APP China Water Resources Report

Using Water with Efficiency, Conserving the Source of Life

August, 2025

Water gathers into seas and oceans, and drops converge into rivers. Only by using water with great efficiency, can we properly protect water from the source. And only by protecting water from the source, can we ensure that future generations still benefit from water.

It requires us to keep the long-term in mind and persevere in our actions to save water, conserve water sources, and protect aquatic ecosystems.

Let us work together to cherish every drop of water, take joint actions to ensure the clarity and abundance of the source of life, and contribute to the realization of a better future where clear water flows and all lives flourish!

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Increasingly Prominent Importance of Water Resources Management

Even though more than 70% of the surface of our planet is covered by water, freshwater resources only account for 2.5% of the total water resources of our planet, of which only about 1% is fresh water that can be directly used by mankind. According to the United Nations' "World Water Development Reports" in recent years, global water use has increased approximately 1% annually over the past 40 years, driven by ongoing urbanization, industrialization and population growth. Industrial and domestic water use have been the main drivers for higher freshwater demand, and this trend is expected to continue until 2050. Therefore, effective water resources management has become a core issue for global sustainability development.

Increasingly Stringent National Industrial Water Conservation Policy System

To overcome the constraints caused by water resources shortages on sustainable economic and social development, China has implemented a strict water resources management system, prioritizing water conservation, implementing stringent limits on the use of water resources, promoting nation-wide water conservation campaigns, and comprehensively encouraging water-saving and efficiency improvement in the agricultural sector, water-saving and discharge reductions in the industrial sector, and water-saving and loss reduction in urban areas.

China continues to optimize its policy system regarding industrial water conservation, issuing a series of policy documents to clarify development directions and goals, promote industrial water conservation initiatives, and facilitate the economic and social green transformation. To address prominent issues and weaknesses in China's water conservation efforts, in March 2024, the State Council issued the "Water Conservation Regulation" based on China's water resources realities. This document has systematically constructed a framework for water conservation laws and regulations in multiple aspects, such as water management, water-saving measures, enforcement and supervision, and legal responsibilities. Meanwhile, in recent years, the Ministry of Water Resources, the National Development and Reform Commission, the Ministry of Industry and Information Technology, and other government authorities have successively issued a series of documents related to water resources, such as the "Industrial Water Efficiency Improvement Action Plan", the "Opinions on Further Strengthening the Conservation and Intensive Utilization of Water Resources", the "Guiding Opinions on Accelerating the Development of the Water Conservation Industry", the "Notice on Strengthening Quota Management of Water Use in Key Industries", and the "Opinions on the Comprehensive Establishment of a Water Conservation Policy System". Adhering to the water governance philosophy of "prioritizing water conservation, achieving spatial balance, conducting systematic governance, and leveraging the roles of both the government and the market", this water governance policy system aims to guide key industries to improve water efficiency, accelerate the development of the water conservation industry, and continuously enhance the conservation and intensive utilization of water resources.

A core goal of water resources conservation is to improve the efficiency of water resources utilization. The "Industrial Water Efficiency Improvement Action Plan", released by the Ministry of Industry and Information Technology and five other ministries in June 2022, clearly states that by 2025, the water consumption per RMB10,000 of industrial added value in China shall decrease by 16% compared to that in 2020; the water reuse rate in industries above a designated size shall increase to about 94%. The Action Plan also proposed specific unit product water withdrawal reduction targets for key water-consuming industries such as steel, papermaking, petrochemicals, and textiles. The "Opinions on the Comprehensive Establishment of a Water Conservation Policy System", released by the Ministry of Water Resources and four other ministries in April 2025, proposed a target of reducing water consumption per RMB10,000 of GDP and per RMB10,000 of industrial added value by more than 10% by 2030 compared to 2025. These policy documents fully demonstrate China's strong determination in water resources management, which is to promote more efficient utilization of water resources through scientifically setting phased goals and strengthening supervision of water consumption in key industries.

The "Water Efficiency Leader" initiative has effectively promoted the improvement of the water resources utilization efficiency of Chinese enterprises, and played a positive role in the implementation of relevant policies. In 2016, the National Development and Reform Commission, the Ministry of Water Resources, and other ministries jointly released the "Water Efficiency Leader Campaign Implementation Plan", covering industrial, agricultural and domestic water use. In the industrial sector, the Plan focuses on high water-consuming industries such as thermal power generation, steel, textile dyeing and finishing, papermaking, petroleum refining, and chemicals. With the demonstration of selected "Water Efficiency Leader" enterprise, this initiative not only promotes Chinese enterprises to implement water-saving technological upgrades and management innovation, but also guides society as a whole to adopt water-saving production models and lifestyle, effectively advancing the development of water-saving cities and a water-saving society. In 2024, the Ministry of Industry and Information Technology and other three ministries jointly released the "2024 List of Water Efficiency Leaders Among Key Water-Using Enterprises and Industrial Parks", with 82 newly selected "Water Efficiency Leader" units from 17 industries including steel, coking and papermaking, as well as industrial parks, added to the list.

According to the "2024 China Water Resources Bulletin" released by the Ministry of Water Resources, as of the end of 2024, China's water consumption intensity was 43.9 cubic meters per RMB10,000 of GDP, and 24.0 cubic meters per RMB10,000 of industrial added value, improved by 23.25% and 27.05% respectively compared to 2020, reflecting a steadily improving trend of water resources utilization efficiency.

Progresses in Water Resources Management of the Papermaking Industry

The paper industry is a typical water-intensive industry, with key production processes characterized by high water consumption and wastewater generation, such as pulping, bleaching, washing, and papermaking. Statistical* data show that in 2023, large-scale papermaking enterprises in China consumed a total of 1.62 billion cubic meters of water, accounting for approximately 3.8% of the total water consumption of large-scale industrial enterprises in the same year.

In recent years, the papermaking industry has significantly improved water efficiency by introducing advanced equipment, optimizing production processes, and enhancing wastewater recycling and reuse. In 2024, six papermaking enterprises were included in the "2024 Industrial Wastewater Recycling and Reuse Model Cases List" released by the Ministry of Industry and Information Technology, and ten papermaking enterprises were awarded the title of National-level "Water Efficiency Leader". The examples and best practices of these enterprises will provide important demonstration effects for advancing the water-saving initiatives of the papermaking industry.

Meanwhile, the papermaking industry has effectively reduced wastewater treatment volume and the discharge of major pollutants through technological upgrades, making steady progress towards the green transformation of the industry. Statistics from the Ministry of Industry and Information Technology show that in 2022, the papermaking and paper products industry treated a total of 1.689 billion tons of wastewater, which accounted for 5.6% of the total industrial wastewater treated nationwide, and decreased by 30.37% year-on-year. The industry discharged a total of 52,300 tons of COD and 1,300 tons of NH_3-N respectively, decreasing by 3.8% and 10.9% respectively compared to 2020. Calculated by the annual paper and cardboard production, the COD and NH_3-N discharged per ton of product were reduced by 86.6% and 90.9% respectively compared to 2015.

As a key water-consuming industry, the papermaking industry bears important responsibilities in China's green development. The "Industrial Water Efficiency Improvement Action Plan" specifically requires that by 2025, the unit water withdrawal of the main products of the papermaking industry shall decrease by 10%. In the face of increasingly water resources shortage and the increasingly stringent government policies, the papermaking industry is taking concrete measures to improve water resources management, continuously improving water resources utilization efficiency and contributing to the sustainable development of China.

*Source: https://www.miit.gov.cn/jgsj/jns/zyjy/art/2024/art_3f722a4db8fa4adcbcbb3879dd51ce98.html

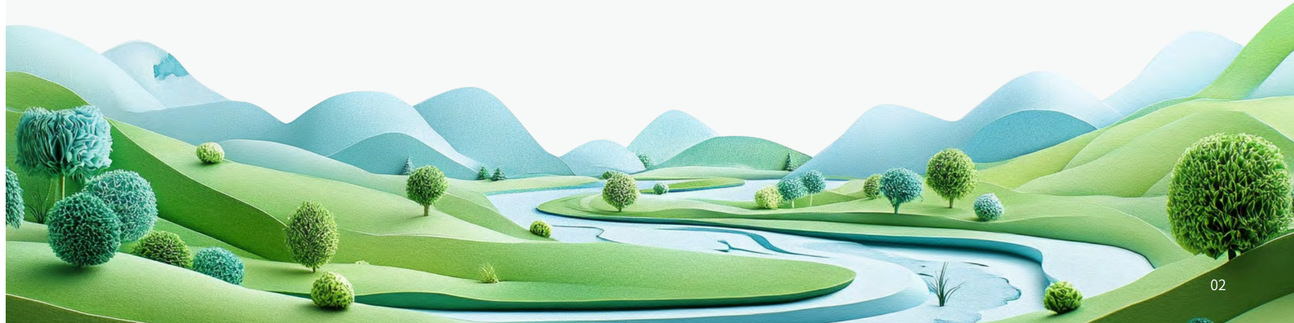
In 2024

Number of papermaking enterprises included in the "2024 Industrial Wastewater Recycling and Reuse Model Cases List" released by the Ministry of Industry and Information Technology

6

Number of papermaking enterprises awarded the title of National-level "Water Efficiency Leader"

10



Water Resources Risks and Opportunities

Water resources management is an important part of the environmental governance and sustainable development strategy for papermaking enterprises. As a key element of the integrated "Plantation-Pulp-Paper" operation, water resources play an important role in both the forestland management and production processes of APP China. By systematically identifying water resources risks, the Company can plan its compliance management and water-saving initiatives in advance to ensure stable production. Meanwhile, there are also water resources related opportunities with which the Company can achieve good economic benefits, such as water conservation, water use efficiency, policy incentives, and green finance.

Water Resources Related Risks

Risk Description	Impact Time Frame	Response Measures
If plantations are not managed properly, the water resources supply for surrounding communities and ecosystems may be affected. Comprehensive land preparation in forest areas may damage the topsoil structure, increasing the risk of soil erosion during rainy seasons. Inadequate control over the use of chemicals such as fertilizers and pesticides may pollute nearby water bodies, impacting the ecological health of the watershed.	short-term ✓ medium-term ✓ long-term ✓	• Implement scientific afforestation during the rainy season, select drought-resistant varieties, and accurately seize the rainy period for planting; make full use of surface water to enhance water resources utilization efficiency. • Effectively enhance the water retention capacity of soil and prevent soil erosion through measures such as site-appropriate tree and fertilizer selection, strip tillage, point planting, refined management, and ecological protection measures. • Specifically prohibit the use of banned pesticides listed by the Chinese government and World Health Organization; control and reduce the amount of chemicals used; strictly prohibit the direct discharge of wastewater from sprayers and nozzles cleaning into water bodies.
Higher regional water demand and greater volatility of precipitation caused by climate change increase the Company's exposure to water supply shortage in its operations, which may lead to interruptions in production and increased costs.	short-term medium-term ✓ long-term* ✓	• Implement refined water-saving management, upgrade to more efficient water-use equipment, processes and technologies, raise employee awareness on water conservation, optimize the water resources recycling system, and continuously improve water resources utilization efficiency and reduce water intensity.

*According to the Aqueduct World Water Risk Atlas of the World Resources Institute (WRI), Gold East Paper is located in a low (less than 10%) water stress area; Guangxi Jingui Pulp & Paper is located in an area with a low-medium (10-20%) water stress level; Jiangsu Base of Bohui Paper, Hainan Jinhai Pulp & Paper, Hainan Gold Hongye, Ningbo Asia, and Rudong Base are located in areas with a medium-high (20-40%) water stress level; and Shandong Base of Bohui Paper is located in an area with a high (greater than 80%) water stress level. Overall, our mills are located in areas with different water stress levels, and most of them are not in areas with high water risks. There is limited impact on our short-term production and operations from regional water stress. Although Shandong Base of Bohui Paper is in a high-risk area, the mill has proactively adopted water-saving measures, so the risk of water supply interruption faced in the short term is relatively limited.

Risk Description	Impact Time Frame	Response Measures
If wastewater is not properly treated during the paper production process, leading to the discharge of pollutants exceeding standards, it may disrupt the ecological balance of the watershed, trigger environmental problems such as local water bodies pollution, resulting in regulatory penalties and harm to the Company's reputation.	short-term ✓ medium-term ✓ long-term ✓	• Continuously optimize our wastewater treatment system and discharge management through measures such as source pollution reduction, wastewater reuse, monitoring and refined control, and strengthening emergency response capabilities for exceeding discharge standards, to ensure consistent compliance with wastewater discharge standards and effectively reduce the total amount and concentration of pollutant discharge. • Establish a sound environmental information disclosure mechanism, enhance public communication and stakeholder participation, and continuously improve operational transparency, striving to enhance our social trust.
With the continuous improvement of national and local environmental protection regulations, regulatory authorities are becoming increasingly strict regarding water withdrawal permits and wastewater discharge standards. The Company needs to continuously enhance its compliance management, which may increase the investment in environmental protection facilities and impose pressure on daily operating costs.	short-term medium-term ✓ long-term** ✓	• Continuously track the trends of water resources-related laws and regulations, regularly organize compliance training, and timely integrate the latest policy requirements into operational management to ensure compliant operations. • On the basis of meeting existing discharge standards, actively upgrade wastewater treatment standards and facilities to become better prepared in technologies for more stringent environmental compliance requirements in the future. For example, Gold East Paper's wastewater treatment upgrade project has entered the bidding procurement stage. Upon completion, the project will further improve effluent quality, increase the proportion of reused water, and achieve benefits in both discharge reduction and resource conservation.

**Our water resources use efficiency and wastewater pollutant discharge performance are all better than the requirements of national standards, and there are no compliance risks in the short-term. However, as environmental regulations continue to tighten, there are potential medium- to long-term challenges due to increasingly stringent water withdrawal permits and discharge standards.

Water Resources Related Opportunities

Opportunity Description	Impact Time Frame	Response Measures
By implementing water-saving measures and establishing recycled water systems, APP China can effectively reduce water resources consumption and operating costs. Meanwhile, within the scope of water withdrawal permit quotas, the Company can generate additional revenue through trading our unused water withdrawal permits.	short-term ✓ medium-term ✓ long-term ✓	• APP China continuously improves water resources utilization efficiency and reduces water consumption by implementing refined water-saving management initiatives and technological upgrades, and promoting wastewater recycling and reuse. • Gold East Paper has been engaged in water rights trading since 2021, generating approximately RMB2 million annually from the trading of unused water withdrawal permits.
Governments at the national and local level have implemented a series of tax and fee reduction policies to encourage enterprises to improve water efficiency and reduce wastewater pollutant discharge. For example, taxpayers whose industrial water efficiency reaches the "advanced" threshold of the national water quota can enjoy preferential water resources tax rates. By continuously optimizing water resources utilization efficiency and wastewater treatment effectiveness, we may have the opportunity to receive relevant government rewards and tax exemptions, thereby reducing our operational costs.	short-term ✓ medium-term ✓ long-term ✓	• APP China actively implements water-saving management and wastewater treatment measures, effectively improving water efficiency and pollution control results, striving to meet relevant requirements for tax and fee reductions. • Ningbo Asia was rated as a 2021 "Water-Saving Benchmark Enterprise in Zhejiang Province" and received a 50% exemption of its water resources fees from 2022 to 2024, resulting in a total saving of RMB4.6 million (including RMB1.33 million in 2024). In March 2025, the company was included in the "Zhejiang Province List of Taxpayers with Industrial Water Efficiency Reaches the Advanced National Water Quota in 2024" and received a 20% exemption of its 2025 water resources tax, saving approximately RMB780,000. • Guangxi Jingui Pulp & Paper achieved significant results in 2024 by implementing pollution control and discharge reduction measures, resulting in an environmental tax exemption of RMB1.89 million.
The government actively encourages financial support for green and low-carbon development and guides financial institutions to offer innovative green financial products. We can obtain low-cost financing through water rights pledge loans or water-saving projects, thereby reducing our operating costs.	short-term ✓ medium-term ✓ long-term ✓	• APP China actively seeks support for green financial tools such as "Water Right Loan" and "Water-Saving Loan" by establishing and improving its water resources management system and promoting best practices. • In 2024, Gold East Paper obtained two "Water Right Loans" of RMB20 million and RMB50 million respectively. • In 2024, Ningbo Asia received a "Water-Saving Loan" of RMB100 million, earmarked for water-saving renovations and maintenance of water-saving facilities.

Forestry Water Resources Management

Since 1995, APP China has been engaged in large-scale afforestation. As of the end of 2024, the Company has owned 293,107.89 hectares of self-operated plantations. Adhering to our forestry management concepts focusing on "compliance, technology, ecology, harmony, and sustainability", we regard sustainable forestland management as the strategic foundation for achieving the sustainable use of resources and green development. To optimize water resources management in forest areas, we prioritize drought-resistant varieties during the seedling stage and continuously optimize irrigation techniques to maximize the efficiency of water resources utilization. During our forestry operations, we attach great importance to comprehensively enhancing our scientific management, preventing water source pollution, strengthening soil and water conservation, safeguarding ecological health, and ensuring the sustainability of the water environment.

Promoting Water-Saving Management

We continuously optimize our water management system and internal operating procedures for forestland management in accordance with industry standards such as the "Technical Regulations for Eucalyptus High-Yield Forest Cultivation" and the "Eucalyptus Plantation Soil and Water Conservation Technical Regulations", as well as the "Water Quota for the Forestry Industry" and local water quota requirements. In the planting phase, we scientifically plan afforestation operations during the rainy season, complete the preparation of land and seedlings in advance, prioritize the selection of drought-resistant strains, and accurately coordinate the planting with rainfalls to maximize seedling survival rates. In fact, our afforestation operations require very little artificial irrigation. In terms of seedling irrigation, we vigorously apply water-saving equipment to reduce water resources consumption and improve water utilization efficiency. In 2024, the Guangxi Jingui Forestry Central Nursery completed the upgrade of its 24-mu greenhouse, using an overhead micro-spray irrigation system to replace traditional manual spraying, which not only shortened the spraying time but also effectively reduced water runoff losses with water-saving benefits reaching 30% to 50%.

Water Source Protection

The Company strictly manages the use of water resources during forestland management operations, comprehensively preventing the pollution risks of pesticides, fertilizers, and other chemicals to water bodies, and striving to avoid issues such as water eutrophication and the death of aquatic organisms. We have formulated and strictly implement the "Herbicide Operation Guidelines", which specifically prohibits the use of pesticides banned in China or by the World Health Organization. After herbicide application, we strictly forbid the discharge of wastewater from cleaning sprayers and nozzles directly into water bodies, ensuring that the wastewater is properly treated. All empty herbicide containers and other waste must be recycled and handed over to qualified organizations for disposal. In addition, during the chemical treatment of seedlings, workers are required to wash their protective gloves with running water and wash their hands with soap, with the use of wastewater from cleaning tools and protective equipment for washing strictly prohibited. We also implement strict control of wastewater discharge to prevent water source pollution.

To promote the reduction and refined management of chemicals such as fertilizers and herbicides, we conduct regular monitoring and dynamic analysis of the usage of urea, NPK compound fertilizers, calcium magnesium phosphate fertilizers, and 41% glyphosate isopropylamine salt across various plantations. Once any abnormal usage pattern is identified through comparison with historical data, relevant departments will analyze the reasons and take corresponding measures to address the issue. Our forestry business areas also take a variety of measures to ensure strict chemical management.

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Promoting the Reduction and Refined Management of Chemical Use to Reduce Water Pollution and the Environmental Impact

Jiayao Plantation in Guangdong Business Area attaches great importance to the impact of chemicals on the ecological environment. During its operations, we prioritize manual weeding over using chemical herbicides to minimize the interference with the ecosystem. We also adhere to the principle of precision fertilization by applying set amounts, at fixed intervals, and in specific locations to improve fertilizer utilization efficiency, prevent water and soil pollution caused by fertilizer runoffs due to rainfall, and effectively reduce the amount of fertilizers and pesticides used. All fertilizer bags were required to be recovered after use to prevent secondary pollution.

Hainan Jinhua Forestry continued to expand the areas for manual and mechanical weeding operations, reducing the application of herbicides and other environmentally sensitive substances.

APP China Forestry Yunnan Business Area conducted an environmental impact monitoring on 640,000-mu forest land (of which 99.25% is eucalyptus and eucalyptus-dominated mixed forest) under its subsidiary Jin Lancang Company throughout 2024. The monitoring results indicated that there were no occurrences of any pesticide or fertilizer pollution incidents in water bodies throughout the year, and no pesticides banned in China or by the World Health Organization were used.

In addition, we strictly adhere to the laws and regulations of the operating locations in forestland management. Upholding the law as our guideline and ecological protection as our orientation, we strive to effectively fulfill our responsibility of protecting water sources, and promote the coordinated development of forestry operations and water source protection. Taking our operations in Guangxi as an example, we firmly implement relevant regulations such as the "Regulations of Guangxi Zhuang Autonomous Region on Protection of Drinking Water Sources" and the "Guangxi Forestry Bureau Notification on Strengthening the Management of Forest Operations in Drinking Water Source Protection Areas". Regarding the planting of eucalyptus, we scientifically plan the planting areas, and set up ecological buffer zones or firebreaks to effectively prevent the potential impact of forestry operations on water resources. With the adjustment of government ecological protection policies, a number of our forestland in Guangdong, Guangxi, Hainan, and Yunnan have been designated as water source protection areas in the past decade. In response, we actively cooperated with the government to support the protection of local water sources. For example, since 2020, our Guangxi Business Area has been implementing the transformation of water source forests, gradually replacing eucalyptus with other tree species such as hybrid acacia, *Acacia melanoxylon*, and *Castanopsis fissa*. As of the end of 2024, we have completed the transformation of 11,600 mu of forestland in collaboration with government authorities.

Soil and Water Conservation

APP China strictly follows laws, regulations, and industry standards, such as the "Law of the People's Republic of China on Water and Soil Conservation", the "Technical Regulations for the Cultivation of High-Yield Eucalyptus Forests", and the "Sustainable Management Technical Specifications for Eucalyptus", to ensure that our forestry operations fully comply with the relevant policy and technical requirements. Before the start of operations, we provide training on soil and water conservation to contractors and forestry workers to strengthen their awareness of standardized operations. In 2024, the Company had no soil and water loss incidents.

Adhering to the principle of "suitable land, suitable trees, suitable fertilizers" outlined in our internal manual "Standard Operating Procedures for Afforestation", we are committed to using scientific forestry operations and refined management to reduce the risk of soil and water loss, and maximize economic, ecological and social benefits. Regarding the hole-digging operation, we require the use of the single plow strip tillage method for land with slopes of 0–10 degrees, and the use of small hole diggers and manual digging for land with slopes exceeding 10 degrees to minimize the disturbance to soil. Regarding the fertilizing operation, we require the planting holes to be shaped into water accumulation areas or flatted according to the terrain and precipitation characteristics after backfilling the topsoil to prevent rainwater erosion and waterlogging, or to better conserve and store water. Meanwhile, to prevent soil erosion and conserve source water, vegetation buffer zones with appropriate widths are intentionally maintained on the top, the ridge and the foot of mountains, or along both sides of streams, drainage ditches, and catchment ditches, especially when afforesting and nurturing young forests on lands with slopes greater than 5 degrees. In addition, forest workers are required to record data such as the operation area, forest characteristics, and landform types in the "Subcompartment Afforestation Operation Planning Survey Form", and assess the risk of soil erosion based on the afforestation situation.

Case

Fully Consider Soil Erosion Risk in Afforestation Operations

Adhering to the afforestation principle of "suitable land, suitable trees, and suitable varieties", Hainan Jinhua Forestry selected excellent clonal seedlings such as *Eucalyptus urophylla*, *Eucalyptus urophylla* × *E. grandis*, and *Eucalyptus urophylla* × *E. tereticornis* based on local geographic and soil fertility conditions, ensuring that the seedlings take root quickly and play a role in soil stabilization. Regarding the land preparation operation, different operation models are adopted in accordance with the site conditions of eucalyptus forests and the need for preventing soil and water loss. Flat land is prepared using strip tillage, while sloped land is prepared using contour tillage, reducing the risk of soil and water loss from the source. Meanwhile, we reserve forest buffer zones in surrounding areas of gullies, farmland, steep slopes, and rivers and streams, forming ecological barriers by preserving native vegetation to effectively prevent soil and water loss and avoid damage to forest watersheds. These measures have significantly alleviated soil erosion and land stoniness issues, contributing to the protection of the regional ecological environment.

To further enhance the soil water retention efficiency and water conservation capacity of forestland, we implement scientific afforestation techniques and ecological measures, and formulate a sustainable forestland soil and water management mechanism to achieve a synergistic optimization of improved soil water retention capacity as well as reduced water resources consumption.

After each seedling is removed from its bag, a deep planting method of over 20 centimeters is used to ensure its root system penetrates deep into the soil, effectively enhancing the drought resistance of the seedlings and improving their survival rates.

Promote the dark pit afforestation technique, ensuring simultaneously digging, planting, and soil covering soil to minimize moisture evaporation due to prolonged exposure of soil.

Based on the actual conditions of the forestland, water-retaining agents are applied at an appropriate time after land preparation for planting, significantly improving soil moisture utilization efficiency and seedling survival rates.

Regularly apply organic fertilizers to continuously increase soil organic matter content and enhance the water retention capacity of soil.

Scientifically retain natural vegetation as buffer zones to form an ecological isolation area, which not only reduces the interference of plantations on surface runoff but also effectively helps maintain local hydrological balance and reduce water consumption from vegetation transpiration.

Implement measures to return logging residues and fallen branches and leaves to the soil, combined with shrub and weed coverage, to reduce soil moisture evaporation and maintain soil humidity.

Implement a mixed afforestation model of acacia and eucalyptus to improve soil structure through their complementary effects, effectively enhancing the water retention capacity of soil.

Special Topic： Eucalyptus and the Water Ecological Environment

Eucalyptus, as one of the three major plantation tree species in the world, has been strongly recommended for vigorous development by the Food and Agriculture Organization of the United Nations, and has become one of the main tree species for fast-growing and high-yield forests in southern China. With advantages such as fast growth, tolerance to poor soil, strong resistance, and excellent wood quality, eucalyptus is widely applied in papermaking, wood-based panels, and construction materials. According to statistics from the National Forestry and Grassland Administration, there are over 85 million mu of eucalyptus plantations in China, ranking second in the world.

The key to mitigating the ecological impact of eucalyptus plantations lies in scientific cultivation and management. Long-term practice has proven that through measures such as appropriately reducing operation intensity, scientific multi-species combination, and biodiversity conservation, eucalyptus plantations can effectively help improve air quality, conserve water sources, provide habitats for flora and fauna, enhance soil fertility, promote ecological balance, and prevent soil erosion. Among these, the mixed eucalyptus plantation model has shown better soil water retention and drainage capabilities than pure eucalyptus plantations, and is widely adopted to enhance the ecological functions of plantations. Research* shows that the implementation of ecological eucalyptus forestry practices can achieve both increased timber yield and enhanced ecosystem service functions, achieving a win-win situation for ecological protection and economic development.

*Source: http：http://202.99.63.178/search/625214

APP China adheres to the concept of sustainable forestry to formulate scientific plans for eucalyptus plantations. Native vegetation belts on mountain tops, mid-slopes, and ravines are retained, while buffer zones are reserved at the foot of the mountain. Tree species are rationally planned and allocated based on local conditions to avoid excessive concentration of plantation species and maintain species diversity.

The Company continues to promote the large-scale planting of eucalyptus plantations, and actively promotes diversified operation models such as crop rotation, intercropping, and mosaic planting to cultivate mixed eucalyptus plantations. In 2024, the Company cultivated 38.8 million eucalyptus seedlings and planted 19,866 hectares of eucalyptus plantations. Some of the plantations are mixed plantations, with eucalyptus accounting for 42% of the mixed plantations. To further explore the ecological benefits of the mixed plantation model, we established an experimental mixed plantation of eucalyptus and acacia with over 1,000 mu of land in our Guangdong Business Area, aiming to reduce the impact of pests and diseases and improve soil water retention through this model.

Studies* indicate that eucalyptus has a shallow root system with a depth of 50 to 100 centimeters in the soil. Therefore, the root system of eucalyptus does not absorb groundwater when annual precipitation exceeds 800 millimeters. Our eucalyptus plantations are mainly in Guangxi, Guangdong, Hainan, and Yunnan, with annual precipitation in 2024 being 2,190.8, 1,786.0, 2,300.6, and 987.6 millimeters respectively, all exceeding 800 millimeters. Abundant rainfall in these regions provides excellent natural conditions for the cultivation and management of eucalyptus plantations. The Company continues to carry out water source monitoring in eucalyptus plantations, monitoring various water quality and ecological indicators to ensure that the planting of eucalyptus trees does not negatively impact the local ecological environment.

Aquatic ecological monitoring in Hainan Business Area

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Monitoring Water Volume in Eucalyptus Plantations

In response to the concerns linking eucalyptus plantations with water sources depletion and drought, our Yunnan Business Area established a regular monitoring mechanism in 2018, conducting dynamic monitoring of water sources in eucalyptus plantations every March, July, and December. The monitoring points are set in small ditches, gullies, rivers, and other water bodies in the plantations, with each plantation having at least three monitoring points. The water sources status is assessed by observing the condition of the water area, measuring the width of the water surface, and changes in the depth of water flow.

In 2024, we completed the three monitoring surveys for the seventh consecutive year. The results of the three surveys all indicate that there was no sign of water sources depletion or drought in the survey areas. With greater precipitation in 2024 compared to 2023, both the width and depth of the water sources surveyed had increased year-on-year. The survey results for December 2024 show that, although the overall width and depth of water flow had decreased compared to the survey results of July 2024 due to reduced precipitation in winter, they are still significantly higher than the survey results for December 2023. This year's monitoring further accumulated long-term data on the ecological characteristics of water sources in APP China Forestry's Yunnan Business Area, providing strong support for future water ecological protection efforts.

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Scientific Assessment of the Impact of Eucalyptus Plantations on Water Quality

To objectively assess the impact of eucalyptus plantations on water quality as well as other impacts on the ecological environment, our Guangdong Business Area conducted a water source sampling survey under the professional guidance of experts from the Research Institute of Fast-growing Trees of the Chinese Academy of Forestry and the APP China Forestry Technology Center. The surveys were conducted in small streams around our Yuexi and Zijin forest farms, where water samples were taken and measured for key indicators such as ammonium nitrogen content, total nitrogen content, and total phosphorus content. A systematic water quality assessment was also conducted for the eucalyptus plantations in accordance with the "Environmental quality standards for surface water" (GB 3838-2002).

The 2024 water quality assessment results indicate that the water quality in eucalyptus-only plantations meets the standards for agricultural irrigation water and is slightly alkaline, which can be concluded that the operations of the plantations do not have any significant impact on surrounding water bodies due to scientific forest management practices.

*Source：http://202.99.63.178/lyj/1/lcdt/20250430/623325.html

Water Resources Management in Pulp and Paper Production

Water resources are a key factor in the production of pulp and paper. The management of water withdrawal, use, and discharge is directly related to the Company's environmental compliance, production efficiency, and ecological impact. APP China regards water resources management as an important issue for sustainable development, continuously promoting the efficient use of water resources and the reduction of wastewater pollutants through policy formulation, goal setting, technological innovation, and management optimization. Our mills continuously deepen the refined management of water use and pollutant control in accordance with national and regional policies and regulations, as well as regional water resources conditions, striving to ensure production safety, ecological friendliness, and operational compliance.

Water Resources Governance

APP China has fully incorporated water resources management into its ESG management system. Our mills have established dedicated organizations to promote relevant goal setting and implementation, with a strict monthly assessment mechanism. For example, Gold East Paper has established a Water-Saving Management Working Team to oversee the implementation of water-saving policies and strategic planning, with its General Manager and Water Manager acting as the Team Leader and the Deputy Team Leader respectively. The heads of various departments serve as members of the working team, responsible for supervising and managing water-saving efforts within their departments. Within each department, there is also a Water-Saving Management Liaison appointed to ensure the specific implementation. Guangxi Jingui Pulp & Paper has established a Water-Saving Leadership Team directly overseen by the General Manager. The Deputy Leaders of the Team include the assistant directors, supervisors and deputy managers of the Production Department. Each workshop also has a designated water-saving management personnel. The management responsibilities are clearly divided into three levels: strategic guidance, planning and review, and implementation. In addition, the Company also has a team of engineers with professional wastewater treatment skills.

Water Resources Management Policies and Objectives

Our mills have established and continuously optimized their respective water-saving management systems and policies in accordance with relevant laws and standards, such as the "Water Law of the People's Republic of China", the "Management Measures for Water-draw and Utilization Assessment on Construction Projects", and the "Norm of water intake—Part 5: Pulp, paper and paper board production" (GB/T 18916.5-2022). We are committed to standardizing our water withdrawal and usage practices with these systems and policies, and to continuously improving our water resources utilization efficiency. For instance, Guangxi Jingui Pulp & Paper formulated the "Plant-wide Water Saving Management Policy", which specifies the responsibilities of its Water-Saving Leadership Team, standardizes water usage operations through specific management measures such as planned water use, water conservation, water supply, and water safety, striving to effectively improve its water resources allocation efficiency through concrete implementation of water-saving responsibilities.

Our mills strictly adhere to relevant laws and regulations and industry standards such as the "Water Pollution Prevention and Control Law of the People's Republic of China", the "Discharge Standard of Pollutants for Municipal Wastewater Treatment Plant" and the "Discharge Standard of Water Pollutants for Pulp and Paper Industry" (GB 3544-2008). We have established relevant wastewater management systems and policies to continuously optimize wastewater treatment capabilities and ensure consistent compliance with pollutants discharge standards. For example, Bohui Paper has formulated the "Management Regulations on Rainwater and Wastewater Diversion", and implemented a rainwater and wastewater diversion discharge mechanism accordingly. The Company has also formulated the "Wastewater Discharge Management Regulations", setting internal control standards for key indicators such as COD, NH_3-N concentration, suspended solids concentration, and pH value, and conducting regular sampling inspections.

To reduce the risks associated with water resources usage and wastewater discharge, and ensure compliant operation, our mills have formulated quantitative targets for water resources usage and wastewater pollutant discharge based on regional water resources conditions and their actual production arrangements. In 2024, Guangxi Jingui Pulp & Paper set the target of "water withdrawal less than 35.04 million cubic meters", while Gold East Paper set the targets of "water withdrawal not exceeding 30 million cubic meters" and "unit water consumption of paper line not exceeding 7.06 tons per ton of product". All our mills have set the discharge target of "wastewater pollutant discharge in compliance with the requirements of pollutants discharge permits".

Water Resources Usage Management Practices

APP China continuously optimizes water resources usage practices in the production process. Each mill regularly conducts water balance tests, implements refined water-saving management and technological upgrades, and carries out water conservation awareness activities to consistently improve water reuse rates. In 2024, the total water withdrawal across all mills reached 162,067,331.29 tons, with an average industrial water reuse rate of 95.19%. During the reporting year, Gold East Paper, Guangxi Jingui Pulp & Paper, and Hainan Jinhai Pulp & Paper were awarded the national title of "Water Efficiency Leader among Key Water-using Enterprises and Industrial Parks". Additionally, Guangxi Jingui Pulp & Paper was recognized as a "Water-Saving Benchmark Enterprise in the Industrial Sector of Guangxi Zhuang Autonomous Region".

Water Balance Testing

The Company continued to implement water balance testing, measuring key indicators such as water withdrawal and water usage, to better analyze water efficiency, understand water usage patterns, accurately identify water resources waste, and provide data support for optimizing the water circulation system, improving water efficiency, and reducing production costs. For instance, Gold East Paper established a Water Balance Testing Team led by the Water and Environmental Protection Department as early as in 2008, conducting regular plant-wide water balance tests. The 2024 testing data show that the Company's core water indicators, such as surface water withdrawal, water withdrawal per unit of product, and water reuse rate, all exceeded the requirements of by industry standard.

Water-Saving Management and Technological Upgrade

Our mills continuously improve the efficiency of water resources utilization with systematic refined management and technological upgrades in areas such as the application of white water recovery technology, water-saving process upgrade, and intelligent water use monitoring.

Gold East Paper

Implemented over 10 water-saving technological upgrade projects, and used treated effluent for miscellaneous water such as landscaping and road cleaning, achieving a total annual water savings of 7 million tons and an annual water reuse rate exceeding 95%, creating an annual economic benefit of RMB8.76 million.

Implemented a project to reduce the clarified water consumption per ton of paper produced, taking measures such as optimizing the production process, recycling sealing water, reusing vacuum pump water, and utilizing condensate from white water heaters, effectively reducing clarified water usage and achieving a significant reduction of 3.45 tons of water consumption per ton of paper produced per production line.

Conducted regular inspections of the water supply pipelines network to timely identify and address pipeline issues, effectively reducing water resources losses in the water supply system.

In 2024, its total water intake was 24,990,184 tons, with a paper production line's unit water consumption being 6.87 tons per ton of paper.

Bohui Paper

Implemented one water-saving upgrade project, saving 7 million cubic meters of water annually.

Shandong Base of Bohui Paper implemented a number of water saving initiatives: Its PM5 paper machine reduced clarified water usage by 148,000 tons by replacing fresh water with white water for the dilution water for aluminum sulfate, and reduced another 108,000 tons with an intermittent operation model of the high-pressure water on the rollers; its PM8 paper machine achieved an annual water saving of 20,400 tons by increasing the condensate recovery rate from 50% to 80%.

Jiangsu Base of Bohui Paper achieved a water saving of 40 cubic meters per hour using white water for the second dilution water of dry strength agent.

Guangxi Jingui Pulp & Paper

Deployed a paper machine closed-loop white water circulation system, effectively reducing production water consumption through the reuse of white water.

Strictly implemented refined water use management in production workshops, using WeCom platform to dynamically track daily water consumption with a real-time feedback mechanism; continuously strengthen annual water use target management; and actively promote water-saving technological upgrades and management optimization in various water-using workshops.

In 2024, its total water intake was 33,991,690 tons.

Hainan Jinhai Pulp & Paper

Continuously conducted water-saving technological upgrades by systematically analyzing workshop water usage and implementing optimization plans, further enhancing water reuse with a water reuse rate of over 96%.

Rudong Base

Actively promoted the reuse of reclaimed water by adding a MBR membrane process after the A/O effluent in the wastewater system. Part of the wastewater is treated through the MBR membrane to further remove pollutants such as suspended solids and bacteria, ensuring that the membrane effluent meets reuse standards and is reused in papermaking production. This project achieved not only water conservation but also significant pollution control results, with its overall water reuse rate increased to 92%.

Ningbo Asia

Implemented multiple water-saving upgrade projects, such as reusing equipment sealing water, adjusting clarified water usage based on temperature, optimizing water usage methods in coating process, and upgrading high-pressure spraying and filter cleaning to automatic control, resulting in a cumulative water saving of 733,400 cubic meters in 2024.

Water Conservation Awareness Raising Activities

The Company continues to strengthen water-saving awareness raising and education activities to ensure the effective implementation of water-saving measures. Gold East Paper strengthened employees' water conservation awareness through posting water-saving signs and organizing regular trainings. In 2024, its employees participated in local water-saving awareness raising activities in Zhenjiang New District as water-saving ambassadors. Guangxi Jingui Pulp & Paper promoted water conservation concepts to employees through posters and banners, creating a shared understanding of the importance of water conservation. The company also regularly held plant-wide water conservation meetings and collaborated with local water regulatory authorities to jointly carry out water conservation awareness raising and education activities.

Participating in Policy and Standard Formulation

The Company actively participates in the formulation of policies and standards related to water resources, turning its practical experience into valuable policy recommendations in support of the water conservation governance of the industry. In 2024, we participated in the formulation or revision of a number of national and group standards, such as the "Green product assessment—Paper and paper products", the "Environmental footprint evaluation guidelines—Paper and paper products", and the "Environmental footprint evaluation criteria—Pulp and paper products". In 2022, Gold East Paper participated in the revision of the "Regulations of Zhenjiang City on Water Conservation", providing constructive suggestions on corporate water conservation management norms and government incentive policies based on its rich experience in water-saving management.

Wastewater Discharge Management Practices

The production wastewater of our mills mainly comes from the pulping and papermaking processes, with main pollutants including COD, NH_3-N, total phosphorous (TP), and total nitrogen (TN). If the wastewater treatment does not meet standards and is discharged directly, it will have a negative impact on the surrounding water bodies and ecosystem. Therefore, strengthening wastewater management is not only a basic requirement for the Company to ensure environmental compliance but also a key measure to reduce environmental risks and promote the green and low-carbon development. Our mills strictly conduct wastewater treatment in accordance with the limit requirements of the "Discharge standard of water pollutants for pulp and paper industry" (GB 3544-2008). By continuously optimizing wastewater treatment system and implementing online monitoring and refined discharge control measures, we ensure that our wastewater discharge 100% meets the requirements of relevant discharge standards, with discharge concentrations significantly lower than national standard limits and the total amount of discharged pollutants below permitted limits. In 2024, Gold East Paper was selected for the "Industrial Wastewater Recycling and Reuse Model Cases List" and became a "National Pilot Enterprise for Industrial Wastewater Recycling", while Guangxi Jingui Pulp & Paper was selected as a "Clean Production Enterprise of Guangxi Zhuang Autonomous Region".

Wastewater Treatment Process Optimization and Discharge Reduction Management

Our mills continuously optimize their wastewater treatment processes and discharge reduction measures based on their own process characteristics and management priorities, striving to ensure safe, stable, and compliant wastewater treatment and discharge. Guangxi Jingui Pulp & Paper enhanced its wastewater treatment capacity by optimizing wastewater treatment process, improving the operational efficiency of its wastewater treatment plant, and optimizing production scheduling. In addition, the company has also linked environmental protection responsibilities with production performance. Gold East Paper built a clarified water sludge thickener to recover the sludge water generated during the production process of its self-built water plant, reducing wastewater discharge by approximately 1 million tons annually. Gold East Paper and Bohui Paper implemented rainwater and wastewater diversion measures, which not only alleviates the burden on its wastewater treatment system, but also effectively prevents the risk of wastewater being directly discharged into rivers.

Wastewater Monitoring and Abnormal Discharge Management

Our mills have established a monitoring system that combines 24-hour automated monitoring, regular manual sampling, and a tiered response mechanism, continuously enhancing their environmental risk early warning and response capabilities focusing on visualized and controllable management of the entire wastewater discharge process. Our mills have deployed 24-hour online monitoring devices at the wastewater discharge outlets, which uploads water quality data in real-time to the government's environmental protection supervision platform, ensuring the transparency of discharge performance indicators. When pollutant indicators exceed the limits of discharge standards, the system automatically issues a warning, and the mill will immediately initiate an emergency response procedure, including stopping discharges, investigating processes, and activating emergency treatment facilities for further disposal, ensuring that discharges are resumed only after meeting the discharge standards.

Gold East Paper

In addition to implementing 24-hour automatic online monitoring, the company contracted third-party testing institutions with China Metrology Accreditation (CMA) qualification to conduct monthly manual sampling monitoring, further ensuring the accuracy and compliance of monitoring data.

Guangxi Jingui Pulp & Paper

Strictly controlled the amount and volume and frequency of abnormal discharges in the production workshop to reduce the average influent COD of the wastewater treatment plant.

Established an abnormal wastewater discharge management mechanism and a regular inspection mechanism, including setting discharge warning thresholds, implementing daily inspections by shift, and real-time monitoring through the DCS system; established an immediate reporting group for abnormal issues and a weekly statistical analysis system to ensure transparent management of problems; and optimized the emergency response process to ensure timely and effective handling of abnormal discharge incidents, effectively ensuring that wastewater discharged consistently meets applicable standards.

Developed a real-time wastewater discharge PI warning system. When the concentration of pollutants exceeds the preset threshold, the system automatically triggers a warning SMS notification, allowing relevant personnel to check and take response measures in a timely manner to prevent the risk of exceeding discharge limits.

Ningbo Asia

In addition to implementing 24-hour real-time automatic monitoring of wastewater discharge, the company conducted manual sampling and testing of the entire wastewater process every 8 hours, achieving early warning of risks and timely adjustments to management measures.

Ensured timely advance notification for wastewater treatment regarding abnormal discharges due to production downtime, so as to ensure sufficient capacity in the emergency pool and adequate chemical supplies. Managed production scheduling to avoid simultaneous downtime of both paper machines, and utilized the two wastewater treatment lines for mutual support to ensure the reliability of wastewater treatment.

Established a graded warning and response mechanism for wastewater exceeding discharge standards. When discharge indicators reach 70% of the limits, the system automatically analyzes and addresses the insufficient removal rate in the treatment process. When discharge indicators reached 80% of the limits, the company increases the intensity of chemicals for third-level treatment and increases the frequency of manual monitoring. When discharge indicators reached 90% of the limits, the company initiates the production line adjustment plan and suspends the operation of the high-load treatment line. If discharge indicators persistently exceed the limits, the management shall be immediately notified and production shall be suspended. Production can only resume after the treatment system restores its ability to meet discharge standards.

Data Dashboard

Water resources and wastewater*

Indicator	Unit	2024	2023	2022	2021	2020
Total water withdrawal**	ton	162,067,331.29	158,457,617.63	140,426,381.96	125,567,722.20	120,215,643
Total wastewater discharge***	ton	134,286,548.33	127,005,726.42	109,903,311.37	101,907,671.22	89,726,593
Wastewater discharge per ton of paper produced	ton	6.07	6.18	5.79	5.88	6.20
Wastewater discharge per ton of pulp produced	ton	10.01	10.05	9.60	12.46	12.50
COD emissions per ton of paper produced	kg	0.21	0.21	0.24	0.24	0.22
COD emissions per ton of pulp produced	kg	0.50	0.52	0.60	0.86	0.85

*Not including data from APP China Headquarters. Not including data from APP China Forestry except for the indicator of total water withdrawal.

**95.99% came from surface water, 4.00% from third-party facilities, and 0.01% from ground water. The reasons for the increase in total water withdrawal in 2024 include: Guangxi Jingui Pulp & Paper increased production output, and its pulp mill switched process controls by replacing recycled condensate from alkali recovery with fresh water to enhance white cardboard quality; Gold East Paper's new project started production and reached capacity; Ningbo Asia increased the frequency of water replacement for chemi-mechanical pulp and paper machine white water due to odor control consideration, and the need to replenish clarified water for the modified closed cooling tower in wastewater treatment; and Forestry Business Unit increased seeding cultivation in Guangxi forest areas, leading to higher irrigation water demand.

***In 2024, there were zero incidents of major water body pollution at APP China. The reasons for the increase in total waste water discharge include: an increase in production at Shandong Base of Bohui Paper; Gold East Paper's new project started production and reached capacity; Ningbo Asia increased the frequency of water replacement for chemi-mechanical pulp and paper machine white water due to odor control requirements, resulting in an increase in wastewater volumes; Guangxi Jingui Pulp & Paper increased production output, and its pulp mill switched from recycled alkali recovery condensate to clarified water for downstream white cardboard quality requirements, leading to reduced condensate reuse and higher wastewater discharge.

Wastewater discharge concentration

Mill*	Annual average discharge concentration in 2024 (mg/L)				
	COD	NH_3-N	Total Phosphorous (TP)	Total Nitrogen (TN)	Suspended Solids (SS)
Gold East Paper	36.94	0.43	0.11	5.52	13.61
Hainan Jinhai Pulp & Paper	52.12	0.55	0.035	2.77	13.55
Ningbo Asia	46.16	1.03	0.06	2.46	15
Guangxi Jingui Pulp & Paper	34.52	0.52	0.018	3.06	8.4
Rudong Base	25.8	0.19	0.05	3.73	6.6
Shandong Base of Bohui Paper	31	1.09	0.02	4.66	-
Jiangsu Base of Bohui Paper	24.49	1.26	0.04	4.02	-

*Wastewater discharged from Hainan Gold Hongye was treated by Hainan Jinhai Pulp & Paper. The annual average pollutant discharge concentration data for each mill were below the requirements of the "Discharge standard of water pollutants for pulp and paper industry" (GB 3544-2008).

Water reuse

Mill	Amount of water reused (ton)				
	2024	2023	2022	2021	2020
Gold East Paper	674,520,000	664,730,400	650,109,600	658,752,000	594,104,400
Hainan Jinhai Pulp & Paper*	931,291,397	984,158,242	974,001,791	985,949,728	1,022,668,368
Ningbo Asia	248,811,159	250,158,336	245,318,915	230,884,979	234,576,459
Guangxi Jingui Pulp & Paper	738,546,719	642,083,786	430,151,971	340,441,483	311,807,317
Rudong Base	255,094,257	293,940,777	28,244,160	-	-

*The data of Hainan Jinhai Pulp & Paper include those of Hainan Gold Hongye.

Outlook

With the security of global water resources facing realistic challenges, the protection and sustainable management of water resources have become a core issue for the international community. The United Nations' 2030 Sustainable Development Goals explicitly set forth the goal to "ensure availability and sustainable management of water and sanitation for all", providing a strategic framework for global water resources governance. In this context, enterprises across various industries are making active efforts to promote modern water resources management practices based on the concept of circular economy.

Water resources management is not only an important aspect for us to fulfill environmental responsibilities as a paper enterprise, but also a key link in realizing our Green Transformation strategy and achieving high-quality development. As a paper enterprise with forest resources, APP China deeply understands the significance of forest water resources management and soil and water conservation for maintaining a healthy ecosystem. The Company is committed to continuously enhancing the water conservation capabilities of forestland through measures such as scientific irrigation planning, strictly preventing soil and water loss during forest management, and strengthening water source pollution protection, effectively maintaining the ecological balance and biodiversity of the surrounding water systems. Regarding our production operations, the Company vigorously promotes water-saving process optimization, the utilization of recycled water, and full-process monitoring and management of water use, aiming to achieve both higher water resources efficiency and lower impact on the environment.

Looking ahead, we will strictly implement national water resources management policy requirements, continuously enhance water use efficiency, strengthen wastewater reduction, and ensure soil and water conservation through technological innovation and management optimization, making positive contributions to the sustainable use of water resources and the construction of ecological civilization.

About APP China

Sinar Mas Group was founded by the prominent Indonesian Chinese Mr. Eka Tjipta Widjaja in 1938, with investments today spanning continents including Asia, North and South Americas, Europe, and Oceania. The Group operates in seven business sectors: pulp & paper, financial services, agri-business & food, real estate, energy & infrastructure, telecommunications, and healthcare.

Asia Pulp & Paper Co., Ltd. (APP), a pulp and paper subsidiary of Sinar Mas Group, was established in 1972 and has grown into a world leader in papermaking industry. APP has dozens of pulp and paper companies and over one million hectares of fast-growing plantations in Indonesia, China, and other region. APP's products and business spread to more than 160 countries, with operations ranging from plantations and pulp to industrial paper, cultural paper, tissues, and various types of paper products.

The holding company of APP in China is Sinar Mas Paper (China) Investment Co., Ltd. and its subsidiaries (collectively referred to as "APP China"). APP China's headquarters is located in Shanghai, China. As of the end of 2024, APP China had total assets amounting to RMB229.1 billion, with approximately 20,000 full-time employees.

APP's investment in China dates back to 1992. For more than 30 years, the Company has been committed to a sustainable development strategy and a green and circular economy by practicing an integrated "Plantation-Pulp-Paper" approach. The Company has invested enormously in building world-class pulp and paper mills including Ningbo Asia, Gold East Paper, Gold Hongye Paper, Hainan Jinhai Pulp & Paper, Guangxi Jingui Pulp & Paper and Bohui Paper, as well as 293,107.89 hectares of modern fast-growing plantations.

Currently, APP China boasts multiple business units such as Forestry Business Unit, Pulp Business Unit, Paper Business Unit, and Tissue Business Unit, along with supporting operations in chemicals, paper equipment, real estate, etc. In 2024, APP China's sales revenues were about RMB89.4 billion in China.

In terms of brands, APP China possesses a variety of well-known trademarks, such as tissue brands "Breeze" and "VIRJOY", cultural paper brands "Space Shuttle" and "Whale King", industrial paper brands "Jinli" and "Siji Gui", office paper brands "Gold Flagship" and "TOPGUN", etc.

In addition, APP China is actively engaged in developing sustainable urban real estate complexes and technology parks. To date, the Company has built two large-scale urban complexes in Shanghai as operation and talent centers for businesses: the Sinar Mas Plaza and the Shanghai Arch.

As of the end of 2024, APP China had:

Products marketed in over **160** countries/regions across **6** continents

Total assets RMB**229.1** billion

Annual revenue RMB**89.4** billion

Unless otherwise stated, the performance data of APP China mentioned in this report is as of December 31, 2024; the data scope is consistent with that of the "2024 APP China Sustainability/ESG Report".

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