





# Preface



As a "golden key" to overcoming today's global challenges, sustainability has been front and center in countless discussions the world over. 2021 marks the first year of the 14th Five-Year Plan (the "14th FYP") in China. It is a year when the national carbon peaking and carbon neutrality goals (the "30-60 Goals") and a growing awareness of ESG (Environmental, Social, and Governance) catalyzed an accelerated sustainability drive across sectors. The Ministry of Industry and Information Technology and the United Nations Global Compact cohosted the International Forum on Corporate Social Responsibility of Industry and Information Technology in November 2021, where the *2021 Sustainable Development Report of China's Industry and Information Technology* was released. This was an active effort aimed at promoting ESG-oriented industrial and financial cooperation and dialogue between industry and IT enterprises and a reflection of the high importance China attaches to corporate efforts in implementing ESG management and practices and working towards a sustainable industry chain.

Papermaking companies have a key role to play in advancing the achievement of the national 30-60 Goals, and their successful transition to green and high-quality growth would depend to a large extent on how well they can integrate ESG considerations into company development. In 2021, we extensively researched and had internal and external discussions on ESG-related concepts and trends and

worked to integrate ESG into the Company's sustainability strategy framework. We intended to first obtain an objective assessment of our sustainability management and practices, including through ESG capacity building and alignment with international ESG assessment systems. We will then use such knowledge to drive better performance in key ESG areas, so as to create more value for our stakeholders.

A pivotal year for the 14th FYP, 2022 will also be a critical year for China's papermaking industry as it transitions to high-quality development and collectively builds a new development pattern. It will coincidentally be the 30th year since APP entered China. Placing the green transformation and digital and intelligent transformation strategies at the heart of company development, we will work together with our stakeholders to create a sustainable future while exploring ESG management and practices in the papermaking industry.

# Contents

Preface

**Sustainability/ESG Strategy**

04

## Addressing Climate Challenges and Seizing Innovation Opportunities 06

3 subsidiaries were recognized as National Green Factories

Proportion of renewable energy: **26.65%**, up **44.12%** year on year

Solar power generation: **24,406.6** MWh

Breeze and EMPORIA products were among the first tissue products in China to obtain the **China Green Product Certification**

Launched "**carbon neutral**" tissue product series

## Offering Green, Safe, and Quality Paper Products 09

Annual R&D investment: RMB **2.436** billion

Cumulative number of validly authorized patents: **992**

Participated in the development of the **first** standard for water-based coated paper products in China

**EPP paper** obtained DIN CERTCO and European Bioplastics Association Industrial Composting certificates

## Tapping Water Saving Potential to Conserve Water 13

Average industrial water reuse rate: **95.74%**

## Living in Harmony with Forests and Nature 11

Cumulative carbon sequestration capacity of plantations: **42.395** million tons (as of the end of 2020)

Total area of CFCC/PEFC-FM-certified plantations: **246,257** hectares, accounting for **90.9%** of total plantations

Percentage of HCV-assessed plantations: **54%**

Percentage of ISO 14001-certified plantations: **67%**

Percentage of CFCC/PEFC-FM-certified raw wood materials supplied by our plantations to APP China's pulp mills: **100%**

## Strengthening "Three Wastes" Management and Building a Solid Foundation for Pollution Prevention and Control 14

Comprehensive utilization rate of non-hazardous solid waste: **99.25%**

Performance indicators of our mills in terms of wastewater discharge per ton of paper produced and per ton of pulp produced, COD emissions per ton of paper produced and per ton of pulp produced, etc. were well within the national standard limits.

## Putting People First and Safeguarding Worker Safety and Health 18

Total safety training hours: **450,918**

Number of emergency drills: **500+**

Percentage of workers covered by Occupational Health and Safety Management System: **100%**

Average hazard correction rate: **98.87%**

Incidents of occupational diseases: **0**

## Growing with Employees and Supporting Their Career Aspirations 16

Percentage of female employees in management: **18.62%**

Total employee training investment: over RMB **5.62** million

Total employee training hours: **753,012**

Nearly **70** positions provided for people with disabilities

## Participa 20

## Upholding Integrity and Compliance 22

Coverage of employee anti-corruption training: **100%**

During 2021 Sunshine Integrity Month, some **25,000** employees signed the pledge of integrity, and **2,000+** copies of the APP China integrity policy brochure were distributed to suppliers

Percentage of suppliers to whom anti-corruption policies were communicated: **100%**

## Sustainability/ESG Strategy

In 2021, APP China developed the 2030 Sustainability Strategy Framework and defined a three-year ESG roadmap under it. APP released the "Sustainability Roadmap: Vision 2030" ("SRV 2030") in 2020, specifying three major sustainability focuses for the next decade: energy saving and emission reduction, forest conservation, and community development. To APP China, the SRV 2030 has been an important guidance for developing its sustainability strategy. By i



## Why is it important to us?

Climate change is a global challenge facing all humanity today. The challenges of decarbonization on a renewed scale are more irreversible than ever. The announcement of the green and low-carbon transition in China, fueling a strong push across the globe for carbon reduction and carbon neutrality, is not only a pre-emptive measure for the future, but also a key to their core competitive advantage.



## Why is it important to us?

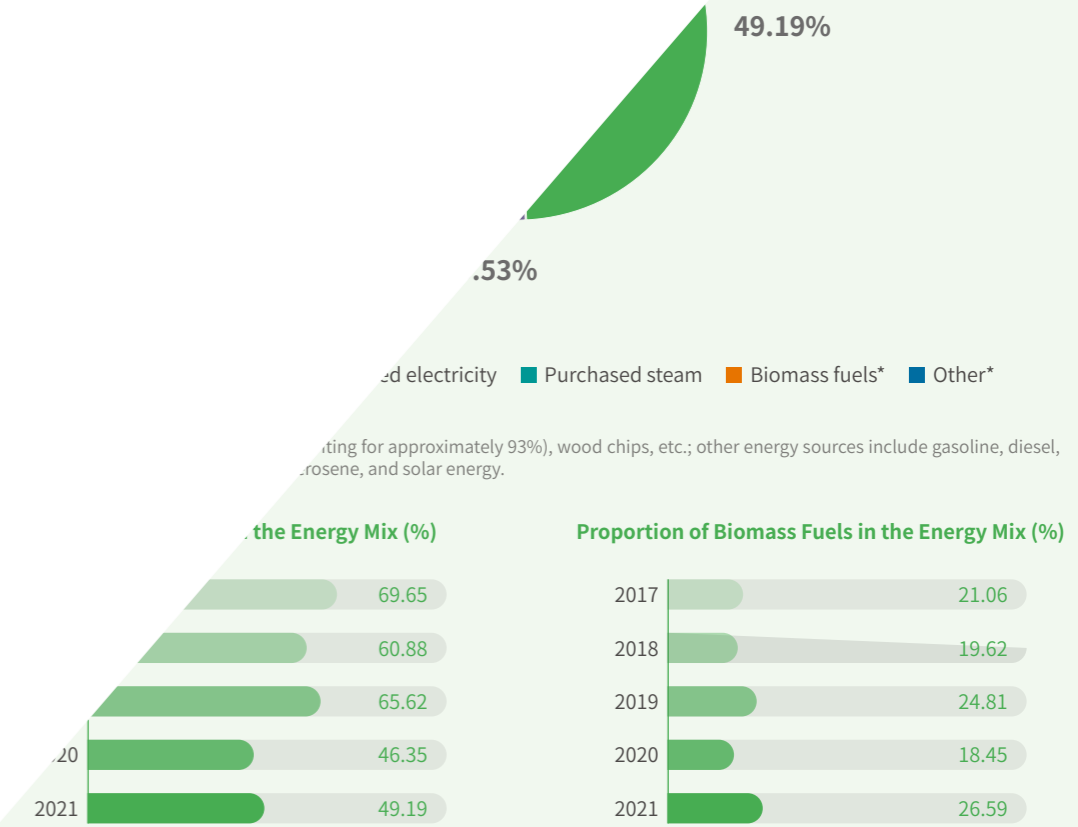
Climate change is a global challenge facing all humanity today. The challenges of decarbonization on a renewed scale are more irreversible than ever. The announcement of the green and low-carbon transition in China, fueling a strong push across the globe for carbon reduction and carbon neutrality, is not only a pre-emptive measure for the future, but also a key to their core competitive advantage.



APP China's Board of Directors and management team make it a top priority in our green transformation strategy to realize the "carbon neutrality" goal. A Carbon Neutral Working Group was set up that spanned our Paper BU, Tissue BU, Forestry

BU, and all the headquarters departments, each with a team leader and several members. The team covers core modules of climate-related work and plans the "carbon neutral" strategic roadmap by

### APP China's Governance System for Addressing Climate Change







APP China Forestry's Key Biodiversity Conservation Measures

Forests are home to many species, and they play an important role in the global ecosystem. APP China has a long-standing commitment to protecting biodiversity. We continuously work to raise awareness of plant and animal conservation and carry out joint monitoring of plantations through sustained cooperation with third-party institutions. In 2021, APP China Forestry joined hands with a number of colleges, universities, and research institutes, such as Guangxi Academy of Sciences, Hainan University, and Guangdong Eco-Engineering Polytechnic, in carrying out projects on ecological monitoring, plant diversity monitoring, etc. In addition, APP China Forestry has incorporated relevant parameters for measuring biodiversity conservation and the maintenance of ecosystem stability into its annual environmental target indicator system and conducts continuous performance tracking.

...ected wildlife ... or a ... f



Conducted ecological survey and monitoring with researchers

...ly commercial forestland defined by ... ment is accepted.

... Conduct biodiversity monitoring ... communicate with local forestry ... and village ... the forestland; any ... clearly marked on the plan ...

※ Train contractors and operational workers in wildlife protection and fire safety during production activities.

※ Prohibit contractors and workers from using fire for production in the forestland, such as burning vegetated land or performing controlled burns.

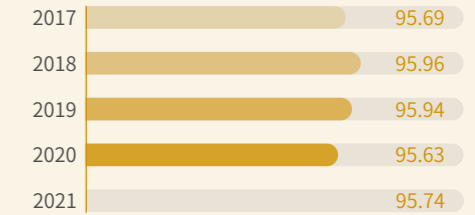
※ Increase awareness of animal and plant protection.

※ Initiate timely protective measures for any protected plants or animals detected.

## Water Saving Potential to Conserve Water

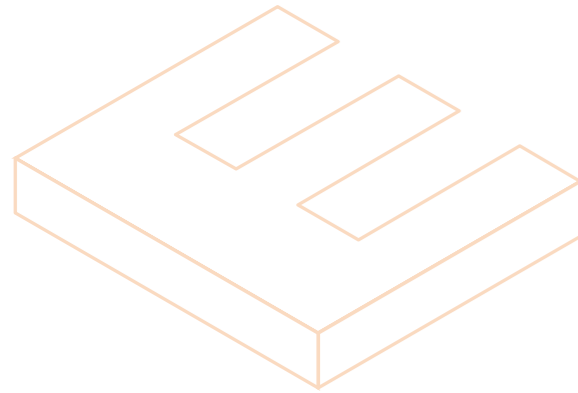
APP China mills work diligently to optimize their water management mechanisms and continue to improve water use efficiency by conducting water-saving technology upgrades, scaling up water reuse, recycling rainwater, etc. Over the years, the average industrial water reuse rate of APP China mills remains above 95%. The figure reached 95.74% in 2021.

### Average Industrial Water Reuse Rate of APP China Mills Within Reporting Scope in 2018-2021



### Why is it important to us?

Water is the most precious resource for all beings. The growing population and worsening global climate change are making water scarcity an increasingly pressing challenge of our time. The *World Water Development Report 2021* issued by the United Nations Educational, Scientific and Cultural Organization (UNESCO) on "Valuing Water" puts the spotlight on the value of water and underscores the deep significance of raising people's awareness of water resources for resolving the water crisis. For pulp and paper companies, water is one of the most vital productive resources. Strengthening water demand and process management and promoting sustainable water use are therefore crucial aspects of their environmental responsibility.



### Why is it important to us?

For the manufacturing sector, the comprehensive management of wastewater, air pollutants, and solid waste is the foundation for promoting green development and winning the battle for pollution prevention and control and a critical part of building a green production approach and a circular economy. Continuously strengthening the management of "three wastes" and reducing the environmental impact of the industry chain through the adoption of low-consumption and cleaner production methods are important avenues for the manufacturing sector to achieve green and low-carbon development goals.



## Wastewater and Air Pollution Treatment

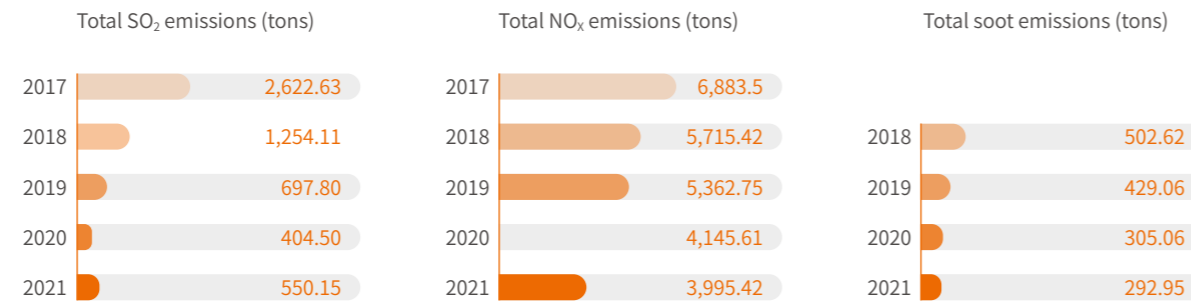
In the treatment of wastewater and air pollution, APP China mills follow the management concept of "reduction at the source, control through the process, and end-of-pipe treatment" and the principle of "scientific pollution treatment and compliant emissions". We closely monitor and voluntarily disclose the various pollutant indicators and periodically have them audited by accredited third parties.

We also undertake a series of wastewater infrastructure retrofits such as wastewater treatment system optimization and wastewater treatment capacity enhancement to improve the overall performance. Thanks to its outstanding emissions compliance performance, Guangxi Jingui Pulp & Paper received approximately RMB1.127 million in environmental tax cuts in 2021.

Indicators	Unit	2021	2020	2019	2018	2017
Wastewater discharge per ton of paper produced (National standard* limit: 20 tons)	tons	5.88	6.20	6.37	6.79	6.35
Wastewater discharge per ton of pulp produced (National standard limit for pulp companies: 50 tons; national standard limit for pulp & paper companies: 40 tons)	tons	12.46	12.50	11.62	12.68	13.90
COD emissions per ton of paper produced (National standard limit: 1.6kg)	kg	0.24	0.22	0.29	0.23	0.26
COD emissions per ton of pulp produced (National standard limit for pulp companies: 5kg; national standard limit for pulp & paper companies: 3.6kg)	kg	0.86	0.85	0.63	0.94	1.99

\* Discharge Standard of Water Pollutants for Pulp and Paper Industry (GB3544-2008)

### Air Pollutant Emissions of APP China Within Reporting Scope in 2017-2021

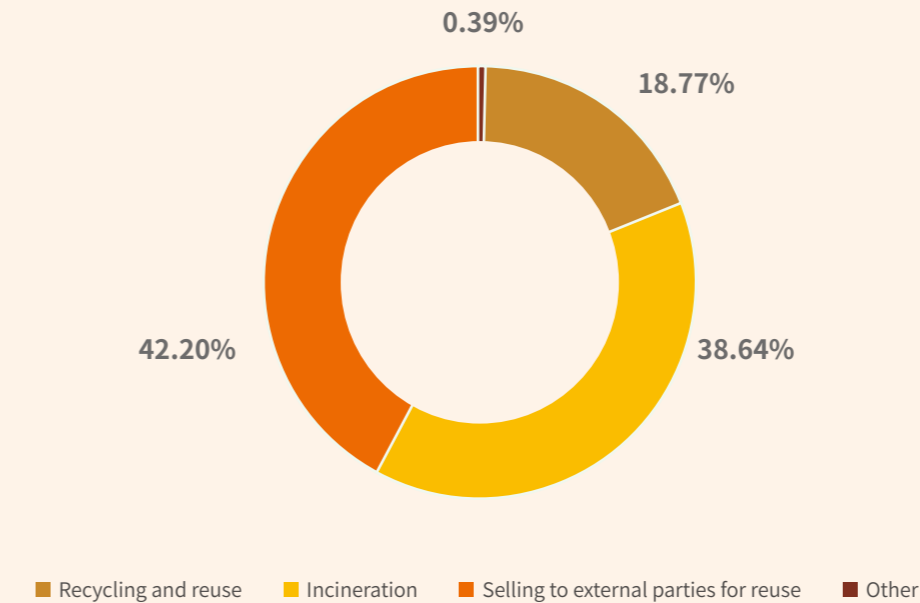


## Solid Waste Management

As to solid waste, our mills have established management procedures for non-hazardous industrial solid waste and hazardous waste. The non-hazardous industrial solid waste generated during the manufacturing process includes fly ash, slag, sludge, lime sludge, gypsum, woodchips, slurry, etc., which the mills recycle and comprehensively utilize by selling

to external parties for reuse or through internal reuse, among other methods. For hazardous waste, the mills strictly follow the national hazardous waste list and identification standards and commission qualified third parties to dispose of in a legal and compliant manner.

Methods of Solid Waste Disposal at Mills Within Reporting Scope in 2021



In 2021, the comprehensive utilization rate of non-hazardous waste at APP China mills within the scope of reporting reached **99.25%**.

### Promoting Comprehensive Utilization of Wastewater Sludge

Ningbo Asia has two bubbling fluidized bed (BFB) incinerators with a design sludge processing capacity of 1,600 tons/day. They mainly burn wastewater sludge, blended with raw coal and biomass fuels at a certain ratio to maintain stable combustion. The biogas produced during wastewater treatment is also transferred to the incinerators for combustion, which reduces the amount of raw coal and biomass fuels used. The company also supports the local community by assisting to incinerate the wastewater sludge produced by other companies in the neighborhood, generating considerable social benefits.

In 2021, the company incinerated 335,921 tons of sludge, including 17,250 tons of sludge produced by external companies, and burned 805,318 cubic meters of biogas produced during wastewater treatment, equivalent to saving 572 tons of standard coal. From 2018 to the end of 2021, the company cumulatively burned 6.55 million cubic meters of biogas, generating over RMB3.1 million in total economic benefits. Its chemi-mechanical pulp (CMP) project with an annual production capacity of 300,000 tons was put into operation in the second half of 2021, and the biogas generated therein started to be transferred to the sludge incinerators in December 2021 for co-firing. This is expected to double the amount of biogas use in the future.

## Growing with Employees and Supporting Their Career Aspirations



### Why is it important to us?

Talent is a company's most valuable asset and a pivotal driver of business development. China's transitioning from high-speed growth to high-quality development would entail building strong human capital and a robust talent pipeline. As major participants of micro-economic activities, it is of high significance for companies to continuously create a more enabling work environment and encourage workplace innovation in order to realize high-quality development and help employees realize their career aspirations.

## Corporate Culture Leads the Way

We use corporate culture to guide the Company's development and endorse benchmarking and a go-getter spirit among employees. In 2016, we systematically consolidated our unique MBOS (Management by Olympic System), code of integrity and ethics, core values, vision, and mission into our corporate culture system. In the past five years, we have made our corporate culture "publicized, imprinted, embraced, and applied" through initiatives like awareness campaigns and the Culture Ambassador Contest, taking it from stage 1.0 to 2.0.

As we pivoted to build Corporate Culture 2.0 in 2021, we put "people" and "innovation" at the core and advanced the organizational transformation through initiatives like Managers as Cultural Navigators, demonstration of Culture Ambassadors/Hard-Worker Models, the construction of big cultural teams, strategic change communication, the digitalization of cultural platforms, and new APP cultural creations.

### APP China's Corporate Culture Building Highlights in 2021

**Managers as Cultural Navigators initiatives:** We formed action guidelines and also hosted a multitude of meaningful activities such as the Cultural Workshop for Managers, cultural interviews for managers, learning experience essay contest, and the Iron Army Spirit examination. Those activities helped the managers tie in their management and business practices with the corporate culture in a systematic way, thus enabling them to solve work problems at the root and become the true navigators of our culture.

**Culture Ambassador Contest:** Over 30,000 employees across the Group went through rounds of selection, and 28 culture ambassadors and nominees were picked out in the end.

**APP Culture Voice mobile communication platform:** The platform consists of six content modules such as knowledge acquisition, communication and sharing, and interest-based interaction, with the latest relevant news reports updated throughout the year. The platform is not only an innovation of APP Corporate Culture 2.0 construction but also an important facilitator of internal communication and learning among employees.

## Human Resource Management

We have devised an evolving talent development strategy aligned with our transformation needs and keep improving our talent development and management mechanism, including by regularly assessing the workforce structure, identifying potential talent loss risks, and building a comprehensive talent pool. We have combined our Company-wide performance-based bonus system with a number of schemes specially designed for key positions and high-potential employees, such as the Talent Retention Plan, the Successor Plan, and the Talent Retention Special Fund. In a planned fashion, we have rolled out the plans in relevant departments and subsidiaries so that we can retain and bring out the best in our top talent.

In 2021, Hainan Jinhai Pulp & Paper, Guangxi Jingui Pulp & Paper, Rudong Base, Gold East Paper, Ningbo Asia, and APP China Forestry all implemented an internal job rotation program to help employees identify the career choices that best suited their competencies and interests. A total of 2,341 positions were opened up throughout the year, with 45% filled by internal hires and transfers.

## Boosting Employee Engagement and Communication

APP China's BUs carry out an array of activities such as Improvement Proposal Competition, MBOS Competition, MBOS Conference, and regular achievement sharing sessions every year. Those activities allow employees to share outstanding experiences and cases and contribute ideas to help move the organization forward. We use formal talks.

## Enhancing Talent Development

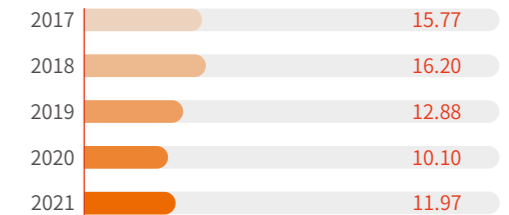
We offer a systematic suite of training programs tailored to the varied career development needs of employees at all levels and in different lines of business. We have been expanding the management trainee program across the Group in recent years, and developed a detailed training plan and a dedicated training system for management trainees. We also have a mentorship program where senior employees are matched with trainees to help them learn about their jobs and adapt to the new environment.

APP Learning and Development Center began to offer special training programs within the Group in 2020. In 2021, it organized the Executive Leadership Development Program, the 2021 APP Case Competition, and the Coaching and Guidance Techniques Workshop. For employees in professional and technical functions, APP China mills continue to offer professional skills training for employees in manufacturing jobs and role-based competency model assessment and certification while creating incentives to stimulate employee participation in professional title evaluation.

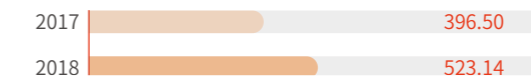
## Improving Employee Benefits

We protect the legitimate rights and interests of employees, and continue to optimize our compensation and benefits plan. Our mills provide a rich assortment of perks and benefits befitting their own conditions such as meal allowances, high temperature allowances, commercial insurances, employee dormitories, prenatal care leave, elder care leave for only children, and scholarships for employees' children. Employees can also enjoy an array of fun activities on a regular basis such as sports games, group birthday parties, and reading sharing sessions, which bring them closer together and greatly boost team morale.

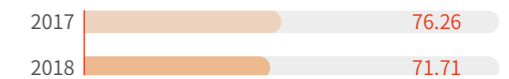
Employee Turnover Rate (%)



Total Investment in Employee Training (RMB10,000)



Total Employee Training Hours (10,000 hours)



## ***Putting People First and Safeguarding Worker Safety and Health***

### **Why is it important to us?**

Workplace safety is about protecting people's lives, and creating a safe and healthful work environment should always remain a top business priority. The revised *Law of the People's Republic of China on Work Safety* underlines the establishment of a company-wide work safety accountability system and the prevention and resolution of major safety risks at the source; it also legally requires employers to establish a dual prevention mechanism consisting of risk classification and control and hazard detection and elimination and to advance workplace safety standardization. Those requirements are intended to further formalize employers' accountability for workplace safety, and for their people-centric nature, should be the fundamental guidelines for companies' workplace safety efforts.





### Why is it important to us?

The convergence of the COVID-19 pandemic, worsening climate change, and other public crises in recent years has awakened people to the intricate interconnectedness of individuals, businesses, and society. The current ESG megatrend also pushes companies to be more socially responsible. To be actively engaged in charitable and philanthropic causes so as to strengthen communication and collaboration with communities and external organizations and contribute to social progress and common prosperity is an important pathway to corporate sustainability.

APP China has been committed to the principle of "giving back to society what society has given us" and actively involved in charitable causes. We have built up a four-pronged CSR system consisting of national public

emergencies, culture, sports, and education, community development, and rural revitalization. As of the end of 2021, APP China had donated close to RMB1.2 billion in charitable giving in China.

At APP China, we have a dedicated CSR emergency response mechanism. Our move to digital in the past few years has brought about continuous optimization in our collaboration system, which enables our mills to quickly mobilize resources and logistics to provide relief

to the affected areas when disasters occur. We have been an active part of the response and relief efforts in public emergencies such as the COVID-19 pandemic and natural disasters, continuing to fulfill our duties as a responsible corporate citizen.

### Culture, Sports, and Education

Since entering China in 1992, APP China has been actively involved in promoting the cultural and sports development in China. In 2008, we donated RMB100 million to support the construction of the Water Cube, an Olympic venue in Beijing, making us the first overseas Chinese company to make such donations; donated RMB15 million in 2010 in support of the construction of the China Pavilion at the Expo Shanghai 2010; donated RMB20 million in 2018 to Rangtang County, Aba Prefecture, Sichuan Province to fund the construction of the Juenang Cultural Center; and donated RMB20 million in 2021 to support the construction of the Overseas Chinese Ice-Snow Museum, the first Beijing Winter Olympics themed museum.

In 2018, we launched the Dream Plan program targeting aspiring students from remote areas. We set up joint classes and offered pulp-making and papermaking courses collaboratively with vocational colleges. The students enrolled in the program will be offered a full tuition and accommodation fee waiver and a partial remission of the living and transportation expenses. APP China also provides employment opportunities for the students upon graduation. In 2021, we added a new site in Zibo, Shandong Province, for the 4th Dream Plan. As of the end of 2021, 236 students were enrolled in the Dream Plan; by September 2021, 42 students had secured formal employment and another 42 were taking an internship.

### Community Development and Rural Revitalization

By investing to expand our network of services and promote innovation-driven growth, APP China strives to boost local economy and employment and help create an environment that rewards hard work, promotes equal opportunity, and affords everyone a chance to realize their dreams. We also actively assist in poverty alleviation and offer help to those in need, doing our part to promote social stability and common prosperity. During d  
povep , a pos h ca dsin  
nd / t a aea artio/  
ers orkee

# Upholding Integrity and Compliance



## Why is it important to us?

Companies play an important role in promoting economic development, creating jobs, and driving technological advancement. The establishment of a sound corporate governance structure, risk management system, and business ethics management mechanism lays the groundwork for robust business operations and contributes to both business longevity and enduring economic and social development.

issues  
of workflows  
duction, logistics, and

holders, including our employees, to report, in good  
y improper conduct occurring within the organization.  
provide a number of whistleblowing channels including an  
l address (GRW@app.com.cn), a 24/7 reporting hotline  
1-22839763), etc. Such improper conduct may include, but  
s not limited to, corruption, fraud, commercial bribery, sexual  
harassment, abuse of power, conflict of interest, and theft. We  
also have an interdepartmental whistleblowing mechanism  
to ensure a timely and proper handling of violations.

## Building a Culture of Integrity and Compliance

APP China actively engages employees in integrity and compliance training and activities to cultivate an increased understanding and awareness and weave the culture of compliance deeply into every aspect of our business.

The 2021 Sunshine Integrity Month included a rich variety of cultural and educational activities such as integrity pledge, seminars, case studies, online declaration of conflicts of interest, prize quizzes, and integrity awareness tests to reinforce employee risk and integrity awareness.

- Special Compliance Training: we require all new employees to complete a module on integrity, compliance, and business ethics during induction and provide special compliance training for particular lines of business, including procurement, real estate and project implementation, and key departments.
- Sunshine Integrity Month: we hold this Group-wide event every year, to ensure our employees uphold ethical conduct in their day-to-day activities in line with our values and code of integrity.



# Building a Responsible Supply Chain

## Why is it important to us?

The sustainability trend increasingly highlights the impact of the supply chain. Integrating ESG factors into the supply chain strategy helps companies identify and manage potential risks in the supply chain in a timely manner and drives progress in the ESG performance of industry chain partners. It thus contributes positively to the green, healthy, and sustainable development of industries and simultaneously benefits the economic, social, and environmental bottom lines.

