving the *Information Security Incident Grading Management Requirements of JD Group* and the *Security Monitoring and Response Regulations of JD Group*. These documents set out the classification and grading standards and emergency response processes to protect information security and privacy and further enhance our security management mechanism.

Employees who violate information security and privacy protection policies face warnings, reprimands, or dismissal in accordance with the degree of misconduct. Individuals who contravene national regulations will be held liable for adherence to the law. Those who inflict economic losses on JD.com will be required to compensate the company.

Developing Information Security Compliance

Zero Trust Security Technology and Practice

In the digital transformation sector, JD.com is committed to the principles of agility and efficiency. It is transitioning away from the network security protection known as "boundary protection" and is building a governance architecture based on "zero trust". We are exploring supply-chain-specific governance models to establish the "JD Zero Trust security system". With an emphasis on asset security, we integrate emerging technologies such as big data, artificial intelligence, blockchain, and cloud computing to construct a comprehensive zero-trust security system covering asset digitization, asset personalization, diversified checkpoints, diversified strategy centers, and a zero trust "cockpit." Construction of the "JD zero trust security system" has undergone four stages: proof of concept, implementation and practice, capability enhancement, and capability maturity, to form a reliable information security compliance management system to secure the information security of all JD's assets. JD's Zero Trust security practices are detailed in our white paper titled; *White Paper on JD's Zero Trust Security Practices*[5].



[5] White Paper on JD's Zero Trust Security Practices

User Privacy Protection

JD.com has established an information security and privacy protection system that covers data security, application security, office network security, and privacy protection. These protections are detailed in the *Information Security and Privacy Management Code of JD Group, Data and Privacy Security Management Regulation of JD Group,* and *Data Classification and Grading Guide of JD Group*. The documents stipulate requirements for the collection, processing, use, and user-response right to accessing the use of privacy data. A privacy impact assessment is also required when developing new businesses and carrying out R&D testing. Every business activity and research project that involves user privacy must complete privacy impact assessments and regular audits. Data security assessment and governance work is carried out in accordance with local laws and regulations and policy guidance. All commercial activities must pass privacy and compliance testing prior to their online launch, effectively protecting the various privacy rights and interests of users.

Data Minimization, User's Right to Know and Choose

In May 2023, JD.com updated *JD's Privacy Policy*, which stipulates the principle of data minimization, users' right to know, and the right to choose. We insist on "acquiring data only for legitimate and necessary purposes, with the informed consent of users and ensuring security and lawful use". We strictly follow the requirements of laws and regulations for the storage, use, and disclosure of personal information. JD will further improve the management and requirements of third parties in data use and maintenance.

All-chain Data Protection

JD.com employs encryption technology to encrypt and save user's personal data and isolates data through isolation technology. *The Data and Privacy Security Management Regulation of JD Group* explicitly states display of user data display must be desensitized, using a desensitization process that covers the daily operations of employees, users, and suppliers. We have set up a data backup and recovery management system that regularly backup data. The data storage system is deployed in distributed networks and equipped with a data recovery module.

Supervision and Audit by Independent Agencies

JD regularly performs compliance audits and information security tests, including annual external and internal audits. The non conformities discovered during the external and internal audits in 2022 were improved and repaired. Every year, we invite qualified third-party security professionals to carry out system stability tests and network security emergency tests. Through this practical exercise, information security weaknesses and potential security risks are revealed and overall response and prevention capabilities are further strengthened.

JD.com continues to upgrade ISO 27701 and ISO 27001 certification, which now encompasses 80% of its operational scope. We are likewise actively partnering with third-party consulting agencies to ensure GDPR compliance. The Group has completed GDPR security and compliance for its MCA business, thereby guaranteeing data security and adherence to regulations for our business in Europe.

JD.com's ISO 27001 Information Security Management System Certificate

JD.com's ISO 27701 Privacy Information Management System Certificate

JD Health was ISO 27799 Certified

In 2022, JD Health, a subsidiary of JD.com, was certified with the ISO 27799 Information Security Management System in Healthcare, becoming the first enterprise in the Chinese Internet healthcare industry to earn the certification.

JD.com Became a Member of the Business Security Initiative of the China Academy of Information and Communications Technology (CAICT)

JD.com has successfully passed the first batch of the CAICT Business Security Capability Assessment, becoming a member of the Business Security Initiative. JD's business security products and services were selected into the CAICT "Business Security Panorama".

JD.com is Now a Member of the CAICT Business Security Initiative

JD.com's API Security Capability Certificate

JD.com's web application and API protection (WAAP) has been evaluated by CAICT in terms of API security protection, API security monitoring, and other aspects, and the results have met the requirements of the Advanced Level. It also passed the test of Q/KXY CS111 *Application Program Interface Full Life Cycle Security Management Requirements* and obtained the API Security Capability Certificate from CAICT.

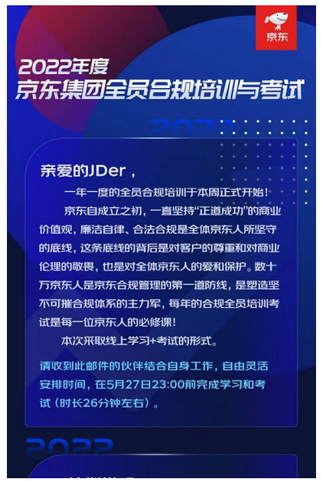
JD.com's API Security Capability Certificate

Developing Safety Culture and Awareness

The Information Security Department and Legal Compliance Department of JD.com are responsible for delivering training on the Group's information security compliance, data security, and personal data privacy protection. An annual training program and assessment of information security and privacy protection are required for all employees, including full-time employees, interns, consultants, and other labour personnel, as well as all entities and individuals engaged in commercial activities with JD.com, including suppliers, contractors, subcontractors, etc. New employees must participate in online information security and privacy protection training and pass exams before passing their probation period. Customized courses are included within the information security compliance training for product development specialists, and outsourcing personnel employees who work in key customer segments, such as information security compliance and phishing-prevention training. JD incorporates information security compliance management and personal information privacy protection into its business assessment of core managers and people in key positions, creating a culture of information security and privacy protection for all employees.

In 2022,

Number of information security and privacy protection training sessions conducted	Number of personnel who has completed training examinations	Training examination pass rate	Overall time of training and examinations approximately
24	560,000	100%	280,000 hours



JD.com's Compliance Training and Exams for All Employees in 2022 (Including Information Security and Privacy Protection)

JD's Data Security Protection Awareness Training of Contracted Personnel in 2022

Technology and Innovation

Technology and innovation are the driving forces behind JD.com's high-quality growth and the core competitiveness of JD's sustainable development. JD's industry-leading innovation is driven by various application scenarios and technology and powered by a team formed from core scientists to young technicians.

In early 2017, JD.com began a comprehensive technological transformation and has so far invested nearly RMB100 billion in technology research and development. These investments have enabled JD.com to bolster its technological and industrial digitization capabilities by leveraging advanced technologies such as cloud computing, artificial intelligence, big data and the Internet of Things (IoT). JD continues to lead technological innovation in logistics, supply chain security and customer service. Its technology continues to improve consumers' shopping experience while reducing costs and improving the efficiency of JD.com's brands and business partners. JD Cloud provides technology and services to various stakeholders including municipalities, businesses, financial institutions, and farmers. During the reporting period, JD.com invested nearly RMB16.9 billion in research and innovation.

In 2022, JD system listed and unlisted companies received three "China Patent Excellence Awards" in the field of data processing, visual recognition systems, and cross domain data fusion technology.

JD.com Receives Second Prize of the Science and Technology Progress Award from "Wu Wen Jun AI Science & Technology Award" in 2022

On July 16, 2022, the "Key Technologies of Intelligent Product Matching and Their Applications in Marketing," jointly researched by JD.com and Tianjin University, received second prize at the Science and Technology Progress Award ceremony of the 11th "Wu Wen Jun AI Science & Technology Awards". JD's award was for three essential key techniques: multi-level user profiling, cross-modal product modelling, and precise people-goods matching, which were based on user characteristics, product attributes, and matching recommendations. This technology has enabled the provision of intelligent marketing services to over 100,000 domestic and international businesses with noteworthy improvements in marketing management, cost-cutting, and enhanced user experience.

The 11th "Wu Wen Jun AI Science & Technology Award" Ceremony

JD.com and Several Companies Jointly Establish the Open Alliance for Carbon Neutrality Technology

We are committed to delivering the infrastructure capabilities that JD has accumulated to benefit society, driving the digital transformation of the industry and boosting the real economy by leveraging JD's identity as a real economy enterprise. Open Alliance for Carbon Neutrality Technology is based on the core concept of openness and sharing and is building a patent pool related to energy conservation and emission reduction and green development for carbon neutrality. Through the opening and sharing of patent technology, the alliance accelerates digital technology innovation and integration in carbon neutrality.

The Launch of Open Alliance for Carbon Neutrality Technology

Intellectual Property Protection

JD.com firmly adheres to intellectual property ("IP") protection and is compliant with applicable laws and regulations – such as the *Patent Law of the People's Republic of China and* the *Trademark Law of the People's Republic of China*. It has put in place internal intellectual property management measures, namely the *Patent Management Measures of JD Group* and *Trademark Management Measures of JD Group*. In 2022, the Group announced the *Trade Secret Management Measures (Trial) of JD Group*, further extending its intellectual property management system and guiding the comprehensive progress of its intellectual property management efforts.

JD.com launches targeted campaigns and comprehensive training sessions on implementing its intellectual property management and raising awareness of intellectual property protection. In 2022, it carried out more than 200 internal training sessions on patents, trademarks, copyrights, trade secrets, open source, and rights protection, covering nearly 6,000 employees.

JD.com staunchly encourages employees to apply for patents to protect their R&D innovations and integrate incentives for creativity into their daily tasks. The Group has set up the Patent Application Award and Patent Authorization Award for patents with remarkable innovative value, application potential, economic benefits and social benefits. The JD Patent Award was created to reward excellence. Incentive measures are also offered.

JD's Patent Award Trophy in 2022

JD.com's Key Data on Accumulated Intellectual Property (as of the end of 2022)

Number of authorized patents at home and abroad

6,272 Patents

Number of published patents at home and abroad

18,424 Patents

Thanks to the ever-growing technology and R&D investments, in 2022, JD.com had accumulated more than 6000 globally authorized patents, ranging from AI, cloud computing and retail technology to logistics warehousing, digital intelligent supply chain, new infrastructure for digital economy, green low-carbon technology, and its pan-regional patent collaborative business development spaned ten countries and territories.

The Group's intellectual property management is essential to securing and protecting its IP rights, meeting the demands of business development, and preventing infringement of trade secrets and other important information. It also aims to standardize employee behaviour, internal procedures, and regulations, and enhance its risk management system. The Group strives to comprehensively and promptly protect its IP assets, such as technological innovations and achievements, brands, commercial logos, software works, and domain names, via cooperation between the IP management team and business operations. Specific internal and external management plans have been formulated to ensure clear workflow and measures, and efficient executions of various IP management processes which are designed to improve the IP management certification system.

JD is dedicated to protecting intellectual property and combatting infringement through a combined approach of prevention and control. This strategy covers the full spectrum of preventive measures, from pre-event, during-event, and post-event. The Group actively responds to rights infringement complaints submitted by intellectual property holders and their representatives while safeguarding the legal rights and interests of all IP rights holders.

We are committed to ensuring the authenticity of merchandise and actively collaborate with local law enforcement, brand rights holders, and various brand protection organizations. Guided by the philosophy of social collaborative governance, we endeavour to construct a connected platform for corporate social responsibility collaborative governance, encompassing innovative institutional governance, innovative organizational governance, and innovative technological governance, to ensure a lawful commercial atmosphere.

In 2022, JD's Intellectual Property Protection Platform established cooperation with the Public Service Department of the National Intellectual Property Administration (NIPA) by integrating the National Intellectual Property Public Service Network into the home page of the JD platform. With a single click, users of the JD platform can directly access the official NIPA website to learn about their rights.

JD's Intellectual Property Protection Platform

02

A Responsible Supply Chain Paves the Way for a Green Future

JD.com is committed to building a green and low-carbon supply chain system by actively promoting carbon-reduction measures in the fields of warehousing, packaging, transportation and consumption and striving to go green in offices, logistics, stores, parks and other scenarios. Working with upstream and downstream partners to shape a future green supply chain, the Group helps to achieve the national goal of reaching carbon peaking and carbon neutrality, and respond to and mitigate the impacts of climate change.

Addressing Climate Change through the Task Force on Climate-related Financial Disclosure (TCFD)

Amidst the issue of global warming, countries have adopted carbon reduction commitments and explored ways to alleviate climate change. In December 2020, President Xi Jinping said at the General Debate of the 75th Session of the UN General Assembly that China would peak carbon dioxide emissions before 2030 and achieve carbon neutrality before 2060. Addressing climate change is a responsibility shared by the global community with a shared future for humanity. As a new type of real economy-based enterprise with global influence, JD.com leverages its deep connections within the value chain to deal with climate opportunities and challenges, developing climate competencies while motivating stakeholders from across the supply chain to work together to meet the goals of climate mitigation.

We are calling on corporate governance and strategic frameworks to incorporate climate change through the Task Force on Climate-related Financial Disclosure (TCFD) framework. This includes developing appropriate carbon reduction routes, fortifying climate change risk management, identifying effective carbon reduction measures, verifying and disclosing climate change related information, and assessing the effectiveness of our climate strategies and carbon reduction actions, which is JD's contribution to achieving China's goals of carbon peaking and carbon neutrality.

Governance

The Group's Board of Directors has ultimate responsibility for climate change related risks and opportunities and appoints the ESG committee to comprehensively oversee relevant tasks, such as climate risk identification, assessment, and management. The ESG committee regularly reports to the Board of Directors on sustainability matters, including climate-related issues.

The ESG committee also holds regular meetings to fulfill the following responsibilities related to climate change:

- Review/check JD.com's efforts on climate risks and opportunities, including climate risk identification, assessment, response, etc;
- Review/check JD.com's investments related to climate change risks and opportunities.

JD.com's ESG Working Group coordinates the daily management and execution of climate-related risks and opportunities and establishes a Climate Action Special Group to identify and assess such risks and opportunities.

Strategy

JD has continuously adjusted its business development strategy and resource allocation after analysis of climate-related risks and opportunities, formulating sustainable development strategies. JD is committed to addressing potential climate change-induced risks, taking advantage of low-carbon growth opportunities while striving to promote green development for itself, and for society as a whole.

We adopted the Shared Socioeconomic Pathways (SSPs) recommended by the Intergovernmental Panel on Climate Change (IPCC) to carry out a climate scenario analysis on the external environment of our business operations, including ecology, economy and society, using the SSP1 and SSP3 for the two time periods of 2025 and 2030 respectively.

Forecast of Macro-Environmental Situation JD.com May Face in Different Climate Scenarios

SSP1 (Low emission scenario under strict climate policies)	SSP1 (High emission scenario without climate policies)
Nature[6]	
• **Mean temperature:** the temperature will rise by 1.6°C by 2040 when compared with the pre-industrial era, and by 2.0°C by 2100; • **Sea level:** the sea level will rise by 0.1 meters in 2040 and by 0.4 meters in 2100; • **Extreme weather:** its frequency and intensity will increase to a certain extent; • **Rainfall:** as temperatures rise between 1.5 and 2.0 °C , global agriculture and ecology will suffer from more intense droughts, with an increase in precipitation intensity of 10.5% to 14%.	• **Mean temperature:** the temperature will rise by 1.6°C by 2040 when compared with the pre-industrial era, and by 3.9°C by 2100; • **Sea level:** the sea level will rise by 0.1 meters in 2040 and by 0.6 meters in 2100; • **Extreme weather:** its frequency and intensity will increase greatly; • **Rainfall:** as temperatures rise between 2.0 and 4.0°C , global agriculture and ecology will suffer from more intense droughts, with an increase in precipitation intensity of 14.0% to 30.2%.
Socio-economic environment	
• **Global climate policy:** major countries and regions worldwide announce the carbon neutrality path (including China's goals of "carbon peaking" and "carbon neutrality"), and strictly implement the goals; • **Global business model:** transitioning rapidly from an economy based on fossil fuels to one driven by renewable energy sources; • **China's greenhouse gas emissions:** emissions per unit of GDP will decrease by 18% in 2025 from the 2020 level, and by more than 65% in 2030 from the 2005 level [7]; • **China's carbon prices:** carbon prices are expected to reach RMB89.48/ton and RMB203.71/ton by 2025 and 2030 respectively (without total emission control) [8]; • **China's energy structure:** The proportion of non fossil fuels in one-time energy consumption will reach 20% in 2025 and 25% in 2030; [9] • **China's new energy vehicles:** By 2025, the sales of new NEVs will reach about 20% of the total; By 2030, the proportion of newly used clean energy powered vehicles will reach around 40% that year [10]; • **China's consumer attitudes:** By 2025, the market share of green and low-carbon products will significantly increase; By 2030, green consumption become the mainstream trend, and the public will actively choose green and low-carbon products [11].	• **Global climate policy:** some countries and regions lack carbon neutrality goals, and have no detailed short-term actions and goals; • **Global business model:** the profit-driven business model fails to properly consider the environmental and social impacts, and there are no obvious changes in the renewable energy portfolio; • **China's greenhouse gas emissions:** In 2030, greenhouse gas emissions will rise by 38% from the 2021 level; • **China's carbon prices:** In 2025 and 2030, carbon prices remained the same as in 2022, at RMB50.54-61.60/ton[12]; • **China's energy structure:** the proportion of non fossil fuels in primary energy consumption is the same as that in 2020, about 16%; • **China's new energy vehicles:** The proportion of total sales of NEVs remains the same as in 2021, at 11.25%[13]; • **China's consumer attitudes:** green consumption is not yet mainstream, and the market for green and low-carbon products is relatively small.

[6] Source: Sixth Assessment Report from Intergovernmental Panel on Climate Change (IPCC) Working Group (WGI) and CMIP6 Climate Model

[7] Source: China's Intended Nationally Determined Contributions

[8] Source: Long-term carbon price forecast update of China's carbon market released by Refinitiv in 2022

[9] Source: National Development and Reform Commission's Outline on "14th Five Year Plan"

[10] Source: The Ministry of State issued the "Development Plan for the NEV Industry (2021-2035)" at the end of 2020

[11] Source: "Implementation Plan for Promoting Green Consumption" issued by the National Development and Reform Commission, the Ministry of Industry and Information Technology, the Ministry of Commerce, and other departments in 2022

[12] Source: Shanghai Environment and Energy Exchange

[13] Source: People's Daily, 2022

Starting from assessing both physical and transformation risks, JD.com analyzed relevant literature on climate, macro environment, and industrial policies, and integrated the findings with their own business conditions to identify and assess the potential effects of climate change on their short-term【S】(within 2 years), medium-term【M】(2-5 years), and long-term【L】(more than 5 years) operations.

Potential impacts of physical risks on JD's business, risk identification and impact cycle under the high emission scenario (SSP3)

Classification of physical risks: heatwaves, sea level rise, floods, increased frequency of extreme weather, and loss of biodiversity.

The business impact of physical risk: according to *Global Risk Report 2022*[14], survey respondents ranked "climate action failure" as the biggest long-term threat and the number one risk, potentially causing the most severe impact over the next decade. The potential consequences of these climate-related physical risks will have an impact on companies including JD, such as natural resource crises, ecological environment damage, infrastructure damage, and threats to human health.

Potential impacts of physical risks on JD's business, risk identification and impact cycle under the high emission scenario (SSP3)

Risk classification	Strategic factor	Impact	Risk description	Physical risk classification	Impact period
Acute physical risks	Market Risk	Infrastructure failure Increased operating costs	• Climate change leads to an increased prevalence of extreme weather conditions such as floods, typhoons, excessive precipitation, and extreme high/low temperature weather. This has, in turn, affects the stability of buildings and operations such as JD.com's office buildings, intelligent industrial parks, and data centers, resulting in increased costs for maintaining infrastructure such as warehousing and data centers. *The China Climate Bulletin 2022*, forecasts heavy rains and waterlogging in South China and Northeast China, as well as floods in the Pearl River basin and Songliao basin, which is likely to affect our storage and operational sites[15]; • When the frequency or duration of flooding increases, it can cause damage to the warehouse and transportation network of JD.com, resulting in damage to logistics infrastructure, which could eventually lead to a decline in logistics performance and supply, a decrease in business volume, an increase in equipment maintenance costs, and a decline in business revenue; • The *2021 China Sea Level Bulletin* revealed that the risk of sea level rise in China's coastal areas is escalating due to accelerated urbanization.[16] Impacts of the rising sea levels may include the termination or early decommissioning of facilities located in vulnerable coastal areas and the relocation of infrastructure companies in coastal regions to inland areas which would incur higher operation expenditures; • Climatic change-induced frequent sand and dust storms would reduce the efficiency of photovoltaic panel power generation and potentially increase operating and maintenance costs.	Heat wave Flood Sea level rise Frequent occurrences of extreme weather Frequent occurrence of sandstorm weather in some areas	M、L
		Human health crisis	• High temperatures shorten the external incubation period of the dengue fever virus, enhancing the rate of being bitten by vector Aedes mosquitoes and expediting their development and reproduction due to increased rainfall[17]. Subsequently, future climate change is likely to create more optimal conditions for the spread and prevalence of dengue fever, posing potential health and safety risks to employees of JD.com. Consequently, should JD.com's suppliers, customers, or business partners be exposed to related hazards, their activities may be disturbed or damaged.	Loss of biodiversity Heat waves	S、M、L
Acute physical risks	Supply chain management	Infrastructure failure	• Floods, typhoons, excessive precipitation, and extreme high/low temperatures resulting from climate change will have a deleterious effect on JD.com's logistics infrastructure equipment (including associated businesses, regional performance centers, front-end distribution centers, newly added warehouses, distribution stations, pick-up points, and roads). This will lead to the reduced operational efficiency of regional performance centers or possibly render them unable to carry on normal operations. This, in turn, will negatively impact the delivery and sale of goods. Intense rainstorms and flooding could disturb logistics route planning, storage, and transportation network planning. Heat waves or extreme cold could damage batteries in operational vehicles, consequently affecting express delivery efficiency and denting the Group's operating revenue; • JD has developed a comprehensive cold chain infrastructure, with warehouses and temperature-controlled vehicles, requiring increased use of bio-friendly refrigerants in extremely high heat. This results in higher operational costs and raises risks of battery-related incidents and maintenance demands for the vehicle fleet and cargo aircraft.	Heat wave Flood Frequent occurrences of extreme weather	M、L
		Harm to ecological environmental Crisis of natural resource	• The increased frequency of floods, typhoons, excessive precipitation, and extremely high and low temperatures caused by climate change will affect JD.com's supply chain stability. This leads to higher raw material prices, and challenges in product supply and inventory, as well as impacting the operating revenue of JD's private label brands and vendors. For instance, fresh produce sold on SEVEN FRESH, JD's supermarket, is highly vulnerable to damage caused by extreme weather, disrupting the supply chain and damage to goods, consequently impacting consumer satisfaction and causing a rise in costs.	Heat wave Flood Frequent occurrences of extreme weather	S、M
Chronic physical risk	Operation	Human health crisis Damage to infrastructure Harm to ecological environmental	• The National Climate Center's monitoring showed that from June 2020 (as of July 12th), the average number of days of high temperature in China was 5.3 days, 2.4 days more than typical years, setting a new high since 1961[18]. Such high temperatures affect the performance and health of the employees at JD.com, resulting in increased expenses, such as medical bills and heatstroke subsidies; • A rise in average temperatures may cause potential detrimental impacts on the regular operation and maintenance of data centers, such as diminished lifespans of data center facilities and hardware; a higher burden on energy consumption for data center heat transfer and cooling, resulting in greater carbon emissions; higher consumption of water resources, and so on; • Drought poses the most serious threat to terrestrial biodiversity, particularly to amphibians whose highly sensitive water requirements render them the most vulnerable[19].	Average temperature rise Drought	M、L
Market Risk	Consumer/ User	Harms to ecological environmental	• Extreme weather events have exacerbated shortages of some foods. In 2008, China suffered from a cold snap, rain, snow and freeze, resulting in approximately 14 million hectares of crops being affected. In 2014, a severe drought hit North and Northeast China, significantly impacting summer grain production. Extreme downpours in Henan Province on July 20, 2021, caused massive crop failure, particularly of corn[20]. Climate change will present a mounting challenge to the food chain and food safety & quality offered by JD.com, thus increasing the potential health risks to consumers, and reducing consumer satisfaction, while raising the costs of restoring consumer satisfaction and protecting consumer rights & interests for JD.com.	Loss of biodiversity	S、M

[14] Source: Global Risk Report 2022

[15] Source: China Climate Bulletin 2022 released by China Meteorological Administration

[16] Source: 2021 China Sea Level Bulletin

[17] Source: Fifth Assessment Report of IPCC

[18] Source: National Climate Center

[19] Source: "Drought Seriously Threats Terrestrial Biodiversity" by *China Science Daily*

[20] Source: "Impacts of Climate Change on China's Food Security Cannot be Ignored"

Potential impacts of physical risks on JD's business, risk identification and impact cycle under the low emission scenario (SSP1)

Under the low-emission scenario, tighter macroeconomic policies and low-carbon transformation in society may impose potential restrictions and regulatory requirements for the Group, which will affect its operation and income.

JD's transformation risks include policy and legal risks, technical risks, reputational risks, and market risks.

Climate related transformation risks and strategic perspectives, risk description, classification, and time span of JD.com under the low emission scenario (SSP1)

Risk classification	Strategic factor	Risk description	Transformation risk classification	Impact period
Policy and regulatory risks	Trend of low-carbon development	In the event of non-compliance with the relevant national laws and regulations, JD.com will face regulatory scrutiny, pressure from external stakeholders, and an increase in operational costs in the short term to ensure policy compliance optimization. This includes investment in hiring professionals in carbon emissions data management and disclosure of information. • China has established a "1+N" policy system for carbon peaking and carbon neutrality, formulated a medium- and long-term greenhouse gas emission control strategy, contributed to a national carbon emission trading market, and prepared and implemented a national climate change adaptation strategy. The "1" refers to the guiding ideology and top-level framework for China to achieve carbon peak carbon neutrality. The *Opinions on Completely, Accurately and Comprehensively Implementing the New Development Concept and Achieving Carbon Neutrality in Carbon Peaking*[22] and *Action Plan for Carbon Peaking by 2030*[23] issued in 2021 defined the schedule, road map and construction drawing of those efforts. "N" refers to the implementation plan and accompanying support measures for key areas and industries, such as energy, industry, transportation, and urban-rural construction, along with underpinning technologies, energy security, carbon sink capacity, fiscal and financial pricing policies, standard measurement systems, inspection, and assessment; • In June 2022, China released the *National Strategy for Climate Change Adaptation 2035*[23], which proposed the guiding ideology, main goals, and basic principles for China's adaptation to climate change in the new era, and further improve safeguard measures to provide important guidance and a solid foundation for effective adaptation to climate change.	Policy and legal risks	S、M、L

Risk classification	Strategic factor		Risk description	Transformation risk classification	Impact period
Policy and regulatory risks	Supply chain management	Stricter laws related to green supply chain	China is intensively promulgating policies and regulations related to green transportation, green packaging, and the development of green parks, resulting in a profound effect on JD.com's core activities, including warehousing and transportation. If JD.com fails to adequately disclose related information as required, it will face regulatory compliance risks, and potential pressure from external stakeholders. • Transportation: Seven departments including the National Development and Reform Commission, the Ministry of Commerce, and the State Administration for Market Regulation have issued the *Implementation Plan for Promoting Green Consumption*[24], which proposes to accelerate the development of green logistics distribution; *The 14th Five Year Plan for Green Transportation Development*[25] outlined the green transformation policy for logistics and transportation, and more quantitative goals in reducing pollution and carbon emissions, energy consumption structure for logistics vehicles, and transportation structure; The General Office of the State Council has issued the *14th Five Year Plan for the Development of Cold Chain Logistics*[26] to accelerate the pace of emission reduction and low-carbon transformation, promote the structural adjustment of cold chain logistics and transportation, and achieve healthy and sustainable development; • Packaging: The General Office of the State Council has issued the *Notice on Further Strengthening the Control of Excessive Packaging of Goods*[27], which places curbs on excessive packaging of goods and sets clear requirements for the packaging industry; *Action Plan for Plastic Pollution Control During The 14th Five Year Plan*[28] and the packaging policies related to the postal and express delivery industry have set clear requirements and quantitative goals for the all-chain governance of plastic packaging, especially for e-commerce, reduction, standardization, recycling, and easy recycling of express packaging; • Park: *Implementation Plan for National Green Development Special Action in High Tech Zone*[29] pointed out the collaborative industrial park and green transformation of urban energy, in order to maximize the use of clean energy and circular transformation of the park to build low-carbon cities and develop the low-carbon economy.	Policy and legal risks	S、M
Market Risk		Pressure from supply sides	• The national system of energy consumption intensity control and total emissions control has become increasingly stringent, resulting in limited electricity consumption and rising electricity prices among high energy intensive enterprises. An excessively active response to energy transformation will further disrupt the energy market, reducing the supply of highly energy-intensive industrial goods. As such, key-emission industries are facing a capacity contraction, likely pushing up raw material prices and restructuring the industrial landscape. Such scenarios may have a potential impact on JD's suppliers, manifesting as supply scarcity and increased procurement costs, among other issues.		
		Increased transition costs	• JD's operational expenditures are set to rise, including investments in clean energy, technology development for carbon reduction, R&D of low-carbon infrastructures and procurement services.		

[21] Source: inions of the CPC Central Committee and the State Council on Completely, Accurately and Comprehensively Implementing the New Development Concept and Achieving Carbon Neutrality and Carbon Peaking

[22] Source: Notice of the State Council on Issuing the Action Plan for Carbon Peaking by 2030

[23] Source: National Strategy for Climate Change Adaptation

[24] Source: Implementation Plan for Promoting Green Consumption

[25] Source: Notice of the Ministry of Transport on Issuing the 14th Five Year Plan for Green Transportation Development

[26] Source: Notices of General Office of the State Council on Issuing the 14th Five Year Plan for the Development of Cold Chain Logistics

[27] Source: Notice of the General Office of the State Council on Further Strengthening the Control of Excessive Packaging of Goods

[26] Source: Notices of General Office of the State Council on Issuing the 14th Five Year Plan for the Development of Cold Chain Logistics

[29] Source: Notice of the Ministry of Science and Technology on Issuing the Implementation Plan for National Green Development Special Action in High Tech Zone

Risk classification	Strategic factor	Risk description	Transformation risk classification	Impact period
Reputational Risk	Social and cultural transformation	• The disruption of JD.com's safety and continuity of operations due to climate risks may cause worries and adverse responses from investors and other stakeholders about the steadiness of JD's business; • Market preferences have transitioned, resulting in an upsurge in consumer demand for green products. This may incur an increase in costs, including changes in production techniques, processes and facilities and rising raw material costs. Should JD.com fail to timely recognize and respond to such trends, it may see a reduction in market share and revenue.	Market risk Reputational risk Policy and legal risk	S、M、L
Technological Risk	Technological advancement and application	• In the context of global warming and increased focus on environmental protection, China has launched new energy consumption and carbon emission control laws and policies, setting high Power Usage Effectiveness (PUE [30]) and energy-saving requirements. This put pressure on JD.com's data centers to transition to low-carbon technologies, which might trigger additional compliance and operational expenses. Failure to invest in or research new low-carbon technologies may result in financial losses; • JD has invested heavily in the R&D of low-carbon technologies, including the development of recycled packaging, reduced packaging, and reduced use of non-degradable consumables. If the R&D fails, JD will face financial losses as well as increased carbon footprint in its operations and long-term impact from competitors surpassing it in the race of low carbons.	Technological risk Policy and legal risk Reputational risk	M、L
Market Risk	Climate-related Investing and Financing	• In 2022, remarkable achievements were made in China's green finance policy standards, market and international cooperation. The People's Bank of China has developed and launched carbon reduction support instruments and specific refinancing plans to back up clean and efficient utilization of coal; CBRC issued the *Guidelines for Green Finance in Banking and Insurance*[32] to offer policy guidance and financial assistance for eco-friendly progress and low-carbon transformation projects. China has become one of the largest markets of green finance worldwide. By June 2022, the balance of green loans in both domestic and foreign currency surged to RMB19.55 trillion, up 40.4% from the preceding year; the size of green bonds reached RMB1.2 trillion, ranking China the second largest issuer in the world. The first set of transformation bonds has been issued smoothly. If JD.com fails to spot, evaluate, and address climate-related risks in time, its potential investment and financing options will be hampered, leading to a revenue decrease.	Policy and legal risk	M、L

[30]PUE, Power Usage Effectiveness, an indicator for evaluating energy efficiency in data centers.
[31] Source: Notice of the CBRC on Printing and Distributing the Guidelines for Green Finance in Banking and Insurance
[32] Source: Notice of the CBRC on Printing and Distributing the Guidelines for Green Finance in Banking and Insurance Industry

We firmly believe that not only do climate change risks exist, but the trend of low-carbon and green development provides a plethora of opportunities for business transformation and development. Accordingly, JD.com not only identifies and reacts to the already-identified climate change risks, but it also pays attention to opportunities climate change possesses for transforming and adaptation. The Group strives to incorporate these opportunities into its daily operations and strategies, stays abreast of the latest trends in transformation, and actively seeks innovative breakthroughs for development.

JD.com's Strategic Direction, Transition Accomplishment, Classification and Impact Cycle Under the Background of Low-Carbon Economic Transformation

Strategic direction	Opportunities and strategies	Transition accomplishment	Classification	Impact cycle
Green Operation	Develop photovoltaic industrial parks	As of the end of 2022, JD installed photovoltaic power systems in 23 intelligent industrial parks. We will continue to increase the photovoltaic power generation capacity to power more JD's smart industrial parks. Also, we will effectively combine with the actual use needs of enterprise customers and lay out in advance the comprehensive application of new energy in the park to help energy conservation and emission reduction.	Energy supply	M
	Promote green financing	JD.com has developed a green financing framework, systematically showcasing the principles and processes of green financing for sustainable development projects. In 2021, the Group signed a five-year green syndicated loan of $2 billion for the first time and successfully obtained a positive Second Party Opinion from the international ESG evaluation agency Sustainlytics. This milestone marks the first green financing instrument issued by JD.com overseas. This strategic move not only helps JD strengthen its social influence of ESG and corporate responsibility, but furthermore supports green transformation for JD.com, its customers, and the retail industry.	Market	M
	Monitor and manage climate risks by using big data	• JD will explore a new data management system to provide early warning of possible injuries employees may suffer during extreme weather conditions. This system will include forecasting anomalies in business volume due to abrupt changes in social demand during extreme weather. It will also provide sophisticated decision-making support. • More frequent extreme weather events will mean an increased reliance on remote work. To better mitigate the risks posed by climate change, we will enhance our data systems to bolster operational efficacy and internal management effectiveness through data and systems.	Resilience	L
	Build infrastructure with climate resilience	• JD has steadily invested in infrastructure resources, building dedicated teams, and establishing emergency response measures to address potential disruptions caused by extreme weather. We also conduct regular emergency drills and have a tracking team in place to monitor them; • JD took into account the potential impact of extreme weather on buildings during the construction of its headquarters Buildings No, 2 and No. 3 in Beijing, and its headquarters office building in Southwest regions. We adopt a "sponge city" design to maximize the natural infiltration of rainwater, recharge groundwater resources, and set up rainwater storage tanks to reduce the pressure of municipal rainwater drainage; • To guarantee the steady performance of infrastructure, JD Data Center, Intelligent Industrial Park and other similar infrastructures have proactively created well-structured emergency plans to cope with the potential impacts brought by sudden weather conditions, including but not limited to typhoons, thunder and lightning, rainstorms, extreme temperatures, heavy rains and snowstorms. Protective responses such as typhoon wind protection, heavy rain and flood deterrence, snow and freezing safety measures during snowstorms, and lightning protection testing during thunder and lightning weather are strictly taken into account; • JD.com's Security Department carries out at least 1,700 stress tests per year to guarantee the stability of system operation. We are constantly enhancing the system's resilience. By utilising containerised deployment technology, services are deployed in several computer rooms which protect from sudden disruptions such as hardware failure, server hardware issues, network transmission problems, and incorrect service invocation, ensuring the constant performance of system services in a worst-case scenario; • Building climate resilient infrastructure also helps to optimize the utilization of natural resources, reduce water and energy consumption and mitigate greenhouse gas emissions. It can also decrease expenditures and meet emission regulations.	Resilience	S、M

Strategic direction	Opportunities and strategies	Transition accomplishment	Classification	Impact cycle
Supply Chain	Develop NEVs and optimize routes	• As of the end of 2022, JD Logistics attained an intermodal transportation scale of 1.84 million tons with 808 operational routes and 5,418 self-operated NEVs. It is aiming to reach 100% use of new energy vehicles (NEVs) by 2030, by way of improving its new energy vehicles road network infrastructure; • JD.com leverages big data to optimize green-channel planning, warehousing, and transportation network in real-time, thus reducing the number of vehicles in transit and improving the return vehicle's full load rate. It shifts some of the goods' transportation modes from road to rail, implementing a green transportation pattern and optimizing green logistics efficiency.	Resource efficiency	M、L
	Promote green and recycled logistics packaging	• JD Logistics has been promoting packaging recycling, featuring the use of a special recycled insulated box made of thermal insulation materials, VIP vacuum plate and canvas, coupled with recyclable ice plate to replace the traditional EPS white foam box and disposable ice bag. To date, some 700,000 VIP vacuum plates have been used 200 million times in 18 cities, contributing to a reduction of 200 million foam boxes; • In 2022, JD Logistics officially released its *Delivered with Original Package* (DWOP [33]) standard and certification process. JD Logistics has worked with multiple industry partners on DWOP, with the goal of having 80% of products sold through e-commerce channels to be shipped in their original packaging by 2030. JD Logistics and its partners jointly issued a DWOP statement, which advocates for recycled packaging to reduce packaging waste; using primary color cardboard boxes to reduce ink usage, minimizing packaging layers, designing simple and compact packages to reduce material usage, and using environmentally-friendly materials and encouraging plastic reduction, recycling and regeneration for eco-friendly carbon reduction in the packaging process. Over the course of five years, JD Logistics has collaborated with upstream and downstream partners to promote the DWOP model. As of now, over 10,000 stock keeping units (SKUs) of goods have successfully achieved direct delivery of their original packaging from the factory. This has the potential to reduce 10 billion disposable packages, which is equivalent to 20 million trees.	Resource efficiency	M、L
	Improve the resilience of the supply chain	• For seasonal commodities whose sales are prone to extreme weather and climate variations, such as electric fans, heaters, air conditioners, rain gear, quilts, etc., timely inventory adjustment should be conducted in accordance with the changing weather to prevent stock-outs and stock unsold. Annual procurement planning should be developed for primary products such as agricultural and forestry products, to supply at least one year's worth of inventory; Cold storage capacity should be increased accordingly; • JD Logistics continues to invest in the development of a green and low-carbon integrated supply chain, focusing on green, low-carbon, and environmentally friendly supply chain technology and services. It advances the utilization of clean energy, optimizes the application of low-carbon tech and new energy equipment, and increases resource use efficiency and recycling rates to enhance its own carbon efficiency. By constructing a smart, low-carbon logistics park, JD Logistics works with its supply chain partners to achieve a joint carbon reduction.	Resilience	M、L
Consumer/User	Provide green and environmentally friendly products and services	• JD's 618 Grand Promotion has joined forces with leading brands to launch the "Green Impact Initiative" and has established the Green Alliance with several well-known brands to offer over 3 million green products to consumers. JD is now offering upgraded low-carbon credentials and green points to provide more eco-friendly options; • JD.com guides consumers to choose green consumption through intelligent recommendations, and the energy-saving home appliances sold each year can reduce carbon emissions by nearly 2 million tons; • As one of the first pilot units of electronic invoices in China, JD.com successfully implemented its electronic invoice issuance. Statistics reveal that in 2022, JD issued 3.3 billion electronic invoices, saving 18,500 tons of paper, equivalent to 370,000 adult trees, and a carbon emission reduction of 17,000 tons. Green products and services help build consumers' mindset on green and sustainable consumption, as well as enhance the brand influence of JD.com's products and increase their market value; • Phase I Supply Chain Emission Management Platform(SCEMP) developed by JD Logistics was officially launched on November 15, 2022, providing a carbon emission account for Decathlon, a sporting seller, and addressing the calculation of its e-commerce B2B scenario's greenhouse gas carbon footprint and decarbonization path. In the first month, it completed over 200,000 waybills of a single customer's scenario and was verified by a third-party verification agency Bureau Veritas as per ISO 14064-1 standards.	Products and services	S
	Providing energy-saving and carbon reduction services for enterprises through digital intelligence	• JD has developed the Intelligent Management Centre (IMC) digital operation platform for JD Property’s products, which enables headquarters to supervise and empower daily operation management, energy conservation and emission reduction of projects, project to third parties, and headquarters to third parties; • JD Industrials equips enterprises with digital and intelligent capabilities for their carbon neutrality business processes, providing real-time insights into their energy consumption and carbon emissions and accurately predicting their emissions trends. It supports enterprises in crafting practical paths towards carbon neutrality, and drives down their carbon emission levels, helping them gain a competitive edge in the market through low-carbon products; • JD Industrials's "Dual Carbon Brain" offers a comprehensive range of energy consumption and carbon emission monitoring and management services. Utilising advanced IOT data collection, platform, and analysis capabilities as well as carbon neutrality and peaking service in the industry chain, this innovative solution is designed to support government efforts in achieving accurate and effective carbon neutrality and peaking management. Additionally, we offer talent supply services to promote green industry development by working alongside government colleges and universities to establish related laboratories. Our integrated approach, which leverages Industrial Internet solutions and product capabilities, helps to facilitate the seamless integration of carbon neutrality and peaking service management and intelligent manufacturing, creating a new industry education integration innovation center.	Products and services	M、L

[33]DWOP, or Delivered with Original Package, refers to the integrated structure of e-commerce product packaging and express delivery packaging, which reduces the packaging form of e-commerce products in the shipping process.

200,000

green recycling boxes have been distributed in 30 cities

which has been used

20 million times

in the Beijing Green and Energy Saving Consumption Voucher Project, JD has provided nearly

40,000

commodities to consumers in Beijing

which drives a sales of

RMB 2 billion

We are committed to spearheading and exploring sustainable business models and solutions to mitigate climate change, and collaborating with upstream and downstream suppliers and partners to build an eco-friendly and sustainable value chain in green retail, green logistics, green finance, green sustainable lifestyle advocacy, etc.

JD Logistics, being the first logistics company from China to set carbon-based targets, is jointly exploring more environmentally-friendly solutions for packaging, warehousing, transportation and other components of the supply chain. In 2017, JD Logistics, along with a number of Global 500 brands, initiated the "Green Stream Initiative," with upstream and downstream partners to promote end-to-end greenness and sustainability throughout the entire supply chain. To date, almost 200,000 green recycling boxes have been distributed and used 20 million times across 30 cities worldwide.

We strive to instil the idea of sustainable consumption and endorse eco-friendly lifestyles. Since the launch of the "Green Impact Initiative" during the 618 Grand Promotion in 2022, JD has given consumers access to their carbon accounts, encouraging and recording the broad range of green recycling activities they engage in. By purchasing green recycled products and participating in green recycling programs, they can earn carbon energy which can be converted into exclusive green coupons, a Green Medal of Honor, and receive customized environmental gifts. With multiple high-profile brands forming the Green Alliance, we were able to provide over 3 million green products. We are continuously improving our low-carbon and eco-friendly qualifications to ensure consumers have access to high-quality "green commodities".

In response to national actions, in 2022, JD.com took proactive efforts to promote green and energy-efficient consumption in different regions, such as participating in the Beijing Green and Energy Saving Consumption Voucher Project. Sixteen types of products, including laptops, tablets, monitors, air purifiers, TVs, air conditioners, refrigerators, washing machines, etc., needed to register on the China Energy Efficiency Labeling Network and meet the label standards with Level Two or above; four products, namely dishwashers, toilets, water purifiers, and showers should register on the China Water Efficiency Labeling Network and meet the label standards with Level Two or above. The Group has provided nearly 40,000 commodities to local customers in Beijing, resulting in sales of RMB2 billion and significantly driving the green and energy-efficient consumption of household appliances.

Risk Management

JD.com has incorporated climate risk into its risk management system, established a climate risk assessment and management process, and formed a closed-loop management system for climate risk identification, assessment, response, and improvement.

Our evaluation process is as follows:

Screening risk points:

we have screened the current risk points faced by the Group based on macro policies, industry policies, and regulatory requirements;

Conducting risk assessment:

we have identified climate-related entities and transformation risks that have a substantial impact on the Group's business by considering the possibility and correlation of risks;

Ranking risks:

we selected key climate risks based on literature, regulatory agencies, investors, stock exchanges, and other stakeholders' expectations of the Group's role in climate change, and the impact of climate change on our business;

Developing response measures:

we have proposed feasible response measures for the major climate risks we have assessed.

Metrics and Targets

After identifying and assessing climate risks and opportunities, JD.com recognizes their potential impacts on operations. Conforming to the requirements of the TCFD framework, we have identified a series of specific metrics related to climate risks, such as targets for new energy usage and reduction of packaging materials for quantitatively disclosing the actions taken to address climate change and improve our climate resilience. We will continue to use our industry influence to drive green and low-carbon value chain and consumer sector developments and do our best in energy conservation and emission reduction.

JD.com's Metrics and Targets on Issues Related to Climate Change

Primary metrics	Second metrics	Metrics description	Target setting
Establish climate strategy	Establish climate strategy at the Group level	Incorporate climate change into JD's overall strategy framework	Preliminarily establish strategic framework in 2022（strategic framework has been initially established in 2022）
	Identify the value proposition and impetus for JD on climate actions	Strengthen climate adaptability and resilience Strengthen competitiveness • Cost reduction • New types of attraction to talents • Promote product and business innovation • Income growth Strengthen social recognition • Support climate public governance and obtain new business growth scenarios • Improve reputation Expand social influence • Gradually shaping consumers' purchasing preferences	Establish and clarify the value proposition and impetus of climate actions in 2024
	Quantify the impact of climate action on value proposition	Evaluate the Group's financial performance attributed to climate action based on the value proposition and impetus model	Establish a value evaluation mechanism and quantify the financial impact of climate action in 2024
Risk rating and tracking	Identify climate-related material risks	Participate in risk assessment and grading based on the preliminary identification and sorting of climate-related risks in this report	Establish a substantial climate-related risk management system in JD. com to rate various risks by the end of 2024
	Quantify the financial impact of climate risk	Make quantitative statistics for the financial impact of high-level risks based on risk rating	
	Annual climate risk auditing	Annual review and update on risk rating and financial impact	After 2024, we will conduct an annual review of the actual business exposure to various risks and decide whether to update the rating according to the review results
Target	Conduct a comprehensive greenhouse gas accounting	Determine the boundary and scope of greenhouse gas accounting, and conduct a comprehensive greenhouse gas accounting	In preparation
	Establish the carbon emission reduction targets at the group level	Establish and announce the carbon emission reduction targets at the group level	In preparation
Strengthen climate governance	Establish a climate governance framework	• Strengthen the focus and management of climate-related issues based on the existing ESG governance structure • Management structure: the Board of Directors and SEC will cooperate in supervision and management, and the ESG Task Force will coordinate the implementation of climate objectives in each subgroup and business lines	Further appointed the management of climate related issues and refined their corresponding responsibilities in 2023
	Establish a climate governance mechanism	• Segment the Group's carbon emission reduction targets and establish management metrics • Clarify the roles and responsibilities among subgroups and various business lines • Establish a climate-related performance evaluation system • Strengthen the recruitment and training of climate-related talents	• Start to establish the climate-related management metrics and establish climate-related performance evaluation system in 2024 • Make continuous efforts in climate-related talents' hiring and training in 2023
Promote carbon emission reduction actions in all business scenarios	Low-carbon operations	Low-carbon office	• Strengthen the intelligent operation and maintenance (O&M) management of energy use for office space • Improve the use of energy-saving facilities • Timely shut down energy- consuming equipment • Encourage remote work • Encourage employees' green transportation	By 2030, we will continue to promote "zero carbon office" through energy conservation, consumption reduction, and increasing the proportion of renewable energy use
		Low-carbon data centre	• Use natural energy • Use clean energy, including energy recovery and large-scale distributed photovoltaic power generation system • Energy storage and cold storage • Architectural layout and design for low energy consumption • O&M management platform • More climate resilience, effective resistance against extreme weather risks	• PUE continues to be improved on the basis of 1.1 • Infrastructure energy consumption continues to decline • Climate resilience continues to improve
		Expand the financing scale of low-carbon projects	Based on the published framework, principles, and processes of green finance, we will continuously identify low-carbon projects and expand the intensity and scale of green finance	Identify more projects with low carbon competitiveness and expand the scale of green financing

Primary metrics	Second metrics		Metrics description	Target setting
Promote carbon emission reduction actions in all business scenarios	Low-carbon supply chain	Low-carbon transportation	• Full coverage of new energy vehicles • Fully apply digital smart technology and optimize route, storage, and transportation network planning • Optimize transportation structure and energy efficiency	• In the future, JD. com will continue to develop and deploy thousands of autonomous delivery vehicles, continuously improve customers' experience and service efficiency, aiming to achieve 100% new energy for logistics vehicles by 2030
		Low-carbon logistics park	• Energy substitution: maximize the use of renewable power, such as distributed photovoltaic and efficient energy storage • Efficient operation: automated operation and electrification of park energy consumption • Online O&M system of the solution to carbon neutrality goals in smart logistics park	• JD's "Asia No.1" Xi'an Intelligent Industrial Park has become the first certified "carbon neutral" industrial park in China's logistics industry, and the carbon neutral park of JD.com's "Asia No. 1" Suqian Intelligent Industrial Park is under construction • As of the end of 2022, JD installed photovoltaic power systems in 23 intelligent industrial parks. We will continue to increase the photovoltaic power generation capacity to power more JD's smart industrial parks. Also, we will effectively combine with the actual use needs of enterprise customers and lay out in advance the comprehensive application of new energy in the park to help energy conservation and emission reduction
		Low-carbon packaging	• Promote reusable packaging • Packaging reduction • Packaging material innovation • Application of digital intelligence technology • Upstream and downstream collaboration • Reusable packaging sharing and recycling public system	• Packaging materials will be 100% environmentally- friendly and recyclable by 2030 • Motivate more than 80% of upstream brand enterprises to develop eco-friendly packaging
		Suppliers' collaborative effort in carbon emission reduction	Lead the suppliers to participate in establishing and implementing carbon reduction targets	• By 2025, promote 50% of JD Logistics suppliers to participate in the Science Based Targets initiative (SBTi) • Actively encourage upstream and downstream suppliers to use new energy vehicles
	Participate in the formulation of national standards for low carbon products	Promote low-carbon consumption	• Participate in the formulation of national low-carbon product standards • Expand the supply of low-carbon products • Strengthen low-carbon consumption and lifestyle campaigns	JD.com will increase the supply and market size of low-carbon items and create corresponding incentive plans for green consumption to stimulate the participation of consumers in mitigating emissions.
		Promote industrial low-carbon development	Under the trend of digital industry development, using advances in modern information technologies such as big data, cloud computing, and AI. Digital intelligence technology is being deeply integrated into traditional industries, aiding the improvement of production and service efficiency and promoting the transformation of production methods and consumer habits toward a more sustainable, energy-efficient, and circular economy. This will in turn facilitate the low-carbon transition of high emission industries.	JD will continue to explore new business and profit models by technologically empowering the low-carbon transition of traditional industrial enterprises
Information disclosure	Conduct annual climate-related information disclosure		• Conduct annual review and disclosure of climate-related risks and opportunities • Conduct disclosure and reporting of our climate targets and achievements	Starting in 2022, JD will continue to release TCFD reports and disclose environmental related performance in its annual ESG report

Green Operations

JD.com complies with the *Environmental Protection Law of the People's Republic of China* and vigorously promotes the use of renewable energy and resource recycling while enhancing resource utilization efficiency. Additionally, JD.com works to meet or exceed standards set by the following laws of China: the *Environmental Pollution Prevention and Control Law of the People's Republic of China*, the *Air Pollution Prevention and Control Law of the People's Republic of China*, the *Water Pollution Prevention and Control Law of the People's Republic of China*, and the *Solid Waste Pollution Environmental Prevention and Control Law of the People's Republic of China*. JD.com has taken measures to optimize the treatment of sewage and other waste to reduce environmental pollution. In addition, JD.com abides by the *Energy Conservation Law of the People's Republic of China* and the *Water Law of the People's Republic of China*. JD.com strives to be resource-saving and eco-friendly enterprises in various scenarios like offices, parks and stores.

In 2022, multiple entities under JD.com have achieved ISO 14001 environmental management system certification and have not had any incidents with significant environmental impact.

Green Workplace

JD.com integrates resource conservation and environmental awareness into workplace management and construction, which is driven by standardized, intelligent, and efficient office models. The Group strives to optimize the workplace, office and commuting modes and is committed to building a sustainable green workplace.

Energy Consumption and Management

We take energy-saving measures in terms of office space, electronic offices, and green mobility with the commitment to reducing energy consumption in our operational processes.

Our long-term goal is to achieve **zero carbon emissions from our offices** by 2030. This will be done by conserving energy, improving energy efficiency, and increasing the use of renewable energy;

In 2022, JD.com achieved its annual energy consumption target: reducing electricity and heat consumption in the administrative office by **3%** compared to the previous year.

Office Space

JD has set up a smart operation and maintenance system in its office building to monitor power usage data in real-time, evaluate energy consumption levels in office areas, and discover, locate and tackle high energy consumption processes. With the help of this system, we propose targeted plans for energy-saving and consumption reduction, utilizing energy-efficient equipment and intelligent sensor systems with energy-saving as the core for operations, to continuously improve the energy-efficiency transformation of office spaces.

In 2022, the JD.com headquarters made significant progress in energy-saving initiatives, including the installation of energy-saving lighting and the establishment of an intelligent sensor system.

Energy-saving lighting

- In Building No. 1, LED downlights have been installed in **all** public areas, and **8,500** LED light panels have been installed in replacement in the office area. Each light has a decreasing power consumption of **44 W**, and it is expected to save **1.5 million kWh** of electricity yearly;
- The brightness of the building's floodlighting has decreased by **30%**, which will save **100,000 kWh** yearly.

Building an intelligent sensor system

- Building No. 1 has completed the lighting renovation in **126** computer rooms. The delayed shutdown feature of the lighting was set in accordance with regular inspection and maintenance needs and the lights turned on automatically when the door was opened, which saved approximately **90,000 kWh** of electricity each year;
- **5,272** intelligent sensor lamps were replaced in the underground garage, which adjusts the brightness automatically upon the detection of people and vehicles. It operated at **10%** power consumption when not detecting people and **60%** power consumption when detecting people, saving approximately **395,000 kWh** of electricity throughout the year;
- Installed an infrared sensor device on the lighting of the fire passage for automatic light adjustment to turn lights off when people leave, saving **43,000 kWh** of electricity throughout the year;
- Efficiently managed the operating hours of electronic devices such as exhaust fans, elevator information displays, and lighting fixtures in the lobby, which reduced unnecessary night time power consumption when detecting no people at night, saving **185,000 kWh** of electricity throughout the year;
- The TV sets in **over 900** conference rooms are equipped with an auto sleep feature, which activates after 3 minutes of non-use. This saved approximately **100,000 kWh** of power annually.

Building No.1 and Building No.2 of JD.com Headquarter

JD.com takes proactive measures to reduce unnecessary energy consumption during daily office activities. We actively encourage employees to use their personal drinking cups instead of disposable cups at meetings. We have implemented seasonal lighting controls to maximize natural lighting while working, and have prominently posted signs of "turn off the lights" to enhance employees' awareness of electricity conservation. We also take active steps during times of energy scarcity to reduce energy use at source.

In regards to procuring office paper, JD uses photocopies that meet the standard of the *PAS 2060:2014 Specification for the Demonstration of Carbon Neutrality.*

Certificate of Photocopy Carbon Neutrality

Electronic Office and Green Commuting

JD.com has reduced the carbon footprint generated by travel and business trips by establishing a telecommuting system to provide online support and execution for important meetings. We continue to build an information technology (IT) system suitable for remote operations, establish a VPN-based telecommuting architecture, and gradually improve the system's availability, covering online conference systems, security accreditation systems, assistance to telecommuting users, and other solutions. At the same time, JD has also created its own remote conference platform Joymeeting for online meetings. It has been used for many kinds of meetings including supplier conferences, online interviews, and a plethora of other scenarios. "JD Dong Dong" is also used for voice or video conferences with vendors and users, thus facilitating communication and exchange between buyers and sellers.

JD makes use of online document collaboration, including online storage, editing, and transmission, to save physical storage space, lowering the amount of repeated document downloads and transmission time. Compared to using traditional methods of local documents, this online method can effectively reduce power consumption and carbon emission by devices.

In 2022

Employees at JD have logged in to work remotely through VPN
9,256,463 times

Number of online documents used in the workplace
3,311,765

Number of online voice and video conferences through Joymeeting and JD Dong Dong conducted by JD employees
3,780,279

cumulative number of attendees
43,816,926

In response to the concept of green commuting, JD.com continues to increase its investment in NEVs and replace fuel-powered shuttle buses, promoting more energy-efficient models for commuting and business-related scenarios. In 2022, JD upgraded green commuting, with the purchase of 37 new energy buses used by employees to commute to its headquarters in Beijing. As of the end of the reporting period, JD.com headquarters had 117 new energy buses, reducing carbon emissions by approximately 897 tonnes that year.

In addition, JD promotes carpooling among employees, cooperating deeply with ride hailing platforms to minimize the carbon footprint of travel; it reduces empty vehicles, makes reasonable route planning, and deploys clean energy vehicles. In 2022, the personnel in JD.com's headquarters took carpooling trips 267,214 person-times.

Water Management

Rainwater storage tank in the administrative office building held

3,810

cubic meters

of rainwater

JD.com attaches great importance to water conservation and comprehensive utilization. In the building of its workplaces, all the regional headquarters parks of JD.com have rainwater collection and drainage designs in accordance with the construction requirements of "Sponge City". In 2022, the rainwater storage tank in the administrative office building held 3,810 cubic meters of rainwater, not only achieving rainwater recovery but also effectively reducing pressure on municipal drainage system.

JD's headquarters has installed water-saving appliances that adhere to the *Standard for Water-saving Domestic Water Appliances (CJ164-2002)* in their workspaces and executed several water-saving renovation projects in order to improve the efficiency of water resource utilization. In 2022, we put several water-saving measures into effect, including the following:

- Adjusted the water flow of the faucet of the restrooms in the headquarters office building, which reduced water consumption by 1%;
- Used sensor-equipped faucets and water-saving toilets to reduce water consumption in the restrooms;
- Adopted water-saving equipment and technology to water office plants; used automatic sprinkler and drip irrigation water-saving systems; took water-saving control measures such as installing soil humidity sensors and automatic shutdown devices on rainy days, or planting plants that do not require permanent irrigation;
- The rainwater collected in the park is recycled after being treated and subsequently pressurized to water plants and greenery and clean basement car parks and outdoor pavement.

In 2022, we reached 100% of our target for water conservation, meaning a decrease of 3% in the amount of water usage in all workplaces at headquarters compared to 2021.

0.0318

million tonnes

of reclaimed recovered

In 2022, the sewage treatment station of Building No.1 at JD headquarters was put into use, converting sewage into reclaimed water. This year, some 0.0318 million tonnes of reclaimed water were recovered. We became a leader in water efficiency in the industry by increasing the amount of recycled water, lowering the use of city-provided water, and reducing wastewater discharge.

In addition, we actively carry out water-saving campaigns in the workplace, posting signs and labels in restrooms, pantries and other areas, reminding employees to consciously save water and turn off faucets.

Signs of "Water Conservation" at JD's Workplace

Waste Management

JD.com has set up garbage sorting stations in various office buildings, actively advocating and practising garbage sorting management. The non-recyclable waste is then transferred to government-designated professional waste treatment plants for incineration or landfill disposal; At the same time, hazardous and non-hazardous waste is recycled in an orderly manner, while trash such as printer toner cartridges, food waste is delivered to qualified outlets for recycling or disposal. Wastes will be reused based on wear and tear to achieve waste reduction.

Non-hazardous waste recycling and utilization

- Conducted maintenance on unused furniture and put processed furniture back into demanded operations such as first-line logistics. Exactly 491 office desks, 1,212 chairs, and 250 file cabinets were recycled.
- Folded and stored the packaging boxes of purchased items to promote efficient recycling and reuse for future moving projects and turnover. A total of over 20,00 cardboard boxes were recycled and reused.

Hazardous waste recycling and utilization

- Carried out old battery recycling activities, collected batteries that haven't worn out from the office, and distributed them to employees for use in daily electronic devices, such as mice, keyboards and remote controls, to enhance battery utilization rate and thereby reduce battery waste.

In addition, to reduce paper waste generated in the office process, JD.com has embraced a paperless transformation approach for its business activities such as contract signing, filing, and invoices. This shift augments information management efficiency while reducing potential waste caused by misprints and omissions. In 2022, JD.com's continued effort to promote paperless office work helped reduce deforestation-induced environmental damage, and carbon emissions from papermaking.

Electronic document signing

- JD personnel documents are all electronically signed, including employee induction procedures, resignation procedures, renewal of labor contracts, and signing of affordable housing loan agreements, and government subsidized housing rental agreements. In 2022, JD.com's employees signed 1.23 million personnel documents online.

Electronic filing

- JD, a company that has been acknowledged by the National Archives Administration for its pilot electronic file management services, continues to file documents away electronically. In 2022, JD.com eliminated the use of over 4 million printed vouchers.

Electronic invoicing

- As one of the pioneers in the adoption of electronic invoicing in China, JD has been actively promoting electronic invoicing throughout its operations. In 2022, JD.com issued over 3.3 billion e-invoices.

Green Park

JD.com actively practices the concept of green development, increases the certification of eco-friendly buildings in the park, improves the application of clean energy, boosts the recycling rate of waste in the park, and continues to promote the construction of green, ecological, and low-carbon environment of the park.

Energy Consumption and Management

We attach great importance to energy consumption within the park, and continuously optimizing the high-energy consumption process in the operation of office buildings and logistics warehousing, and promote green development of the park.

Green Office Building

During the construction of new buildings, we strictly follow the construction requirements of energy-saving indicators for two star green buildings. We use green building strategies and sustainable energy systems, such as daylighting adjustment systems and high-efficiency energy-saving lighting, to enhance the energy efficiency of office spaces.

JD Property actively applies prefabricated buildings to reduce energy consumption and material consumption during construction. *Research on the Comprehensive Benefit Analysis Method of Prefabricated Building* indicates that the carbon emission of prefabricated buildings is 472.23kg/m^2 lower than that of traditional cast-in-place buildings, reducing carbon emissions by 30% to 40% and leading to remarkable emission reduction.

- Installing fluorescent tubes of high quality, energy efficiency and brightness, and equipping them with electronic ballasts of high power factor or energy-saving inductive ballasts;
- Installing intelligent LED lights in long-term unoccupied sites such as underground parking lots, stairwells, corridors, restrooms;
- Adopting automatic illumination or timed control methods for outdoor lighting such as those in streets, gardens, and lawns;
- Installing timed on/off control floor lights, and floodlights.

Green Warehousing

In response to the country's initiative, JD vigorously deploys clean energy and pushes for the establishment of a clean, low-carbon, safe, and efficient energy system. We have taken full measures since 2018 to establish a rooftop photovoltaic power generation capacity ecosystem, which comprehensively promotes, lay out, and applies clean energy, mainly photovoltaic power generation, in the Intelligent Industrial Park, and uses green electricity.

In 2022, photovoltaic rooftops were completed in the industrial parks of JD Property located in key cities such as Guangzhou and Xiamen. It will drive an estimated reduction of carbon emissions by an average of 42,200 tonnes annually, upon being put into operation. With this, we plan to continue to reinforce our investment in photovoltaic power generation capacity to provide green energy to more JD Intelligent Industrial Parks; we also make the comprehensive deployment of new energy in the park in accordance with the actual usage needs of our enterprise customers, enabling customers to significantly reduce their energy consumption and decrease carbon emissions.

Distributed Photovoltaic Roof

- As of the end of 2022, JD had installed photovoltaic power generation systems in **23** Intelligent Industrial Parks. The rooftop distributed photovoltaic power generation system has a capacity of **132.5 MW**;
- JD Intelligent Industrial Park's rooftop distributed photovoltaic system supplied **81,970 MWh** of green electricity in 2022.

- Rooftop photovoltaic power generators in Xiamen have a lifespan of up to **25 years**, with an estimated annual power generation of **12 million kWh** and an average annual effective carbon reduction of **11,964 tonnes**;
- In early 2022, Suqian Park completed the construction of a **3.5 MW** distributed photovoltaic system for grid connected power generation and was equipped with a **300 kW/690 kWh** energy storage system. As of now, the photovoltaic power generation in the park is **4.1 million kWh**, with a total carbon reduction of **4,087 tonnes**.

JD Built a Carbon Neutral Logistics Park

JD's "Asia No.1" Xi'an Intelligent Industrial Park earned a carbon neutrality certification issued by China Beijing Green Exchange and Centre Testing International (CTI), becoming the first carbon neutral logistics park in 2021 in China.

Carbon Neutrality Certificate from CTI

Carbon Neutrality Certificate from China Beijing Green Exchange

Green Building Design for JD Langfang Intelligent Industrial Park

JD Langfang Industrial Park covers approximately 200,000 sqm and is equipped with multiple energy-saving facilities. The Park employs LED lighting fixtures both indoors and outdoors, providing more than 50% energy savings when compared with benchmark lighting; The Park utilizes inverters for water pumps and fans, resulting in 25% energy savings when compared with the benchmark; refrigeration systems make use of multi-line or level 1 energy efficiency splitter, ensuring optimal efficiency. Additionally, the Industrial Park features an energy-saving heat recovery system for all heat exchange ventilation and filtration facilities, that not only enhance indoor comfort but also increase no power consumption.

We actively promote green building certification. As of 2022, the green certification status of JD Intelligent Industrial Park are:

- JD (Langfang) Intelligent Park obtained the Gold LEED certification
- JD (Hefei) Intelligent Industrial Park obtained the LEED certification

JD Intelligent Industrial Parks (Hefei and Langfang) have been Awarded LEED Certification

Moreover, we have crafted tailor-made construction services for BMW Regional After-Sales Spare Parts Center in Hefei, which has passed the LEED certification, making it the first "Green Warehouse" for BMW's after-sales parts in China to do so. Through energy-saving fans, water pumps, LED lighting and motion sensor systems, we are able to optimize energy use efficiency, implement carbon reduction and energy conservation from minute details of the building.

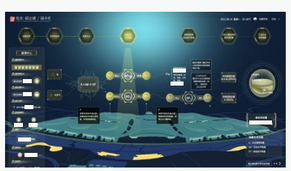
JD Property Customizes BMW's First Green Parts Distribution Center in China

As the new-generation digital technology, such as big data and AI, is being used in various aspects including production, consumption, transport, operations, management, and trading, digital transformation becomes an important engine to drive low-carbon operations within the industry and reduce emissions from enterprises. To this end, we have developed a comprehensive green carbon reduction capability through the application of energy efficiency optimization, resource recycling, green energy, and carbon neutrality digital panorama, empowering the green and low-carbon transformation of all industries in the supply chain.

Assisting in Building Multiple Carbon Neutral Logistics Parks with "Dual Carbon" Platforms

- JD Property provides real-time monitoring and analysis of energy consumption and carbon emissions of equipment that provides water, electricity, gas, photovoltaic, energy storage, and charging stations of the JD's "Asia No.1" Intelligent Industrial Parks in Daxing District of Beijing, Baqiao District of Xi'an, and Suqian. Also, it provides carbon reduction plans to effectively improve the efficiency of carbon emission management in the parks and tap the potential for energy conservation and carbon reduction in the parks;
- JD Industrials has created a "dual carbon" monitoring platform for Chongqing Yuelai Group and provided services such as carbon inventory and visualization. It can monitor the energy consumption in the project area in real time, control the carbon emission trend at different venues, and provide strong data support for building green exhibitions;
- JD Industrials has helped build a carbon emission monitoring platform and a carbon inventory "dashboard" for the office building of Guangdong Textile Import and Export and two suppliers. An on-screen "dashboard" will display the carbon emissions and energy consumption data, allowing enterprises to monitor their energy consumption structure and carbon emissions, and assist in achieving their carbon emissions targets.

Xi'an Baqiao Project Won the Case of 2022 for "Carbon Neutral Solution in Logistics Park" of China Green Point



"Dual Carbon" Monitoring Platform

Waste Management

JD.com conducts targeted treatment of wastes generated from park construction while standardizing various waste disposal processes and emphasizing recycling to extend the life cycle of waste. In addition, JD and construction companies are working together to minimize the negative impact of engineering on the environment. We call on the contractors to reduce waste emissions, specify them to enhance internal construction management when signing contracts, and advocate waste reduction and reuse.

Types and Recycling Methods of Engineering Waste Involved by JD.com

Waste construction materials such as bricks, tiles, concrete, etc	After being crushed, screened, and cleaned, those construction wastes are used as raw materials to prepare low-grade recycled aggregate concrete for repeated use in foundation reinforcement, road engineering bedding, indoor flooring, and flooring bedding. Some of them are treated by qualified third parties.
Steel and other metal wastes	Those wastes are sorted and handed over to qualified recycling companies for recycling and refining in professional refineries.
Wood waste	After being processed, those wastes are reused as building templates and other materials.

Waste Recycling and Utilization of Building No.3 Construction Project at JD.com's Headquarters

The waste generated in the construction of Building No.3 at JD Headquarters consists mainly of harmless waste such as construction debris. We strive to manage waste production with the goal of generating no more than 400 tonnes of construction debris for every 10,000 sqm. We monitor construction waste in real-time. Solid waste is sorted and disposed of by storing, consuming and recycling to guarantee all recyclable waste is recycled.

In 2022

7,900 cubic meters

of construction debris were collected and sent to authorized waste treatment facilities for disposal

This included

1,870 tonnes
of waste rebars

265,000 sqm
of waste boards

26,000 cubic meters
of waste wood

5 tonnes
of waste packaging materials

Green Store

JD.com's stores are using energy-efficient equipment and consistently enhancing energy use control internally, advocating for product recycling and promoting green and low-carbon products externally. While reducing the stores' energy use, we integrate the concept of low-carbon and sustainability into production and sales, striving to reduce environmental impacts from multiple aspects of the supply chain.

Energy Consumption and Management

Use of energy-saving equipment

As the initial step of our energy efficiency program, we renovated highly energy-consuming equipment. This equipment is being used in stores like SEVEN FRESH and Huaguan Supermarket, which consumes a vast amount of energy, and **frequency conversion control of compressors was installed to reduce energy conservation**. In 2022, the frequency conversion control of compressors in the cold chain has been successfully implemented in **12** SEVEN FRESH stores and **2** Huaguan Supermarkets.

Intelligent time-phased control of devices

We perform **time-phased control** on lighting, ventilators, and other equipment based on the demands in different operating periods, intelligently regulate the electricity and energy consumption in public areas, maximize energy efficiency during peak hours, and reduce the amount and intensity of use during off-peak hours to reduce unnecessary energy consumption. In 2022, SEVEN FRESH adopted lighting control in **10** stores, achieved frequency conversion control of fans in **9** stores, and JD Electrical Appliance carried out a trial operation of intelligent light control systems in **4** stores.

In our pursuit of energy efficiency, we are adhering to national policies such as "promoting the consumption of green and smart home appliances" and assisting consumers to reduce emissions by providing green product options. In 2022, the Group's companies such as Five Star Appliance and Dada offered a spectrum of environmentally friendly items, including green food and energy-saving household appliances and jointly distribute vouchers with merchants to further promote a green lifestyle vastly.

JD Five Star Appliance Sold Green Home Appliances to Help Consumers Reduce Emissions

JD Five Star Appliance stores sell energy-efficient devices of the least energy consumption (namely, L1 and L2 energy efficiency) to the citizens, and encourage the green smart home appliance boom through government consumption vouchers. In 2022, the "Green Smart Home Appliance Promotion" program of JD Five Star Appliance extended to the cities of Jiangsu, Ningbo, Hefei, Xi'an, Shenyang, Henan, Hunan and other places, directly subsidizing the purchase of more than 250,000 green smart home devices.

Green Home Appliances Promotion in Stores of JD Five Star Appliance

Waste Management

JD.com implements proper disposal of waste through two perspectives: store management and consumption promotion. JD collects and cleans up domestic wastes and other wastes generated in daily business operations and sends them to professional treatment companies. Some stores promote consumer participation in electronic and electrical waste recycling, incentivize trade-in activity, and improve their capacity for waste conversion and reuse while following the requirements of waste treatment. In 2022, JD Retail recycled over 5.9491 million disused appliances, including household appliances, mobile phones, computers, and digital products.

In 2022, JD Retail recycled over

5.9491 million

disused appliances

JD Five Star Appliance Launched a "Trade-In" Activity to Recycle Disused Electrical Appliances

JD Five Star Appliance stores launched a trade-in program, offering customers financial incentives to exchange old appliances that are energy-inefficient, and potentially hazardous for greener and more energy-efficient models. Moreover, JD Five Star Appliance collaborates with duly approved third-party recycling enterprises to handle electrical wastes safely and effectively, through harmless treatment, the metal, plastic, glass and other recyclable resources in disused electrical appliances can be effectively recycled and used, and reduced the carbon emissions generated from the production of raw materials for products. In 2022, JD Five Star Appliance stores collected over 120,000 defunct appliances - including 90,400 units of large appliances - resulting in a reduction of carbon emissions of nearly 880 tonnes.

JD Five Star Appliance's Return Plan for Used Home Appliances Promotes Trade-in Program in Communities

JD.com's Resource Consumption in 2022[34]

Indicator	Unit	Data in 2022
Direct energy consumption	MWh	9,032,385.11
Indirect energy consumption	MWh	2,112,765.45
Renewable energy consumption	MWh	31,247.92
Non renewable energy consumption	MWh	11,145,150.56
Comprehensive energy consumption	tce	1,369,687.91
Comprehensive energy consumption density	tce/RMB million	1.31

[34] The total comprehensive energy consumption is calculated based on the *General rules for Calculation of the Comprehensive Energy Consumption (GB/T 2589-2020)* of the People's Republic of China.

JD.com's Greenhouse Gas Emissions in 2022[35]

Indicator	Unit	Data in 2022
Greenhouse gas emissions (Scope 1)[36]	tCO_2e	2,399,143.89
Greenhouse gas emissions (Scope 2)[37]	tCO_2e	1,197.932.19
Greenhouse gas emissions (Scope 3)[38]	tCO_2e	3,069.18
Total greenhouse gas emissions	tCO_2e	3,600,145.25

JD.com's Water Consumption in 2022

Indicator	Unit	Data in 2022
Consumption of fresh water	tonnes	7,280,056.58
Water consumption density	tonnes/RMB million	7.00
Consumption of reclaimed water	tonnes	31,921.34
Consumption of rainwater recycled	tonnes	7,070.00

[35] The statistics of greenhouse gas emissions (Scope 1) and greenhouse gas emissions (Scope 2) include emissions from administrative offices, logistics transportation, and warehousing in the Retail, Logistics, Property, and Dada's business. The statistics of greenhouse gas emissions (Scope 3) include emissions from shuttle bus commuting by JD's employee in Beijing, Chengdu, Shanghai, Shenzhen, and Suqian operating areas; Greenhouse gas emissions accounting includes three types of greenhouse gases: carbon dioxide, methane, and nitrous oxide.

[36] The calculation of greenhouse gas emissions (Scope 1) in 2022 is based on the *2006 IPCC Guidelines for National Greenhouse Gas Inventory*, and GWP is calculated by converting the consumption of gasoline, diesel, natural gas, and kerosene in accordance with the IPCC's *Sixth Assessment Report* (AR6).

[37] The calculation of greenhouse gas emissions (Scope 2) in 2022 is calculated by converting purchased electricity and purchased heat with 0.5703t CO_2/MWh, an average emission factor of the national power grid in 2022 which is stated on the *Notice on Management of Greenhouse Gas Emissions Reports for Enterprises in the Power Generation Industry from 2023 to 2025*, and the *Accounting Methods and Reporting Guidelines for Greenhouse Gas Emissions of Enterprises in Other Industrial Industries* issued by the National Development and Reform Commission of the State Council.

[38] The calculation of greenhouse gas emissions (Scope 3) in 2022 is based on the *2006 IPCC Guidelines for National Greenhouse Gas Inventory* and the *Notice on Management of Greenhouse Gas Emissions Reports for Enterprises in the Power Generation Industry from 2023 to 2025*.

Green Logistics

JD.com is committed to creating sustainable packaging, continuously improving packaging recycling efficiency through innovation and R&D, reducing the waste of packaging materials, effectively controlling resource consumption, and avoiding environmental pollution. We stress the importance of energy conservation and emission reduction in transportation, continue to expand the usage of new energy-powered logistics vehicles, comprehensively optimize transportation globally, and provide support to the green and low-carbon transformation of the logistics business.

Green Packaging

As the express delivery sector continues to grow, the consumption of logistics packaging resources is enormous, and the careless or inappropriate disposal of discarded packaging undeniably leads to environmental pollution. In response to this, JD.com's "Green Stream Initiative" adheres to the philosophy of sustainable development throughout the entire process of packaging material selection and application throughout full chain management from manufacturing to use and treatment. The "Green Stream Initiative" plans to improve the utilization efficiency of packaging materials by eliminating and reducing non recyclable items, as well as recycling and reusing them, with the aim of bringing about a green transformation of the value chain of packaging.

Programs to Phase Out Single-Use Plastic Packaging

JD.com's single-use packaging is predominantly made up of plastic materials. In order to mitigate the environmental damage caused by single-use plastic packaging waste, we are committed to transitioning our packaging to green materials and carrying out measures, such as optimizing packaging material, recycling reusable packaging, and promoting the substitution of single-use packaging with eco-friendly materials, phasing out single-use plastic packaging.

Target:

Use **100%** environmentally friendly and renewable packaging materials by **2030**

Recycled insulated boxes are regularly and widely used, and nearly

70 million

disposable EPS foam boxes were reduced in 2022

Reduced Packaging

JD continues to promote packaging reduction through packaging design and improvement and helps reduce packaging resource waste caused by excessive and frivolous packaging by using lightweight and functional packaging.

We adopt a mode of "direct procurement from the place of origin, direct delivery of primary packaging, and direct shipment of aggregate orders". That method integrates product and packaging to reduce secondary packaging in the supply chain and lower the use of express packaging at the source. Among them, JD Logistics provides preferential warehousing policies to upstream vendors to promote DWOP and encourages brands such as Procter&Gamble and Unilever to strengthen DWOP work to cut down on the waste generated by intermediary links due to dual packaging.

"Green Stream Initiative", the green supply chain strategic action, has collaborated with partners to carry out cardboard box recycling activities in **more than 100** cities since its initiation five years ago. In 2022, it recycled nearly

90,000
cardboard boxes every month

By the end of 2022, JD Logistics achieved direct delivery of tens of thousands of stock keeping units (SKUs) delivered with original package (DWOP) and was expected to reduce disposable packaging by some **10 billion**, equivalent to reduced logging of some

20 million trees

In 2022,

JD Logistics teamed up with multiple partners to release a new target of green packaging:

to deliver over **80%** of products sold through e-commerce channels with DWOP by **2030**

In 2022, we released the industry's first DWOP certification standard to expand the scope of packaging reduction actions to a wider range.

- The DWOP must pass the testing requirements of JD Logistics transportation standards to ensure the safe delivery of orders;
- The packaging's interspace ratio should not exceed 20% to reduce material waste and avoid excessive packaging;
- Packaging should use environmentally friendly and recyclable materials; polystyrene (EPS), excessive heavy metal and harmful substance residues are not allowed.

Packaging Recycling and Reusing

In a bid to increase the proportion of recyclable packaging, JD has applied secondary use standards for the packaging carton. We have tailored a *Used Carton Recycling Management System* for personnel in various single warehouses across the country. The system stipulates that recycling personnel should eliminate unusable cartons according to the *Order Outbound Packaging Standards* and recycle those that meet the reuse standards into a designated area for reused cartons. Then those recycled cartons should be handed over to the consumables administrator to process them according to the established criteria and feed the refined boxes back into the logistics chain for reuse.

JD.com Built a Pilot Project for Recycling Plastic Flexible Packaging

JD.com played an early and active role in the "Pilot Project for Recycling and Reuse of Plastic Flexible Packaging for Consumer Goods" headed by the China National Resources Recycling Association and the Green Recycling Plastic Supply Chain Group (GRPG). We promote the use of recyclable plastics, such as transparent bags, PE waterproof bags, and wrapping films in logistics packaging, with an aim to reduce pollution caused by waste plastic packaging to the environment and enhance the green and environmental value of packaging.

JD Employed Bagasse and Recycled Marine Plastic Bottles to Make Mooncake Boxes

In 2022, we made full use of bagasse, a food-grade residue from sucrose production, to make mooncake boxes. The entire process neither contains synthetics such as ink and plastic nor generates wastewater. The boxes, if discarded, are biodegradable and decompose in six months.

Eco-friendly canvas bags used to carry those mooncake boxes are processed with plastic bottles recycled from oceans. The 2.5 million plastic bottles salvaged are processed into environmentally friendly particles after sorting, disinfection, drying, and crushing, and then made into nylon and woven into over 400,000 customized green canvas bags. While actively recycling and reusing those packaging, JD aims to reduce the pollution of plastic waste in the ocean and its harm to marine creatures.

Packaging Box Made of Bagasse

Eco-Friendly Bag Made of Recycled Marine Plastic Bottles

When it comes to packaging recycling and reusing, JD always uses reusable materials such as circular boxes, foldable insulated containers, and circular plastic bags for transit purposes. Our application for the *Pilot Plan for Wide Use of Recyclable Parcel Packaging* has already been approved by highly-regarded entities such as the State Post Bureau of China, the National Development and Reform Commission of China, and the Ministry of Commerce of China, earning us the highest industry rank in terms of score. We plan to further collaborate with the industry's environmental protection platforms in efforts to promote circular packaging sharing pilot programs.

As of the end of 2022, **5** diverse series and specifications of reusable parcel packaging have obtained the

"Green Product Certificate for Parcel Packaging"

Recycling packaging such as "Green Stream" box-es, which can be sealed upon logistics manifests, reached

20 million uses

快递包装绿色产品认证证书

Green Product Certificate for Parcel Packaging

JD Logistics Piloted the Use of Circular Insulated Box

JD Logistics' circular insulated box is a pioneer in China, as it was one of the earliest pilot projects to apply the 2C[39] circular packaging model and also one of the most successful cases of circular packaging in China. Instead of using traditional EPS[40] white foam boxes and disposable ice bags, JD Logistics has opted for VIP[41], which is combined with special thermal insulation materials made of canvas, as well as recyclable ice boards.

JD Logistics' circular insulated box is mainly used to deliver B2C[42] fresh food. By the end of 2022, 700,000 insulated boxes have been widely and regularly used in 18 cities, reaching more than 200 million uses, reducing the use of 200 million foam boxes.

[39] 2C, to consumer.
[40] EPS, Expanded Polystyrene.
[41] VIP, Vacuum Insulation Panel.
[42] B2C, business to consumer.

JD Logistics' "Superbox" Program Engaged Consumers in Packaging Recycling

In 2022, JD Logistics jointly launched "Superbox", green environmental protection projects with merchants, foundations, news platforms and others. This initiative urged consumers in Shanghai, Hangzhou, Ningbo, Nanjing, and Hefei to participate in packaging recycling while providing free milk tea and carbon reduction energy as material incentives to those who provide reusable express boxes. The cumulative distribution of green carbon reduction energy has now exceeded 2 million grams. JD Logistics recycled and reused the packaging it collected after the event.

Promotion of the "Superbox" Campaign

Sustainable Packaging R&D

Product Certificate for Biodegradable Parcel Packaging

As of 2022, JD.com has pursued a green and low-carbon integrated supply chain by researching and exploring biodegradable material packaging. The ultimate goal is to achieve sustainable packaging practices across the entire operations. Notably, JD Logistics' Open Materials Laboratory, a key incubator for renewable materials innovation projects in universities, collaborates with other industry players to promote the use of sustainable materials and foster technological innovation.

In 2022, JD Logistics spearheaded pilot experiments on paper-based parcel packaging and inkless parcel envelopes with the intent of furthering technological advancements aimed at reducing and restricting plastic usage to achieve the objective of achieving zero waste. JD Logistics has facilitated the regular usage of biodegradable packaging bags in multiple regions such as Hainan and Beijing, prioritizing the utilization of environmentally friendly materials like PBAT[43] and PLA[44] to aid in the composting degradation of packaging bags.

Green Transportation

JD Logistics continues to develop its fleet of new energy vehicles (NEVs), and proactively explore energy-saving and emission-reducing methods that incorporate "fleet efficiency and comprehensive emission reduction", it also lessens the carbon footprint generated by the logistics process by substituting traditional vehicles with new energy ones nationwide. As of the end of 2022, JD.com has launched a fleet of 5,418 self-operated NEVs.

JD.com's Goals of Green Logistics:

To replace 100% of traditional logistics transport vehicles with NEVs by **2030**;

To promote 50% of JD Logistics' suppliers to join the Science Based Targets initiative (SBTi) by **2025**.

New Energy Logistics Vehicle

JD Logistics Launched the First Batch of Hydrogen-Powered Logistics Trucks

In October 2022, JD Logistics introduced the first batch of hydrogen-powered logistics trucks into operation. The trucks are 9.6 meters long with a loading capacity of 18 tonnes in a single round. They can be refueled with hydrogen in just 3 minutes and have a range of 450 kilometers on a single charge. Compared to traditional fuel-powered vehicles, these trucks can reduce carbon emissions by approximately 7.53 tonnes a month, leading to both significant savings in fuel costs and improvements in energy efficiency. JD Logistics has already successfully achieved "zero carbon" emissions in some portions of its supply chain transportation as of the end of 2022. That effort not only decrease the carbon footprint associated with logistics and transportation but also pushes forward with the establishment of "zero carbon transportation" steadily throughout the supply chain.

JD Logistics's Hydrogen-Powered Truck

[43] PBAT belongs to thermoplastic biodegradable plastics and is a copolymer of butylene adipate and butylene terephthalate.
[44] PLA or polylactic acid, is a type of polymer formed by the polymerization of L-lactic acid, a fermented product of microorganisms, as a monomer.

JD Logistics focuses on low-carbon development throughout the entire transportation process. This involves launching autonomous delivery vehicles, constructing autonomous new energy battery swap stations, and extending energy conservation and emission reduction efforts to the final leg of logistics distribution, known as the "last mile." We continuously refine the technology of our autonomous delivery vehicles, enhancing their autonomous driving capabilities and speed to improve transportation efficiency and reduce carbon emissions. As of the end of 2022, JD Logistics had deployed over 700 unmanned vehicles in 30 cities across China, including 600 autonomous delivery vehicles and more than 100 indoor delivery robots. These enable us to provide consumers with fast, reliable delivery services in "last mile" and "last 100 meters" distances, not only in residential and commercial areas but also connecting with multiple supermarket delivery systems like Sam and SEVEN FRESH. This allows us to provide unmanned real-time delivery services for supermarket orders.

Autonomous Delivery Vehicles

JD Logistics Launched the Autonomous Battery Swap System

In November 2022, the first group of autonomous battery swap systems and integrated control platforms, jointly developed by JD Logistics, JD Technology, and State Grid Integrated Energy Service Group Co., Ltd., were put into use. It takes only 15 seconds to fetch a fully charged battery from a locker at designated stations, which efficiently and conveniently benefits over a thousand couriers at major stations located in Beijing. This innovative system replaces the traditional charging mode with battery swap, which has the potential to significantly reduce carbon emissions during terminal logistics distribution and transportation. That system can improve the utilization rate of green energy while promoting the consumption of new energy and increasing regional distribution volume. In 2022, JD Logistics built 1,000 autonomous battery swap systems.

JD's Autonomous Battery Swap Service Station

Green Ecology

JD.com is strongly committed to the idea of "harmonious coexistence between humans and nature" and meticulously abides by the ecological red line while vigorously pursuing biodiversity and forest preservation. We attach great importance to reducing food waste and enhancing the awareness of food conservation among all employees with the goal of fostering a mutually beneficial relationship between humanity and nature.

Biodiversity and Forest Protection

JD.com places great emphasis on the preservation of biodiversity and the protection of forests. We actively protect, restore, and sustainably use terrestrial ecosystems, and take into account biodiversity considerations throughout the entire lifecycle of our projects. With our efforts, we are helping to build an ecological and environmental community with a shared future, and safeguarding green waters and mountains.

We actively adhere to the United Nations Sustainable Development Goals (UNSDGs) and the "Kunming-Montreal Global Biodiversity Framework" (GBF). We are committed to developing our business in an environmentally friendly manner and working together with stakeholders to transform sustainable production and consumption models.

Drawing on the *Wildlife Protection Law of the People's Republic of China*, the *Implementation Regulations of the People's Republic of China on the Protection of Terrestrial Wildlife*, as well as the *Fisheries Law of the People's Republic of China* and other relevant legislation, JD.com has established the *Regulations on the Management of Prohibited Commodities and Information on the JD's Open Platform*. As an e-commerce platform, we staunchly forbid any illicit trade of wild animals on our platform and we promptly eliminate all products linked to wild animals that are nationally-protected species or those prohibited by laws and regulations Any hunting tools that may be used to capture or kill protected wild animals is also prohibited on our platform The aims is to actively contribute to ecological protection and the construction of ecological civilization. We have also organized a specialized squad to scrutinize common illegal hunting and fishing tools and to combine manual inspections with technical strategies to curb the sale and circulation of wildlife products and tools that are illegal to sell on the JD platform. We are also members of the Working Group on Preventing and Combating Illegal Wildlife Trading. We share with other members of the group the measures we have taken and the results we have achieved in preventing the illegal trading of wildlife and the sale of banned hunting gear online to other enterprises.

CBCGDF's Project was launched on JD's online charity fundraising Platform

Since its inception in 2017, "Collecting objects with love", JD's in-kind donation platform, has been catering to the requirements of public welfare organizations and government departments in terms of in-kind donations through an exclusive model of direct in-kind contribution. This innovative approach has spearheaded the building of an innovative, sunny, and efficient public welfare ecosystem. Collaboration between China Biodiversity Conservation and Green Development Foundation (CBCGDF) and JD's online charity fundraising platform has been initiated to promote ecological protection, green development, and the conservation of biodiversity.

Our warehouse development project adheres to numerous laws and regulations concerning land development, such as the *Land Management Law of the People's Republic of China*. Prior to commencing land development and construction, we conduct due diligence and environmental assessment on the development site. This includes fully examining and evaluating the potential impact on animal and plant habitats and ecological red lines, and ensuring that the project development process follows the principles of sustainable development and minimizes the impact on the environment and ecology.

We have adopted various measures to safeguard the ecological environment and promote biodiversity while carrying out the project's construction.

Prioritize local plant species that can thrive in the local soil and climatic conditions, thus fostering an optimum environment for their growth.

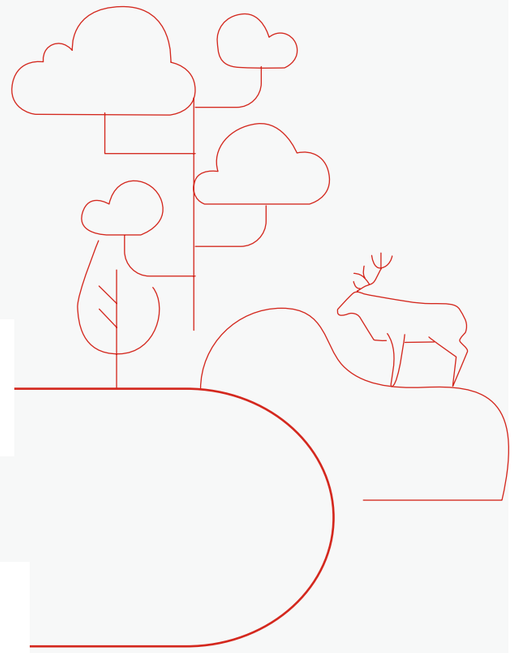
Plant an assortment of plants, including trees, shrubs, and grasses, to create multi-level landscaping, enhancing biodiversity within the ecosystem.

Intricately combine trees, flowers, and other flora of varying shapes and varieties to create a harmonious, organic blend of plant life by taking into account the unique biological features and ecological demands of each plant species.

Integrate the concept of a "sponge city" into the project design, incorporate green rooftop spaces that can deal with water runoff following heavy rains and enhance the overall microenvironment; carefully select drought-resistant and waterlogging-tolerant plant species that can thrive in both rainy seasons and dry seasons to store and regulate rainfall as a "sponge city"; use permeable pavements throughout sidewalks, activity areas, and above-ground parking lots within the site to significantly reduce water runoff caused by inclement weather.

At JD, we uphold strict adherence to the laws and regulations, such as the *Forest Law of the People's Republic of China*, and prohibit deforestation across all business lines within the Group to actively safeguard forest resources against any infringement. In 2022, no construction land utilized by JD posed a risk of deforestation. We have made a commitment to environmentally friendly choices and sustainable procurement in terms of our logistics packaging materials and office paper. We only use office paper certified by the Forest Stewardship Council (FSC) to reinforce our efforts towards forest protection and to mitigate the risks of deforestation.

In relation to our construction efforts, we are steadfast in our pursuit of green building practices. During the construction of JD.com's Building No.3 in 2022, we allocated approximately 30 workers every day to perform on-site cleaning and dust control, adding some RMB 3.15 million RMB to labor costs. We applied four car washing machines, two sprinkler trucks, and four mist cannons, as well as set up 140,000 square meters of dust netting. Our project has effectively met the requirements for the "Green, Safe, and Civilized Construction Site" acceptance in Beijing. Our environmental protection measures were highly praised by the Beijing Municipal Commission of Housing and Urban-Rural Development. The project earned a Three-Starred Construction Site Certification of the Beijing Green Building.



Impose limitations upon the general contracting firm to direct them to effectively curtail excess resource consumption during the construction, while bolstering our efforts to manage the construction process and minimize any potential harm to the natural environment.

Actively adopt energy-saving and environmentally friendly new technologies and materials to reduce waste;

Arrange temporary facilities and protect surrounding greenery based on the specific conditions at the construction site;

Green Construction Principles in the Construction Process

Designate a full-time cleaner who will be responsible for collecting and transporting the cleaned waste to the designated location in accordance with local environmental protection regulations.

Establish flushing facilities at all site entrances and exits, with dedicated personnel assigned to wash all vehicles on site; use plastic woven or rain cloths to cover all vehicles and prevent dirt and debris from spilling on local roads and affect the surrounding environment.

Appoint full-time managers or cleaning personnel who were responsible for;

Food Management

Food conservation and waste reduction are the key approach to ensuring stable food supplies. JD.com has taken a comprehensive approach by integrating these concepts throughout our entire food value chain, contributing to the maintenance of food security. To reduce losses caused by damage or expiration, we work closely with upstream and downstream parties across the supply chain, from procurement and warehousing to processing, sales, transportation, and distribution. We promote food conservation awareness among our employees through measures such as quantitative meal preparation, incentives and conservation campaigns in our daily operations, dedicated to reducing food waste.

In 2022, we took the following actions to reduce food loss and waste:

Reducing food loss and waste in stores

- Selected fresh food products based on actual demands and needs to improve the accuracy of order, preventing waste and excess;
- Strictly followed the standards for receiving goods in the warehouse, frequently checked shelf life, and ensured that products are organized for first-in, first-out (FIFO) inventory management;
- Ensured that cold storage maintains the appropriate temperature, and worked with our supply chain partners to improve the transportation of products to maximize the freshness of food products and avoid transportation losses;
- Processed fresh foods in line with standards to prevent any losses that may result from substandard processing operations;
- Provided clear explanations regarding proper product storage and shelf life;
- Established discount and promotion management regulations, created a designated special area for discounted best-by products; offered these products at lower prices to attract more consumers and reduce waste caused by expired food;
- Placed visible signs for reducing food waste in the dining area, and reminded consumers to order the right amount of food to encourage consumers to reduce food waste and cultivate a culture of food conservation among our consumers.

Reducing food loss and waste generated in canteens

- Collaborated with our suppliers and agreed to a frequency of 1-2 deliveries per week, reducing the amount of expired and damaged goods caused by overstocking;
- Required our external catering suppliers to adjust their serving sizes by providing both large and small portion packages to cater to employees with different appetites, reducing food waste caused by excessive portions;
- Labeled the calorie of each food item, installed a weight scale in the cafeteria, and displayed food-saving slogans to encourage employees to eat healthily;
- Carried out "Clean Your Plate" campaigns and rewarded those who demonstrate positively to incentivize saving behavior.

03

A Responsible Supply Chain Leads to Shared Development Outcomes

JD.com strives to build a diversified and integrated high-quality employment environment that leads employees and partners to a win-win outcome. We empower our partners to build a reliable, efficient and sustainable supply chain, using our technologies and capabilities in constructing a social supply chain.

Human Orientation

JD.com is people-orientated, and employees are the motivation for our sustainable development. We always protect the legitimate rights and interests of our employees, continuously optimize our talent development system, and implement employee health and welfare, which enhances their sense of belonging and the cohesion of our employees. We are committed to building a diversified, inclusive, safe and harmonious work environment and strive to expand employment that will play a role in stabilizing employment throughout society.

Quality Employment Promotion

The total number of front-line logistics employees in JD.com over

370,000

Percentage of front-line logistics employees from rural areas

80%

As a supply chain service company with both the genes and advantages of traditional enterprises and digital technology capabilities. JD.com's value is not limited to self-growth but lies in boosting the real economy. JD.com helps small and medium-sized businesses, individual entrepreneurs and new farmers with new opportunities for growth so as to empower stable growth and employment through digital capacity.

At the end of the reporting period, 80% of JD Logistics' front-line employees came from rural areas. More than 200,000 rural families of front-line employees have improved their lives with the income and benefits they earn working for JD.com. We also facilitate the reshaping of the real economy with grids and digitalization. Our omni-channel business has covered 3.67 million offline stores of multiple types, including pharmacies, specialty stores, supermarkets, convenience stores, auto repair stores and flower stores, which directly and indirectly provide a large number of job opportunities. For the graduates in 2022, we opened new positions in aviation maintenance and aviation functions for the first time and increased the number of reserve positions for front-line managers, with 4,113 graduates successfully joining JD.com.

"Sunshine Angel" on the Way to Employment

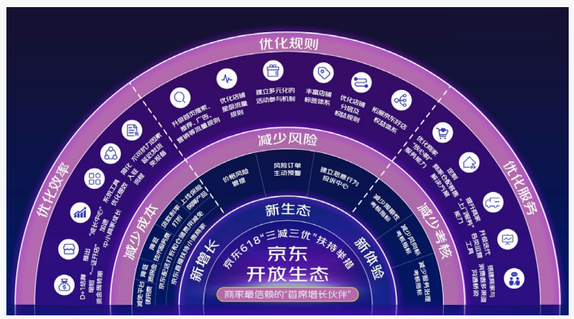
Committed to providing fairer employment opportunities and barrier-free working and living environments for the disabled, the "Sunshine Angel" program of JD.com Customer Service Center was officially launched in October 2013. In our offices in Suqian and Chengdu, JD.com has set up special office areas, independent dining rooms, dormitories, and barrier-free restrooms and provides exclusive benefits like regular exclusive group building activities and psychological counseling sessions for the "Sunshine Angels".

The "Sunshine Angels" team in JD.com Customer Service Center has expanded from 12 people to nearly 100 people. JD.com has also joined hands with social forces to enrich the forms of employment assistance for people with disabilities and has provided thousands with technical training as customer service managers to encourage them to pursue their dreams.

Group Photo of the "Sunshine Angels" Team

Small and Medium-Sized Businesses were Empowered to Build an Open Business Ecosystem

During the 2022 JD.com merchant conference on 618 sales day, we officially released the investment rules and merchant support initiatives. Thirty merchant support initiatives of "three reductions and three optimizations" were adopted at the festival, focusing on helping small and medium-sized businesses improve at least 20% of the input-output ratio through a series of initiatives for cost decreasing and benefit increasing. JD.com gave full play to the influence of small and medium-sized businesses in the activity, stabilizing the employment of more than 10 million people working for small and medium-sized businesses.



Merchant Support Initiatives of "Three Reductions and Three Optimizations"

Diversity, Equality and Inclusion

In accordance with relevant laws, regulations and declarations such as the *Universal Declaration of Human Rights*, the *International Labor Organization Conventions*, the *Labor Law of the People's Republic of China*, the *Labor Contract Law of the People's Republic of China*, JD.com has formulated internal policies, including the *JD Group Management System for Preventing Sexual Harassment in the Workplace*, and the *JD group Employee Handbook*. We practice fair, just, diverse and integrated employment policies, shape a workplace atmosphere that is inclusive and provides a sense of belonging that embraces employees' unique experiences and diverse backgrounds, which helps achieve the development of both JD.com and its employees.

We fully respect and protect the right and strictly implement the rules of equal pay for equal work for all employees and eliminate any form of discrimination, harassment, or threat based on a person's gender, age, race, religion, family planning or disability.

On January 31, 2023, JD.com became the first Chinese company in the industry to be included in the Bloomberg Gender-Equality Index.

Bloomberg
Gender-Equality Index
2023
Member

JD.com was selected into the 2023 Bloomberg Gender Equality Index (GEI)

JD.com has developed a number of programs to enhance diversity in the workplace, including the implementation of anti-harassment and anti-discrimination training, which all employees took in 2022. We have also established the employee service hotline 400 and a whistleblower email nicknamed bigear@jd.com and other reporting channels. We have promised employees the privacy and legal rights as whistleblowers will be protected, the first time to investigate and deal with after they raise.

2022 Anti-harassment and anti-discrimination related employee DEI training coverage

100%

[45] The Bloomberg Gender Equality Index (GEI): The world's leading investment-referenced gender equality database that identifies and highlights companies improving transparency in gender reporting and promoting women's equality in the workplace. The index gives scores based on five key indicators of gender equality, including leadership and talent cultivation, equal pay and gender pay parity, inclusive culture, anti-sexual harassment policies and external branding.

"Sunshine Angels" Team was Selected as APEC[46] Excellent Case

In January 2023, JD.com "Sunshine Angels", customer service team made up mainly of employees living with disabilities, was selected by the Asia-Pacific Economic Cooperation(APEC) Women's Leadership Forum as the "Women's Innovative Empowerment" case of the year. Over 70% of the core team members of JD.com "Sunshine Angels" are women, greatly empowering women with disabilities. Many members of the team participate in volunteer activities and inspire others living with disabilities. Through programs such as "Sunshine Angel", we support the development of the disabled, especially women, by providing them with equal work and living environments.

Over **70%**

of the core team members of JD.com "Sunshine Angels" are women

JD.com won the APEC "Women's Innovative Empowerment" Annual Case Trophy

JD.com's Diverse Employee Composition

Number of employees[47]
445,268

Number of employees with disabilities
3,058

Number of minorities employees
26,920

Percentage of female employees
22.1%

Median gender pay gap in percentage
14%

[46] The APEC WOMEN LEADERSHIP FORUM is organized by the APEC China Business Council and serves as an important platform to promote Chinese business women's participation in the APEC process.
[47] The total number of employees only covers full-time employees of businesses directly managed by JD.com.

Employee Rights and Care

JD.com believes in placing the well-being of employees ahead of the interests of the enterprise and giving as much care to employees as it can. We value and protect the legitimate rights and interests of all employees. We have established diversified communication channels, and promote a sound and long-term incentive mechanism that guarantees the welfare and care of employees to help enhance their sense of identity and their happiness.

Protection of Employees' Rights and Interests

We fully respect and protect the rights and interests of our employees and have eliminated child labor and forced and compulsory labor. The *JD Group Employee Handbook* provides clear regulations on the requirements for hiring employees and prohibits the employment of employees under the age of 16. During the recruitment process, we verify the name, age, education, work experience and other information of the applicant in accordance with the *JD Group Background Investigation System*. We also screen for conditions that do not comply with the employment system, such as being blacklisted by China' s Trust and Integrity Enterprise Alliance or having a conflict of business interests. If noncompliance is discovered, the company immediately takes measures to terminate contact with the individual in accordance with laws, regulations and other requirements. By the end of the reporting period, there were no cases of employment discrimination, child labor or forced and compulsory labor at JD.com.

We respect employees' right to freedom of association and collective bargaining, hold regular employee representative congresses, and promote democratic management. Employees are guaranteed the right to know, participate, and to expression, safeguarding employees' rights and interests. Currently, there are 300 employee representatives at JD.com's employee representative congress, including one chairman and two vice-chairs of JD.com's trade union. In 2022, the second session of the first representative congress of JD.com was held online, with all 300 representatives attending the meeting.

300employee

representatives at JD.com's employee representative congress

Based on the *Constitution of the All-China Federation of Trade Unions*, the *Trade Union Law of the People's Republic of China* and resolutions passed at the first representative congress, we improved the *Collective Contract of JD Group*, the *Collective Contract of JD Logistics*, and entered on the record with the Human Resources and Social Security Bureau in 2022. All employees have signed the collective contract.[48]

Collective contract employee coverage

100%

[48] The data does not include Deppon and Kuayue Express.

Employee Communication Mechanism

JD.com attaches great importance to employees' demands and opinions and is dedicated to building a sound employee communication mechanism. We have diversified employee feedback channels that include the employee service hotline, the confidential email address bigear@jd.com and the employee forum, etc. We also divide responsibilities according to the system and set up a mechanism for handling problems of different levels according to the types of employee feedback, which achieve closed-loop management and efficient response to employee demands. JD.com currently has two emails jdw_radar@jd.com and globalhrssc@jd.com to collect overseas employees' opinions. Suggestions, ideas and complaints will be followed up by local HR colleagues.

Response Time for Problems of Different Levels

General Events	Emergencies Events	Major Special Cases
Feedback within 48 hours	Feedback within one hour	Feedback to employees within seven workdays after investigation and verification

Facilitated by the JD.com employees' trade union, we have set up 10 special working groups to deal with issues frequently reported by employees, involving uniforms, attendance, remuneration and benefits, and other issues. The issues reported by employees are followed up by dedicated personnel who follow a prescribed process. In 2022, JD.com significantly reduced the rate of complaints through various governance measures.

JD Logistics Transformed its Uniform Into an Environmentally Friendly and Trendy One

A survey of JD.com front-line logistics employees, which was managed by their trade union, provided suggestions and demands for new employee uniforms. Based on the feedback from the survey, we sorted out the suggestions and demands of employees on the application and distribution process of uniforms, uniform design and quality. Accordingly, we optimized solutions to the process, size design, and uniform material, which achieve double improvement of uniform quality and distribution service.

Optimized Uniforms for Front-Line Employees

Employee Compensation and Benefits Care

The annual employee satisfaction rate of 2022 was

4.51 out of 5

To promote an open feedback culture and mechanism and encourage employees to contribute more to JD.com's culture, we conduct quarterly employee satisfaction surveys. In 2022, we conducted surveys in the form of questionnaires sent to office and front-line employees, with a annual score of 4.51 out of 5. The employee satisfaction rate of office employees was 4.44, a year-on-year increase of 6%, while front-line employees' scores remained unchanged from the year before at 4.58.

Satisfaction Evaluation Criteria of Different Position Sequences in JD.com

For JD.com office employees

For front-line logistics employees(excluding Kuayue, Deppon and international logistics)

work standards	work envi-ronment	personal development	compensation incentives	team management	cultural atmosphere

Amount paid for front-line logistics employees in salary and benefits in 2022 over

RMB44.6billion

JD.com is committed to providing employees with externally competitive and internally fair compensation and benefits. We have implemented a compensation incentive mechanism for all employees based on job performance evaluations.

JD.com's employee performance evaluation criteria consist of goal setting, performance reviews and evaluation as well as performance application. The performance management groups of the Group and each sub-business line jointly identify and align goals through business analysis meetings and goal-sharing meetings, and give timelier feedback on employee's development performance with the online system. The online system is also used to achieve bottom-up alignment of employee goals to help employees fulfill their potential and improve overall performance. We are improving our system of performance evaluation to adapt to the changing market and employee needs.

From July 1, 2021, to July 1, 2023, JD.com plans to take two years to gradually increase the employees' average annual revenue from a 14-month salary to a 16-month salary. JD.com has also established and implemented an industry-competitive employee equity incentive policy, which provides stock option incentives and pay raises to eligible critical employees.

We evaluate the living standards and wage criteria of employees in different regions, and in accordance with national laws and regulations and the corresponding regional regulations, provide all regular employees who work during legal working hours with salaries higher than the bottom wage criteria set by local policies. We continue to improve our non-payroll benefits system by providing all regular employees with mandated benefits such as five social insurance and one housing pension and adding non-payroll benefits such as holiday care and annual medical checkups.

JD.com employee benefits system is supported by three parts. By classifying employee benefits into "multiple scenarios", we implement the benefits system based on the universality of all employees, which is oriented to tilt scarce resources to core talents and improve the benefits of front-line employees. In this way, we are committed to promoting the happiness index of our employees and sharing development achievements with them.

JD Logistics has a large number of front-line employees working as couriers and warehouse sorters. The salary of our logistics employees is higher than other industry peers. We provide supplemental accidental commercial insurance and additional benefits such as supplemental medical insurance, annual medical checkups and meal subsidies. JD.com also contributes to employee social insurance and a housing pension for front-line employees. In 2022, JD.com's payroll to front-line logistics employees came to RMB 44.6 billion.

Strive to be a great enterprise creating value, bringing warmth and undertaking responsibilities.

Committed to placing the well-being of employees prior to the interests of the enterprise, JD.com cares for its employees in terms of their physical and mental health, career development and family life, helping them live a promising life. Benefits and the talent development mechanism are established to make employees feel respected, delighted and fulfilled.

—— JD Group Philosophy

JD.com Employee Benefits System

Build a "Three Pillars" approach and offer diverse employee benefits tailored to "Various Scenarios", which prioritizes not just employees' physical and mental wellbeing, but also professional development and family satisfaction."

Multiple scenarios

physical and mental health	basic necessities of life	a happy family	Leave benefits	Cultural care	Policy benefits
● Commercial insurance ● Medical check-ups ● Fitness centers ● Outdoors fitness areas ● Health counselling room ● EAP psychological counseling services	● Meal subsidies ● Dinner on workdays ● Commuting for overtime ● Shuttle buses ● Welfare housing ● Welfare coupons ● JD.com merchant discounts	● Housing security fund ● Assistance fund ● Children's playground ● Childcare centers ● Kindergarten ● Education	● Annual leave ● Paid maternity leave ● Paid sick leave ● Half-pay sick leave ● Other statutory holidays	● Seniority Reward ● Reward on values ● 519 Veterans' day ● JD.com's family gift ● Team building ● New Year in JD.com	● Social insurance ● Housing fund ● Residence permit ● Overseas graduates settlement ● Graduates settlement ● Talent introduction ● Talent programs

Employee benefit policies are based on the universality of all employees and oriented to tilt scarce resources to core talents and improve the benefits of front-line employees.

An integrated benefit platform
An integrated tool for managing benefits systematically provides one-stop services, such as benefits distribution, a benefit board, policy documents and online processing, for employees to process benefit-related affairs.

Three parts

Mandated benefits	Supplement benefits	Featured benefits
JD.com complies with the local and national requirements by providing basic benefits.	JD.com provides supplement benefits featured by the Business Group Business Unit(BGBU).	JD.com provides benefits featured by and representative of itself.

JD.com Employee Benefits System of "Three Parts and Multiple Scenarios"

Multi-Scenario Employee Care Activities

Seniority Reward

JD.com awards silver and gold medals to employees when they reach five and 10 years of employment. In 2022, we awarded more than 10,000 silver medals and 3,000 gold medals to our long-serving employees.

In 2022

we awarded

10,000+

silver medals

3,000+

gold medals

JD.com's Family Gift

JD.com hands out customized holiday gift packs to its employees and partners during the two traditional Chinese festivals of the Mid-Autumn Festival and Spring Festival every year. In 2022, we distributed more than 900,000 holiday gift boxes to all employees and interns.

In 2022

we distributed more than

900,000

holiday gift boxes

JD.com's Chinese New Year Family Gift Box

We attach great importance to the health and well-being of our female employees, and have implemented a benefit system for female employees:

- Annual medical checkups, tailored to age, marital status, etc., for female employees
- Additional commercial maternity insurance up to RMB 5,000
- Baby-care facilities with private rooms equipped with diaper change tables, sofas, refrigerators, lockers and other facilities
- Childcare center and children's playground at JD.com headquarters
- Pregnant employees enjoy privileges such as priority queuing and parking
- Women's change room with various amenities for pregnant women.

Baby-Care Rooms at JD.com Headquarters

Childcare Center of the Group

JD.com's Measures Help Employees to Settle into Work

JD.com provides benefit programs such as Settlement Plan, Education Support and Extra-long Maternity Leave, etc. to provide rear services to employees' families in all aspects and ensure employees' worry-free work and healthy and happy life.

Settlement Plan & JD.com's Welfare Housing

Launched in 2012, the Settlement Plan is a benefit program that allows all employees meeting seniority requirements to apply for an interest-free loan of up to RMB 1 million for the purchase of their first home in the city in which they work. JD.com provided RMB 1.3 billion in interest-free loans from 2017 to 2022, benefiting some 2,800 employees. JD.com has also provided 2,537 housing units for employees and nearly 20,000 dormitories for front-line employees in need since 2016.

Staff Dormitory

Child Support Program

When an employee becomes incapacitated or dies, their children can apply for grants to cover education costs from kindergarten to college. In 2022, 16 families benefited from this benefit program.

JD.com's Kindergarten Project

Since 2017, JD.com has cooperated with Oriental Cambridge Education Group to set up a childcare center at JD.com's headquarters. In 2022, the nursery service benefited more than 1,700 person-times. JD.com also collaborated with Etonkids, a chain of high-end kindergartens, to build the kindergarten project together. More than 350 children of JD.com's employees were enrolled in 2022.

Fertility-Friendly Policy

Supporting the government's *"Notice of the Office of the National Medical Security Administration on Doing a Good Job in Supporting the Maternity Insurance of the Three-Child Policy"* and other related policies, JD.com has launched its welfare policy. JD.com has provided an additional 30 days of maternity leave beyond the national and local maternity-leave requirement since 2015. In provinces and cities that have not extended national maternity leave, employees can extend maternity leave in accordance with JD.com's maternity leave plan. JD.com's maternity-friendly policy cover all employees.

Ever since the release of the State Council's *"Decision on Optimizing Birth Policy to Promote Long-term Balanced Population Development"*, parental leave in all related provinces in China has been extended or added. JD.com actively responds to the call for national and local policies. As such, JD.com adjusted and improved the company's vacation system as well as its leave application process.

Employee Assistance Program (EAP)

Since 2019, JD.com has continued to implement its Employee Assistance Program. By the end of 2022, the EAP care program has served 1,612 person-times.

Love Assistance Fund

JD Love Assistance Fund endeavors to provide economic aid to deserving employees and families in distress. The forms of aid range from assistance to personnel enduring serious illness, those disabled or deceased employees, educational fees for children of the deceased employees, and reimbursement for losses caused by house destruction. From 2016 to 2022, the Love Assistance Fund has issued a cumulative total of 2,288 aid packages, amounting to RMB 89.38 million.

JD Logistics Subsidized RMB 500 Million for Front-Line Employees on Duty During the Spring Festival

JD Logistics is the first responsible supply chain company in the industry to carry out "Spring Festival Delivery". Spring Festival 2023 marked the eleventh consecutive year that JD Logistics has carried out this project. To support front-line employees who continued to work during the Spring Festival holiday period, JD Logistics provided the workers with allowances and benefits valued at RMB 500 million, higher than the national legal criteria. In addition to overtime pay, the company also provided bonuses.

JD Logistics provided a Spring Festival atmosphere in warehouses, sorting centers, express business offices and other places across the country through a series of cultural activities such as making dumplings and giving gifts. The children of employees who worked through the holiday were invited safely to spend Spring Festival at their parents' workplaces while they were on duty.

Rich Employee Activities

JD.com organizes an annual Sports Season for its employees. JD employees with different hobbies and of different age form teams to compete in games of football, badminton, and e-sports. In 2022, JD.com organized 11 events, including badminton, tug-of-war and e-sports competitions, among which e-sports competitions attracted 550 teams in 110 cities nationwide. Through a series of cultural and sporting activities, we aim to enrich the recreational life of our employees and enhance communication and team cohesion.

In 2022

JD.com arranged various BGs in organizing

11

sports events

JD.com's E-sports Participants

Employee Training and Development

JD.com is committed to the promotion of employees' personal career development which helps propel the development of the company. JD.com has established multiple channels to assist the professional development of employees.

Talent Development System

JD.com has developed an open and transparent recruitment system. JD.com uses artificial intelligence to analyze candidates' resumes to improve job matching and recruitment efficiency. In 2022, we completed a talent review of nearly 50,000 people through the use of 360 questionnaires, that helped identify nearly 10,000 potential employees for management positions and other jobs, to meet the needs of JD.com's long-term strategic development.

JD.com continues to optimize its employee appraisal system and implement its "contributor-oriented" incentives. Integrating dimensions of employee professional proficiency and compliance on business conduct, and based on the digital talent management system, job nature and continuous assistance by managers, we set up differentiated appraisal criteria and cycles (at least once every quarter) to make employees identify their value and improve personal performance, which helps achieve the organizational strategic goals. When setting performance goals, strategy undertaking and goal alignment throughout the Group make employees fully informed of their roles and responsibilities in the organization. Our strategy of continuous performance improvement of employees requires managers to provide ongoing feedback and suggestions to help subordinate employees to improve and grow professionally. This helps us achieve efficient, well-aligned and healthy performance assessments.

JD.com Talent Assessment System

360 Assessment

A new questionnaire is developed according to the type of evaluation role and the scoring criteria and form of the questionnaire is continued to be optimized, guided by the diversity and complexity of the application scenarios. In 2022, more than 49,000 employees of JD.com completed the assessment, leading them to discover and tap into their greater potential and motivating them to maximize their personal value.

Talent Review System

To enhance managers' ability to assess high-potential employees, an intelligent talent review system is developed that includes specific initiatives for talent development.

By the end of the reporting period, over 50,000 employees of JD.com have participated in a talent review, helping managers accurately identify talent and build a sustainable talent team for JD.com.

In 2022

31%

of JD.com's employees were given promotions

Guided by *JD Group's Employee Promotion Plan*, job promotions are announced and dual career paths are provided in April and October. While giving promotion opportunities to outstanding talents, we design the promotion mechanism for different types of talents, in which assessors related to the business lines and HR examine the values, ability and quality, value contribution and other factors. We are committed to creating an open, fair and just promotion procedure. We offer promoted employees training and give them greater responsibilities and development space, helping them to succeed in their professional fields. In 2022, 31% of JD.com's employees were given promotions, of which 7% were promoted to management positions. One percent were given "exceptional" promotions to higher positions.

Diversified Talent Training

To encourage employees to further study and improve themselves, JD.com has implemented a multi-dimensional training system of "online + offline" and "theory + practice" to encourage employees to continue their studies and self-improvement, which focuses on professional development, leadership skills and ability to innovate. We also train the next generation of professionals to manage the enterprise and lead the technology of the digital intelligent supply chain.

JD.com Training System

	Coverage & Goal	Training Programs
Profession Training	Build and implement mechanisms for talent standards and career development paths by establishing committees for professional channels of technology, products and functions	Learning Map
Leadership Training	Competency training program for on-the-job managers	Pengyuan Class, MAX, Canxing, Zhiyuan Class, Pinnacle Program and other programs
	Training programs for future management personnel	Alfa, Sigma, Delta, Jingchi High Rise, Sanqing, Ride the Wave and other programs
Training on Next Generation of Professionals	Young talent development program for students	JD.com's Rising Star Program, "JDRUN" summer internship camp
High Potential Training	Training program for core management personnel selected by the company	Leadership training program TET, the DMT program for doctoral scientists, Pilot and the program of Rising Wave
Basic Force Training	For all employees	Compliance training and examination for all employees, JDX series-JDTalk (Perception-Innovation-Change), JDVoice (Experience - Inheritance - Sharing), JDtech (Technology - Product -Applied Research)

By the end of the reporting period

JD.com conducted

2,442
in-person training courses

25,223
online training courses

100%
of employees were trained

Total hours of employee training

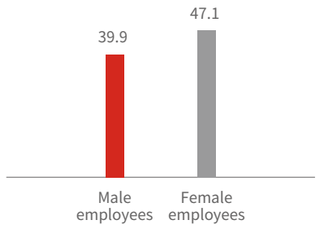
18,423,446

Average training time per employee

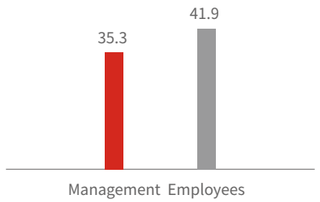
41.5hours

Training of JD.com Employees

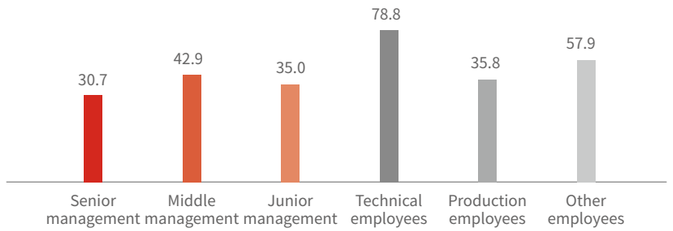
Average training hours per employee by gender



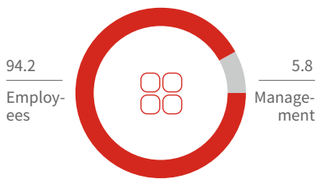
Average training hours per employee by employee category



Average training hours per employee by type of function

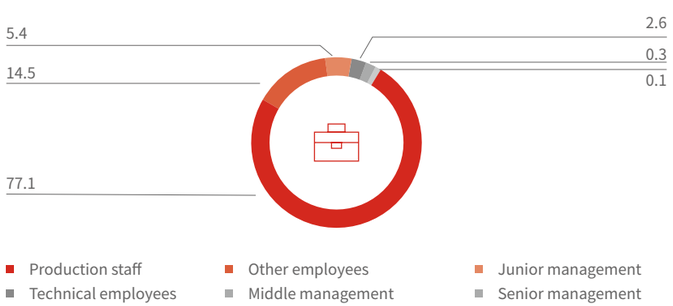


Percentage of employees trained by employee category



Percentage of employees trained by gender

Percentage of employees trained by type of function



JD Group's Management System for Employee Continuing Education encourages all regulars to undertake further study and upgrade their qualifications by obtaining professional certificates. JD.com provides continuing education opportunities. Employees who pass the national examination and obtain qualify to study for a Master of Business Administration or Master of Engineering Management in top universities are offered interest-free loans to support their continuing education.

JD.com Pooled New Forces for Their Transformation and Growth - "Say Hello to JD.com"

"Say Hello to JD.com" is a series of training courses for new employees, with three levels of courses: Gold, Red and Star. The courses allow trainees across the country to interact and learn different content of connected systems during online and in-person standardized training sessions. In 2022, 11,381 people took part in at least one of the 170 training events.

"Say Hello to JD.com" Training Site

Occupational Health and Safety

JD.com follows laws and regulations including the *Law of the People's Republic of China on Prevention and Control of Occupational Diseases* and the *Law of the People's Republic of China on Work Safety* and attaches great importance to the physical and mental health and safety of employees. The *JD Group Occupational Health and Safety Management Policy* focuses on health and safety issues to actively establish a sound safety management system and occupational health management system. We work with employees or employee representatives to conduct risk assessments, establish action plans and determine occupational health and safety policies and objectives, creating a healthy, safe and comfortable workplace.

JD.com has established an Occupational Health and Safety Committee chaired by the Chief Human Resources Officer. To ensure the healthy and safe operation of all of JD.com's businesses, the Occupational Health and Safety Committee coordinates and approves strategic planning on occupational health and safety, takes responsibility for implementing related policies and constructing its risk control mechanism, and oversees all its issues. JD.com actively encourages subsidiaries to build safety management systems and obtain relevant certifications to enhance JD.com's safety management system and ensure it is compliant with all safety standards. JD.com regularly requires all departments to identify safety factors and sources of potential danger and to prepare emergency plans and form teams equipped to handle emergency rescue. Excluding JD Logistics and JD Health, there were no work-related fatalities at JD.com from 2020 to 2022, with lost-time injury frequency rates (LTIFR) of 1.08, 1.15 and 1.58 from 2020 to 2022 respectively.

At JD.com, each department must create a responsibility system to ensure safety, set health and safety objectives and assess their objectives. The objectives of each department are to ensure there are no fires, no injuries and no accidents, none of which occurred in 2022.

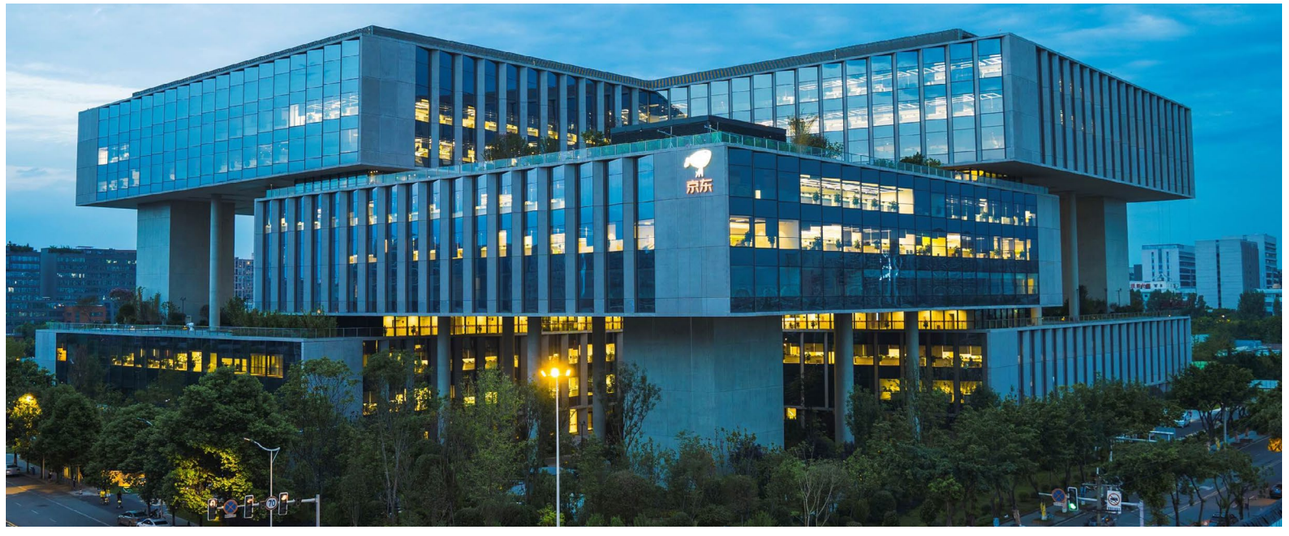
To improve the occupational safety and health protection of our employees, we continue to invest in protecting the health of our employees, providing individual safety equipment and developing their safety awareness and skills. We provide helmets, reflective uniforms and other protective equipment to all our delivery staff. An "Advanced Driver Assistance System" has been installed in our vehicles. We regularly provide safety training and assessments for employees, and carry out terminal operation safety month activities.

Regular safety drills for all employees twice a year are conducted to strengthen their safety awareness and ability to handle emergencies. In 2022, JD.com conducted a wide range of occupational health and safety training, including courses in First Aid, safe production and special safe employment, to protect and enhance employee's health and safety awareness.

2022 Occupational Health and Safety Training Partial Cases of JD.com

Training Items	Training Content
First Aid Training for Employees	● Training on CPR and AED equipment application ● Online Special Session of First Aid Training
Safe Production	● Safety management knowledge training for those responsible for safety ● Training on the consciousness of responsibility for safety managers ● Education and training on safe production ● Traffic Safety Training ● Fire Safety Basics
Special Job Safety	● Safety training on forklift operations ● Training on electrical safety knowledge ● Training on preventive driving skills ● Training on delivery safety knowledge

In 2022, JD Retail obtained the ISO 45001:2018 Occupational Health and Safety Management System Certification



To ensure that JD workplace cafeterias and in-house restaurants meet food safety requirements, third-party food testing was conducted every month in 2022. We also collaborated with third-party testing organizations to conduct two training sessions on food safety for food suppliers, covering all food suppliers at our Beijing headquarters and workplaces in Chengdu, Shenzhen and Shanghai.

Employee Assistance Program by JD.com and third-party counseling agencies provide confidential psychological counseling services to all employees. Available programs include emotional management support, crisis intervention, and etc. Professional counseling is offered either in person or over the phone, and all counseling content is strictly confidential to ensure employee privacy. All employees can make appointments for counseling through the "JD ME" app.

JD.com Training for Red Cross First Aid Certification

In 2022, JD.com offered Red Cross First Aid certification training for all employees at its headquarters and subsidiaries. All the trainees completed the training and passed its assessment to obtain the skill certificates of the Red Cross.

JD Logistics Conducts Training on Delivery Safety Knowledge

JD Logistics provides monthly training to our couriers to enhance their safety awareness and ensure their health and safety and the smooth delivery of goods. The training includes the use of safety protection equipment, start-of-shift vehicle inspection, proper driving etiquette and emergency response.

To ensure that JD.com's workplace cafeterias and in-house restaurants meet food safety requirements, third-party food testing was conducted every month in 2022. Third-party testing organizations also conduct two training sessions on food safety for food suppliers, covering all food suppliers at our Beijing headquarters and workplaces in Chengdu, Shenzhen and Shanghai.

Employee Assistance Program by JD.com and third-party counseling agencies provide confidential psychological counseling services to all its employees. Counseling is offered in person or over the phone. To ensure employee privacy, that provides emotional support and therapy, and crisis intervention. Employees can make appointments for counseling through "JD.com ME".

Sustainable Supply Chain

Positioned as "a technology and services enterprise with supply chain at its core", JD.com knows a supply chain is indispensable to product quality, and considers its suppliers as important partners and strives to share with them development opportunities. JD.com cooperates with them to maintain a responsible supply chain system and create a stable, high-quality, efficient ecosystem generating win-win outcomes.

Responsible Procurement

To identify and address potential sustainability risks in the supply chain, we take into full consideration the environmental and social risk management of suppliers, such as environmental protection, employment, health and safety in the production and operation of suppliers, when making procurement decisions.

Environmental Protection

JD.com has formulated The *Green Procurement Management*, incorporating environmental protection and energy resource saving into the procurement process, which radiates throughout our supply chain.

When admitting suppliers, we collect certification documents from our suppliers related to the environmental management system and require suppliers to ensure strict environmental management.

JD.com continues to optimize the screening criteria for selecting green products and expanding the scope of green products. In 2022, we added low-carbon products to the four screening dimensions of product qualification function category, consumption scenarios and product packaging, and formed the "Green Alliance" with many well-known brands to launch more than 3 million green products. JD.com's "SEVEN FRESH" program works with organic food suppliers to launch the sale of more than 200 certified organic vegetables.

We launched more than

3million

types of green products

more than

200

certified organic vegetables

Green Product Categories

Low Carbon Products	Set four types of low-carbon products labels: carbon neutrality, carbon footprint products, paipai reused cell phones and low-carbon products in China
Product Qualification	Review whether the goods are qualified or assessed by domestic or foreign authorities, such as EU organic certification and geographical indications of agricultural products.
Function Category	Refillable, reusable materials
Consumption Scenario	Cover low-carbon consumption scenarios such as green travel, green home furnishing and energy saving
Product Packaging	Choose recyclable packaging materials free of any harmful substances

Supply Chain Leadership and Empowerment

Labor Policy

JD.com requires suppliers to abide by the *Labor Law of the People's Republic of China* and other laws and regulations and prohibits the use of child labor or forced and compulsory labor. Suppliers violating employment regulations will be blacklisted.

Health and Safety

JD.com defines the occupational health and safety requirements and responsibilities of suppliers. We require new suppliers to disclose their occupational health and safety records, including the handling of accidents, over the past three years. We assess suppliers' occupational health and safety standards and give priority to suppliers with occupational health and safety certifications.

Supplier ESG Questionnaires

JD.com distributed environmental, social and governance (ESG) questionnaires to our suppliers in 2022. We assessed their performance using five criteria: environmental protection, personnel administration, wages and benefits, health and safety and business ethics. The result of the questionnaires showed that 85.4% of the suppliers surveyed have achieved excellent or good ESG performance.

JD.com continues to invest in research and development(R&D) and innovation relating to supply chain technology, to achieve optimization and upgrading of our supply chain. This has improved the digital intelligence of the entire chain. The goal is to build a responsible supply chain that contributes to the high-quality development of the real economy, and coordinated regional development. We communicate with our partners to help them grow and to promote the sustainable development of the supply.

Leadership in Supply Chain

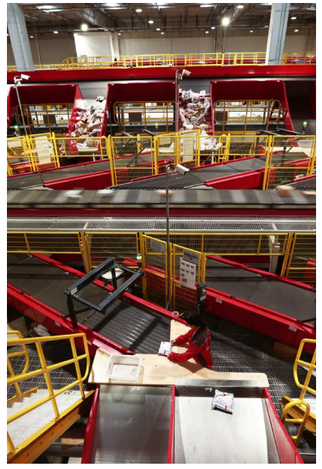
In 2022

JD.com's minimum inventory turnover days for self-operated commodities reached a global leading level of

30.2days

In 2022, JD.com's minimum inventory turnover days for self-operated commodities reached a global leading level of 30.2 days, optimizing inventory management, efficiently allocating internal resources and driving the efficiency improvement of the industry-wide supply chain.

In cooperation with the household appliance industry, we continue to reduce channel costs and improve R&D efficiency of new products, promoting a positive cycle of accelerated innovation and affordable prices in the industry. In 2022, we held the JD.com Household Appliance Partners Conference to discuss future development opportunities of the industry with various brands and empower high-quality sustainable growth in the household appliance market.



Supply Chain as Empowerment

Using JD.com's supply chain advantages, we continue to share access to digital intelligence services in our supply chain and integrate internal and external ecological resources and capabilities to build with all partners an ecosystem of the entire industry chain where we collaborate to innovate. This helps share information and create value together.

C2M Intelligent Manufacturing Platform

JD.com's C2M intelligent manufacturing platform has reached C2M cooperation with more than 3,000 brands. By involving deeply in product R&D, it can help to manufacture factories save 75% of product pre-market research and accelerate the cycle of new products going on the market by 67% compared to the past.

Hundreds of Quality Factories Project

In 2022, JD.com's private label brands launched the Hundreds of Quality Factories Program during the 11.11 sales day. Over the next three years, we will focus on building more than 500 quality demonstration factories in industrial zones and promote factory sales growth by more than 600%.

Mantianxing Project

JD.com's operations help SMEs expand their procurement market. A comprehensive service platform is specifically built in the Mantianxing Project for the integration and development of the enterprises, serving more than 1.6 million SMEs and benefiting over 32,000 specialized and innovative enterprises.

"Three Reductions and Three Optimizations" Merchant Support

In 2022, JD.com officially released 30 merchant support initiatives of three reductions and three optimizations to minimize SMEs' pressure.

All-in-one solution

Using integrated supply chain solutions, JD Logistics has helped 300,000 business customers reduce costs and increase efficiency, which has improved supply chain efficiency and promoted high-quality development.

Helping Transform the Rural Economy

JD.com's logistics infrastructure and warehouse network, have enabled us to provide next-day delivery service to 93% of districts and counties, and 84% of villages and towns in China. We also provide supply chain services to more than 1,000 agricultural production zones, giving thousands of farm families a much needed income boost and transforming local industries.

Digital Intelligent Supply Chain

JD Industrials makes the socialized inventory of over 200,000 SKU industrial products visible, controllable and available through the digital intelligent supply chain, with the accuracy of intelligence sourcing in procurement for industrial enterprises increasing to 89%.

Supply Chain Communication

JD.com places great emphasis on effective communication with suppliers. Through conferences and training courses, we help suppliers fulfill their responsibilities and ensure our mutual sustainable development.

Supplier Management

JD.com is committed to fulfilling our social responsibility and has developed rules and regulations for suppliers that are detailed in these documents: *JD Group Supplier Code of Conduct, Bidding and Procurement Business Management Rules, Tripartite Performance Appraisal Procedure, Supplier Quality Exceptional Handling Procedure, Supplier Agreement Honoring Feedback and Handling Process*. JD.com ranks its suppliers by grade and has established a management mechanism covering supplier admittance, assessment and exit. At the end of 2022, JD.com had 4,563 suppliers.[49]

Number of Suppliers by Region in 2022

Mainland China
4,511

Hong Kong, Macao and Taiwan
12

Overseas
40

Number of Suppliers by Category in 2022

Tier-1 suppliers
4,251

Significant suppliers in Tier-1
477

Non Tier-1 suppliers
312

Significant suppliers in Non Tier-1
25

[49]The statistical scope for "total number of suppliers" refers to suppliers that are both registered under the "JD.com" organization of the Panshi Procurement Platform and have won the tender in 2022. The statistics of the supplier's location are conducted in terms of the registered address of the supplier in the business system.

Supplier Full Life Cycle Management System

Process	Specific Content
Supplier Admittance	● Suppliers can be shortlisted after completing registration on the JD.com procurement and bidding information platform and passing the screening mechanism of communication, inspection, sample testing and site survey. ● We screen our suppliers, according to customized screening requirements for different categories of suppliers and related qualifications such as ISO 14001, ISO 45001, and ISO 9001. Suppliers can officially become our partners after they meet the requirements.
Supplier Assessment	● We have developed the *Tripartite Performance Appraisal Procedure* to evaluate the product quality and service capabilities of suppliers from multiple perspectives for Tier-1 suppliers and significant suppliers in non Tier-1. ● In 2022, we assessed and evaluated suppliers in key categories or with large purchases every six months grading them as excellent, good and unqualified.
Supplier Exit	● According to the assessment results, we suspend cooperation with unqualified suppliers and communicate with them to determine rectification measures. ● In 2022, we blacklisted 62 suppliers, blocked 206 suppliers and failed 14 suppliers due to non-compliant performance appraisals and breaches of confidentiality agreements.

To ensure smooth procurement and timely delivery of products and materials during an emergency, *JD.com formulated the JD Group Operation Event Assurance Mechanism of Bidding, Procurement and Expense Management Department*. We have set up an emergency stocking piling mechanism to reduce the severity of emergencies.

Before the event	At the event	After the event
we regularly verify and update supplier information to develop more supplier resources and drive each department to sort out demands and predict risks.	we initiate the emergency procurement process and emergency communication mechanism and develop a response plan.	we carry out a comprehensive analysis of our response and update our emergency measures procedures.

04

A Responsible Supply Chain Promotes Good Consumption

JD.com is committed to providing users with more comprehensive and high-quality products and services, continuously sharing its own supply chain infrastructure and digital technologies. We actively participate in community charity activities to give back to the community. JD.com provides users with a wide range of superior products and services, and helps people practice good consumption and live a good life.

Serving Consumers

JD.com is focused on constructing a product quality system and improving product quality controls to become a company trusted by Chinese consumers. We serve the customer first by constantly optimizing customer service and providing a comfortable consumption experience.

Product Quality Assurance

Since its founding, JD.com has offered genuine licensed products by strictly controlling product quality, developing internal product quality management systems, and reviewing the quality and safety of products on sale throughout the process. We also insist on responsible marketing to ensure products are genuine and safe.

Quality Management System

In strict accordance with the *Product Quality Law of the People's Republic of China*, JD.com has formulated internal policies such as the *General Principles of JD Group Marketplace Product Quality Inspection Sampling, JD Group Marketplace Product Shelf-Life Rules, JD Retail Counterfeit Accountability Rules* and *Food Safety Handbook* to continuously promote quality management and ensure the safety and quality of products.

We continue to promote quality management in various business scenarios by setting up internal quality control and experience groups or commodity compliance groups as quality supervision and executing agencies to strictly control the quality of products on the platform. To ensure standardized quality management, the following subsidiaries of JD.com have been verified by the International Organization for Standardization(ISO) 9001: Beijing Jingdong Century Information & Technologies., Shanghai Yuanmai Trading, Guangzhou Jingdong Trading, Chengdu Jingdong Century Trading, Xi'an Huaxunde Trading, Shenyang Jingdong Century Trading and Wuhan Jingdong Shiji Commerce and Trade. Nine of JD.com's SEVEN FRESH grocery stores have been verified by the Food Safety System Certification (FSSC), and Huaguan Science & Technology has been verified by both the quality management system and FSSC 22000 food safety system.

To continue to consolidate product quality and safety in all business segments, we have established a safety prevention and control system covering all areas of goods sold and marketing practices, which integrates quality control, platform governance, online rights protection and brand protection to achieve full coverage of the four areas of intellectual property protection, food safety, drug safety and prohibited and restricted goods. We have developed a quality management system covering the whole process of qualification standards for settled platforms, product inspection sampling, accountability for counterfeit goods and violation management to build up the e-commerce compliance system, control merchant qualifications and product quality and assure the superior experience of merchants and consumers.

Qualification Management

- *JD Group Marketplace Investment Qualification Standards*
- *Qualification Management Rules for JD Group Retail Business Suppliers*

Product Inspection and Sampling

- *General Principles of JD Group Marketplace Product Quality Inspection Sampling*
- *General Principles of JD Group Retail Business Supplier Product Quality Inspection Sampling*

Violation Management

- *JD Group Marketplace Merchant Violation Credit Management Rules*
- *JD Group Supplier Violation Management Rules*

Accountability for Counterfeit Goods

- *JD Retail Counterfeit Accountability Rules*

JD.com held the first JD.com Product and Safety Compliance Forum

In February 2023, JD.com held its first Product and Safety Compliance Forum in Beijing. Representatives from regulators, law enforcement agencies, brand rights holders and industry associations discussed how to promote product safety. The participants agreed that security management will promote the development of righteous and innovative enterprises. JD.com also believes taking a no-tolerance approach to counterfeit goods and conducting win-win cooperations consistently are key to high-quality development of the industry and society.

Product Responsibility

JD.com constantly promotes quality management and control and continues to optimize its product quality system. Our quality management, which includes quality inspection and product recalls, aims to provide consumers with safe, secure and worry-free quality products.

2022 Product Quality Inspection and Sampling Initiative

JD Retail	Huaguan Supermarket	● Product sampling inspections
	SEVEN FRESH Supermarket	● Special Quality Inspection ● Control of residual pesticides and antibiotics ● Fresh aquatic food management
JD Industry		● Cooperate with several domestic and foreign testing organizations to inspect and report on products of 13 types on sale.

JD.com continues to improve how it deals with unqualified products and product recalls. JD.com and its subsidiaries have formulated policies such as *Product Recall Control Procedure* and *JD Industrials Recall and Withdrawal Management Procedure*. We have developed an emergency plan mechanism for product recalls. We investigate the cause of each recall and put in place corrective measures to prevent a repeat recall. In 2022, there were no recalls of products sold by JD.com's private label brands.

In addition to protecting the environment where our products are sold, we promote and set standards in the clothing industry.

JD Industry Helped China National Garment Association Set Standards

After finding a lack of product standards for puncture proof protective clothing, JD Industrials contacted the China National Garment Association to put forward new standards for such garments. In 2022, JD.com released JD.com's standards-*Quality-Based Selection Standards for Puncture Proof Protective Equipment*. The standards also provide references for setting other standards.

Since then, JD Industrials has assisted in providing the China National Garment Association with standards and their relevant bases. On December 28, 2022, *T/CNGA 45-2022 Flexible Testing Methods and Assessment of Puncture-Proof Materials* was officially released.

Content Specification and Management of Marketing

JD.com is committed to advertising and marketing practices that comply with laws and regulations, social norms and ethical standards. We strictly abide by the *Advertisement Law of the People's Republic of China.*

Management of Marketing

JD.com has published the *JD Group Brand Management Regulations*, *JD Group Marketplace Product Labeling Sampling Rules* and *JD Group Retail Business Supplier Product Labeling Sampling Rules*. We insist on responsible marketing and continuously make product information more standard to guarantee information accuracy and avoid consumers being misled.

JD.com Ethical Marketing Commitment

- Provide true and accurate information about products and services to avoid deceiving and misleading consumers;
- Forbid exaggerating the social and environmental impact of products and services and their marketing;
- Focus on protecting groups that have difficulties in accessing business information, such as the elderly, children, and people with disabilities;
- Forbid denigrating and discrediting competitors.

Advertising Governance

We have formulated the *JD Group Advertising Audit Rules* to continuously improve the rules of advertising content security and ensure that advertisements are free from concealment, exaggeration and deception through algorithm and manual auditing, an inspection mechanism, advertiser audits, advertiser training and regular research and surveys to ensure compliance, truthfulness and accuracy of advertising content.

- Algorithm and manual auditing:

We guarantee compliance of advertising content through human-computer audits. Setting prohibited categories and aiding the interception of sensitive words, JD.com can effectively screen non-compliant advertisements and intelligently classify and control all types of advertisements. In 2022, JD.com intercepted over 10 million illegal advertisements.

- The inspection mechanism:

We conduct high-frequency investigations of advertisements to eliminate illegal advertisements in a timely manner.

- Advertiser training:

We rolled out online learning channels on Jing Dian Academy and Jing Mai Platform, and conducted training through various forms such as live streams, videos, cartoons, and articles to help advertisers improve their awareness of compliance marketing. In 2022, we organized 62 training sessions on advertising compliance for advertisers, covering nearly 10,000 advertisers.

- Regular research and surveys:

We keep track of advertisers' demands and feedback on advertising audit services through regular research and surveys, adjusting our auditing services and improving the quality.

High-Quality Customer Service

JD.com has driven high-quality development with high-quality services and adhered to the original intention of "customer first" by continuously upgrading service management mode and customer service management projects to provide consumers with a superior service experience.

Optimizing Service Management

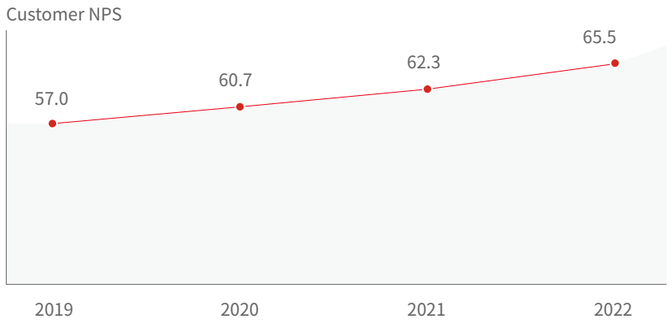
JD.com has built a customer service team of over

20,000
employees

JD.com's customer service team responds to customer needs in a timely manner through online communication, service calls and emails. JD.com ensures a timely response and efficient handling through "front-end control" and a "green channel." In the control, we identify potential risks and work out targeted solutions to prevent problems. In the channel, JD.com offers ongoing training for customer service personnel to improve problem-solving efficiency and enhance customer services.

In 2022, we continued to upgrade our complaint process to ensure the fastest resolution of consumers' issues and requests for purchased products and to maintain smooth customer communication channels. We set a target score of 64.1 Net Promoter Score (NPS)[50] for the year and conducted NPS surveys inquiring consumers about JD.com brand credibility, delivery service and after-sales services. The 2022 China Customer Satisfaction Index conducted by Chnbrand, a third-party research institute, showed JD.com topped e-commerce platforms for customer satisfaction.

2019-2022 JD.com Customer NPS Survey Results



While optimizing our own service capabilities, we are committed to promoting services to the whole supply chain, by providing references to industrial peers to create quality services for consumers.

[50] NPS, or Net Promoter Score, is a metric used to measure a customer's willingness to recommend a brand/product/service to others (NPS = percent of promoters - percent of detractors).

The Superior Service Experience

All Categories for All Multitude

JD.com serves 3.67 million pharmacies, specialty stores, supermarkets, convenience stores, flower shops, auto repair centers and many other offline businesses, providing consumers with a huge range of products.

JD Retail provides online shoppers with over 10 million self-operated products covering tens of thousands of brick and mortar retail stores. JD.com Home Delivery can deliver products from beer to Skittles to urban consumers within an hour and sometimes in minutes. The number of JD.com home appliance stores nationwide has exceeded 15,000, covering 600,000 administrative villages.

JD Retail's self-operated product SKU exceeds

10million

JD.com home appliance stores have covered

600,000
administrative villages

Price Protection

During the 11.11 sales event in 2022, over 500 million products on JD.com's platform were price-protected for 30 days, benefiting more than

380
million consumers

JD.com has taken the lead in the industry to launch a price-protection service and set price protection standards according to product categories. Most of JD.com's self-operated online products, excluding gold and virtual products, are under price protection with the overall coverage exceeding 98%.

In 2022, we invested more to make consumers' favorite products more affordable. The function of One-Click Price Protection enables users to click to complete price protection applications for all orders on their accounts and automatically refund the difference in price for eligible orders.

Fast Delivery

We have built a multi-level logistics infrastructure and warehouse network with 35 "Asia No.1" smart mega logistics parks and more than 1,500 warehouses operating nationwide.

JD.com's Hourly Purchase and Home Delivery provides one-hour delivery of products purchased online from more than 200,000 physical retail stores nationwide. These physical retail stores provide convenient and efficient online shopping, using the services of JD.com and Dada Nexus Limited.

JD Retail has collaborated with over 150,000 offline physical stores of all categories nationwide including Walmart, China Resources Vanguard, Apple authorized dealer stores, Sephora, and Kidswant to bring consumers in over 1,700 counties and cities product delivery within an hour and sometimes in minutes.

We provide one-hour delivery of products purchased online from more than

200,000

physical retail stores nationwide

We bring consumers product delivery within one hour and sometimes in minutes in over

1,700

counties and cities

Cross-Border Services

JD.com provides one-stop, cross-border supply chain services for global merchants, helping Chinese manufacturing go global and foreign products access China's vast market.

GLOBAL JD.com uses JD.com's website as its commercial infrastructure for transactions, payments, logistics, marketing and other technologies to expand JD.com's services to overseas markets and export high-quality products to Chinese people around the world.

GLOBAL JD.com provides consumers with high-quality products and is a bridge linking Chinese brands and the world, provides integrated solutions for exporting brands, and helps Chinese brands and products go global. Many brands extend their reach to Hong Kong, Macao, Taiwan and many overseas countries and regions through GLOBAL JD.com.

Senior-Friendly Services

To help senior citizens we continue to optimize the "Senior Mode" function of JD.com's APP. It streamlines information and the operation process and includes a customer service team exclusively for seniors. Services for seniors include seven standards including providing them with 24/7 services to help them with any difficulty they might have understanding our APP's functions. In March 2023, the China Academy of Information and Communications Technology released its first report on senior-friendly and barrier-free Internet applications, citing JD.com's APP and services for their helpfulness.

- With more than 100,000 varieties of senior-friendly products, JD Home has designed plans and packages for renovating senior-friendly spaces within 72 hours;
- JD Health continues to provide fast, efficient and comprehensive medical and health services for seniors by optimizing services such as JD.com Family Doctor, which provides remote consultations and home care.

"Life Passage" Project

JD.com takes the mental health of its users seriously. In 2020, JD.com launched "Life Passage" which provides real-time warning of mental crises and calls the police in emergencies. At the end of 2022, "Life Passage" has helped 574 users who had contemplated suicide.

Giving Back to the Community

JD.com promotes the deep integration of its business strengths with philanthropy and fulfills its responsibilities in rural revitalization, disaster relief and epidemic prevention, with its philanthropic philosophy of giving back to the community.

Philanthropy and Charity

JD.com provides strong support for the healthy development of philanthropy by carrying out public welfare activities in health care and assistance to disadvantaged groups, based on JD's online charity fundraising platform and JD Foundation.

By the end of the reporting period, JD Foundation had donated RMB 93.48 million and JD.com employees had volunteered more than 21,800 hours.

JD.com has collaborated with charities and caring enterprises to provide medical and health services and public welfare assistance to groups in need, and more resources for medical services and aid. This has promoted social welfare in health and benefited more user groups.

By the end of the reporting period

JD Foundation had donated

RMB93.48million

JD.com employees had volunteered more than

21,800hours

JD Health's Rare Diseases Care Program

JD Health's Rare Diseases Care Project was officially launched on February 27, 2021, to provide a one-stop solution platform integrating "medical consultations, medications, health insurance, and public welfare" for rare diseases patients to help alleviate difficulties in diagnosis, access to medicine and payment for rare diseases. In 2022, JD Health's Rare Diseases Care Project received more than 100 million views on Weibo, WeChat, media websites and other channels. As of the end of the reporting period, the program had raised over RMB 4.53 million, assisted 296 patients with rare diseases, and organized 34 public welfare activities for rare diseases.

In 2022, JD Health's Rare Diseases Care Project won "2022 Case Award" in the 17th Social Responsibility Award of People's Enterprises and the 2022 Public Welfare Program of Heath at the 2022 IFENG HEALTH SUMMIT.

Social Responsibility Award of People's Enterprises —— 2022 Case Award

2022 Public Welfare Program of Heath at the 2022 IFENG HEALTH SUMMIT

"Morning Angel" Foundation Focuses on The Healthy Growth of Premature Babies

In December 2022, the China Birth Defects Intervention Assistance Foundation, together with Nestle (China) Co., Ltd. and renowned experts in the field of neonatal care, launched a special fund program for premature babies called "Morning Angel". JD Health's "Morning Angel" provides users with online consultation services with experts in obstetrics and gynecology from A-level hospitals. It also provided an online advice column called "Premature Baby Parenting" for new parents. JD Health has also worked with partners to help meet the nutritional and health needs of more families caring for premature babies.

Certificate of Honor for Caring Enterprises from Morning Angel Foundation

"Search for Missing Children" Program

In September 2022, Kuayue Express of JD Logistics worked with the family search platform to launch the "Search for Missing Children". Kuayue Express of JD Logistics printed information and photographs of missing children on its express packages that were sent across the country. With its strong logistics capability and dissemination effect, information about missing children is disseminated all over the country.

Kuayue Express's "Search for Missing Children" Package

JD.com encourages employees to participate in public welfare activities and help fulfill its social responsibility.

"Flea Market" as An Employee's Public Welfare Activity

In 2022, JD.com conducted many internal "flea market" activities to buy and sell second-hand goods with the help of unused materials in the workplace. JD.com's employees participated and donated a total of RMB 88,208 to public welfare programs.

Certificate of "Flea Market" as a Public Welfare Activity

Anti-Pandemic and Disaster Relief

JD.com has vigorously supported pandemic prevention and relief in China, striving to ensure supplies for consumers, solving supply chain problems for enterprises and merchants and accelerating the resumption of work, production and business.

JD.com Mobilized All its Resources to Guard Shanghai Against the Pandemic

Accumulative delivery of over

150,000 tons of supplies

JD.com contributed

RMB 2 billion

to fight the pandemic and for merchant relief

When the pandemic broke out again in Shanghai in April 2022, JD.com urgently mobilized its nationwide infrastructure to provide smooth distribution channels to ensure adequate supplies to support Shanghai's fight against the pandemic.

During the pandemic, 80,000 baby-care items, exceeding 150,000 toones, including infant milk powder, were delivered to Shanghai by JD Logistics' special vehicles and designated personnel. We deployed more than 5,000 JD.com couriers to provide delivery services and ensure operational needs. JD.com contributed RMB 2 billion to fight the pandemic and for merchant relief.

JD Health urgently launched the Drug Demand Registration Platform and received 24,000 requests for drugs from chronic disease patients in Shanghai a week after its launch. JD Health collaborated with JD Logistics to spare more efforts to meet the need for people's medications in strict compliance with local pandemic prevention policies.

JD.com Assisted in Transporting Pandemic Prevention Materials

JD.com's Subsidiaries Pooled Resources to Ensure Adequate Supplies

In 2022, in response to the increasing pharmaceutical orders and limited distribution capacity in Beijing, Chongqing and other areas, JD.com gave full play to its supply chain capabilities as its business lines jointly developed an emergency plan for adequate medical supplies.

In November 2022, JD Logistics in Chongqing started a new logistics model to ensure around-the-clock operations. JD Super set up a special team to ensure supplies in Chongqing, deployed more than daily use products of 200 varieties and launched "JD Super's Stable Price and Products" within 24 hours. JD.com's Hourly Purchase and Home Delivery coordinated with merchants providing key supply assurances to update inventory and production information on a daily basis, and ensure adequate "vegetable packages". JD Health increased the number of full-time doctors on duty and gave access to the "Online Doctor Consultation for Family" to provide real-time medical consultation services.

In December, JD Logistics quickly mobilized over 1,000 couriers from all over China to arrive in Beijing to assist deliveries in Beijing. JD Super and JD.com's Home Delivery worked with merchants and stores to prepare essential daily-use items such as food, baby care products and disinfection-related products and expanded the inventory of supplies in high demand. To ensure stable supplies, JD Health urgently delivered all kinds of medicines and medical supplies, such as medical masks.

We gave full play to our stable and reliable supply chain and business lines to ensure that the business peak in the areas in need of daily-use items passes.

Group Photo of JD Logistics' Xi'an Team Aiding Beijing

JD Logistics Continues to Explore Innovative Models to Help Safeguard the Delivery of Essential Items

- JD Logistics' "Jiuxianqiao Model" ensured deliveries in the area's epidemic control regions, which was successfully replicated in many places of the country.

In Beijing, last mile delivery was key to ensuring people's daily needs were met. JD Logistics created an innovative service model for last-mile delivery. JD Logistics developed the "Jiuxianqiao Model" with neighborhoods and communities to safeguard delivery over the "last 100 meters" by means of short-distance shuttling services plus volunteer services. The model was then successfully replicated in communities in Beijing, Jinan of Shandong Province, Xining of Qinghai Province and other places.

Beijing Jianwai Neighborhood Presented a Silk Banner to the JD Logistics Team Participating in the Volunteer Services of Guanghui Li Epidemic Control Areas

- Autonomous delivery vehicles helped prevent the pandemic from spreading and safeguard supplies

JD Logistics provided intelligent technical support for safeguarding the delivery of anti-epidemic supplies and epidemic prevention and control. JD Logistics was committed to achieving safe epidemic prevention by building contactless stations, placing contactless delivery vehicles and double-sided intelligent parcel lockers, to minimize the pressure on personnel and physical contact between delivery personnel and parcel recipients.

JD Logistics's Autonomous Delivery Vehicle Conducted Unmanned Delivery in the Community

- Autonomous sorting machinery significantly improved the capacity of supplying fresh produce

The significantly increasing online business in traditional fresh food supermarkets made it harder to ensure daily-use supplies. SEVEN FRESH Supermarket found it difficult to honor its promise on timely delivery because mistakes were easily made in sorting a huge range of products. JD Logistics deployed its latest self-developed and self-produced autonomous sorting machinery for SEVEN FRESH Supermarket to change its original sorting mode by replacing the traditional manual sorting operation with autonomous sorting machinery, which greatly improved the sorting and operational efficiency.

SEVEN FRESH Supermarket has effectively enhanced its capacities of handling peak volume and overall production capacity through this machinery, with sorting efficiency increasing by 200%, operating costs reduced by 40% and the accuracy rate achieving 99.99%. The machinery played an important role in securing the supply of daily necessities.

China Central Television (CCTV) Finance Channel featured the project team of JD Logistics' sorting machinery, which won acknowledgment and appreciation.

The R&D Manager of JD Logistics Sorting Wall was featured in CCTV's "Half-Hour Economy" Program

JD Health Worked with Dozens of Pharmaceutical Companies to Ensure Continuous Supply and Stable Price

To mitigate the problem of insufficient medical supplies and avoid drug price increases and drug accidents, JD Health, and the China Non-prescription Drug Association, enterprises in the drug supply chain made every effort to ensure the market supply and price stability of anti-epidemic drugs and other drugs and medications. A week after the release of the 10 new measures for epidemic prevention and control, JD Pharmacy provided the public with more than 100 million packages of affordable anti-epidemic medicine, cold medicine, pain relief medicine and digestive medicine.

Rural Revitalization and Common Prosperity

JD.com, as a new type of real economy-based enterprise and with an efficient digital and intelligent supply chain infrastructure, aims to promote the digitalization, branding, and industrialization of agriculture by empowering the entire agricultural industry, so as to drive farmers to increase their income and become rich, and to facilitate rural revitalization as well.

JD.com Works with High-Quality Landmark Agricultural Products to Embark on the Journey to Wealth

Since the launch of JD.com's rural revitalization "Benfu Plan" in October 2020, we have worked with farmers to launch a series of high-quality landmark agricultural products such as Suqian King Crabs, Xiuwen Kiwifruit, Wuzhou Liubao tea, Qianyang oranges and Kuancheng chestnuts. A positive circular industry chain was formed, in which higher quality and consumer satisfaction give a boost to farmers' income that in return is invested to make more high-quality produce. This helps farmers reduce costs and enhance their competitiveness.

JD.com Held its First Shopping Festival of Agricultural Specialties

To respond to the Chinese Farmers' Harvest Festival, JD.com held its first Shopping Festival of Agricultural Specialties in September 2022. At the Festival, coupons totaling RMB 1 billion were issued and 300,000 high-quality agricultural products were launched. JD.com brought into full play the advantages of digital technology, logistics and its supply chain to improve the quality and efficiency of modern agriculture and increase farmers' income.

Relying on its supply chain, JD.com launched its new intelligent infrastructure "Logistics Netting Plan". The plan is to build a highly synergistic multi-level logistics infrastructure and warehouse network with 35 "Asia No.1" smart mega logistics parks and over 1,500 warehouses operating nationwide as the core.

"The Beidou Seven Warehouses" Helps Northwest China's High-Quality Development

During the reporting period, JD Logistics' "Asia No.1" Xi'an Intelligent Industrial Park Phase 2 was officially put into operation, together with Xi'an Asia No.1 Phase 1 and Wugong Warehouse, Ningxia's Yinchuan Smart Warehouse, Xinjiang's Urumqi Asia No.1 and Payzawat Warehouse, and Gansu's Lanzhou Asia No.1 under construction. The seven smart warehouses are distributed like the pattern of the Big Dipper. The warehouses have further improved the layout of intelligent logistics infrastructure in the northwest region.

The gradual operation of "The Beidou Seven Warehouses" of JD Logistics highlights the advantages of the industrial zone of origin in the northwest economic construction circle, which serves Shaanxi Province and northwest regions. Agricultural products, from Xinjiang Aksu, Korla, Gansu Tianshui, Pingliang, Qingyang and other places, are supplied to the warehouses for processing and sales. This has helped the promotion of agricultural products and the high-quality economic development of the northwest.

JD Logistics Intelligent Supply Chain Center of Xinjiang Origin Officially Opened its Warehouse

In August 2022, JD.com's Intelligent Supply Chain Center of Xinjiang Autonomous Region officially opened its warehouse in Payzawat County. It is the largest intelligent supply chain center in Xinjiang and provides services for fruit procurement, refrigeration, processing, sorting, packaging, and logistics. 12 autonomous intelligent sorting equipment lines were introduced to classify and grade different channels, which filled the gap of prune grading standards.

During the reporting period, Xinjiang Payzawat prune cultivated area has covered 450,000 mu with its production accounting for 60% of the country, which is the local regional characteristics. The supply chain center enables Payzawat prunes to be delivered to the whole country as soon as 48 hours, providing integrated supply chain support for prunes and other high-quality fruits to come into the market outside Xinjiang.

Logistics Infrastructure is Improved to Achieve Same-Day Delivery to Areas Without Free Shipping

As express delivery and logistics bring agricultural products to the market, making farmers rich, rural revitalization focuses on infrastructure construction such as cold-chain logistics and digital countryside governance demanded by agricultural products.

With its harsh climate, high altitude, mountainous terrains and vast distances, Tibet had little or no free shipping for many e-commerce platforms. JD.com has made every effort to promote the construction of distribution infrastructure in Tibet. In 2022, JD.com built public logistics warehousing and distribution centers in Lhasa the capital of the autonomous region, the prefectures of Shannan and Chengdu that included eight logistics and distribution sites, and 43 county and district level delivery outlets in Tibet. Same-day delivery service has been achieved in Lhasa while next-day delivery service achieved in Linzhi, Shigatse, Shannan and other areas. Delivery to the more remote Ngari Prefecture has been reduced from 8 to 10 days to 3 to 4 days.

Talents are Attracted to Help Regional Development

Based on industrial revitalization, JD.com has established new agricultural talent training and education bases in several industrial zones to train a group of local management talents. In 2022, JD.com held thousands of training sessions to help the poor and farmers. We also conducted training sessions on e-commerce and agricultural technology for grassroots cadres, enterprise personnel and youth groups in poverty-stricken counties, engaging more than 180,000 trainees. JD.com established 103 youth e-commerce incubation centers that have attracted the majority of rural youngsters and college graduates to return to their hometowns to start their businesses.

More than

180,000trainees

engaged on poverty alleviation training sessions

JD Farm Landed in Xinjiang Akqi to Help Develop "Small Seabuckthorn" into a "Big Industry"

In 2022, JD.com and Akqi County of Xinjiang Uygur Autonomous Region built 6,000 mu of sea buckthorn orchards to cooperate deeply in industrial upgrading, brand building, talent training, R&D innovation and technology empowerment, and to explore the development of local digital agriculture together. Thus a new pattern of industrial development of "sci-tech and brand drive agricultural development" was developed to improve the quality and efficiency of the sea buckthorn industry, push the majority of farmers and herdsmen to start businesses and increase income, and continuously promote the high-quality development of the local economy.

In 2022, over 100 projects of JD Farm landed and digital bases covered nearly 26,667 hectares, driving the development of agricultural industries in more than 10 provinces and cities, covering 13 types of agricultural products such as rice, millet, canola oil, apples, oranges and Matrimony vine.

"Rural Epidemic Prevention" Public Welfare Program

JD Health, the National Rural Revitalization Administration and People's Daily jointly launched the "Rural Epidemic Prevention" Program, which focuses on the needs of 160 key counties for national rural revitalization. Taking multiple measures to ensure the health needs of rural residents, the program provided one-to-one assistance to 20,000 villages nationwide with 10 million tablets of fever-reducing medicine, and free online consultations and medication counseling services for millions of villagers and people returning to their hometowns.

Provided one-on-one assistance to 20,000 villages nationwide with

10million

antipyretic tablets

Home Page of "Rural Epidemic Prevention" Program

Appendix

ESG Key Performance Tables

The 2022 performance data changes with the changed scope of JD.com's 2022 environmental, social statistics. Consolidated statements of Deppon Logistics Co., Ltd and Dada Nexus Limited are added to the previous scope which is also expanded.

Environmental

Indicators		Unit	2022
Wastewater discharge		tonnes	4,625,741.99
Exhaust gas emissions	Total emissions	Kilogram	10,191,069.64
	Sulfur oxides	Kilogram	14,586.38
	Nitrogen oxides	Kilogram	9,776,193.41
	Particulate matter	Kilogram	400,289.85
Greenhouse gas(GHG) emissions[51]	Total emissions	tCO_2e	3,600,145.25
	GHG emissions (Scope 1)	tCO_2e	2,399,143.89
	GHG emissions (Scope 2)	tCO_2e	1,197,932.19
	GHG emissions (Scope 3)	tCO_2e	3,069.18
	GHG emission density (Scope 1 + Scope 2)	tCO_2e/RMB million	3.44
Waste produced	Total waste	tonnes	122,532.51
	Total waste density	tonnes/RMB million	0.12
	Hazardous waste	tonnes	16.35
	Non-hazardous waste	tonnes	122,516.16
Recycling of waste electrical appliances	Total appliances	million units	5.9491
	Household appliances	million units	5.6150
	Cell phones, computers, digital products, etc.	million units	0.3341
Energy use	Comprehensive energy consumption	tce	1,369,687.91
	Comprehensive energy consumption density	tce/RMB million	1.31
	Renewable energy consumption	MWh	31,247.92
	Non-renewable energy consumption	MWh	11,145,150.56
	Direct energy consumption	MWh	9,032,385.11
	Indirect energy consumption	MWh	2,112,765.45

Environmental

Indicators		Unit	2022
Energy use	Purchased electricity	MWh	2,072,860.27
	Purchased heat	GJ	143,454.32
	Gasoline	tonnes	102,581.63
	Diesel	tonnes	648,778.17
	Kerosene	tonnes	1,000.00
	Natural Gas	cubic meters	9,243,637.97
	Solar self-generated electricity	MWh	81,970.85
Water Use	Consumption of reclaimed water	tonnes	31,921.34
	Consumption of rainwater recycled	tonnes	7,070.00
	Consumption of fresh water	tonnes	7,280,056.58
	Water consumption density	tonnes/RMB million	7.00
Use of packaging materials	Plastic	tonnes	114,241.75
	Paper	tonnes	125,110.74
	Other categories	tonnes	157.50
	Total used package material	tonnes	239,509.99
	Used package material density	tonnes/RMB million	0.23
Recycling of plastic packaging materials	Total plastics	tonnes	6,404.55
	Recyclable plastics	tonnes	1,151.28
	Compostable plastics	tonnes	5,253.27
Food losses and waste[52]	Total food losses and waste	tonnes	2090.42
	Density of food losses and waste	tonnes/RMB million	0.002

[51] In 2022, JD.com accounts for its GHG emissions, referring to the *2006 IPCC Guidelines for National Greenhouse Gas Inventory* and the *Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard*.
[52] The statistical scope of food losses and waste cover JD Retail and its SEVEN FRESH Supermarket, Huaguan Supermarkets and Five Star Appliance. It includes food and fresh goods thrown away in operations due to expiration and damage.

Social [53]

Indicators		Unit	2022
Number of employees		Person	445,268
Number of new employees		Person	153,843
Number of internal candidates filling vacant positions		Person	139,482
Number of employees with disabilities		Person	3,058
Number of minority employees		Person	26,920
Number of employees by employment type	Full-time	Person	445,268
	Part-time	Person	7,566
Number of employees by gender	Male	Person	347,021
	Female	Person	98,247
Number of employees by age	Under 31 years old	Person	185,871
	31-50 years old	Person	255,551
	Above 51 years old	Person	3,846
Number of employees by region	Mainland China	Person	444,953
	Overseas, Hong Kong, Macao and Taiwan	Person	315
Number of employees by function type	Management	Person	28,352
	Employees	Person	416,916
Percentage of female employees		%	22.1
Percentage of female managers		%	15.2
Percentage of female primary-level managers		%	13.5
Percentage of female senior managers		%	22.0
Percentage of female managers in revenue generation		%	16.5
Percentage of female managers related to STEM[54]		%	11.3
Employee turnover rate[55]		%	17.6
Employee turnover rate by gender	Male	%	17.3
	Female	%	18.6
Employee turnover rate by region	Mainland China	%	17.6
	Overseas, Hong Kong, Macao and Taiwan	%	16.3
Employee turnover rate by age	Under 31 years old	%	23.4
	31-50 years old	%	12.7
	Above 51 years old	%	5.5
Total investment in training and development	Percentage of employees covered by talent development training	%	100
	Amount invested in talent development training per employee	RMB	90.2
Average training hours per employee by employee category	Management	Hour	35.3
	Employees	Hour	41.9
Average training hours per employee by gender	Male	Hour	39.9
	Female	Hour	47.1

[53] The total number of employees and other employee statistical data on the dimensions of gender, age, and function only cover full-time employees of businesses directly managed by JD.com.

[54] STEM stands for Science, Technology, Engineering, and Mathematics. STEM positions include computer programmers, web developers, statisticians, engineers, physicists, scientists, etc.

[55] The data related to employee turnover rate is based on the statistical scope of voluntary resignation.

Social

Indicators		Unit	2022
Average training hours per employee by function type	Senior management	Hour	30.7
	Middle management	Hour	42.9
	Junior management	Hour	35.0
	Technical employees	Hour	78.8
	Production employees	Hour	35.8
	Other employees	Hour	57.9
Percentage of trained employees by employee category	Management	%	5.8
	Employees	%	94.2
Percentage of trained employees by gender	Male	%	77.8
	Female	%	22.2
Percentage of trained employees by function type	Senior management	%	0.1
	Middle management	%	0.3
	Junior management	%	5.4
	Technical employees	%	2.6
	Production employees	%	77.1
	Other employees	%	14.5
Employee satisfaction survey	Employee satisfaction rate	/	4.51/5
	Survey coverage	%	78
Average employment cost		RMB	599
Freedom of association	Percentage of employees covered by collective contract	%	100
Number of work-related fatalities		Person	35
Number of lost days due to work injury		Day	57,434
Lost Time Injury Frequency Rate (LTIFR) - Employees		Case per million man hour	1.58
Number of suppliers	Total number of suppliers	Unit	4,563
	Number of suppliers by region: Mainland China	Unit	4,511
	Number of suppliers by region: Hong Kong, Macao and Taiwan	Unit	12
	Number of suppliers by region: Overseas	Unit	40

Social

Indicators		Unit	2022
Incidents of corruption	Number and brief description of corruption related cases	Case	248 internally investigated corruption cases[56]
	Number of cases concluded	Case	21 concluded lawsuits against employee for corruption. No lawsuits against or from JD.com for corruption.
Business ethics and anti-corruption training hours per employee at all levels	Directors	Hour	1.00
	Management	Hour	1.99
	Employees	Hour	1.01
Coverage of participants in training on business ethics and anti-corruption at all level[57]	Directors	%	100%
	Management	%	100%
	Employees	%	100%
Supplier Training	Suppliers anti-corruption training coverage for	%	60%
	Total number of suppliers that attended anti-corruption training	Unit	2,753
	Number of sessions of supplier anti-corruption training conducted	Session	3
Amount of R&D investment		RMB billion	16.893
Times of information security or cyber security violations		Time	0
Product recall of private-label brands	Times of product recalls	Time	0
	Total number of recalled product	Unit	0
	The percentage of products recalled for safety and health reasons in the total vehicles sold or delivered	%	0
	Costs from product recalls	RMB	0
Total charity donation		RMB	93,480,000
Total hours of employee public welfare participation		Hour	21,800

[56] The statistical scope of "248 internally investigated corruption cases" excludes Deppon Logistics Co., Ltd and Kuayue Express.

[57] The statistical scope of "percentage of participants in training on business ethics and anti-corruption at all level" excludes Deppon Logistics Co., Ltd and Kuayue Express.

Progress on the United Nations Global Compact

The United Nations Global Compact is an initiative advocated by the United Nations to promote enterprises' operation and strategy to meet ten fundamental principles of human rights, labor, environment and anti-corruption. JD.com became a member to the United Nations Global Compact in September 2021. We recognize and support the ten principles by taking strategic actions to achieve more sustainable development goals.

In February 2023, representatives of JD.com participated in and completed two training courses, the Target Gender Equality Accelerator (2022) and the Climate Ambition Accelerator (2022). In the training, JD.com learned from its peers and industry experts to get very deep insight into the Science Based Targets initiative (SBTi), net zero emissions, gender equality and the Women's Empowerment Principles. They are practiced in JD.com's strategic planning and policies.

Category	Principle	Corresponding Chapter
Human rights	Principle 1: businesses should support and respect the protection of internationally proclaimed human rights	Diversity, Equality and Inclusion
	Principle 2: make sure that they are not complicit in human rights abuses	Employee Rights and Care
Labor standards	Principle 3: businesses should uphold the freedom of association and the effective recognition of the right to collective bargaining	Employee Rights and Care
	Principle 4: the elimination of all forms of forced and compulsory labor	
	Principle 5: the effective abolition of child labor	
	Principle 6: the elimination of discrimination in respect of employment and occupation	Diversity, Equality and Inclusion
Environment	Principle 7: businesses should support a precautionary approach to environmental challenges	Addressing Climate Change
	Principle 8: undertake initiatives to promote greater environmental responsibility	Green Operation Green Logistics Green Ecology
	Principle 9: encourage the development and diffusion of environmentally friendly technologies	Green Operation Green Logistics
Anti-Corruption	Principle 10: businesses should work against corruption in all its forms, including extortion and bribe	Business Ethics

Third Party Assurance Statement

ASSURANCE STATEMENT

SGS- CSTC'S REPORT ON SUSTAINABILITY ACTIVITIES IN THE JD.COM'S ENVIRONMENTAL, SOCIAL AND GOVERNANCE REPORT FOR 2022

NATURE OF THE ASSURANCE/VERIFICATION
SGS-CSTC STANDARDS TECHNICAL SERVICES CO., LTD. (hereinafter referred to as SGS) was commissioned by JD.com to conduct an independent assurance of the Chinese version of JD.com's Environmental, Social and Governance Report for 2022 (hereinafter referred to as the Report).

INTENDED USERS OF THIS ASSURANCE STATEMENT
This Assurance Statement is provided with the intention of informing all JD.com's Stakeholders.

RESPONSIBILITIES
The information in the Report and its presentation are the responsibility of governing board and related functions of JD.com. SGS has not been involved in the preparation of any of the material included in the Report.

Our responsibility is to express an opinion on the text, data, graphs and statements within the scope of verification with the intention to inform all JD.com' stakeholders.

ASSURANCE STANDARDS, TYPE AND LEVEL OF ASSURANCE

The SGS ESG & Sustainability Report Assurance protocols used to conduct assurance are based upon internationally recognized assurance guidance and standards, which including:

- The principles of reporting process contained within the Global Reporting Initiative Sustainability Reporting Standards (GRI Standards) as:
  - GRI 1: Foundation 2021, for report quality
  - GRI 2: General Disclosure 2021, for organization's reporting practices and other organizational detail
  - GRI 3: Material Topics 2021, for organization's process of determining material topics, its list of material topics and how to manage each topic
- and the guidance on levels of assurance contained within the AA1000 series of standards.

The assurance of this report has been conducted according to the following Assurance Standards:

- SGS ESG & SRA Assurance Protocols (based on GRI Principles and guidance in AA1000)

Assurance has been conducted at a moderate level of scrutiny.

SCOPE OF ASSURANCE AND REPORTING CRITERIA
The scope of the assurance included evaluation of quality, accuracy and reliability of specified performance information as detailed below and evaluation of adherence to the following reporting criteria:

- HKEX Environmental, Social and Governance Reporting Guide.

ASSURANCE METHODOLOGY
The assurance comprised a combination of pre-assurance research, interviews with relevant employees onsite at JD.com' headquarters located at No. 18 Kechuang 11 Street, Beijing Economic-Technological Development Area, Beijing City, P. R. China. Documentation and record review and validation with external bodies and/or stakeholders where relevant.

LIMITATIONS AND MITIGATION
Financial data drawn directly from independently audited financial accounts has not been checked back to source as part of this assurance process.

Data tracing on headquarters level, not including original data of all subsidiaries.

The assurance process only involved interviews with the heads of relevant departments and certain employees of headquarters and consultation with relevant documents. No external stakeholder involved.

STATEMENT OF INDEPENDENCE AND COMPETENCE
The SGS Group of companies is the world leader in inspection, testing and certification, operating in more than 140 countries and providing services including management systems and service certification; quality, environmental, social and ethical auditing and training; environmental, social and ESG report assurance. SGS affirm our independence from JD.com, being free from bias and conflicts of interest with the organisation, its subsidiaries and stakeholders.

The assurance team was assembled based on their knowledge, experience and qualifications for this assignment.

FINDINGS AND CONCLUSIONS

ASSURANCE/VERIFICATION OPINION
On the basis of the methodology described and the verification work performed, the information and data contained within the Report verified is accurate, reliable, and provides a fair and balanced representation of JD.com's sustainability activities in 2022.

The assurance team is of the opinion that the Report has referred the KPIs disclosures of the HKEX listing rules appendix 27 'Environmental, Social and Governance Reporting Guide'.

Reporting Rules

Materiality
JD.com presented the methodology for factors' materiality research and analysis, via materiality analysis, the environmental, social and governance significant issues was reported to stakeholders, which could meet the materiality principle requirement.

Quantitative
JD.com conducted the statistics and analysis for KPIs, and reported the disclosures' impacts and purposes. In the Report some datas were compared with historiacal years, which could better help stakeholders to evaluate the effectiveness of management systems and make decisions.

Balance
JD.com presented the balance reporting rule in the Report and reported the environmental, social and governance issues truthfully.

Consistency
JD.com disclosed the methodologies with consistency for report content and data statistics at all levels in the company, in addition, remarks and interpretations were marked in the Report to assist stakeholders make a clear comparison.

Findings and recommendations
Good practices and recommendations for ESG report and management process were described in the internal management report which has been submitted to the management of JD.com for continuous improvement.

Signed:

For and on behalf of SGS-CSTC

David Xin
Sr. Director – Knowledge
16/F Century Yuhui Mansion, No. 73, Fucheng Road, Beijing, P.R. China

May 31st, 2023
WWW.SGS.COM

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ESG Policy List

ESG Indicator	Laws and Regulations Complied	Internal Policies
A1 Emissions	*Environmental Protection Law of the People's Republic of China* *Environmental Pollution Prevention and Control Law of the People's Republic of China* *Air Pollution Prevention and Control Law of the People's Republic of China* *Water Pollution Prevention and Control Law of the People's Republic of China* *Solid Waste Pollution Environmental Prevention and Control Law of the People's Republic of China*	*JD Group Environmental Management Policy*
A2 Use of Resources	*Environmental Protection Law of the People's Republic of China* *Energy Conservation Law of the People's Republic of China* *Water Law of the People's Republic of China*	*JD Group Environmental Management Policy*
A3 Environment and Natural Resources	*Land Management Law of the People's Republic of China* *Forest Law of the People's Republic of China* *Wildlife Protection Law of the People's Republic of China* *Implementation Regulations of the People's Republic of China on the Protection of Terrestrial Wildlife* *Fisheries Law of the People's Republic of China*	*Regulations on the Management of Prohibited Commodities and Information on the JD's Open Platform* *JD Group Environmental Management Policy*
A4 Climate Change	*Annual Report on Actions to Address Climate Change (2022)* *Opinions of the Central Committee of the CPC and the State Council on Working Guidance for Carbon Peaking and Carbon Neutrality in Full and Faithful Implementation of the New Development Philosophy* *Notice by the State Council of the Action Plan for Carbon Dioxide Peaking before 2030*	*JD Group Environmental Management Policy*
B1 Employment	*Universal Declaration of Human Rights* *International Labor Organization Conventions* *Labor Law of the People's Republic of China* *Labor Contract Law of the People's Republic of China* *Constitution of the All-China Federation of Trade Unions* *Trade Union Law of the People's Republic of China*	*JD Group Management System for Preventing Sexual Harassment in the Workplace* *JD Group Employee Handbook* *Collective Contract of JD Group* *Collective Contract of JD Logistics* *JD Group Background Investigation System*
B2 Health and Safety	*Law of the People's Republic of China on Prevention and Control of Occupational Diseases* *Law of the People's Republic of China on Work Safety*	*JD Group Occupational Health and Safety Management Policy*
B3 Development and Training		*JD Group's Management System for Employee Continuing Education* *JD Group's Employee Promotion Plan*
B4 Labor Standards	*Universal Declaration of Human Rights* *International Labor Organization Conventions* *Labor Law of the People's Republic of China* *Labor Contract Law of the People's Republic of China*	*JD Group Employee Handbook*
B5 Supply Chain Management		*JD Group Supplier Code of Conduct* *Bidding and Procurement Business Management Rules* *Tripartite Performance Appraisal Procedure* *Supplier Quality Exceptional Handling Procedure* *Supplier Agreement Honoring Feedback and Handling Process* *JD group Operation Event Assurance Mechanism of Bidding, Procurement and Expense Management Department* *Green Procurement Management*
B6 Product Responsibility	*Patent Law of the People's Republic of China* *Trademark Law of the People's Republic of China* *Rules for the Implementation of the Patent Law of the People's Republic of China* *Copyright Law of the People's Republic of China* *E-Commerce Law of the People's Republic of China* *Rules on the Implementation of the Trademark Law of the People's Republic of China* *Data Security Law of the People's Republic of China* *Personal Information Protection Law of the People's Republic of China* *Cybersecurity Law of the People's Republic of China* *GB/T 35273 Information Security Technology Personal Information Security Specification* *Measures for Determining the Illegal Collection and Use of Personal Information by Apps* *Provisions on the Scope of Necessary Personal Information Required for Common Types of Mobile Internet Applications* *Product Quality Law of the People's Republic of China*	*Patent Management Measures of JD Group* *Trademark Management Measures of JD Group* *Copyright Management Measures of JD Group* *Domain Name Management Measures of JD Group* *Trade Secret Management Measures (Trial) of JD Group* *Information Security and Privacy Policy of JD Group* *Data Classification and Grading Guide of JD Group* *Data and Privacy Security Management Regulation of JD Group* *Information Security Incident Grading Management Requirements of JD Group* *Security Monitoring and Response Regulations of JD Group* *Information Security and Privacy Management Code of JD Group* *JD's Privacy Policy* *JD Group Security Management Standards for Cross-border Data Flow Protection* *General Principles of JD Group Marketplace Product Quality Inspection Sampling* *JD Group Marketplace Product Shelf-Life Rules* *JD Retail Counterfeit Accountability Rules* *Regulations on the Management of Online Food Trading on the JD's Open Platform* *JD Group Marketplace Investment Qualification Standards* *Qualification Management Rules for JD Group Retail Business Suppliers* *General Principles of JD Group Marketplace Product Quality Inspection Sampling* *General Principles of JD Group Retail Business Supplier Product Quality Inspection Sampling* *JD Group Marketplace Merchant Violation Credit Management Rules* *JD Group Supplier Violation Management Rules* *JD Group Marketplace Product Labeling Sampling Rules* *JD Group Retail Business Supplier Product Labeling Sampling Rules* *JD Group Advertising Audit Rules*
B7 Anti-Corruption	*Criminal Law of the People's Republic of China* *Civil Code of the People's Republic of China* *E-Commerce Law of the People's Republic of China* *Cybersecurity Security Law of the People's Republic of China* *Provisions on Ecological Governance of Network Information Content* *Advertisement Law of the People's Republic of China* *Product Quality Law of the People's Republic of China* *Food Safety Law of the People's Republic of China* *Law of the People's Republic of China on the Protection of Consumer Rights and Interests* *Postal Law of the People's Republic of China* *Provisional Regulations for Express Delivery in China*	*JD Group Employee Handbook* *JD Group's Commitment to Anti-Corruption* *Code of Business Conduct and Ethics of JD.com, Inc.* *JD Group Anti-Corruption Regulations* *JD Group Whistle-blower Protection and Reward System* *JD Group Integrity Reward Policy* *JD Group Active Filing Reward Policy (for Trial Implementation)* *JD Group Gifts Management Regulations* *Vendor Paid Travel and Business Dinner Regulations* *Anti-Commercial-Bribery Agreement* *JD Logistics Red Line Management System* *JD Health Banquet Management System* *Product Recall Control Procedure* *JD Industrials Recall and Withdrawal Management Procedure*

Reader Feedback Form

Dear stakeholders:

We conduct this survey to better understand your expectations and needs for the ESG management and information disclosure of JD.com and to further improve our ESG performance. You are sincerely invited to fill out the survey. Thanks for your reading, opinions and suggestions.

1 For JD,com, your identity is:

☐ Shareholders ☐ Employees ☐ Consumers ☐ Supply chain partners ☐ Regulators

☐ Other government departments ☐ Media ☐ Community ☐ Others (specify here)_____

2 Are you satisfied with this annual ESG report as a whole?

☐ Yes ☐ No ☐ Average

3 Is all the information you are concerned about mentioned in this annual ESG report?

☐ Yes ☐ No ☐ Average

4 What are your expectations or suggestions for the ESG report we will prepare and publish next year?

☐ Innovative report topic ☐ Innovative structure and ideas ☐ Clear logical main thread

☐ Expanded scope of application of ESG standards ☐ More user-friendly reading interface

☐ More approachable language style ☐ Other (specify here) _____

5 What are your suggestions or expectations for the development of our ESG management?

☐ Develop long-term ESG management plans ☐ Set up more ESG management organizations

☐ Conduct extensive external communication ☐ Plan new influential public welfare programs

☐ Other (specify here) _____

JINGDONG

Environmental considerations for report publication

Paper: Eco-friendly paper is used for printing

Ink: Eco-friendly ink is used to reduce air pollution