

# **E**Alibaba

# Environmental, Social, and Governance Report



# Contents

•	Report Instructions	003
•	Company Introduction	004

005-008

011-026

- Chairman's Letter
- Executive Summary

	Climate commitments and status	029-032
01	Greening our operations and value chain	033-046

**Restoring Our Green Planet** 

- **02** Amplifying decarbonization through 047-054 our platform ecosystem
- **03** Conserving and restoring nature 055-060

## Supporting Our People

<b>01</b> An equal, dignified, inclusive, and diverse work environment	063-068
<b>02</b> Fair and competitive compensation and "benefits with warmth"	069-074
<b>03</b> Abundant learning and career opportunities	075-078

**04** Employee health and vitality 079-086

## **B** Enabling a Sustainable Digital Life

<b>01</b> Diverse consumption	089-094
<b>02</b> Inclusive consumption	095-098
<b>03</b> Trustworthy consumption	099-104
<b>04</b> Responsible consumption	105-108



01	Developing responsible technologies	111-114
02	Building digital business capabilities and markets for MSMEs	115-128
03	Enabling inclusive employment	129-136

**04** Promoting responsible production 137-140



02	Digitalization for community resilience	163-170
----	---	---------



01	Philanthropic participation of all employees	173-176
02	Technological innovations for social challenges	177-178
03	Empowering charities with technology	179-180
04	Philanthropy for everyone through our platforms	181-184



01	Building corporate trust	187-192
02	Building social trust	193-198

Appendices	199-218
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#### **Report Instructions:**

In this report, "Alibaba," "we," "the Group," and "the company" all refer to "Alibaba Group Holding" Limited."

This report mainly covers the environmental, social, and governance (hereinafter referred to as "ESG") progress of the business directly operated and controlled by the Group from April 1, 2021, to March 31, 2022. Some parts of the report also cover prior years as well as give forward-looking statements.

Unless specified, the monetary amounts shown in this report are all presented in RMB.

The report is prepared in accordance with the ESG Reporting Guide from the Hong Kong Stock Exchange. It also refers to selected guidelines from the United Nations 2030 Sustainable Development Goals (SDGs), the Global Reporting Initiative (GRI) Standards, the standards issued by the Sustainability Accounting Standards Board (SASB), and the framework suggested by the Task Force on Climate-related Financial Disclosures (TCFD).

Additional disclosures can be found in our appendices.

Appendix 1: ESG Key Performance Metrics Table Appendix 2: ESG Environmental Data Verification Statement Appendix 3: Greenhouse Gas Inventory Appendix 4: Stakeholder Engagement and Materiality Assessment Appendix 5: Progress of United Nations Global Compact Appendix 6: Report Indicator Index Appendix 7: Important Legal Information

This report is presented in electronic versions in the ESG section of the Group's official website (https://alibabagroup.com/en/ir/esg). A Chinese version, an English version, and printer-friendly versions are available. In case of conflicts between the two languages, the Chinese version shall take precedence.

We value any feedback and opinions, which can be e-mailed to us at ESG@alibaba-inc.com.

# **Our mission:** To make it easy to do business anywhere.

# **Our vision:** We aspire to be a good company that will last for 102 years.

#### **Company Introduction**

Our mission: to make it easy to do business anywhere. Our founders started our company to champion small businesses, in the belief that the Internet would level the playing field by enabling small enterprises to leverage innovation and technology to grow and compete more effectively in domestic and global economies. We believe that concentrating on customer needs and solving their problems - whether those customers are consumers, merchants, or enterprises - ultimately will lead to the best outcome for our business. In the digital era, we are staying true to our mission by helping our customers and business partners harness the power of digital technology. We have developed an ecosystem powered by technology infrastructure that enables participants to create and share value on our platforms. Our decisions are guided by how they serve our mission over the long term, not by the pursuit of short-term

gains.

Our vision: we aspire to be a good company that will last for 102 years. For a company that was founded in 1999, lasting for 102 years means we will have spanned three centuries. Our culture, business models, and systems are built to last, so that we can achieve sustainability in the long run. As we continue to expand our businesses, Alibaba has evolved into an ecosystem that is unique, energetic, and innovative.

## Alibaba and Our Vision to Last 102 Years: **Creating Value Beyond Commercial Outcomes**

Letter from the Chairman and CEO

## ESG not only provides a framework for tackling a series of global challenges, but is also the bridge to carry Alibaba to 102 years and beyond.



The extreme weather this summer is fueling global anxiety that the impact of climate change is not far removed in the future. Historical data shows that each decade since the 1960s has been hotter than the previous. Yet extreme weather is but one example of a world facing increasing uncertainty. The COVID pandemic is now in its third year, while geopolitical conflicts continue to intensify alongside emerging energy and food crises. The progress to date towards the United Nations 2030 Sustainable Development Goals (SDGs), such as eradicating poverty, reducing inequality, and mitigating climate change, does not warrant optimism.

Alibaba's vision is to be a good company that will last for 102 years. We were founded in 1999, and 102 years would give us a foothold across three centuries. This will require resilience to overcome major economic cycles and unexpected challenges. Our

original vision is a testament to this long-term thinking, and shows our commitment to addressing issues faced by our communities and to creating value beyond only commercial outcomes. For us to last for 102 years in a healthy and sustainable fashion, we must manage our impact on the environment, our relationship with society at large, and our long-term corporate governance.

The design of our ESG strategy is critical to the realization of this vision. ESG not only offers businesses an action framework to address universal risks and challenges but is also increasingly important as a global standard for evaluating a good company. Last year, we formally announced that ESG would become a core pillar of Alibaba's strategies.

Alibaba has been in existence for 23 years, and we believe ESG is a good yardstick for measuring value, responsibility, and risk in the 79 years ahead and beyond. It helps us develop a practical, clear, and persistent action plan with high-quality and transparent metrics for continuous self-evaluation and improvement. We will share our progress through two reports: our Annual Report on the health of our business, and the ESG report on our progress in sustainability and the associated value we create.

We believe the effective implementation of ESG strategies should align with both global standards and China's practices. In recent years, China has announced several policies, such as carbon peaking and neutrality (Dual Carbon), common prosperity, rural revitalization, and educational equity, which are highly consistent with the action items advocated by the SDGs and offer guidance for exploring value creation beyond commercial outcomes. We believe ESG designs and practices in China will evolve to incorporate unique local characteristics.

## **Our Action Plan**

We believe in our responsibility and capability to be a driver of positive change more than ever. As a digital platform company, Alibaba's growth story is a history of innovation in the business applications of technology and the creation of new business formats with the many participants in our ecosystem. Today our digital platforms have brought together more than 1.3 billion consumers and tens of millions of merchants and other organizations. Not only are they business and innovation partners but also our companions on the journey of ESG exploration and practices. How to work with them to build a green and sustainable new business ecosystem and create value beyond commercial outcomes is a new expedition for all of us.

Of course, solving all these challenges and building a new business ecosystem is not something that can be done overnight, nor can any organization do it independently. It requires the trust and collaboration of all stakeholders, including policymakers, businesses, and the general public - all working together to discover innovative sustainable solutions. Based on our capabilities and priorities, our ESG plan focuses on the following seven strategies of action:

- Restoring our green planet: Addressing major environmental issues such as climate change.
- Supporting our people: Building a people-first culture that offers an equal, inclusive, and dignified environment in which every employee can grow and develop.
- Enabling a sustainable digital life: Leveraging the power of technology to bring a better and more responsible digital lifestyle for everyone.
- Fueling small businesses: Creating more growth opportunities for micro, small, and medium enterprises (MSMEs) and entrepreneurs through technology and business innovations.
- Enhancing community inclusion and resilience: Sharing dividends of development with disadvantaged groups and underserved regions, and thus building more inclusive and resilient communities.
- Facilitating participatory philanthropy: Fostering a culture of participatory philanthropy by integrating community resources with creative platform innovations.
- Building corporate and social trust: Building corporate trust by establishing an effective, transparent, and sound governance system; building social trust with ethical technology and protecting user privacy and data security.

Chairman's Letter

Environment

Community

Philanthropy

## **Our Progress in Action**

Over the past year, I have spent a lot of time working closely with our teams on Alibaba's ESG strategies and action plan, which has been my top priority. To guide our strategy and execution, we are building a three-tier governance structure consisting of the sustainability committee at the board level, the sustainability steering committee (SSC) for management oversight, and the ESG working group.

We are proud that every bit of our progress in ESG has been inextricably connected with the economic and social growth of people's daily lives. We are actively exploring how to use technology to better serve our ESG objectives, how to better integrate ESG into our business design, and how to promote public welfare more effectively and sustainably in various social topics, such as fighting pandemics and natural disasters or supporting longer-term endeavors including common prosperity, rural development, and Chinese cultural preservation. Our efforts in addressing these topics help us develop a deeper understanding of our relationship with our times and the society we are in.

In December 2021, we released our Carbon Neutrality Action Report and made some important commitments. These commitments will continue to impact generations of Alibaba employees, or "Aliren." We know that change will only come with ongoing efforts across generations. By now, carbon reduction is a priority across our organization. We have pioneered methodologies for measuring "Scope 3+" emissions reduction with leading institutions and started industry collaborations with consumer companies on decarbonization-friendly actions. We have also recently rolled out a carbon ledger platform to make it easier for users across Alibaba's ecosystem to participate in eco-friendly actions. As a general principle, we strive to make low-carbon efforts go hand-in-hand with long-term development. Meanwhile, we have started to incorporate broader environmental commitments into future planning, including on water, natural resources, and biodiversity.

We also believe that the boundaries of social responsibility should be broader. To begin with, we are committed to creating an equal, inclusive, and dignified working environment for our employees, providing them with growth opportunities as well as fair and reasonable compensation and benefits. We are leveraging technology to support the high-quality development of small businesses and the creation of inclusive and flexible employment opportunities at scale while enabling more consumers to access a sustainable lifestyle. We are contributing to building a digital rural economy and improving community resilience to combat pandemics and natural disasters. We are promoting a culture of participatory philanthropy, which means charitable actions and social impact efforts can be influential in addressing sustainable development challenges beyond business goals.

We are also continuing to pursue corporate governance excellence and earn the long-term trust of consumers, customers, and other stakeholders. We are leveraging industry-leading technologies and capabilities to help build a trust system for digital business, including secure protection of user privacy and data security. We are building a digitalized and comprehensive risk management system and an effective governance mechanism

with compliance, transparency, and accountability. At the beginning of this month, we announced two new independent directors, bringing the total number of independent directors on our board to seven out of twelve, or more than 50 percent, and the number of female board members to three. We will continue to enhance the independence and excellence of our board.

## Conclusion

Despite the many challenges ahead, we are hopeful. The world is full of uncertainties and we are at a critical juncture for a new phase in sustainable development. Under these circumstances, ESG is not just the right choice but also an opportunity to shape the future. We will publish this ESG report annually to share periodic updates on our goals, actions, and progress. We believe digitalization can not only bring connectivity and synergy, but also uniquely drive green transformation and sustainable development.

We hope the implementation of our ESG strategy will make Alibaba a better company. We also hope to work together with everyone towards a better, fairer, and more sustainable future!

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Employees
Consumers

Chairman's Letter

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Community

## Daniel Zhang

Chairman and Chief Executive Officer Alibaba Group

August 2022

Trust

Philanthropy



# ESG is the bridge to carry Alibaba to 102 years

# **Global challenges and the** roles of technology and business

The world collectively faces a host of issues that threaten our society's future, with the most pressing twin challenges being environmental degradation and socioeconomic inequality. These risks are urgent and of a magnitude that puts them beyond the capacity of any singular institution or even country to address.

Understanding the scale and complexity of these challenges, the global community is coming together and engaging in concerted efforts. These initiatives include the United Nations (UN) 17 Sustainable Development Goals (SDGs), some of China's key development policy initiatives (carbon neutrality, common prosperity, and rural revitalization), and the budding corporate ESG movement.

As a technology-driven platform company in this era, Alibaba should shoulder the responsibility to help mitigate these challenges. Digitalization has brought unprecedented connectivity and collaboration, extending the benefits of global trade and economic development to an increasing number of regions across the world. We must bring to bear the full force of digital innovation, while also ensuring that every person and community that we serve can fully enjoy its benefits.

In our view, there are three pillars - prioritizing social responsibility, leveraging the strength of technology, and engaging the stakeholder ecosystem - that serve as indispensable building blocks for systematic, scalable, and collaborative solutions to sustainability challenges. Businesses touch upon all three pillars and should help gather these forces to identify solutions that align with the public interest. Digital platforms are especially well positioned to link the three building blocks to create ecosystems, both for business and beyond, that are technology-powered and socially responsible.



# ESG at Alibaba's core

For Alibaba, ESG is the bridge to carry us into a long-term and sustainable future. We are, after all, a company born with social responsibility in our DNA. That begins with our mission to "make it easy to do business anywhere." Our platforms have helped over ten million small businesses to thrive and over a billion consumers to enjoy better lives. To continue to make such contributions, Alibaba must do all it can to mitigate key societal challenges, for the long-term sustainability of ourselves, our partners, and our communities at large.

On our 20th anniversary in 2019, we led discussions to propose China's first Sustainable Business Action Initiative, recommending that our business partners and industry peers, together with us, should:

- Integrate sustainable development into core business development strategies and establish the necessary governance structures;
- Practice sustainable development in business activities and be transparent in ESG disclosure;
- Strengthen cooperation with all stakeholders to jointly promote sustainable development;
- Commit to delivering on long-term sustainable development objectives to ensure a better future for businesses, communities, countries, and the planet.

By December 2021, we had codified our recommendations into a robust system, declaring ESG as one of Alibaba's top priorities in our business strategies and future growth. On that basis, we are championing responsible technology, and committing to the inseparable link between our own future and a sustainable future for all.



#### 011 / 012

Chairman's Letter
Executive Summary
Environment
Employees
Consumers
Small Businesses
Community
Philanthropy

# **Our approach:** five strategic design steps

In designing our ESG strategy based on the three pillars - social responsibility, technological strength, and multiple stakeholder engagement - we have developed a systematic five-step approach to position, integrate, coordinate, amplify, and complement our ESG goals.

- Positioning and targeting: Through extensive communication with relevant stakeholders such as consumers, employees, investors, governments, partners, and communities, and considering the most pressing societal challenges and Alibaba's own characteristics and capabilities, we have identified the issues of greatest priority. We have further clarified our strategic positioning with ESG as central to our core strategy, and we are committed to being a technology company that promotes human well-being and protects the planet, so that people and nature can develop in a sustainable way.
- Integrating ESG into business design: Only by establishing social responsibility as a core element of business design, combined with technological and business innovations, can sustainability truly become the engine of enterprise development. This means that ESG goals must be integrated into strategic planning, business positioning, and operations.
- Promoting coordinated transformation of the related business ecosystem: With social responsibility as our strategic goal, we should innovate and reform our system from the inside out and across the value chain, together with suppliers, NGOs, and ecosystem partners.
- Amplifying impact through platform technology: Platform technology companies can widely reach and connect multiple participants, promoting collaboration between them. This means that the platform can become a facilitator in helping all parties to fulfill their social responsibilities, and truly promote social progress on a large scale.
- **Charity for sustainability:** We coordinate our philanthropic efforts and ESG priorities to complement and go beyond the business and address broader environmental and social challenges.

Amplifying impact through platform technology Charity for sustainability

ESG strategy design

Promoting coordinated transformation of the related business ecosystem





**Restoring Our** 

**Green Planet** 

**Fueling Small** 

**Businesses** 

Supporting Our People

> Enabling a Sustainable Digital life

**Building Trust** 

Enhancing Community Inclusion and

Resilience

Facilitating Participatory

Philanthropy

# Alibaba's ESG strategy design: a seven-petal flower

By conducting materiality assessments in extensive exchanges with stakeholder groups, we have identified 22 ESG material issues at Alibaba (for details, see Appendix 4), which we organize into seven action dimensions of our long-term ESG plan. This is represented in our "Alibaba seven-petal ESG flower." The seven strategy goals are closely aligned with the UN's 17 SDGs and China's key development policy initiatives.

Building corporate trust by establishing an effective, transparent, and sound governance system; building social trust with ethical technology, and protecting user privacy and data security.



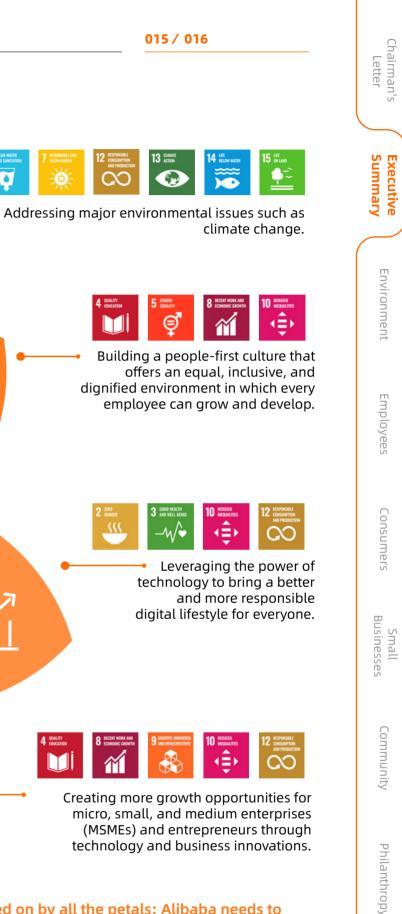
Fostering a culture of participatory philanthropy by integrating community resources with creative platform innovations.

3 GOOD HEALTH AND WELL-BEING	4 QUALITY EDUCATION	5 GENDER EQUALITY	10 REDUCED INEQUALITIES	17 PARTNERSHIPS FOR THE GOALS
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Sharing dividends of development with disadvantaged groups and underserved regions, and thus building more inclusive and resilient communities.



The essence of ESG is to pursue the sustainable development of both human beings and the natural world. This goal is touched on by all the petals: Alibaba needs to build trust with all our stakeholders, with a particular aim of supporting our people internally. With our ecosystem stakeholders working in concert, we can take the steps necessary to restore our green planet while simultaneously providing consumers with a better, sustainable digital life and providing a platform for the development of small businesses. All of these go hand in hand with efforts we must make to enhance the economic inclusion and resilience of communities and simultaneously facilitate everyone's participation in tackling our social challenges.



# A summary of our actions in the seven strategy dimensions

## I. Restoring Our Green Planet

To help mitigate climate change, the central issue of the present environmental crisis, we have made ambitious carbon pledges that cover our operations (Scopes 1 and 2), our value chain (Scope 3), and our platform ecosystem (Scope 3+). We have been proactive in pioneering the concept of "Scope 3+" to reflect a platform operator's potential and responsibility to go above and beyond its own carbon emissions. In the long run, we are committed to the Science-Based Target initiative (SBTi) that seeks to limit the average global temperature increase to 1.5 degrees Celsius by 2050.

We are fully committed to our pledges and will work relentlessly to speed up our carbon transition in the following directions.

 Reducing operational and value chain carbon emissions (Scopes 1, 2, and 3)

We strive to reach operational carbon neutrality via substitution with greener materials and clean energy, digital optimization, and recycling. We apply these procedures to our most carbon-relevant operations, including our work environments, retail stores, cloud computing, and logistics. We actively work with our value chain partners, expanding our sustainable procurement program to reduce Scope 3 emissions. In the Alibaba Supplier ESG Code of Conduct, we encourage our suppliers to establish their own emission reduction plans. We've pioneered more environmentally conscious product categories, such as China's first large-scale batch of certified low-carbon organic agricultural products.

• Partnering for platform decarbonization (Scope 3+) With professional institutions, we jointly published Scope 3+ Emissions Reduction: A New Methodology for Corporate *Climate Actions Beyond Value Chains*. Under its guidance, we developed a digital carbon reduction measurement system, and launched our carbon ledger platform covering multiple apps, already helping over 20 million users practice carbon reduction. We also launched the "Decarbonization-friendly Action" program in concert with many leading brands.

 Tackling broader environmental problems

Beyond carbon emissions, we have also developed programs and targets for tackling other environmental challenges, such as preserving biodiversity, reducing waste, and conserving water.





## **II. Supporting Our People**

Alibaba is a global technology company with diverse and talented employees working in offices across 27 countries and regions. None of our goals can be achieved without them. We strive to be a company that people love to work for, and where they can become better versions of themselves.

To accomplish this, we commit to four actions:

• Build an equal, dignified, inclusive, and diverse workplace We value having a diverse set of people, talents, roles, views, and cultures at Alibaba. We have always had a deep reservoir of female leadership. Women comprise 39% of leaders in our senior management team, and our workforce is evenly split by gender. We eschew hierarchy to promote candid and open communication at all levels, including regular employee chats with our Chairman and CEO, Daniel Zhang.

 Provide fair and competitive compensation, and "benefits with warmth" We retain and advance motivated and talented people with competitive compensation, including salary, bonus, and equity incentive awards. Our benefits package goes above and beyond the average and extends to the families of employees.

 Provide rich learning and working opportunities that lead to personal growth We run a large internal training and development program. In FY2022, the average training time per employee reached 49 hours. We also actively promote internal job mobility, with 7,707 positions filled internally in FY2022, making Alibaba itself a dynamic talent market.

 Promote people's health and vitality We put significant effort into crafting vibrant, healthy workplaces with a happy work culture. We take our employees' safety seriously, with a multi-layered safety and response system.

#### 017 / 018

airman's Letter
Executive Summary
Environment
Employees
Consumers
Small Businesses
Community
Philanthropy
Trust

5



## III. Enabling a Sustainable Digital Life

We are committed to helping consumers achieve better lives in increasingly responsible and sustainable ways. We promote sustainable consumption with the following four characteristics:

#### • Diverse consumption

A better life requires diverse products and services. We run the world's largest consumer market with billions of SKUs on offer, allowing consumers to access a diverse array of products with different functions, brands, price levels, and delivery speeds. Our platforms provide transparent price comparison tools that help consumers find the best value for their money.

#### Inclusive consumption

We continually extend our services to remote and less affluent regions: more than 70% of new users in China last year came from relatively less-developed regions. We make efforts to ensure digital tools are accessible to traditionally underserved groups, such as senior citizens and people with disabilities. In FY2022, 305,000 visually-impaired users were active on Taobao.

#### Trustworthy consumption

We are dedicated to high standards for the genuineness, safety, and quality of goods and services on our platform. We are also making consumer privacy protection a top priority. We communicate to our users the scope of data collection with transparency, require user authorization to do so, and facilitate opting out of data-based recommendations at any time. By Aug 15, 2022, our virtual phone number feature had covered over 500 million active consumers on Taobao.

Responsible consumption

We foster responsible consumption on our platforms by banning dangerous and harmful products, promoting a green marketplace of sustainable goods, and encouraging sustainable consumption habits. By the end of FY2022, the Cainiao box recycling program now operates in 315 cities in China.

## **IV. Fueling Small Businesses**

Unlike other recent industrial revolutions, this is an era in which small players can be competitive. We hope that the stakeholder ecosystem we have built with our partners can support the sustained growth of small businesses. For that we act in four directions:

• Building responsible technologies In FY2022, we invested a record of over RMB120 billion in technology-related areas. We believe responsible technology should be efficient, green, advanced, inclusive, and open. For many years we have been consecutively ranked first among Chinese firms in open source activity.

 Building digital business capabilities and markets for MSMEs

One crucial feature of our platform is that it builds a dynamic business ecosystem involving tens of millions of consumers and MSMEs. We develop technology-driven market access and business infrastructure allowing MSMEs to be more competitive while retaining their flexibility and vitality.

#### 019 / 020

## • Enabling inclusive employment We have created opportunities for over ten million MSMEs on our e-commerce platforms, and an estimated 60 million jobs. We have also made use of the leveling power of technology to create jobs for women and historically disadvantaged groups such as people with disabilities.

## • **Promoting responsible production** We provide our customers and ecosystem partners with state-of-the-art digital technologies and solutions that make their work more efficient, less energy-intensive, and with less waste of resources.

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Summary	Fyeriitive
Environment	
Employees	
Consumers	
Businesses	Small
Community	
Philanthropy	
Trus	

9

## V. Enhancing Community Inclusion and Resilience

The urban-rural socioeconomic divide is the largest inequality challenge in China, a situation paralleled around the world. At the same time, economic development is not sustainable if society, especially disadvantaged groups within it, sees disasters and crises wiping out their hard-earned progress. We strive to enhance the inclusion and resilience of communities by tackling the following two intertwined problems:

Facilitate rural digitalization for a more inclusive economy

First, we continue to spur economic development by building the e-commerce market into rural areas. In 2019, Alibaba was the first technology company to receive the National Poverty Alleviation Organization Innovation Award in China. In 2021, we helped sell RMB128.1 billion of products from 832 counties previously categorized as impoverished under China's national standards, and Alibaba was awarded as a National Exemplary Organization in Poverty Alleviation. Second, we help revitalize rural value chains by bringing much-needed business infrastructure, production technologies, and even marketing and branding skills to rural areas. Third, we dispatch experienced employees as "rural commissioners" and "rural technology officers" to help craft local development solutions. At the same time, we run programs that promote digital education, cultivate rural talent, help to create local jobs, and improve schools and medical facilities.



#### Support the strengthening of community resilience

We build our own resilience capabilities to support the operation of the business ecosystem and better respond to society's needs during crises. Since the outbreak of the pandemic, we have leveraged our digital capabilities, including in operations, market access, and logistics to support society. These efforts include the procurement and donation of medical supplies and necessities, and the use of our technological capacity to tackle COVID-19. We share technologies to improve disaster forecasts, coordination, and recovery, seeking to promote broader societal resilience. DAMO Academy's Medical AI Team received the award "National Exemplary Organization for Pandemic Response in Science and Technology" from China's Ministry of Science and Technology. Meanwhile, our logistics arm Cainiao worked with partners to distribute over 260 million pieces of medical supplies to over 150 countries, including cold-chain deliveries of life-saving vaccines to 11 developing countries. Cainiao was awarded the Silver Stevie Award for "Most Valuable Enterprise Response" for global COVID-19 efforts.

## **VI. Facilitating Participatory Philanthropy**

Our approach to philanthropy is centered on the notion that public service should be widely participatory. We apply this principle in four key ways.

- We start with our employees in promoting participatory and multi-layered philanthropy Our "Three Hours for a Better World" asks all employees to give at least three hours to a cause annually. In 2022, DAMO Academy created a digital sign-language interpreter to help the hearing-impaired better navigate the world. We support a unique employee-led and elected Alibaba Philanthropy Committee.
- We draw upon our expertise in technology to directly tackle social issues: Our engineers and other employees gave their time to build and run the "Reunion System" to help locate missing children. Over the past 6 years, the system has sent alerts for 5,038 missing children and assisted in the recovery of 4,960 of them. In the latest program year alone, we assisted in the recovery of 253 children.
- We deploy our resources to be a force multiplier and a tool to help those already doing good We launched Green Code, a volunteer tech service platform connecting over 330 organizations and 6,000 programmers. Our "XIN 100" philanthropic support program aims to provide 100 projects with resources and skills to enhance their work.
- We leverage our platforms to involve everyone in philanthropy: In FY2022, "Goods for Good" engaged over 2.2 million merchants and 500 million consumers in channeling shopping proceeds to charitable projects in line with our social purpose. In recent years, we rolled out "Three Hours for a Better World" to the public, logging over 600 million volunteer sessions.

## **VII.** Building Trust

Becoming a company that earns long-term corporate and social trust from all its stakeholders is imperative if we are to fulfill our social responsibility.

• To earn corporate trust, we have established a transparent and robust system of governance across all levels of the organization. Alibaba benefits from having a dynamic and diverse board of directors as well as a unique partnership system that looks out for the company's mission, vision, and values. In 2021, we set up a three-tier sustainability governance structure to support our ESG actions. We maintain rigorous risk management systems that give us multiple lines of defense to spot and rectify risks. We maintain high standards of business conduct for all of our managers, employees, and partners.

• To earn social trust, we created a Science and Technology Ethics Governance Committee this year to ensure our technologies will always be developed and used for ethical purposes. We strive to be a leader in user data privacy and security protection, which are foundational to our services. In 2015 Alibaba Cloud launched China's first Data Protection Initiative to protect our business customers with three principles: "you own your data; you manage your data; your data is protected." The six pillars of Alibaba Cloud's security protection, including anti-DDoS, web application firewall, cloud security center, cloud firewall, business risk control, and confidential computing, have all received recognition from leading global authorities.

Executive Summary
Environment
Employees
Consumers
Small Businesses
Community
Philanthropy
_

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Chairman' Letter

# **ESG Performance Summary**

#### **Restoring Our Green Planet**

## Clean energy

No. 1	We were the largest buyer of renewable energy among Chinese companies in the BloombergNEF 2021 ranking.
619,944 MtCO2e	We achieved 619,944 metric tons of CO2 equivalent (MtCO2e) in emission reductions through energy transition in FY2022.
21.6%	Alibaba Cloud saw its proportion of electricity from clean energy reach 21.6% in FY2022.

## (d) Resource efficiency

Computing efficiency: from ourselves to users

1.247	Our data centers reached an annual average power usage effectiveness (PUE) of 1.247 in FY2022, an Asia-leading standard.			
85.5%	Alibaba Cloud can help avoid 85.5% of carbon emissions for customers switching from on-premise equivalents in China.			
Green logistics: from deliveries to recycling				
15% / 700mn	Cainiao applies smart algorithms to help reduce packing box material by 15%. In FY2022 Cainiao worked with partners to reach over 700 million shipments in original packaging.			
315 Cities	By the end of FY2022, Cainiao has implemented shipping box recycling programs in 315 cities in China.			
 តៃ Platform decarbonization				

### lattorm decarbonization

Scope 3+	We pioneered the concept of Scope 3+ emissions with an ambitious decarbonization target, and jointly released corresponding measurement methodologies with leading professional organizations.
20mn+	We launched a carbon ledger platform that has helped more than 20 million consumers conduct carbon reduction.
19	In July 2022, we partnered with 19 consumer goods brands to launch the "Decarbonization-friendly Action" program, promoting low-carbon consumption.

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ূ Equality, জ	diversity, and inclusion	🔂 Diver
<b>49.5</b> %	Women make up 49.5% of our over 250,000 employees, and 39% of our board directors and senior executives.	Billions We run the w
2,007	In FY2022, we employed 2,007 people with physical disabilities.	billions of Sk
		🗵 Inclu
品 Learning	and career opportunities	<b>70%+</b>
Learning and t	training	305,000
59,476 / 49	In FY2022, we carried out 59,476 training sessions averaging 49 hours of training per employee.	505,000
Career develo	pment	×
6,496	We set up both professional and management tracks to give employees better long-term development. In FY2022, 6,496 employees reached their "five-year maturity" career milestones.	S Trust 900mn
Diverse oppor	tunities	
7,077	In FY2022, 7,077 employees initiated and completed internal job transfers, making Alibaba a dynamic talent market.	0.015%
🛱 Benefits v	vith warmth	5mn+
28,000	With our new "WeCare" benefits program, over 28,000 employees have taken companionship leave to care for family in the first quarter of 2022.	
65,000	Over 65,000 parents of our employees used our free annual medical check-up program, which was recognized as a "Platform Enterprise Worker Care" best practice.	
30,390	On the 2021 AliDay, 30,390 family members and friends of employees visited our campuses to experience the working environment and culture.	ত্তি Resp
🔗 Best emp		300mn+

We were among the Top 10 Chinese companies in Forbes World's Best **Top 10** Employers 2021 ranking.

## ling a Sustainable Digital Life

## erse

## s of SKUs

world's largest consumption marketplace, providing KUs on offer to meet the diverse needs of our customers.

## usive

In FY2022, over 70% of our new users in China came from relatively less developed regions.

In FY2022, Taobao served around 305,000 0 visually-impaired users.

## stworthy

- We pioneered a "7-day no questions asked" return policy and speedy refunds in China. In FY2022, over 900 million speedy refunds were processed.
- In FY2022, the complaint rate on Taobao and Tmall was 0.015%, with 100% of complaints responded to.

We uphold three principles to safeguard user privacy and security - minimal data collection, maximum user awareness and choice, and the strongest user data protection in our products and services. By August 15, 2022, our virtual phone number feature had covered over 500 million consumers on Taobao.

## ponsible

We established a re-commerce platform with over 300 million users, Idle Fish, supporting the development of a circular economy.

Summary	Executive
	Environment
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2	Conclimere

Chairman's Letter



#### **Fueling Small Businesses**

#### **Responsible technology**

#### Efficiency

In the 2021 Gartner Solution Scorecard for integrated IaaS and Highest PaaS, Alibaba Cloud received the highest scores in the core evaluations of computing, storage, network, and security (required), separately.

#### Openness

We have long been ranked first among Chinese companies in **No.** 1 open source activity and impact. We won the most awards in the China Association for Science and Technology's 2021 open source innovation list.

#### Advanced

We have more than 13,000 global patents, most of which are in 13,000 the core technology fields of cloud computing, artificial intelligence, and so on.

#### Inclusion

Alibaba Cloud provides services to around 4 million enterprises 4mn / 10mr worldwide, and helps tens of millions of MSMEs use cloud computing.

## **Building digital business capabilities and markets** for MSMEs

## Tens of millions

Through building a business ecosystem involving tens of millions of merchants and more than 1.3 billion users, we bring unprecedented market opportunities to MSMEs.

#### 9mn / 9mn

Together with partners, we provide diverse digital business capabilities for MSMEs. In FY2022, over 9 million merchants used our Qianniu one-stop digital management platform. Also in FY2022, over 9 million merchants on our platforms benefitted from subsidies or other programs to help MSMEs during the pandemic.

## Enabling inclusive employment

- 60mn We created or supported, directly or indirectly, more than 60 million jobs.
- There are tens of millions of active MSMEs on our platform, of 46% which around 46% are led by women.

#### **Responsible production**

FIRST Since 2021, Taobao was the first domestic e-commerce platform to issue plastic restriction rules and actively promotes the development of high-quality degradable plastic products.

## **Enhancing Community Inclusion and** Resilience

## Rural revitalization

#### Expanding e-commerce market

7,023 / 1,300bn

By 2021, there were 7,023 Taobao Villages and 2,171 Taobao Towns, with sales amounting to RMB1,300 billion in 2021.

## 832 / 128.1bn

In 2021, 832 counties previously on the national list of impoverished counties achieved a total sales of RMB128.1 billion on our platforms.

Supporting rural value chain development

## 1,000 / 50,000

By FY2022, Cainiao has established a vast rural logistics network in China, with over 1,000 county-level logistics centers and 50,000 rural village stations.

#### Rural talent development

- 27 / 160
- We have sent 27 "rural commissioners" and 160 "rural technology officers" to spur rural digital development according to local needs.

## 110.000 / 2.3mn

We have trained 110,000 rural live-streamers since 2019, and completed 2.3 million rural livestreaming sessions.

#### National Exemplary Organization in Poverty Alleviation

In 2019, we were the first technology company in China to receive the "National Poverty Alleviation Organization Innovation Award." In 2021, we were named a "National Exemplary Organization in Poverty Alleviation."

## Community resilience

In 2021, DAMO Academy's Medical AI Team received the "National Exemplary Organization for Pandemic Response in Science and Technology" award from China's Ministry of Science and Technology.

## 150+ / 260mn+

Since 2020, we have distributed 260 million items of medical supplies, including COVID-19 vaccines, to over 150 countries. Cainiao received a Stevie Awards silver medal in the "Most Valuable Enterprise Response" category in 2022.

## **Facilitating Participatory** Philanthropy

## **&** Everyone's philanthropy

## **Three hours**

In 2015 we launched "Three Hours for A Better World" for all our employees to participate in philanthropy. The program was extended to the general public in 2017.

## Technological innovations for social challenges

## 4,960

Since 2016, the Reunion System we helped build has sent out alerts for 5,038 missing children, and assisted in the recovery of 4,960 of them.

## Empowering charities with technology

## 6,000 / 330

By June 2022, more than 330 charitable organizations and more than 6,000 of our engineers have participated in Alibaba's "Green Code", a platform to match tech volunteers with charitable projects.

## **Platform-based philanthropy**

## 2.2mn+ / 500mn

In FY2022, our "Goods for Good" program engaged over 2.2 million merchants and 500 million consumers on Taobao/Tmall in channeling shopping proceeds to charitable projects.

## **Building Trust**

## Corporate trust

## 58%

of our board members are independent directors. Three of our four board committees are chaired by independent directors.

## Sustainability governance structure

In 2021, we set up a three-tier sustainability governance structure, including a dedicated board-level sustainability committee, an executive-level sustainability steering committee, and an ESG working group.

## **Risk Management Committee**

In 2022, we established the Alibaba Group Risk Management Committee and issued the Alibaba Risk Management General Outline.

## **Social trust**

Science and technology ethics

## **Science and Technology Ethics Governance Committee**

We established our Science and Technology Ethics Governance Committee in 2022 to ensure that Alibaba's technologies always serve ethical purposes, and commit to being useful, reliable, trustworthy, and controllable.

#### Data security and privacy protection

## FIRST

In 2015, Alibaba Cloud launched China's first data protection initiative to serve business customers with 3 principles: "you own your data, you manage your data, and your data is protected."

## Security and privacy technological capacity

In the 2021 Gartner Solution Scorecard for integrated IaaS and PaaS, Alibaba Cloud received the highest scores in the security (required) category. Its six key security capacities are highly recognized by authoritative institutions.

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Summary	Executive
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Businesses	Small

Chairmar Letter

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# Restoring Our Green Planet

We commit to helping conserve and restore the natural world we all rely on as it faces global challenges. Both the digital and green transitions are likely our best tools to address the pervasive environmental and climate crisis and transform our society into a green and low-carbon "circular economy." Through our efforts, we hope to help people have a better chance of living together in a healthy environment with blue skies and thriving ecosystems.



Chairman Letter

Executive Summary

**Our environmental actions** place a focus on:

• Greening our operations and value chain Amplifying decarbonization through our platform ecosystem Conserving and restoring nature

13 CLIMATE ACTION







Employe

Community

Philanthropy

## **Climate commitments and status**

## **Climate risk assessment**

To help restore our planet and to sustain our own business, Alibaba has integrated climate risk management into our business strategy and risk management system. In line with the recommendations of the Task Force on Climate-related Financial Disclosure (TCFD), we work to identify potential risks and opportunities associated with climate change, and improve our capabilities to manage those risks.



#### Governance

The sustainability committee of Alibaba's board of directors oversees and supervises Alibaba Group's ESG strategy and implementation, including climate risk management and carbon neutrality goals. The sustainability steering committee, led by the board's sustainability committee, works with the ESG working group to plan and implement our ESG strategy.

#### Strategy

We have analyzed the physical and transition risks of climate change in our businesses and identified strategies for addressing risks, as well as potential opportunities. Our goal for carbon neutrality adheres to the following general principles: direct carbon reduction takes precedence over carbon removal, and carbon removal takes precedence over offsets. This prioritization approach offers the fastest and most effective path to reducing the concentration of greenhouse gas (GHG) in the atmosphere, and is also consistent with the Paris Agreement goals of limiting the global temperature rise to 1.5 ° C.

#### Risk management

The Alibaba Group Risk Management Committee is responsible for reviewing the relevant risk assessments and making corresponding institutional and management arrangements separately. The Risk Management Committee, chaired by the Chief Risk Officer, continues to incorporate climate risks into the company's overall risk assessment and management system.

#### Metrics and targets

We have made a three-fold emission reduction pledge covering our own operations, value chain, and platform ecosystem. In addition, Alibaba has committed to the Science Based Targets initiative (SBTi).

To guide our future actions, aligned with the recommendations of the TCFD, we have considered a range of scenarios, including those well below and above a 2° C average global temperature change, to better understand the potential impact of climate change on Alibaba's businesses, communities, and stakeholders.





## Alibaba carbon neutrality pledges

In December 2021, we released the Alibaba Group Carbon Neutrality Action Report, pledging to:

- Decarbonize Alibaba (Scopes 1 and 2): By 2030, we will achieve carbon neutrality in our own operations.
- Green the value chain (Scope 3): By 2030, we will collaborate with our upstream and downstream value chain partners to cut emission intensity by 50% from the base year of 2020. Alibaba Cloud will achieve Scope 3 carbon neutrality during the same period.
- Enable a low-carbon circular digital ecosystem (Scope 3+): Beyond our own operations and direct value chains, we pledge to leverage our digital platforms to encourage even broader participation by stakeholders that can be reached by our efforts. By 2035, we will facilitate 1.5 gigatons of GHG emission reduction over 15 years across Alibaba's digital ecosystem.



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Executive Summary	
Environment	
Employees	
Consumers	
Small Businesses	
Community	
Philanthropy	
Trust	

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## Current status of emissions

In FY2022 covering April 2021 to March 2022, Alibaba's GHG emissions totaled 13.249 million metric tons of carbon dioxide equivalent (MtCO2e).<sup>1</sup> Among them, direct GHG emissions (i.e., Scope 1) accounted for 0.927 million MtCO2e, including stationary combustion (such as the use of natural gas), direct fugitive emissions (such as refrigerant leakage), and mobile combustion (company-owned transportation in our retail business). In addition, indirect GHG emissions (i.e., Scope 2) from purchased electricity and heat were 4.445 million MtCO2e, mainly used for operating cloud computing data centers, retail stores, offices, and warehouses.

Indirect GHG emissions along the value chains (i.e., Scope 3) that could be accurately assessed were approximately 7.877 million MtCO2e, consisting mainly of fuel consumption in outsourced transportation and distribution services in the e-commerce business, purchased power in leased data centers, use of packaging and consumables, and employee travel. The inspection was completed by the China Environmental United Certification Center (CEC) and audited by Bureau Veritas.



As projected in Alibaba's Carbon Neutrality Action Report, our carbon emissions have not yet peaked and are likely to continue rising with business development in the short term. This growth mainly derives from (a) the steady expansion of our core business, such as in cloud computing, globalization, and offline retail stores (b) developments to improve our fulfillment capabilities and user experiences, such as expansion of delivery areas, and (c) new businesses serving emerging customer needs that integrate both offline and online services.

These business activities will require higher power consumption (Scope 2) and more procurement from our supply chain (Scope 3), contributing to an increase in new carbon emissions. We recognize that Alibaba's position as a company that integrates technology, retail, and logistics businesses, with extensive online and offline operations, means that our decarbonization plans must consider the complex interaction of multiple sectors. At the same time, this also creates enormous opportunities for cross-sector innovations in our carbon reduction efforts.

Since our pledge in December 2021, we have accelerated our efforts. According to BloombergNEF's rankings, we were the largest purchaser of clean energy in 2021 among all Chinese companies. In the first half of 2022 alone, we purchased more than 800 million kWh of clean electricity, a 150% increase over the full year of 2021. In FY2022, we cut a total of 619,944 tons of carbon emissions by changing our energy mix to include more clean energy. Through our persistent efforts, over this time period, 21.6% of the electricity for Alibaba Cloud was from clean energy, marking a good start for achieving carbon neutrality by 2030. In July 2022, we signed a strategic agreement, including on eight green energy projects, with State Power Investment Corporation (SPIC), the largest developer of clean energy worldwide.

We will continue to advance our decarbonization solutions while maintaining our growth. And our commitment goes far beyond reducing carbon emissions alone. This year we expanded our efforts to a broader set of environmental issues.

We present our environmental efforts and progress in three parts:

- Greening our operations and value chain
- Amplifying decarbonization through our platform ecosystem
- Conserving and restoring nature



#### 031 / 032

nan's :er
Executive Summary
Environment
Employees
Consumers
Small Businesses
Community
Philanthropy

<sup>&</sup>lt;sup>1</sup> The scope of this inventory is the identified measurable significant source categories in Scopes 1, 2, and 3 GHG emissions within Alibaba's organizational and reporting boundaries in FY2022 under the principle of operational control. The GHG categories covered in this inventory include carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), nitrous oxide (N<sub>2</sub>O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), nitrogen trifluoride (NF<sub>3</sub>), and sulfur hexafluoride (SF<sub>6</sub>). As a result of the inventory, emissions of five greenhouse gases, CO<sub>2</sub>, N<sub>2</sub>O, CH<sub>4</sub>, HFCs and SF<sub>6</sub>, were involved in this reporting period. Please refer to Appendix 3 for Scope 3 emission inventory categories.

## **Greening our operations and value chain**

To achieve our operational carbon neutrality and environmental goals, we lead with our own spaces to make them models of green energy, water conservation, and resource efficiency, and then improve the operational efficiency of important infrastructure such as our data centers and logistics systems.

In February 2021, we issued an inaugural US\$1 billion sustainability bond. By the end of FY2022, net proceeds of US\$352 million had been allocated to erect and refurbish green buildings, and US\$451 million to construct energy-efficient data centers.



## Sustainable office parks

Our green practices start with our office parks. We are actively researching and applying technological innovations that demonstrate ways to be green and low-carbon while providing our employees with more comfortable and vibrant working environments. At our own office parks, we aim to:

Reduce 15% of GHG emissions per unit area by 2025 compared to 2021
Reduce 15% of water consumption per employee by 2025 compared to 2021

# Co₂ CO ↓ 15% ↓ 15% GHG emissions per unit area 2025 vs. 2021 Water consumption per employee 2025 vs. 2021

## Low carbon buildings

We follow circular principles with our building design, materials use, and construction, and also continue to uphold with our buildings' daily maintenance processes. All our future new construction will meet the LEED Gold standard and the China green building standard. Energy use monitoring and optimization are automated throughout our buildings using smart sensors and controls. Al models accounting for weather and occupancy help us make dynamic, data-based decisions on energy use. In addition, we have started retrofitting and renovating old buildings for new uses, while ensuring safety and quality. This avoids GHG emissions from demolition and reconstruction.

### Avoided emissions from office renovations

In a recent project, we turned an old corporate park into a green, smart, and healthy office space. An estimated 79,000 tons of carbon emissions were avoided compared to a tear down and new construction. We accomplished this with carefully selected approaches, including the efficient use of materials, modular construction, building and decoration integration, ventilation heat energy recycling, and solar installations.

## Water

We have fully adopted water-saving hardware and sanitation equipment at our campuses. The 42 hectares of our Xixi Office Park B was designed and built in accordance with "sponge city" standards, recycling 10,763 tons of rainwater in FY2022.

## **Resource and waste management**

We have considered a range of ways to cut resource use. For exhibits in our office parks, we increased the use of recycled materials and reduced decoration and material waste. We set aside recycling areas for packing boxes in on-site post offices. For office electronics such as laptop computers, we encourage our employees to extend their lifespan. We arrange for hazardous waste to be recycled by qualified suppliers in accordance with relevant laws and regulations.

## **Employee engagement**

We cannot reach our ultimate goals without the active engagement of our employees. We encourage sustainable behaviors through education on green consciousness and through systems we've set up.

#### • Low-carbon actions in the workplace

We reward 14 types of energy-saving and carbonreduction behaviors, such as turning off lights and HVAC in idle spaces, printing double-sided, and recycling cartons. In FY2022, more than 70,000 employees completed nearly 1.13 million carbon reduction actions.

• Reducing plastic use in office parks We are converting to biodegradable packaging in our

dining halls and charge for disposable containers to discourage overuse.

## Working with and within nature

Our global headquarters at Hangzhou Xixi Campus is adjacent to Xixi National Wetland Park, a natural ecosystem brimming with life. Our campus covers 3.2 hectares of natural water body and is designed to preserve most of the location's original wetlands and integrate nature with our office buildings. Special trails wind through the ecosystem and lead to outdoor meeting spaces. Strolling through the complex of natural ridges and knolls along the water, a visitor can smell flowers, hear birds, and spot fish. We are home to more than 100 species of plants, leading some to call our headquarters a natural ecosystem masked as a high-tech office park. The campus was designed to show how people can live in harmony with and be inspired by nature.

033 / 034



#### • Low-carbon commute and travel

We encourage employees to use public transit. We have installed more than 1,300 electric vehicle chargers.

#### Reducing waste

We have established an internal shopping platform for employees to purchase slightly blemished goods from our platforms.

airman's Letter
Executive Summary
Environment
Employees
Consumers
Small Businesses
Community
Philanthropy

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## Green retail stores

## Low-carbon retail spaces

Our retail stores provide space to expand our environmental efforts beyond our offices in ways that touch and engage the public. Striving to be a retail industry leader in energy savings and emissions reduction, we are adopting power-saving technology and continue to shift to more efficient cold chains by upgrading equipment and refrigerants. Below are some examples of our efforts to reduce GHG emissions.

### Sun Art Retail

#### Environmentally friendly refrigerants

To reduce GHG emissions, 17 new stores in FY2022 upgraded to refrigerants with lower global warming potential.<sup>2</sup> To date, a total of 57 stores have completed the upgrade.<sup>3</sup>

#### Energy-saving controls for moving sidewalks

We completed upgrades for energy efficiency improvement for 1,146 automated sidewalks at 377 stores by the end of FY2022, saving an estimated 20 million kWh of electricity annually.

#### Automatic control of exhaust fans

By the end of FY2022, we had upgraded automatic control of exhaust fans in 387 stores, reducing energy consumption by more than 21 million kWh of electricity annually.

#### Automated store energy management

We have installed automatic control systems in all stores to monitor energy use in real-time, annually bringing 10-15% of energy saving for each store, at the level of 700,000 kWh/year on average.

#### Solar power

Sun Art has installed rooftop solar panel systems at 17 stores, generating more than 11 million kWh of electricity in FY2022. We aim to install solar panels in at least 30 stores in two years, and at all stores by 2030.



<sup>2</sup> Global Warming Potential (GWP) is an indicator of the climate impact of greenhouse gas emissions, indicating the greenhouse effect of a certain greenhouse gas over a certain period of time (20 years, 100 years, 500 years) corresponding to the mass of CO<sub>2</sub> with the same effect, GWP for CO<sub>2</sub>=1.0. <sup>3</sup> From 2011, new stores began to use R404A refrigerant to replace the ozone-depleting R22 refrigerant. In 2018, new stores and remodeled stores used the lower GWP value R448A (GWP=1273) to replace R404A (GWP=3943) refrigerant.

#### **Intime Department Stores**

	Low-carbon initiatives
	ò
	A designated energy management team was established to monitor, analyze, and manage energy efficiency and implement technical improvement programs.
••• <del>\$</del>	In 2021, three Intime department stores completed their air-conditioning upgrade, saving a total of 3.43 million kWh of electricity. Twelve new stores completed the upgrade and went into operation in 2022.
Ø	In FY2022, Intime traded 87 million kWh in green electricity, a year-over-year increase of more than 190%, corresponding to around 62,000 tons of emissions reduction.
	Awards
	<ul> <li>In 2021, Intime Zhongda Store in Hangzhou was recognized as an energy</li> </ul>
	conservation demonstration project.
	• In 2021, four stores in Zhejiang Province were nationally recognized as green shopping malls, and eighteen stores were recognized in Zhejiang Province's list of green shopping malls. <sup>4</sup>

2022

<sup>4</sup> Please refer to the two websites as below. http://www.mofcom.gov.cn/article/zcfb/zcgnmy/202102/20210203038331.shtml http://www.zcom.gov.cn/art/2021/12/1/art\_1384587\_58933413.html

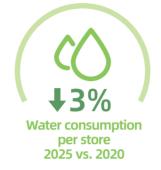
#### 035 / 036

Executive Summary
Environment
Employees
Consumers
Small Businesses
Community
Philanthropy
Trust

Chairman's Letter

## Water conservation

We have adopted water-saving faucets in all RT-Mart stores, for an expected net saving of about 100,000 tons of water consumption annually. Since 2007, we have built a wastewater storage and circulation system, reducing water consumption by about 1,000 tons per store every year, for a total of 490,000 tons of water annually. Building on these practices, we have also set a target at RT-Mart to decrease average water use by 3% per store in 2025 compared to the base year 2020.



#### Kunshan RT-Mart Commercial Plaza sustainable design

Sun Art applied sustainable designs at the Kunshan RT-Mart Plaza. Both green building standards and "sponge city" water efficiency principles were followed. In addition, we adjusted the building envelope to reduce energy consumption and increase rainwater recycling. During construction, Sun Art adopted green construction policies to control carbon emissions throughout the life cycle of the project.



## **Resource and waste management**

Our stores have implemented resource and waste management in a variety of ways:

**Reduce food waste in retail stores:** Sun Art Retail has continued to improve its systems to cut food waste across the entire life cycle including procurement, storage, processing, and sales. In FY2022, our kitchen waste was reduced by 4%.

**Reduce material usage:** We have adopted digital receipts, label printing, and express order printing to save tens of millions of articles of paper. We encourage merchants to use original boxes for delivery and combine packages through our smart management systems.

**Packaging upgrade:** Sun Art and Freshippo are providing consumers with recycled bags. Freshippo retail locations have entirely transitioned from plastic to degradable plastic, paper, and recyclable non-woven bags, while Sun Art has introduced degradable plastic bags across all stores.



#### 037 / 038

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Executive Summary
Environment
Employees
Consumers
Small Businesses
Community
Philanthropy
Trus

Chair Let

## Low-carbon and circular cloud

## Low-carbon cloud services

For the tens of millions of businesses that rely on our platforms, Alibaba's cloud services provide the digital backbone on which the ongoing green transformation can be built. According to the Carbon Trust research report, *Alibaba Cloud's Carbon Benefits*, cloud customers in China can avoid 85.5% of their computing emissions by moving to Alibaba Cloud from on-premise equivalents, largely contributed by the efficiency of our own internet data centers (IDC). <sup>5</sup>

We are innovating continuously to build a "green cloud" as set out in our carbon neutrality commitment, focusing on increased energy efficiency, renewable electricity use, and recycling of energy and resources.





## Alibaba Cloud helps green the data center



• Alibaba Cloud's Green Data Center is the only cloud computing data center selected by China's Ministry of Ecology and Environment as one of the **2021 Green and Low-Carbon Best Practices**.



• Alibaba Cloud's Green Data Center received the **Green Innovation Recognition of Excellence** from the 2021 Paulson Prize for Sustainability for its energy-efficient practices and achievements.



• In April 2022, Alibaba joined the **Low-Carbon Patent Pledge**, an international alliance for low-carbon technology patent sharing, and made nine key patents for green data center technology free for the use of external parties.

## **Energy efficiency**

Using a variety of energy-saving strategies, such as artificial intelligence (AI)-powered management algorithms and water-cooling techniques, the average power usage effectiveness (PUE) for our selfoperated data centers in FY2022 was as low as 1.247, a leading level in Asia. This represents a win for our business, our clients, and the environment. Looking forward, we aim to keep the annual PUE of selfowned data centers below 1.3.

## Alibaba Cloud's Panama power system guarantees uptime with less energy waste

Alibaba's self-built data center uses an innovative 10kV uninterruptible power supply system that reduces the distribution link of the system by 66% and improves the efficiency by more than 3% to 97.5% compared with the traditional method. The innovative equipment has been shortlisted for the 2021 National Industrial Energy-Saving Technology Recommendation Catalog.



039 / 040



Chairman's Letter Executive Summary Environment Employees Consumers Small Businesses Community Philanthropy



#### Using renewable electricity

We are committed to powering our cloud services with 100% clean energy worldwide by no later than 2030. To this end, we are already leading China's technology companies in clean energy transaction volume and usage. BloombergNEF rated Alibaba Cloud first in renewable energy procurement in 2021 with a transaction volume of 269 GWh. In FY2022, Alibaba Cloud's own data centers reduced around 534,000 MtCO2e (metric tons of CO2 equivalent) of emissions by purchasing clean energy and natural gas, with clean energy accounting for 21.6% of its total electricity consumption.

Alibaba Cloud's own data centers reduced around 534,000 MtCO2e of emissions

**21.6%** of cloud electricity consumed was from clean sources

### **Recycling of resources and energy**

## Number of recycled servers 50,000

**Extending warranties of 20** million cores of servers

We recycle a large amount of waste heat generated by our servers. Waste heat from our self-built Alibaba Cloud Zhangbei Data Center is used to heat the adjacent office park and provide municipal heat. The heating load of the first phase of the waste heat utilization project is 21MW, which by the end of next year will reduce carbon emissions by 32,000 tons annually. We also extend the life of our hardware. In FY2022, Alibaba refurbished 50,000 servers to extend the use cycle. Furthermore, we have extended the maintenance of all servers to five years, dismantled scrapped servers, and recycled spare parts, leading to the extension of the warranty of 20 million cores of servers in 2021.

## Water conservation

We take advantage of natural air cooling to preserve water. In our Zhangbei Wulan center, with an average outside temperature of only 4°C, we utilize air handling unit (AHU) technology and air cooler systems, reducing the water usage effectiveness (WUE) value to as low as 0.45L/ kWh, saving more than 80% compared to traditional cooling tower schemes.<sup>6</sup> Alibaba Cloud has also established a WUE management plan to refine the management of water consumption in various divisions. In FY2022, our reclaimed water recovery reached 11,899 tons and reclaimed water procurement amounted to 359,252 tons.

## Zhangbei Miaotan Industrial Park Data Center upgrade saves over 10,000 tons of water

The Zhangbei Miaotan Data Center implemented a project to introduce a reverse osmosis (RO) sewage system for water treatment, increasing the recycling and utilization of sewage water. The water treatment project was able to reduce sewage discharge of the server building by 35% and reduce supplementary water consumption by 26%. Between its launch in June 2021 and March 31, 2022, the project had already recovered 11,899 tons of water.

## Waste management

We have unified standards for solid waste management from our server equipment and require our suppliers to properly treat solid waste and hazardous waste (mainly lead-acid batteries, destroyed hard disks, etc.) in strict compliance with these standards and with regulations.



<sup>6</sup> Water Usage Effectiveness (WUE) is a parameter in the data center that analyzes how efficiently water is being utilized and is the ratio of the annual water usage of data centers to the energy consumption of IT equipment.

#### 041 / 042

## 359,252 tons

reclaimed water procurement

## 11,899 tons

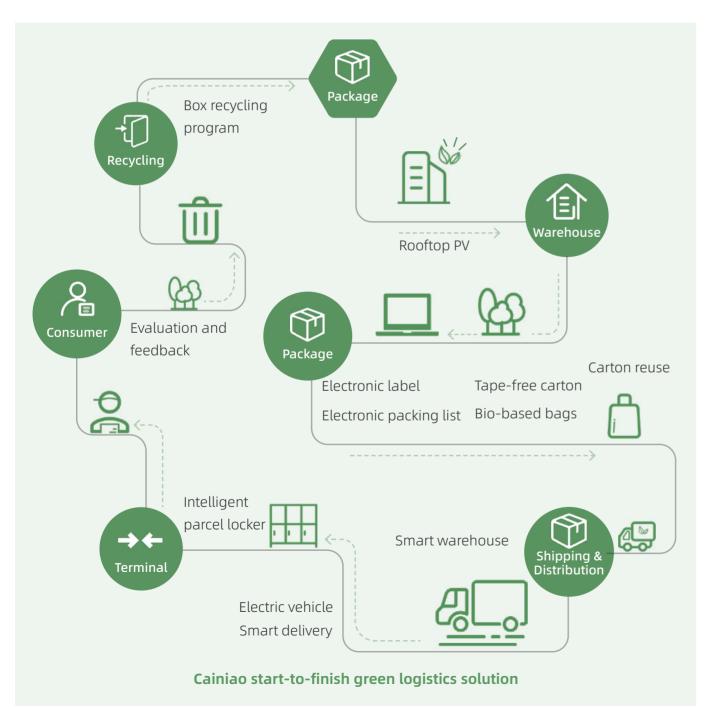
reclaimed water recovery



irman's etter
Executive Summary
Environment
Employees
Consumers
Small Businesses
Community
Philanthropy
Trust

## Smart and green logistics

The success of our business depends on a vast logistics network that ties together our facilities, stores, ecosystem partners, and consumers. Efforts to make that network smarter and greener are an indispensable part of building a low-carbon circular ecosystem. Cainiao was one of the first companies in China's logistics industry to launch a green initiative. We continue to exert efforts in the four directions of green transportation, green transfer, green packaging, and green recycling, forming a start-to-finish green logistics solution from order generation to parcel delivery.



## **Green packaging**

With help from our business partners and consumers, we can reduce wasteful packaging through optimization, substitution, and recycling. We are promoting delivery using original manufacturer boxes. In FY2022, Cainiao's original box shipping exceeded 700 million pieces. Intelligent carton cutting, packaging

algorithms, and AI can further optimize carton models and reduce our use of materials by an average of 15%. We are also experimenting with new materials to replace plastics. In Southeast Asia, Lazada is replacing non-



recyclable materials with FSC-certified packaging. To involve our customers in these efforts, we have launched a Cainiao box recycling program to facilitate their recycling of cartons at many Cainiao stations.

## **Green transport**

Transport is one of the main sources of carbon emissions, so Cainiao is targeting electrifying land transport and increasing low-carbon air transport in order to reduce its GHG footprint. We plan to replace all short-haul logistics vehicles with electric vehicles by 2030. In Indonesia, along with our partner, Lazada Logistics launched the Blue Vehicle, an environmentallyfriendly delivery vehicle which will allow Lazada to transition primarily to electric vehicles in Jakarta. In Vietnam, Lazada is choosing electric bikes to provide delivery services. Alibaba DAMO Academy and Cainiao have also fielded the Xiaomanlv ("little donkey"), an Alibaba L4 autonomous driving vehicle, to facilitate last-mile unmanned deliveries in communities and campuses. Since its launch through March 31, 2022, it has delivered more than 10 million packages.

#### 043 / 044



## **Green transshipment**

From the outset, Cainiao has designed its logistics warehouses following high international sustainable site standards. This includes 24.9 MW of solar power capacity installed to date, accounting for 16,000 MtCO2e in carbon reductions in FY2022. Solar will be expanded to all Cainiao logistics warehouses by 2030. Cainiao also uses AI technology to optimize the parcel sub-warehousing process and the door-to-door parcel routes and is experimenting with unmanned smart logistics vehicles in "last mile" distribution.

> 10 million unmanned deliveries by Xiaomanly

Executive **Environment** Employees

Chairman's Letter

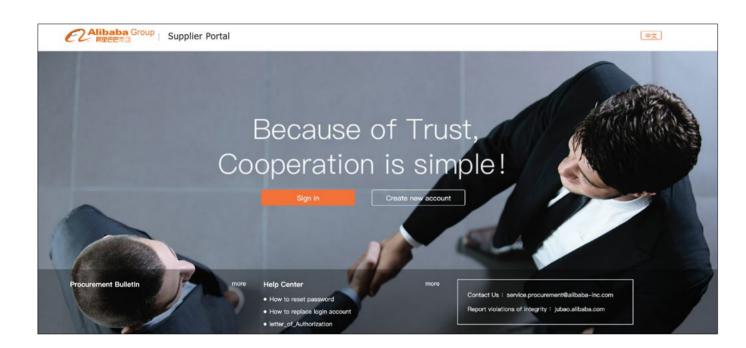
Consumers Bus

Small Businesses

Community

Philanthropy

## **Environmental management at suppliers**



Our suppliers are key partners in effectively reducing our greenhouse gas emissions and other environmental footprints.

In FY2022, we launched the Alibaba Supplier ESG Code of Conduct, which lays out high standards with respect to environmental responsibilities. More than 10,000 suppliers have already participated.<sup>7</sup> We encourage our suppliers to comply with the Code in six key environmental areas: 1) environmental permits and reports; 2) pollution prevention and resource savings; 3) hazardous substances and waste; 4) greenhouse gas emissions; 5) water resource management; and 6) exhaust gas emissions. We assess the environmental performance of our suppliers by considering their business integrity, information disclosure, and risk management. In these areas, we are setting clear standards, holding our suppliers responsible for making continuous improvements.



In addition to implementing green qualification requirements for suppliers and a green supplier label management system, we have specifically developed green procurement standards. We actively seek out suppliers with a record of high environmental performance and are also keen to share with them our own best practices to identify the tools for more sustainable operations. In the following table are examples of recent initiatives we have undertaken.

<sup>7</sup> The numbers here refer to suppliers in the categories of media/event/service/engineering/office IT/logistics and those who have completed registration on Alibaba's procurement platform. The statistics are as of May 7, 2022



## **Engaging with low-carbon** suppliers for Alibaba Cloud

We encourage Alibaba Cloud's suppliers to set their own carbon neutrality goals and action plans and use effective measures to reduce carbon emissions. Alibaba Cloud plans to promote carbon neutrality pilot actions for some suppliers in FY2023, including signing carbon neutrality action agreements and conducting performance appraisals.

# Transitioning to more recycled

We have cut down our exhibition and outdoor advertising carbon emissions. For example, we are now using reusable materials in the construction of exhibits, with 80% of the materials made of reusable wood.

construction materials

## **Encouraging recycling in materials** and packaging in Sun Art

Sun Art classifies and manages office supplies by setting standards for the use of consumables and tracking material usage on a weekly basis. At the same time, suppliers are encouraged to improve packaging efficiency, increase the recycling and reuse of cardboard boxes, and reduce the waste of packaging materials. In FY2022 alone, 124,400 tons of waste cardboard was recycled.

## **Piloting low-carbon organic** agricultural products in Freshippo

Freshippo actively explores agricultural produce that is both healthy and environmentally friendly and works with organic farm partners. In June 2022, the first batch of 30 types of certified low-carbon organic vegetables was launched in Freshippo stores nationwide. This early pilot shows great potential for the development of low-carbon and low environmental impact agricultural products.

Chairman's Letter

2022

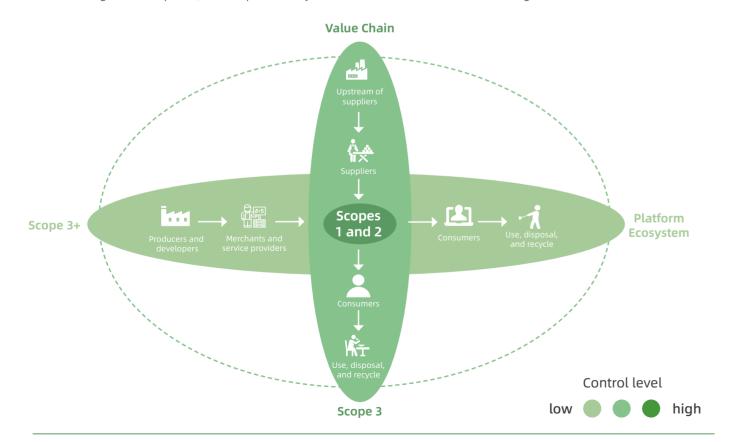
# Amplifying decarbonization through our platform ecosystem

Household activity currently accounts for more than 40% of total emissions in China, but an even greater 60% to 70% of emissions in developed nations.<sup>8</sup> To decarbonize at a societal level, we must stimulate demand for and facilitate the transition to low-carbon production that will drive producers to develop greener products at more affordable prices.

At Alibaba, we are well positioned to support the consumer transition to more sustainable consumption, and facilitate enterprises, especially MSMEs, in realizing high-quality development while minimizing their ecological footprint.

In December 2021, we pioneered the concept of "Scope 3+" to measure GHG emissions beyond a firm's own Scopes 1, 2, and 3 definitions. We have done so in an attempt to take on more responsibility for the emissions generated by a wider range of participants in the platform ecosystem.

Given the innovative nature of Scope 3+, we are committed to working with leading institutions and professionals to establish a solid scientific foundation in determining the definition, principles, and measurement methodologies of Scope 3+, and to proactively share our research and methodologies.



<sup>8</sup> Source: Measures and Approaches for Transforming Consumption Patterns and Developing A Low-Carbon Society in China, 2020, Ministry of Ecology and Environment of China.

## **Progress in Scope 3+ decarbonization**

## December 2021 January 2022 Alibaba launched Idle Fish launched the "OPEN C+" carbon a carbon reduction reduction measurement calculator for individuals, along with to help consumers measure their promotional programs. decarbonization impact. June 2022 May 2022 In June 2022, Alibaba Alibaba participated in the publication launched our "Carbon88" carbon of the **Guideline on** ledger platform. Quantification of **Emission Reduction** Effects of Green and Low-Carbon Behaviors to promote consumer adoption of low-carbon behaviors at scale. July 2022 August 2022 Alibaba and leading consumer goods companies launched the "Decarbonizationfriendly Action" program for consumer products while issuing a guide for

how brands can boost

their low-carbon products,

marketing, and logistics.

#### 047 / 048

#### February 2022

The Alibaba Carbon Neutrality Expert Committee was introduced, providing professional support and external independent review capacity for the theoretical foundations, measurement methodologies, and implementation methods of Scope 3+ programs.

#### By March 31, 2022

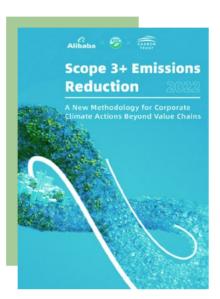
Nearly 1,700 firms had adopted Alibaba Cloud's "Energy Expert" to help them save energy, increase efficiency, and move towards carbon neutrality.

China Environmental United Certification Center (CEC) and Alibaba jointly published Scope 3+ Emissions Reduction: A New Methodology for Corporate Climate Actions Beyond Value Chains, with expert contributions from the Carbon Trust.

## Scope 3+ scientific methodologies

We worked with renowned research institutions and professionals to expand the theoretical and methodological frontiers of scientific carbon measurement. In August 2022, with China Environmental United Certification Center (CEC), we jointly published Scope 3+ Emissions Reduction: A New Methodology for Corporate Climate Actions Beyond *Value Chains*, with expert contributions from the Carbon Trust. In this report we proposed two key principles of decarbonization in Scope 3+.

The essential logic of carbon reduction measurement is to verify the difference in emissions when an entity takes carbon reduction actions compared to the benchmark scenario without such actions. With this basis, we can further divide the measurement of Scope 3+ emissions reductions into two categories depending on the role of the enterprise in the carbon reduction action.





## Two categories of decarbonization in Scope 3+

#### **Enabled carbon abatement**

Solutions (i.e., products or services) provided by enterprises that enable the same function to be performed with significantly less GHG emissions. Enablement reduces emissions compared to the baseline 'business-as-usual' (BAU) scenario.

#### **Engaged carbon abatement**

Scope 3+ emission reduction through engagement means that a company spurs its stakeholders (e.g., businesses and consumers) to reduce GHG emissions that are not covered in the company's own Scope 1, 2, and 3 emissions.

The Scope 3+ engagement category highlights the idea that a platform company can play a prominent role in climate change mitigation by proactively either enabling or engaging with stakeholders to unlock their potential in reducing emissions.



Based on the two categories, we then establish the principles for identifying Scope 3+ emission reduction projects.

effects.

#### 049 / 050

## **Principles for identifying Scope** 3+ emission reduction projects

• Such projects must offer emission reduction

• The emission reductions need to be measurable, explainable, and verifiable in accordance with the methodologies developed by professional organizations.

We have actively collaborated with industry-leading certification organizations, such as the China Institute of Standardization, the China Environmental United Certification Center, China Beijing Environmental Exchange, and others, on principles and specific calculation methodologies for Scope 3+ to ensure its reliability and wide applicability, and we seek more partners in this effort.

Executive Summary
Environment
Employees
Consumers
Small Businesses
Community
Philanthropy

Chairman's Letter

## Scope 3+ actions

## **Consumer carbon reduction**

We launched the "Carbon88" carbon ledger platform in 2022, covering some of Alibaba's most-used apps. By July 2022, over 20 million users had actively participated in carbon reduction through a greener consumption style. The system is built on top of our OPEN C+ engine. Currently, the platform covers more than 70 scenarios. All methods and scenarios have been reviewed and approved by our committee of independent, external experts.

After consumers choose to opt-in, the Carbon88 platform collects data only for the purpose of calculating carbon emissions. The process is designed to fully comply with our principles to safeguard consumer privacy and security: minimal data collection for specific purposes, maximum user awareness and choices, and the best data security protection.

In the future, we aim to promote the carbon ledger platform to help more of our partners better measure and practice carbon reduction.

## Carbon88 all-in-one carbon ledger platform

#### Carbon88 gives consumer a panoramic view of greener living



In March 2022, Taobao introduced a new function for consumers to measure their carbon reduction when buying certified "Energy-Saving and Carbon Reducing" home appliances. By June 30, 2022, over 4,000 merchants had listed 430,000 certified home appliances. During the 6.18 Shopping Festival in 2022, the potential carbon reduction from energy efficient consumer products sold on Taobao and Tmall was estimated to be around 153,000 tons.

Starting April 20, 2022, Ele.me users were able to measure their potential carbon reduction from choosing the "cutlery free" option when ordering takeout. Since then, more than 13 million users have enabled this option in their orders. Guidance on carbon reduction options in various apps makes it easy for consumers to choose low-carbon actions in everyday life.



The OPEN C+ consumer carbon reduction computation engine provides measurement services for Carbon88 and will open to the public in the future.

#### 051 / 052





Idle Fish launched the carbon credit project at the end of January 2022, where users can measure potential carbon reduction when buying and selling second-hand goods.

Amap and the Beijing Transportation Commission jointly developed the "Beijing Municipality Mobility-as-a-Service (MaaS) Platform." Users are provided with personalized routing guidance and rewarded for using public transport. In 2021, a total of 24,500 tons of avoided emissions accumulated by users were successfully traded in the carbon markets. Chairman's Letter

Executive Summary

Environment

Employees

Consumers

Small Businesses

Community

Philanthropy

## Partnership for scaling up consumer carbon reduction

In July 2022, Alibaba jointly launched the "Decarbonization-friendly Action" program with 19 brands in an effort to increase carbon reduction actions in the consumer goods industry and provide incentives for consumers to develop decarbonization habits. Our group set three collective targets:

- Promote more low-carbon goods, from design to production, together with science-based measurements.
- Integrate the supply chain with low-carbon packaging and logistics.
- Enhance consumer awareness and familiarity with green goods through low-carbon marketing.

In the future, the "Decarbonization-friendly Action" program will continue to introduce science-based methods and technologies to support all three goals, increase green consumption opportunities, and provide more brands with long-term carbon reduction guidelines.

## **Energy Expert Platform to help green other organizations**

Alibaba Cloud launched the "Energy Expert" platform to help enterprises reduce emissions and increase efficiency. Energy Expert can identify energy inefficiencies and losses and optimize energy use such as in HVAC (Heating, Ventilation, and Air Conditioning) systems through smart .700 algorithms. It also provides suggestions to improve companies using Energy Expert efficiency. As of FY2022, nearly 1,700 companies had already begun to use the Energy Expert platform.



Partial list of participating brands. Ordered alphabetically by Chinese names (Pinyin).

Energy Expert allows carbon emissions to be measured in real-time and energy use, such as in HVAC units, to be optimized through smart, learning algorithms

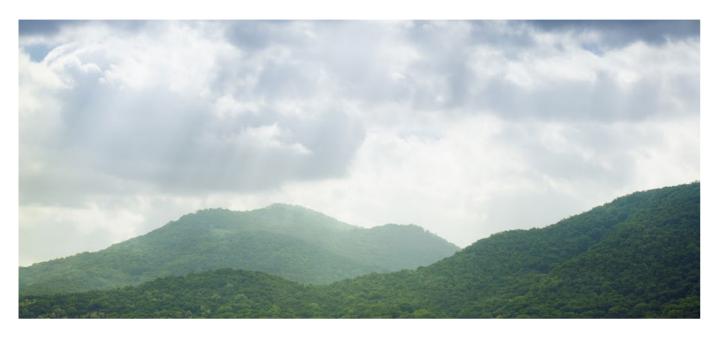
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Chairman's Letter	
Executive Summary	
Environment	
Employees	
Consumers	
Small Businesses	
Community	
Philanthropy	

# **Conserving and restoring nature**



Related to the global climate crisis, we also face a series of interlinked environmental crises, from biodiversity losses, ecological degradation, and water and resource scarcity to marine pollution. We work closely with environmental organizations, the public, and other relevant stakeholders to collectively tackle these environmental challenges.

## **Enhancing biodiversity conservation**

## Cracking down on the illegal wildlife trade on our platforms

Globally, the illegal trade of wildlife is among the biggest threats to biodiversity. We understand our responsibility as the world's largest e-commerce market and we strictly monitor and take action to prevent the illegal wildlife trade.

We carry out such efforts in three areas:

- Discovering and identifying illegal wildlife trading on platforms
- Cooperating with law enforcement agencies when violations are found
- Carrying out user awareness programs and encouraging users to report and prevent illegal activities

We have banned the sale of more than 30,000 species of wild animals and plants on our platforms, covering species on the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), the List of Key Protected Wild Animals in China, and the List of Terrestrial Wild Animals with Important Ecological, Scientific and Social Value Protected by China. AI helps us identify text, pictures, videos, live broadcasts, and other content that may represent attempts at illicit wildlife sales.

## Alibaba's efforts to tackle the trade of wildlife products

### 2016

Alibaba joined as the first pilot platform for implementing the "Standard for Online Transaction of Wildlife Products," jointly developed by the National Forests and Grasslands Administration, together with other agencies and non-profit organizations.

#### 2020

#### Alibaba launched the Refuse to Eat Wild Animals campaign

Ele.me joined hands with the China Wildlife Conservation Association to carry out this public advocacy campaign and launched a joint initiative with like-minded companies and individuals to actively participate in eliminating the consumption of many wild animals.

#### 2020

Alibaba jointly launched the GreenNet Initiative When users search for illegal or harmful products such as "ivory" or "rhinoceros horns" on Taobao, they are directed to educational information and recommendations for legal alternatives.

### 2018

Alibaba joined the Global Alliance to Combat the Illegal Wildlife Trade We worked together to educate online users about the illegal wildlife trade, raise their awareness, and empower them to report suspicious wildlife trade information to the platform.

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Summary	Executive
	Environment
	Employees
	Conclimers
Businesses	Small
Community	Community
	Philanthrony

Trust

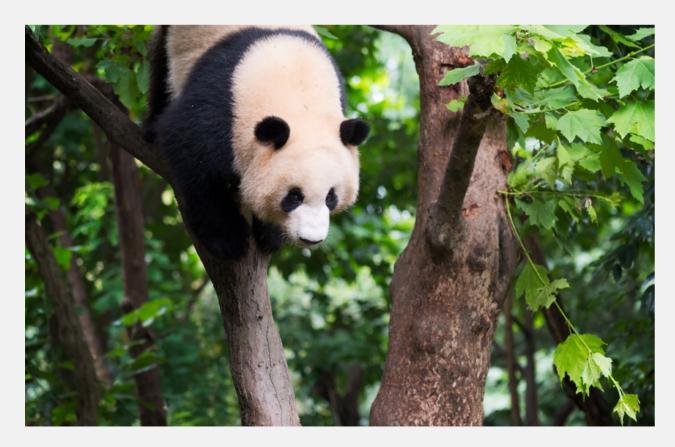
Chairma Letter

## Digital technology to protect biodiversity

Rapid advances in digital technologies, especially cloud services and AI, have greatly changed society's capabilities for protecting the environment. We apply our technological expertise to provide technical solutions that help make our planet cleaner and greener.

## Alibaba's AI-powered mobile terminals help protect endangered animals in Sichuan

The Laohegou Protected Area is one of the best habitats for giant pandas and other rare animals such as Sichuan golden snub-nosed monkeys, forest musk deer, and black bears. Following training with approximately 280,000 photos of 24 key monitored species in Laohegou, the Alibaba Cloud Wildlife AI Identification System can automatically identify and classify different species with an accuracy rate of 99%. Rangers are equipped with modified patrol terminals that reduce their previous workload by 80%. With these patrols now powered by our cloud intelligence technology, the staff have seen a big leap in their ability to identify and locate animals including giant pandas.



## Supporting water conservation and security

We believe the protection of water ecosystems and resources is critical - and ought to be a shared endeavor. In 2012, Alibaba Foundation launched "Qingyuan Action" - meaning "water source protection" in Chinese - as a project platform for NGOs to participate in water conservation efforts. Since its inception, the project has supported dozens of environmental NGOs, with more than 200 projects, to carry out regular water environment monitoring. The monitoring covers more than ten river basins and has helped more than 10,000 enterprises conduct environmental conservation.

## Improving the water environment in our surrounding communities

In 2018, the Alibaba Foundation and Minsheng Tonghui Charity Foundation jointly launched the "Qiandao Lake Water Fund" project to address agricultural pollution at Qiandao Lake, the water source for Hangzhou and home to 200,000 residents, most of whom are farmers. Non-point source pollution is a common challenge in water management and is a notoriously difficult issue worldwide. We established conservation demonstration areas at the source of rivers and outlets of lakes to reduce pollution by means of source reduction and process interception while scientifically monitoring the areas and establishing practices to balance production and pollution reduction. By the conclusion of the first phase at the end of 2021, the project had promoted the improvement of agricultural management measures on more than 330 hectares of farmland to reduce water pollution. This project was an award-winning environmental protection project in the 2020 China Charity Competition and was also recognized as one of the "100+ Biodiversity Positive Practices and Actions Around the World" by the United Nations Convention on Biological Diversity COP15 in 2021, and included in the United Nations Food and Agriculture Organization (FAO)'s Nature-based Agriculture Solutions. In April 2022, the second phase of the project was launched and plans to assist local governments to expand nature-based solutions and best management practices, explore market-based tools for water conservation through ecological product value creation and a compensation mechanism, and broaden public participation.



Executive Summary
Environment
Employees
Consumers
Small Businesses
Community
Philanthropy

Chairma Letter

# Engaging with stakeholders and citizens to amplify impact

## **Environmental monitoring network**

Environmental information disclosure is the basis for environmental supervision and public participation. We support leading environmental NGOs in China, have established a public environmental information network, and fund institutions such as the Beijing-based Friends of Nature, the Institute of Public and Environmental Affairs, SEE Conservation, the Changsha Green Human Environmental Protection Science Promotion Center, and the Beijing Heyi Institute.

### The Blue Map

The Blue Map app, formerly named Pollution Map, is China's first environmental map and by far its largest environmental information database platform. Blue Map 2.0 was jointly developed by the Institute of Public and Environmental Affairs, SEE Foundation, and the Alibaba Foundation. Using big data, Blue Map reports air quality information for 380 cities and also provides wastewater monitoring. Waste emissions information for more than 9,000 waste gas and wastewater discharge sources in China can now be searched in real-time. The public can participate via social platforms in reporting excessive sewage discharge. This gives everyone a part to play in restoring our clear water and blue skies.



## **Public awareness and participation**

Public participation is one of the most effective ways to promote environmental protection. To this end, the Alibaba Foundation has supported the China Nature Education Forum since its ideation in 2012 for nine consecutive years. In addition, we have helped build national and regional networks to educate Chinese citizens about biodiversity conservation and low-carbon living.

# Hangzhou Dreamland Nature Center instills love for nature and conservation

In 2017, the Alibaba Foundation, together with the Hangzhou Botanical Garden and The Paradise International Foundation, established the Dreamland Nature Center, an urban nature experience center. The center combines parks, NGOs, schools and universities, and other institutions, providing the space, curriculums, and activities that promote public nature education. As of December 2021, the Center had hosted nearly 1.5 million visitors, developed more than 60 courses, and trained more than 2,000 qualified and officially registered "green vest" volunteers. These volunteers guide the public on free tours to instill love for nature, teach natural sciences, and garner support for protecting the environment. The green vest program was awarded the gold medal at the Fifth National Volunteer Service Competition. The Center was selected as a nature school pilot by the Education Center of the Ministry of Ecology and Environment, and as one of the "100+ Biodiversity Positive Practices and Actions Around the World" by the UN Convention on Biological Diversity COP15 in 2021.



#### 059 / 060



Executive Summary Environment Employees Consumers Small Businesses Community Philanthropy

Trust

Chairman's Letter