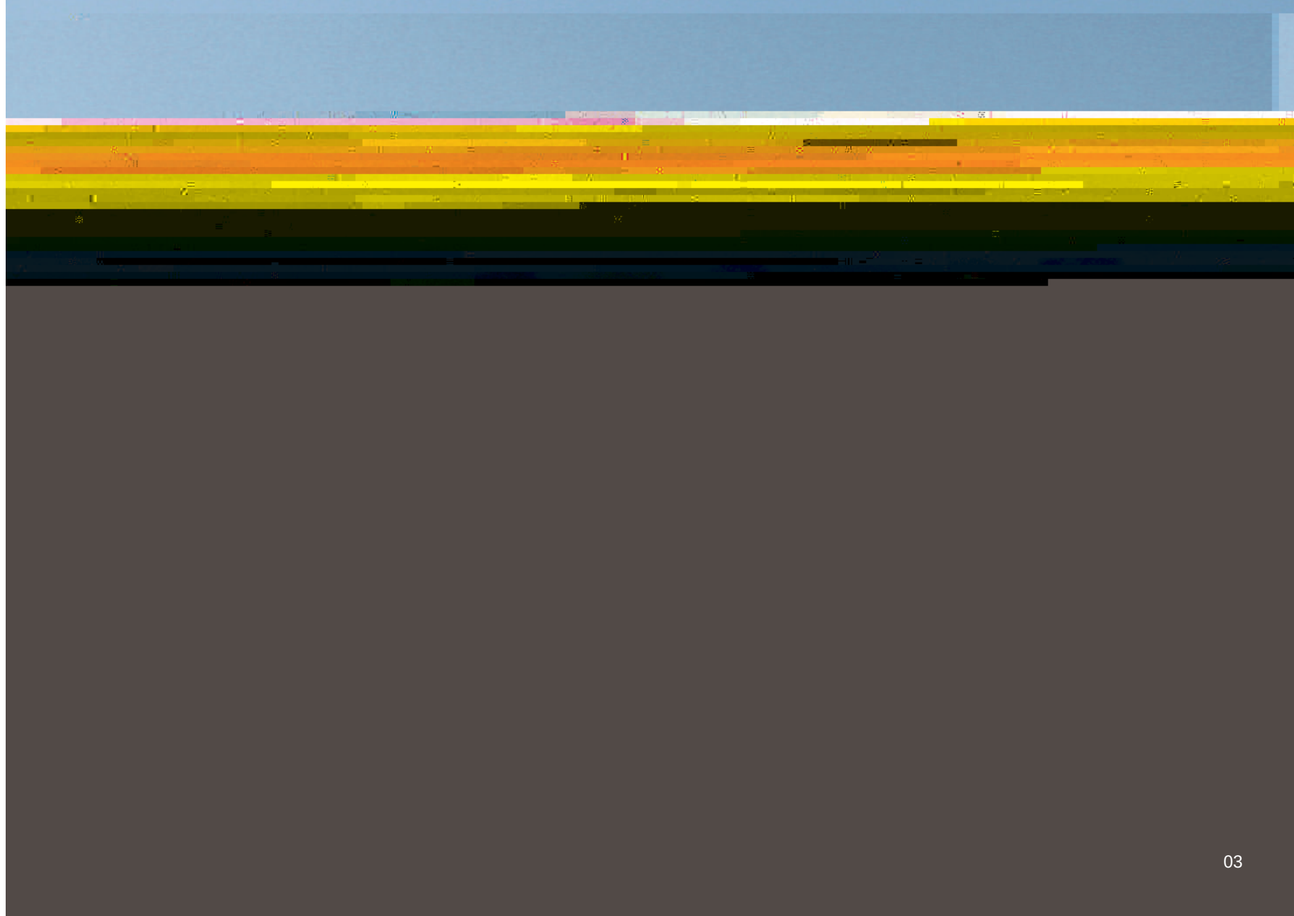
Preface

In September 2020, Chinese President Xi Jinping announced at the United Nations General Assembly that China would "scale up its Nationally Determined Contributions (NDCs), adopt more vigorous policies and measures, and hit peak carbon emissions by 2030 and attain carbon neutrality by 2060". "Carbon peak", "carbon neutrality", "green and low-carbon development" have been included in China's 14th Five-Year Plan, national and regional government work reports, and other key policies in 2021, among other keywords, and the national carbon trading market has also been o f cially launched. Those rapid moves embody China's f rm commitment to the transition towards green, low-carbon growth and have catalyzed social actions for climate change mitigation.

As one of the f rst eight major sectors included in the national carbon trading market, the papermaking sector has a signi f cant role to play in achieving the "carbon peak and neutrality" goals, even though in the face of a number of unprecedented challenges. Papermaking companies are thus in a position to ride the trend and plan in advance. They need to actively adjust and optimize the industrial structure and energy mix, and transform towards intelligent manufacturing and green growth, tapping opportunities while overcoming challenges.

Go green. Go low-carbon. APP China has a build-in green DNA as showcased through its "Integration of Plantation-Pulp-Paper" model. Embracing a green growth approach, we remain committed to management and practices that minimize the environmental impact of the industry chain. Against the backdrop of the "carbon peak and neutrality" goals and with profound awareness of the severity of climate change, we will adhere to our green DNA, and actively plan, explore, and deliver concrete actions towards carbon neutrality, contributing to addressing climate change in collaboration with our stakeholders.



For years, the World Economic Forum has listed climate change as one of the most pressing threats facing the world in its *Global Risks Report*. According to the Global Risks Horizon in the 2021 report, "extreme weather events" and "climate action failure" are the top two global risks by likelihood; and "infectious diseases" and "climate action failure" are the top two global risks by impact. Urgent actions are needed to e fectively mitigate and adapt to climate change.

In 2015, the *Paris Agreement* set out the goal of "holding the increase in the global average temperature to well below 2°C

The World Meteorological Organization also points out in its S*tate of the Global Climate 2020* that the global mean temperature

Implementing sustainable forest management

- Total carbon absorbed:

  42.395 million tons

- **244,382** hectares of plantations are

Forest Carbon Sinks and Forest Conservation

Absorbing carbon and releasing oxygen, retaining water, purifying air, regulating climate, conserving soil... the list of forests' ecological bene f ts goes on. As an invaluable asset for our planet, forests absorb carbon dioxide from the atmosphere and f xate it in vegetation or soil, making them the largest "carbon reservoir" in the terrestrial ecosystem, playing a signi f cant role in global climate change mitigation and adaptation actions.

Growth of Plantations

- Picking young shoots from the trees, disinfecting the buds, and placing them in a sterile environment for soilless culture
- Transplanting rooted seedlings after 9 to 12 months for seedling production

Since 1995, APP China has been investing heavily in plantations in Guangdong, Hainan, Guangxi, and Yunnan, pioneering the concept of "Integration of Plantation-Pulp-Paper" in China. By the end of 2020, APP China owned 271,100 hectares of plantations

Both increasing forest carbon sinks and maintaining their stability require

APP China Forestry has a long-standing commitment to the R&D and innovation of quality seedling varieties. In 2020, its Sustainability Team and R&D Team jointly initiated a project on the region-based deployment and management of high-productivity, high-resistance, and high-pulp-yield varieties. With several months of surveys, analyses, and measurements, the project team developed a scientific and standardized variety management system with the release of the *APP China Forestry Optimal Asexual Eucalyptus Variety Management Measures* in August 2020 and the replacement of several old varieties with new ones. The project takes into consideration both the production factors of forestry, such as resistance to wind, pest, and frost, and an in-depth research and analysis of their pulping performance parameters, as well as cooking pulp yields, conducted in close collaboration with our pulp and paper mills. The selection of seedling varieties through this process results in not only high pulp yields, but also more efficient utilization of forest resources Γ ! w̄ Γ ه Γ orestry has an in " ǯ v] v / ų m` ɣ ȳ D ȣ / D ȣ ɣ / ɔ Γ saه t Γ UsisethEdn Γ

Since 2015, APP China has been providing labeling of the CFCC/PEFC joint logo on tissues, copy paper, and other products on the requests of customers. In 2018, under the guidance of the Science and Technology Development Center of State Forestry

APP China was an early adopter of digital and intelligent transformation. We have nearly completed the construction and restructuring of the digital framework for Digital 1.0

For a traditional manufacturing company, the key to achieving low-carbon green development lies in transforming its energy structure, reducing energy use, improving energy efficiency, and making technological breakthroughs.
APP China attaches great importance to energy management in the manufacturing process. Our mills continuously optimize energy management policies and systems, tap the potential for energy saving and carbon emissions reduction, and strengthen the tracking and assessment of performance targets.

Transforming the energy structure is crucial to attaining the "carbon peak and neutrality" goals. In 2020, thermal power still accounted for nearly 70% of the total power generation in China, which means that changing the fossil fuel-based power energy structure is key to reducing GHG emissions. The power generation

In 2020, we actively implemented a number of pilot energy saving and emissions reduction equipment upgrading projects at the Group level. The magnetic levitation blowers used in the wastewater plant of Guangxi Jingui Pulp & Paper's new project saved up to 10-20% on electricity compared with the traditional multistage centrifugal blowers. We also replaced

Looking Forward

As China strives for the "carbon peak and neutrality" goals, a wave of low-carbon, green transformation is set to sweep across all sectors. As an important pillar of the national economy, the papermaking industry faces huge pressures to reduce carbon emissions. While there will be a challenging journey ahead, papermaking companies are also presented with a signi f cant array of opportunities to make a di f erence and create synergies in the economic, social, environmental, climate, safety, and health f elds, among others.

Intelligence and digitization will foster new drivers of growth, making manufacturing much more e f cient, greener, and safer. This has been demonstrated by the digital transformation at APP China. In terms of energy structure transformation, there is huge room for the development of renewable energy in China. The replacement of fossil energy with renewable energy will give a major boost to the low-carbon transition of papermaking companies. Our recyclable and degradable "Paper in Place of Plastic" products will help mitigate plastic pollution and reduce the use of fossil fuels. Those products have performed well in the market, motivating us to make further innovations. As was mentioned earlier in this report, APP China has launched a number of "carbon neutral" products and is promoting the issuance of carbon neutrality-themed green bonds. The advancements of those innovative attempts have shown us the value brought about by actions to address climate change.

We are standing at a critical crossroad in history. To protect the planet, we need to act proactively with full dedication. APP China will continue to deepen practices for addressing climate change along the value chain and contribute to the realization of the "carbon peak and neutrality" goals.

Note: Unless otherwise speci fed, the APP China performance data included in this report are as of December 31, 2020.

About APP China

With operations dating back t ỷ i Ỉ t on ỷ onb

- Products marketed in over **160** countries/regions across **6** continents
- RMB**73.8** billion in annual sales revenue
- RMB**248** billion in total assets