

ASIA

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20 ASIA GREEN FUND

23 GREEN IMPACT REPORT

Invest · Greenergize China · Impact Asia

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·Excellent Enterprise: MOJIABIO
·Excellent Enterprise: Elessent
·Excellent Enterprise: East Low Carbon
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·Excellent Enterprise: Baoying Gases

·Asia Green Fund ESG Awards
·Portfolios ESG Awards

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MESSAGE FROM THE CHAIRMAN



BO BAI
Chairman, Founder

Right now, humanity is facing challenges like never before. Even as we navigate beyond the pandemic era, we're up against continuing environmental crises such as global warming and a surge in extreme weather events. These aren't just threats to our way of life, they also put a significant strain on the world's economic progress. In response, ESG (Environmental, Social, and Governance) investing has quickly evolved from a niche interest to a central pillar in how the global finance and capital markets tackle these environmental challenges.

As an early leader in green investments, Asia Green Fund is established in 2016 and is one of the earliest private equity funds in China to quantify the environmental impact of investment activities. Asia Green Fund has always adhered to the investment philosophy of "pursuing market-level financial returns and measurable environmental returns", actively practicing responsible investment principles. With years of pioneering in impact investment, Asia Green Fund has been continuously exploring new paths in ESG investment practices, putting knowledge into actions. It has identified a group of high-growth industry leaders with "green DNA" and gradually built a comprehensive sustainable investment ecosystem.

As the "dual carbon" goal and ESG principles advance, ESG has become a crucial element of long-term competitiveness in business development. Asia Green Fund aims to empower portfolios through post-investment initiatives, utilizing the influence of shareholders and boards to drive ESG understanding and implementation. This involves strategic planning, technical support, and expert advice to enhance information disclosure quality and transparency. The objective is to boost ESG performance, positioning portfolios as industry-leading advocates of green practices. Additionally, to further solidify its green investment strategy, Asia Green Fund seeks to facilitate reciprocal empowerment between financial capital and vertical industries. Leveraging resources within Asia Green Fund's investment ecosystem, Asia Green Fund enhances collaboration among portfolios, limited partners, and academic institutions to promote technological innovation throughout the industry chain, driving sustainable industry growth.

Looking into the future, we strongly believe ESG investment in China is poised to become a prevailing trend. Asia Green Fund will continually refine ESG investment strategy, adhering to long-termism, empowering companies to create value, and driving China towards high-quality development.

PREFACE

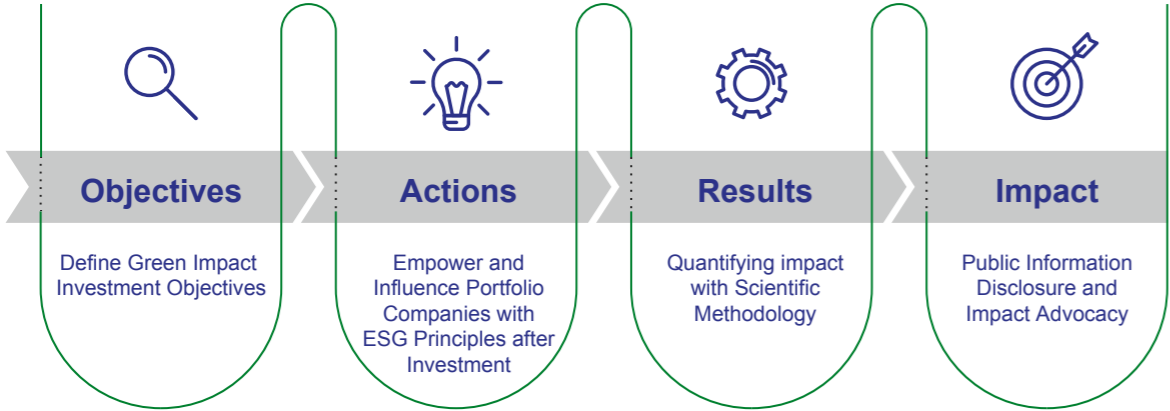
ABOUT ASIA GREEN FUND

Asia Green Fund is one of the early adopters in integrating ESG factors into its investment decision-making in China. Alongside global asset managers, we have been dedicated to upholding and promoting responsible investment principles. In 2020, Asia Green Fund became a signatory of the United Nations-supported Principles for Responsible Investment (UN PRI). At that time, ESG investment in China were still in its early days, only 52 signatories of UN PRI in China.

In response to the national "dual carbon" goals (achieving carbon emission peaking by 2030 and carbon neutral by 2060), Asia Green Fund actively engages in green impact investments and quantitatively evaluates its investment activities. In 2021, we published the first Green Impact Report <Annual Carbon Neutrality and Green Impact Report 2020>. This comprehensive report detailed and publicly disclosed the total carbon emissions reduction achieved from assets managed in 2020. Additionally, it outlined the green impact in reducing hazardous waste, waste water, and emissions of other atmospheric pollutants apart from carbon dioxide.

In April 2022, on the 53rd World Earth Day, Asia Green Fund received the ISO 14097 verification by the British Standards Institution (BSI) for "Greenhouse Gas Management and Related Activities - Framework Including Climate Change Related Investment and Financing Activities Assessment and Reporting Criteria". ISO 14097 is the latest international standard issued by the International Organization for Standardization in 2021 addressing climate change through investment and financing. Asia Green Fund became the first private equity investment firm to receive the certification in Asia. Through the unwavering exploration and innovative practices, Asia Green Fund has catalyzed the green transformation of numerous companies in sectors such as advanced manufacturing, green chemicals, clean energy, and new consumer materials. Asia Green Fund pioneered to standardize green investments in the private equity industry and fill the void in establishing high standards on climate financial practices for private equity organizations in China.

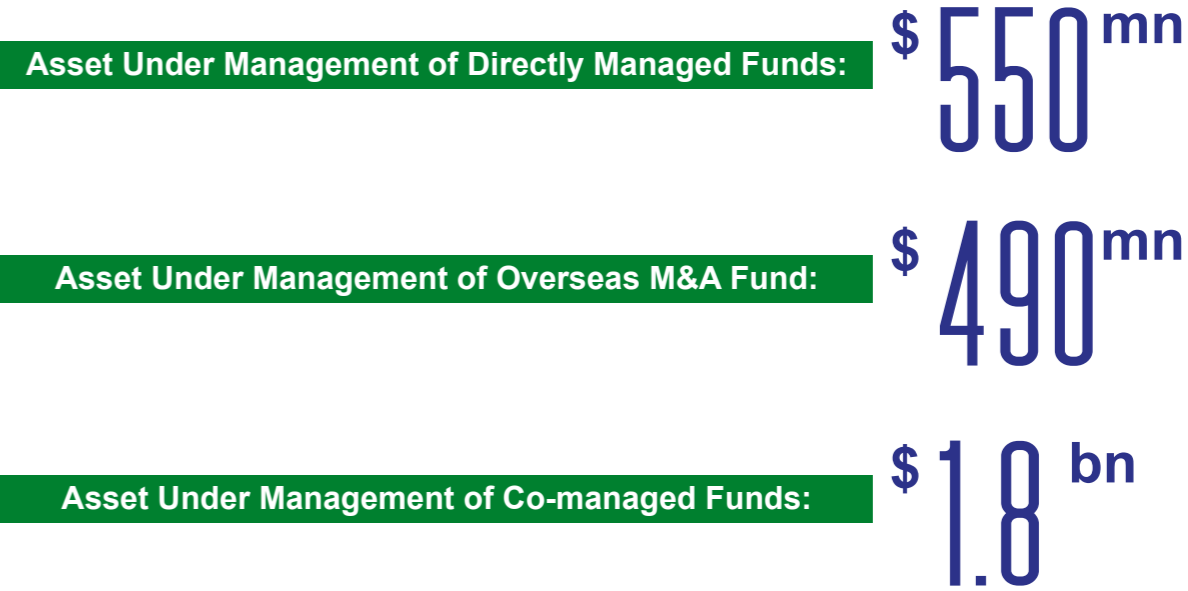
To achieve our investment goals of "seeking both financial returns and environmental benefits", we have built a holistic green impact investing system of our own. We start by setting green impact investment goals that are understood and endorsed by investors. Post investment in companies, we empower our portfolio companies and influence them with our impact investing philosophy by providing value-added services. We set policies to ensure our impact investing activities follow the established processes. We measure the results of our impact investing with scientific methods. We act as an advocate of green impact investment with the investment community and industrial partners by sharing learnings and ideas and disclosing impact investing results.



Vision

To Become the Most Influential Green Impact Private Equity Firm in Asia

Asia Green Fund was founded in 2016, focusing on green impact investment, with the mission of "Invest · Greenergize China · Impact Asia", and the investment philosophy of "pursuing both financial returns and environmental benefits". Asia Green Fund focuses on and impactful investment opportunities associated with industrial upgrades and green transformation through technological innovation. Asia Green Fund has been recognized by authoritative institutions as one of the most influential private equity fund in green impact and ESG investing. Asia Green Fund is one of the earliest private equity investment institutions in China to conduct systematic quantitative evaluation and authoritative certification of green impact.



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GREEN IMPACT INVESTMENT OBJECTIVES

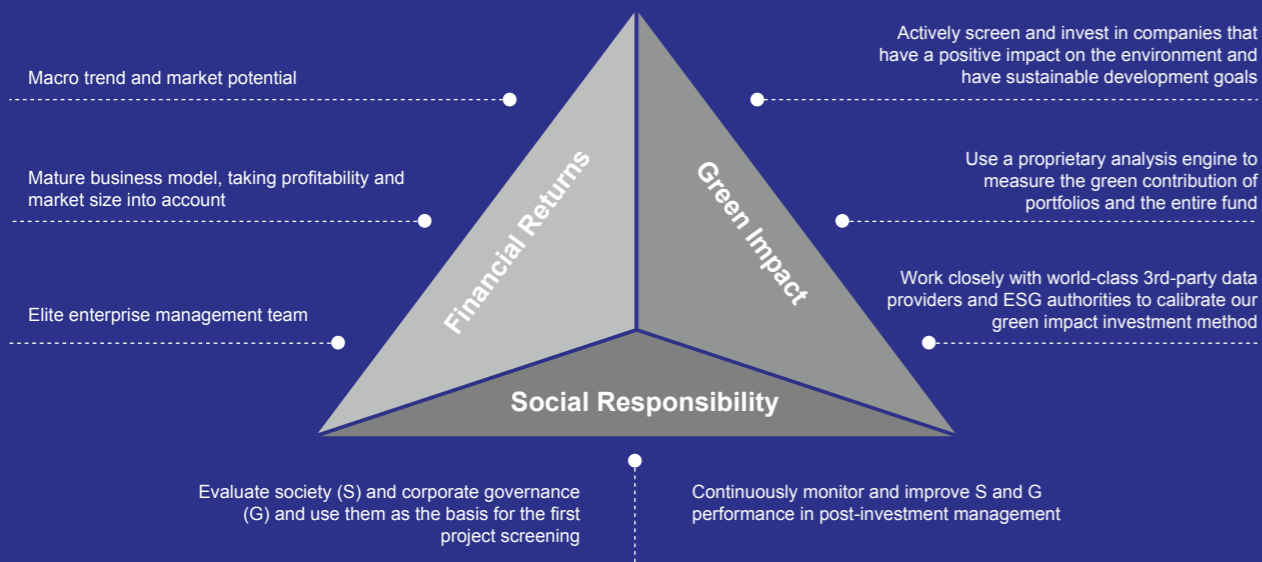


ASIA GREEN FUND

Since our establishment, Asia Green Fund has set clear goals for green impact investing, with a mission of "Invest · Greenergize China · Impact Asia". Adhering to the concept of "both financial returns and green impact", Asia Green Fund has integrated ESG principles into the entire investment process and daily operations.

Green impact investment is a subcategory of ESG investing, with a focus on the E (Environmental) and an emphasis on tangible impact. It is a long-term, continuous, and challenging practice that requires well-established systems and processes and alignment with organizational culture to ensure its success. To quantify the impact brought by investments, it requires us to employ industry-specific tools and international standards and to build both internal capabilities and external capabilities.

Adhere to the Philosophy with "Financial Returns" and "Green Impact" as the Core



OUR COMMITMENT

- Pursuing our mission of "Invest · Greenergize China · Impact Asia", Asia Green Fund amplifies the green impact of companies through a market-driven approach.
- Making a positive contribution to the "carbon neutrality" goal, achieving a net annual carbon reduction value for all assets under management.
- Continuously focusing on green impact investing, incorporating a series of quantifiable metrics including carbon reduction and other green benefits as one of the criteria for project investment decisions.
- Continuously assisting invested companies in formulating carbon neutrality strategies, helping them become benchmarks for carbon neutrality and sustainable development.
- Acting as an advocate and a connector among investors, portfolio companies, environmental organizations, financial institutions, industry associations, third-party authoritative certification/evaluation organizations, carbon trading platforms, and other cooperation partners in building a carbon-neutral ecosystem.
- Through internal research and external collaborations, establishing a scientific and objective evaluation system to continuously quantify and disclose the carbon emissions of the fund management firm itself and the assets under management.
- Regularly report to the company's investors, portfolio companies, the public, and international impact investor networks on the company's green impact practices, methods, and effects.

INVESTMENT
APPROACH

GREEN IMPACT INVESTMENT ACTIONS

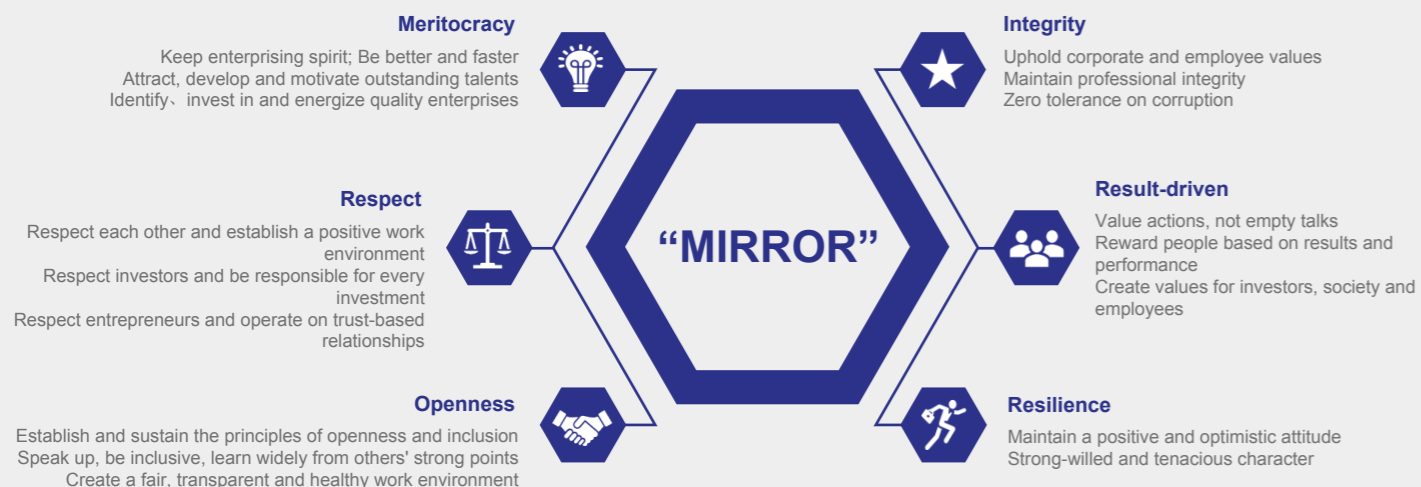


· Firm Culture · ESG Practices · ESG Policies and Processes · ESG Investment Process

FIRM CULTURE

The "MIRROR"

Asia Green Fund values corporate culture as the foundation of a successful enterprise. Since our inception, Asia Green Fund has established the firm culture coined as "MIRROR" (Meritocracy, Integrity, Result-driven, Respect, Openness and Resilience). All staff members uphold and exemplify identical values, cultivating a positive and trust-based work environment, which fundamentally ensures the enduring practice of green impact principles within the organization. We view corporate culture as a crucial criterion for talent acquisition and employee training initiatives. Moreover, the company systematically and consciously integrates corporate culture into its day-to-day operations.



Diversity, equality and inclusiveness

Asia Green Fund is dedicated to cultivating a workplace environment that is diverse, transparent, equitable, and inclusive for all employees. Adhering to principles of open recruitment, fair competition, and merit-based recruitment, the organization operates under a management framework characterized by a flat organization, commitment to truthfulness, focus on achieving results, and fair performance and rewards. Asia Green Fund firmly opposes any form of discrimination based on factors such as race, color, gender, nationality, religion, age, or marital status, in an effort to eradicate the propagation of negative corporate cultures.

Employee Composition

Gender



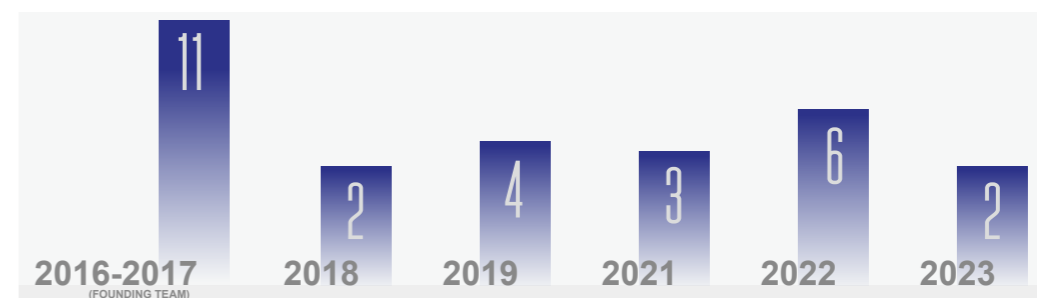
Age



Education



Tenure of employment with Asia Green Fund



Caring for Employee Wellbeing

Asia Green Fund attaches great importance to employees' health by providing benefits such as premium commercial medical insurance, annual physical examinations, health consultations, and psychological counseling. The company regularly organizes sports and recreational activities for employees, including running, frisbee, badminton, mountain climbing, board games, and more. Additionally, the company focuses on employees' career goals and personal development needs in the work environment, advocates for work-life balance, ensures employees' physical and mental well-being, and enhances employee happiness.

ESG PRACTICES

Asia Green Fund adheres to responsible investment principles, consciously and systematically connecting investors, portfolio companies, authoritative institutions, data agencies, the public and international organizations through investment activities. This approach helps to build a green impact investment ecosystem and promotes the development of green impact initiatives.



Our actions

- In 2020, Asia Green Fund officially became a signatory to the United Nations-supported Principles for Responsible Investment (UN PRI), dedicated to implementing ESG principles by incorporating ESG factors into investment decision-making and overall management processes.
- In 2021, Asia Green Fund released the "2020 Carbon Neutrality and Green Impact Report", detailing the carbon reduction accounting method using its independently developed Green Impact Assessment System (CNGIAS). This system received certification from the globally renowned international inspection and certification group, Bureau Veritas.
- In 2022, Asia Green Fund received the ISO14097 certificate from British Standards Institution (BSI), for "Greenhouse Gas Management and Related Activities - Framework Including Climate Change-Related Investment and Financing Activity Evaluation and Reporting Guidelines and Requirements." Asia Green Fund is the first private equity investment firm in Asia to publicly announce its compliance with this certification.

ESG POLICIES AND PROCESSES

In order to carry out ESG investment practices in a meaningful way, Asia Green Fund committed resources to establishing an ESG management framework on the basis of its existing organizational structure, consisting of an ESG Committee and ESG Working Group.

The ESG Committee is an institutional body established under the auspices of the Board of Directors, with its members being elected from the company's board of directors and senior management team. This committee is tasked with the development and execution of the company's ESG policies, ensuring that the company's investment strategies are promptly revised to align with changes in market conditions and international policies. It is accountable to the Board of Directors, to which it also reports. Members of the ESG Working Group include all employees from the investment team, fundraising team, risk management, and support team, as well as external expert advisors. They adhere to ESG policies to ensure the full integration of ESG into investment processes and company operations.



ESG INVESTMENT PROCESS

Asia Green Fund recognizes that integrating ESG considerations into investment strategies is crucial for impact investing. Therefore, we must align investment principles with the investment process for the funds we manage.

INVESTMENT PROCESS

Fundraising

Clearly communicate to LP that the funds we raise aim to achieve dual objectives of financial returns and green impact, and strive to reach mutual agreement with LP during the fundraising process.

Report to LP on the green impact of assets under management and the future green development strategy.

Investing

During the due diligence on investment targets, ESG factors are thoroughly considered, especially focusing on the company's awareness and openness towards ESG principles.

Investment Memos for all projects must include clear **green impact assessment reports** to the Investment Committee.

Portfolio Management

Fully leverage our influence as shareholders and members of the board of directors to guide and influence companies in understanding and adopting ESG principles.

Assist companies in developing ESG strategies that are an integral part of corporate strategies, and encouraging companies to regularly disclose ESG-related information.

Set up an ESG communication platform and regularly conduct training activities.

Exit

Incorporate portfolio companies' ESG performance into fund exit.

The objectives of XX and Asia Green Fund are naturally aligned, resulting in significant environmental benefits

	Reduce solid waste accumulatively over 5 years	Accumulative reduction in deforestation over 5 years	Reduce wastewater accumulatively over 5 years	Accumulative reduction in CO ₂ emissions over 5 years
Liquid tank: One liquid tank can replace five 200L iron drums, with each drum weighing 20KG. Producing one ton of iron emits 6t of wastewater and releases 10t of CO ₂ .	630,000t	7.1 million trees	4.8 million tons	9.3 million tons
Other boxes: Over a period of 5 years, they replace 120 to 280 million cardboard boxes. Producing one ton of paper requires cutting down 17 trees, and manufacturing one ton of cardboard boxes results in the emission of 3t of wastewater and 8.5t of CO ₂ .	420,000t	4.8 million trees	3.2 million tons	6.2 million tons
	260,000t	3.2 million trees	2 million tons	4 million tons

XX is in alignment with Asia Green Fund's green development principles and exhibits effective synergies with LP in the industrial domain

	Energy consumption	Wastewater	Solid waste
XX's green enzymatic method for producing calcium pantothenate is low-cost and low-polluting. It can reduce the consumption of 50,000t of standard coal annually, as well as decrease the emission of 58,000t of industrial wastewater and 100,000t of solid waste.	6,000t of standard coal	65,000t	110,000t
	5,000t of standard coal	58,000t	100,000t
	4,000t of standard coal	51,000t	90,000t

Example of a partial investment project green impact assessment reports

GREEN IMPACT INVESTMENT RESULTS



• HOREN • Kingwills™ • MOJIABIO • Elessent • East Low Carbon • BABO • Baoying Gases

HOREN

An Innovator and Advocate in Green Supply Chain that is Transforming Industrial Packaging and Logistics

Horen is a global leader in providing intelligent recyclable packaging solutions and services. Drawing upon over a decade of extensive research and development capabilities in logistics packaging, Internet of Things, and circular management, alongside cutting-edge technologies such as 5G, big data, and AI decision support, Horen has built an innovative green supply chain platform that integrates packaging products, services and data in one.

The platform offers circular packaging services to nearly 40 vertical sub-sectors within eight major industries, including non-hazardous chemicals, food and beverages, cosmetics, automotive parts, home appliance components, biopharmaceuticals, and fresh/cold chain, in its endeavor to empower the green transformation of the supply chain. Serving close to 2,000 globally recognized industry leaders such as Wanhua Chemical, Haier Group, Honeywell, L'Oreal, Bosch, and Midea, Horen has successfully implemented its solutions in esteemed facilities like the "Bosch Wuxi Industrial Park," "Midea Weiqing Lighthouse Factory," "L'Oreal Suzhou Shangmei Carbon Neutral Factory," and the "Haier Sino-Germany Wisdom Park," among others.

As China transitions from traditional manufacturing to intelligent manufacturing, manufacturing industries are shifting from supply-driven to ESG-driven. Horen's service model for green packaging and net-zero circulation, underpinned by digital technological innovation, is redefining industry standards and the industrial value chain. In the past year, Horen has weaved sustainable development principles into its operational fabric across digital, intelligent, green, and lean dimensions.

Focusing on "Technology & Service" to Accelerate the Construction of Green Circular Infrastructure

In response to increasing demand for manufacturing innovation and the pursuit of dual carbon objectives, more and more industries and enterprises are incorporating green supply chain management alongside cost reduction and efficiency enhancement into their overarching strategies for sustainable growth. As a vanguard in the digitization of the industrial circular packaging realm, Horen has deeply invested in fortifying the green circular industry chain. Through the comprehensive exploitation of technological capabilities spanning design, manufacturing, IoT software and hardware, circular operation services, and circular management systems, Horen has pioneered an innovative model that marries green production-oriented services with the manufacturing sector. Additionally, in a concerted effort to propel the green transformation of logistics packaging, Horen has energetically pursued a novel industrial packaging circular service model by synergizing digital technologies and business models. Central to this initiative is the strategic establishment of 30 central warehouses, 200 branch warehouses, and 2,500 network outlets, meticulously aligned with the nation's critical industrial and economic corridors. This strategic deployment has facilitated partnerships with over 3,000 primary and subsidiary logistics service providers, culminating in the realization of a dedicated green "circular sharing" service network and infrastructure. This achievement underscores Horen's distinctive advantage in online service, intelligent dispatching, and instant fulfillment.

Established within global industrial manufacturing sector, Horen offers solutions tailored to specific industry segments. In the domestic market of China, it has introduced a multi-brand product lines to cater to packaging requirements of bulk liquids, parts and components, and fresh/cold chain. Internationally, targeting developed nations in Europe, America, Japan, and South Korea—particularly in industries such as food, cosmetics, non-hazardous chemicals, and biopharmaceuticals—Horen has launched international brands.



In comparison to conventional disposable packaging solutions, Horen's intelligent packaging circular services are capable of achieving over 90% reduction in carbon emission and over 30% reduction in total supply chain costs. To date, Horen has cumulatively achieved a carbon emission reduction exceeding 500,000 tons and has prevented approximately 500 million units of disposable packaging from being utilized.

"In 2019, Asia Green Fund invested in Horen's Series C capital raising. Horen has been providing products and services related to industrial packaging and logistics for many years and has been dedicated to advancing recyclable packaging and supporting the sustainable development of supply chain. Its business model resonates with Asia Green Fund's investment philosophy and values. Compared to traditional disposable packaging solutions, Horen's intelligent recyclable packaging solutions and services can achieve as much as 90% reduction in carbon emission and over 30% reduction in packaging costs. As a shareholder and a member of board of directors, Asia Green Fund uses its influence to help Horen in strategic planning to ensure that ESG and net-zero are aligned with company's business strategy and future growth."

Focusing on Innovation to Strengthen Core Competitiveness

In the context of China's "dual carbon" strategy, the industrial packaging and logistics sector is presented with new opportunities, with technological innovation playing a pivotal role. Horen has always believed in innovation as the driving engine for business growth and has invested heavily in research and development. The company has advanced through three distinct phases of innovation: proprietary products, adoption of digital technologies, and innovative platform & ecosystem.

In term of in-house innovation and intellectual properties, to date, Horen has publicly applied for 959 global patents, of which 116 patents have been granted within China. Moreover, the company has played a crucial role in the formulation of two national technical standards: "Returnable Containers for Green Logistics" (20220427-T-469) and "General Test Specifications for Reusable Plastic Containers for Transport Packaging Part 2" (20221814-T-469).

In the area of digital innovation, the R&D and engineering teams actively worked on combining new processes and new materials for applications in automated warehouses, mechanical operators, automated production lines, and AGV scenarios. This effort not only delivered productivity enhancement and carbon emission reductions to customers Horen directly serves but also catalyzes productivity optimization and carbon emission reduction throughout the entire supply chain, fostering collaboration and advancement in green industrial supply chains.

In creating an innovative platform and ecosystem, Horen focuses on the three core capabilities, customer service, operational management, and logistics control, to build lean operations and management skillsets. Tailored operational network planning and intelligent scheduling are devised based on industry characteristics, seasonality, warehouse network, turnover efficiency, supply chain distribution, main line routes, regional flow patterns, and other parameters. This meticulous approach provides customers with comprehensive circular packaging services spanning pre-sales, sales, and post-sales phases, accelerating the industry's transition away from single-use packaging.



Advancing ESG Strategy to Establish a New, Net-Zero Circular Ecosystem

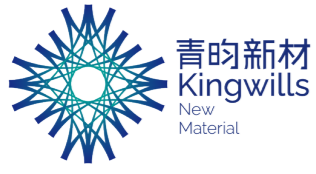


ESG initiatives in China are transitioning from concept and theory to practice and implementation. The underlying ESG principles resonate with China's "dual carbon" objectives. Leveraging nearly two decades of industry insights, Horen continually explore innovative solutions for green logistics. Horen is the first company that pioneered and proposed net-circulation. In collaboration with National Development and Reform Commission (NDRC) Global Partnership Center and Beijing Institute of Green Finance and Sustainable Development, Horen has unveiled the world's first industry research report on net-zero circulation, "Net-Zero Circulation: Industrial Internet of Things Towards Carbon Neutrality".

In 2023, Horen collaborated with global green innovation partners such as Microsoft and launched a China ESG alliance, continually disseminating ideas and achievements across the globe. Serving as a founding member, Horen actively collaborate with other industry leaders within the alliance and share its expertise and experiences. Aimed at providing novel approaches for the industry's transition towards a green and low-carbon future, the collaboration covered areas such as product carbon footprint, circular emission reduction, green branding, technology empowerment, and digitalization.

Horen has rigorously embraced sustainable governance, embedding the concept deeply within the company's operational and developmental processes. It passed a series of certification of standards such as ISO 9000, ISO 14000, ISO/IEC 20000-1:2018, ISO 14064-1:2018, GB/T29490-2013, and ISO/IEC27001:2013. These certifications cover pivotal areas such as product innovation, production and distribution, carbon footprint verification, and the integrity of information data security. This is a validation of Horen upholding the highest levels of excellence in sustainable business practices.

Looking into the future, Horen will continue its commitment to the development of a green circular industry chain and strategically target novel pathways in providing circular services. The company aims to fortify its ESG management system and expedite the establishment of a comprehensive intelligent packaging recycling service platform. By leveraging a platform-driven, globalized, and ecologically conscious approach and capabilities, Horen is poised to accelerate the development of an intelligent circular packaging service platform, and play a pivotal role in advancing the industry's sustainability goals.



Kingwills™

Contributing to Sustainability with Indigenous Green Innovation in Advanced Water-resistant Materials

"In 2022, Asia Green Fund participated in the Series A financing of Kingwills™. Through in-house R&D, Kingwills™ developed a water resistant material, Flashspun Hypak™, which combines the advantages of paper, fabric and film. The flash-spun material developed by Kingwills™ is a showcase of ingenuity by indigenous startups in technology research, product development and manufacturing engineering. By the end of 2023, the total production capacity reached 15,000 tons per annum. In terms of green impact, as a water-resistant material, Flashspun Hypak™ demonstrated significant energy-saving benefits, which brings emission-reduction. It is extensively applied across five major application scenarios: medical packaging, building energy saving, safety protection, industrial innovation, and creative living, with more than a hundred specific application scenarios."



Kingwills™ is a high-tech innovative startup that has grown rapidly and made significant breakthroughs. In 2022, it became one of the companies awarded the "Advanced Manufacturing Industry 'Leading Initiative' Top 10 Major Industrial Technology Needs" by China's Ministry of Industry and Information Technology. The company is committed to becoming the most creative material science company globally, creating sustainable solutions for the betterment of human life.

The company's core R&D team consists of members from internationally renowned companies and research institutes in advanced materials. Through in-house capabilities in research and development, Kingwills™ has successfully achieved breakthroughs in the entire process for flash-spun materials, from microscopic mechanisms to spinning control to late-stage processing and manufacturing. Kingwills™ established its proprietary brand Kunglun™ Hypak™ which have been launched to the market.

Five Internal Circulation Systems and Net-Zero Factory

From its inception, Kingwills™ has instilled green concept and environmental protection into its corporate culture. From research and development to manufacturing, every step of product production adheres to the net-zero principle. Through five major internal circulation systems, Kingwills™ strives to achieve efficient and comprehensive energy recovery and recycling and aims to build a net-zero factory.



As a leading Chinese producer of flash-spun materials, Kingwills™ Nantong factory achieved large-scale production in 2022 and currently operates three production lines with an annual production capacity of 15,000 tons. Additionally, the factory has successfully obtained certifications such as the ISO 14001 for environmental management and ISO 45001 for occupational health and safety management. Furthermore, Kingwills™ successfully obtained the Global Recycled Standard (GRS) certificate in March 2024. The GRS certification not only demonstrates that Kingwills™ meets international authoritative standards in various aspects such as the source of raw materials, production processes, product quality, and environmental impact, but also reflects the company's active commitment to practicing sustainable development principles.

Waste Material Recycling

Kunglun™ Hypak™ product is made 100% from polyethylene, making it fully recyclable. The waste materials, such as trimmings produced during the manufacturing process, are also recycled and reused in production, resulting in virtually no solid waste emissions.

Solvent Recycling

During the flash spinning process, solvents are required. The control of solvents involves not only substantial costs but also environmentally sustainable technologies. The company's R&D team employed a combination of technologies to develop a system for solvent recovery, capture, and solvent regeneration and purification. This system efficiently achieves the recycling of solvents, reducing pollutant emissions.

Heat Energy Recycling

Cascading utilization energy involves consideration of varying levels of energy demand at the factory design stage. High-grade heat sources are initially provided to high-grade equipment before being utilized by equipment with lower-grade heating demands, ensuring that all heat is efficiently utilized. Additionally, the factory has energy-saving devices designed at multiple locations to effectively utilize waste heat, achieving internal heat energy recycling.

Water Recycling

The factory's steam condensate, after heat utilization, is used as makeup water for the cooling tower and then circulated back for cooling tower usage. Process water is treated through an internal processing system for recycling, reducing the factory's wastewater discharge.

Green Energy Recycling

Relying on Zhongfu Energy and Oriental Yuhong, the company utilizes Building-Integrated Photovoltaic (BIPV) systems to replace traditional roofs, constructing green workshops with waterproofing, insulation, and ventilation. The construction of solar power stations enables the workshop to save energy, effectively reduce harmful gas emissions, and generate an annual electricity output of up to 700,000 kilowatt-hours. This translates to saving over 1000 tons of standard coal and reducing over 3000 tons of carbon dioxide and other greenhouse gas emissions annually. Furthermore, it helps reduce over 30 tons of atmospheric pollutants like sulfur dioxide and nitrogen oxides each year.

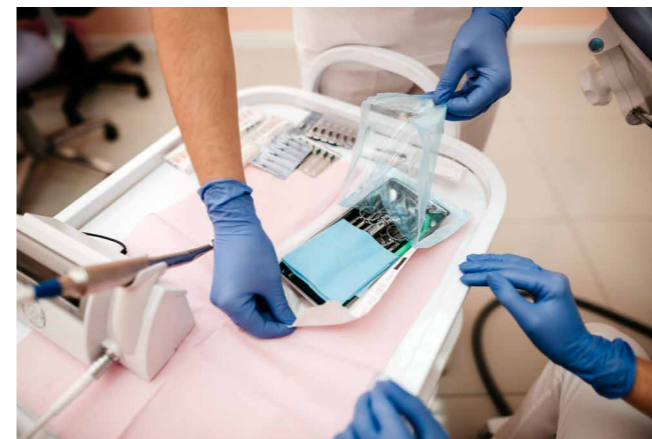
Adhering to Independent Innovation and Enriching Product Application Scenarios

Flash-spun super materials are recognized for their unique properties such as waterproof, breathability, lightweight, high strength, resistance to bacteria and high cleanliness. They find extensive applications across various sectors such as medical, agriculture, construction, industrial, and daily consumer scenarios. For over 60 years, only one Fortune 500 company in the U.S. had the technology and capabilities for large-scale production of such materials, making them highly sought-after globally. Kingwills™ has persevered through almost a decade of rigorous independent R&D endeavors and made technological breakthrough of its own. By achieving in-house innovation across technology, processes, and equipment, the company successfully disrupted the dominance by the traditional monopoly in this technological domain.

The introduction of Kunglun™ Hypak™ not only filled market gaps and replaced mid-to-high-end materials in emerging sectors but also further expanded its application scope.

In the construction sector, Kunglun™ Hypak™ is used as a crucial water-resistant breathable film in building enclosures. Compared to traditional fiber-based building insulation materials, it effectively guards against external moisture from intrusion. Even if water vapor enters the enclosure system, the product's breathability allows for the moist breath away in vapor form, significantly prolonging the lifespan of the insulation layer. Moreover, Kunglun™ Hypak™ products have exceptional mechanical and anti-aging properties, ensuring they have a similar lifespan to the buildings.

In accordance with the country's requirements for green buildings, Kingwills™ is actively conducting research on product carbon footprint. Through collaboration with the China Academy of Building Research, the full life cycle carbon footprint of Kunglun™ Hypak™ from production to use is currently being calculated. Through this research, Kingwills™ hopes to further promote the development of green buildings in the country.



In the medical field, Kunglun™ Hypak™ achieves high-performance antiviral and antibacterial properties as a single material, providing biochemical barrier effects. It can be widely used in medical protective and high-value medical equipment sterilization packaging areas. For medical protective clothing, its unique flash-spinning process imparts a fine fiber mesh structure that effectively blocks various viruses while maintaining excellent breathability and moisture permeability, significantly enhancing the comfort of medical personnel. For medical equipment packaging, in addition to its excellent waterproof, antivirus, and breathable properties, Kunglun™ Hypak™ can work with various sterilization methods, offering comprehensive protection throughout the production, transportation, and usage of medical equipment.



MOJIABIO

Substituting Fossil-based Materials with Bio-based through Demand-driven Biomanufacturing.

"In 2020, Asia Green Fund led the Series A financing of MOJIABIO and participated in the Series B financing in 2022. Bio-manufacturing is a prevailing trend in the material sector towards greener and deeper decarbonization. MOJIABIO, through developing environmentally friendly bio-manufacturing methods to substitute high-pollution, high-energy-consuming traditional chemical production technologies, fully exemplifies Asia Green Fund's green impact investment philosophy. Asia Green Fund facilitated MOJIABIO's collaboration with another portfolio company, East Low Carbon, and carried out an energy-saving and emission reduction project for its Guang'an factory. It is estimated that after the revamping, a reduction of 1056 tons/year of CO₂ emissions and 320 tons/year of carbon emissions will be achieved."

SIA

GREEN FUND

MOJIABIO is a product-oriented bio-manufacturing company with strong R&D capabilities. It is a fast growing company that is dedicated to sustainable development and circular biological economy. MOJIABIO utilizes renewable carbon sources and green processes to produce bio-based material products at industrial scale. The company has a global presence with offices and facilities in China, Singapore, and the United States, with manufacturing base in China.

In May 2022, the National Development and Reform Commission issued China's "14th Five-Year Plan for the Development of the Biological Economy," explicitly identifying bio-manufacturing as a strategic emerging industry. The country will accelerate development of the bio-manufacturing industry and construct a green, low-carbon and circular development economic system in China.

Focusing on Innovation in Bio-Manufacturing Technology to Promote Sustainability

Since established in 2018, MOJIABIO has been committed to developing innovative biotechnology as its core, integrating interdisciplinary strengths to replace fossil-based, highly polluting, energy-intensive traditional manufacturing processes with environmentally friendly biomanufacturing. The rise of Biomanufacturing will drive product innovation and cost-effectiveness in the chemical, energy, and materials sectors, supporting human sustainable development. Over five years of development, MOJIABIO has made significant strides in technological innovation and application expansion. Leveraging innovative enzyme engineering and bio-metabolic pathway platforms, the company has completed process development for several industrial products and commenced mass production.

Bio-manufacturing, characterized by renewable raw materials and clean, efficient processes, can transform traditional chemical production methods and significantly reduce carbon emissions. MOJIABIO has always adhered to an eco-friendly approach, continually exploring and developing green, low-carbon bio-based alternatives. In 2023, MOJIABIO introduced the Aliphane® series of bio-based polymer products, utilizing bio-based PDI and derivatives to replace petroleum-based HDI and related products. This series finds wide applications in coating and adhesive industries. Aliphane® not only have high bio-based content (>70%), resistance to yellowing, low viscosity, and flexible formula blending advantages but also exerts a substantial positive impact on the environment. It is estimated that producing 400,000 tons of Aliphane® raw materials annually could reduce over 7 million barrels of crude oil consumption, reduce greenhouse gas emissions equivalent to 500,000 passenger cars annually, or save electricity consumption for nearly 1 million households per year. The environmental effect of Aliphane® is equivalent to planting 40 million trees over a 10-year period. Its wide use in the future will significantly alleviate environmental and energy pressures.

MOJIABIO understands that top technical experts and industrialization talents are needed in order to advance its bio-chemical manufacturing and new product development. In February 2023, MOJIABIO invited the world-renowned expert in industrial microbiology and innovative metabolic pathways, Dr. Ramon Gonzalez, to join as the Chief Scientific Officer. This move aims to accelerate the research and development of high-performance bio-based products that are environmentally friendly, as well as drive a diversified product pipeline layout.



Practicing ESG Principles with Real Actions

With the transformation of the domestic economic growth model and the steady advancement of the "Dual Carbon" strategy, the ESG concept has become a consensus among companies in various industries. MOJIABIO places high importance on ESG management, integrating the concept of sustainable development into daily operations and production management, continuously improving corporate governance structure, and actively fulfilling corporate social responsibility. In 2023, MOJIABIO issued an ESG declaration and will implement this declaration as a guideline for day-to-day work. In the future, the company will focus on achieving significant achievements in sustainable development in five key areas: protecting the earth, social advancement, sustainable product innovation, corporate governance, and employee welfare.



As a "people-oriented" company, MOJIABIO has always placed emphasis on developing both its employees and the organization. Building upon this principle, in November of 2023, the company established "MOJIABIO Academy" dedicated to comprehensively enhancing employee capabilities, focusing on employees' rights, development, and sense of involvement, and fostering a positive work environment and culture.

To implement ESG actions related to low-carbon economy, MOJIABIO, with the assistance and coordination of its shareholder Asia Green Fund, cooperated with East Low Carbon (ELC) a leading service provider in energy-saving and emission reduction. Through the establishment of ELC's AIoT smart energy management platform at the Guang'an factory, MOJIABIO achieved visualization and continuous monitoring of energy savings, significantly enhancing the company's intelligent energy efficiency and carbon management level. Additionally, ELC implemented a Waste Heat Recovery project. Without altering the production process, ELC was able to recover the waste heat from the spray drying tower's main thermal equipment, resulting in energy savings, improved efficiency, and reduced steam consumption. It is estimated that the project resulted in recovering a loss of heat equivalent to about 29,000 tons/year of steam. The energy-saving and economic benefits after the transformation can exceed 650,000/year, achieving a reduction of 1056 tons/year of carbon dioxide emissions and 320 tons/year of carbon emissions (converted based on the standards of the Southern Power Grid).

On another front, MOJIABIO actively participates in domestic and international cooperation. The company collaborates with a global leader in animal nutrition additives production to improve the packaging format of their Vitamin B5 products by eliminating cardboard packaging. They also communicate with raw material suppliers for the reuse of wooden pallets, minimizing resource consumption.

To deepen awareness of the "Dual Carbon" strategy, MOJIABIO established a Continuous Improvement Team to encourage all employees to participate in energy-saving and emission reduction activities. Throughout 2023, over 200 suggestions were collected, leading to significant improvements in production volume and yield, reduced reactive power consumption, and an average monthly reduction of approximately 10% in electricity consumption through continuous improvement efforts.



Elessent Clean Technologies

International Leader Boosting Green Transformation in Traditional Industries to Address Global Climate Change

"In 2021, Asia Green Fund, in collaboration with BroadPeak Global LP and Saudi Industrial Investments Company (Dussur), led the acquisition of DuPont's Clean Technology business, later renamed to 'Elessent'. This transaction marks Asia Green Fund's first overseas acquisition, representing Asia Green Fund's investment with a clear goal to promote cross-border green collaboration. With the support of Asia Green Fund and other shareholders, Elessent will be able to provide more and better solutions and services to the Chinese market and customers by leveraging its strengths and advantages as a global leader in clean technologies. This initiative fosters the green transformation of traditional industries and promotes sustainable development in the energy sector in China."



Elessent is a global leader in clean energy and green technology, dedicated to providing carbon reduction solutions for industrial manufacturing, driving the industry towards carbon neutrality and sustainable development. The company's technological portfolio includes MECS® sulfuric acid production processes, STRATCO® alkylation processes, BELCO® wet scrubbing systems, and IsoTherming® hydroprocessing technology systems. Elessent offers core process equipment, products, technology, and services to customers in industries such as metallurgy, fertilizers, chemicals, petrochemicals, and refining, helping them create high-quality and cleaner products worldwide.

Being a leader in green development is one of Elessent's core values. "Leaving an environmental legacy through daily hard work" is an interpretation of this value. In 2023, Elessent incorporated the value of being a leader in green development into its ESG strategy, providing transformative clean technology solutions and driving traditional industries to adapt to energy transition, reduce costs, improve efficiency, and achieve sustainable development.

Innovating Clean Technologies to Enable Sustainable Development in Traditional Industries

HRS™ Low-Temperature Heat Recovery Technology - "Zero-Carbon" Energy

A large amount of steam is generated in the process of producing sulfuric acid. Traditional sulfuric acid plants recover waste heat generated in the process in the form of high-pressure steam, with an overall energy recovery rate of about 70%. Elessent offers more advanced design solutions equipped with HRS™ low-temperature heat recovery technology, which can simultaneously recover high-pressure and medium-pressure steam, increasing the overall energy recovery rate of the sulfuric acid plant to about 94%. The recovered energy can be used for power generation to produce "carbon-neutral" energy, increasing the net electricity output rate of traditional sulfuric acid plants by nearly 30%. For example, a sulfuric acid plant with an annual capacity of 1 million tons using HRS™ low-temperature heat recovery technology can recover 333,000 megawatt-hours of energy per year, which is equivalent to meeting the annual electricity consumption of approximately 28,000 households. It also reduces annual emissions of up to 290,000 tons of carbon dioxide equivalent, roughly equivalent to the greenhouse gas emissions of 63,000 cars.

In 2023, three sulfuric acid plants using Elessent sulfuric acid technology were successfully commissioned and operated. They generated a total of over 1 million megawatt-hours of electricity annually. Three more sulfuric acid plants are scheduled to be commissioned, with two of them incorporating HRS™ low-temperature heat recovery technology. It is anticipated that these two plants will contribute to a total electricity generation capacity of 300,000 megawatt-hours per year. All of this electrical energy is derived from waste heat generated during the sulfuric acid production process, without the use of any fossil fuels. It represents a truly "carbon-neutral" energy source, not only saving on electricity costs for the sulfuric acid factories but also providing carbon emission reduction benefits for the companies. HRS™ low-temperature heat recovery technology has revolutionized the industry, making "low-temperature heat recovery equipment" a standard feature in large-scale sulfuric acid plant installations.

BELCO® Gas Scrubbing System - Flue Gas Treatment & Carbon Capture Pretreatment

BELCO® Wet Gas Scrubbing technology is widely used in Fluid Catalytic Cracking Units (FCCUs) in petroleum refineries and is seen as a global standard solution for controlling flue gas emissions in refineries. Depending on the application, BELCO® wet scrubbers can remove sulfur compounds (SOx), nitrogen oxides (NOx), particulate matter, and heavy metals at a rate of over approximately 99%. During carbon capture processes, flue gas needs to undergo pretreatment to achieve flue gas cleaning and cooling purposes. The mature stability of BELCO® wet scrubbing technology ensures the long-term, uninterrupted operation of carbon capture processes during the pretreatment.

In 2023, Elessent secured the first carbon capture flue gas regulating project at a refinery in Europe. This project is part of a larger industrial cluster aimed at reducing approximately 1 million tons of carbon dioxide emissions annually from Fluid Catalytic Cracking (FCC) units at refineries by improving energy efficiency, converting fuels into low-carbon hydrogen fuels, and implementing carbon capture. As part of the overall decarbonization effort, applying BELCO® wet scrubbing technology will help the refinery achieve carbon neutrality goals, reducing carbon emissions by 75%-90% by 2030.

Brink® Demisters - Facilitating Green Hydrogen Production

Electrolytic hydrogen production, as an environmentally friendly and sustainable method of hydrogen production, is expected to significantly increase in the next decade through electrolysis processes. Gases produced by electrolyzer must be cleaned and dried before use, similar to the washing and drying of chlorine gas and hydrogen gas in the chlor-alkali industry. Drawing on process design experience from the chlor-alkali industry, in 2023, Elessent's Brink® mist eliminators, with modifications, were installed in green hydrogen production units. In China alone, four hydrogen production projects have installed and used Elessent's Brink® mist eliminators. After these projects are commenced for operation, the hydrogen production capacity is expected to reach 22,400 standard cubic meters per hour.

STRATCO® Alkylation Technology - Producing High-Quality Clean Fuels

Elessent's STRATCO® Alkylation Technology is the world's leading sulfuric acid alkylation technology, commanding a 60% share of the global sulfuric acid alkylation market. Alkylates produced using this technology possess high octane values, low sulfur content, zero aromatics, and low vapor pressure characteristics. The STRATCO® Alkylation Technology enhances octane values by adding alkylates to gasoline pools, resulting in the production of high-quality gasoline. Vehicles using high-octane gasoline can reduce gasoline consumption by approximately 5%, effectively decreasing CO₂ emissions.

In 2023, three refineries equipped with STRATCO® Alkylation Technology successfully commenced operations, with a total capacity of 49,300 barrels per day. It is estimated that these refineries will save the equivalent of 2,465 barrels of gasoline consumption, thereby reducing fossil fuel consumption and CO₂ emissions.



Expanding into the Indonesian Market to Accelerate Development of the Electric Vehicle Battery Industry

In response to climate change, the development of clean energy is gaining momentum, leading to explosive growth in the new energy vehicle industry market. Against this backdrop, global demand for battery metals such as nickel, cobalt, and copper is sharply rising. Leveraging its globally leading sulfuric acid technology and proprietary equipment and catalyst, Elessent is actively participating in the Indonesian market. Elessent uses High-Pressure Acid Leaching (HPAL) process to extract battery-grade nickel for battery metal companies.

Indonesia has world's largest untapped laterite deposits, accounting for one-third of the world's laterite reserves. In 2023, Elessent established a subsidiary in Jakarta, Indonesia, dedicated to providing maintenance and reliability (M&R) solutions for sulfuric acid plants in the region. It aims to offer more efficient and timely technical services and products to local mining companies and sulfuric acid factories.

Furthermore, Elessent places great emphasis on building corporate culture, advocating "Respect Others, Pursue Excellence". It strives to create a diverse, fair, and inclusive working environment to promote communication and collaboration among team members. Elessent actively organizes various team-building activities to foster teamwork. Moreover, the company has established the "E-SUPERHEROES" reward system to recognize employees who make outstanding contributions to the business, propose innovative ideas, achieve cost savings, and enhance organizational efficiency.

East Low Carbon

Leveraging AIoT-enabled Carbon Management to Empower Sustainable Development

"In 2017, Asia Green Fund invested in East Low Carbon with the aim of driving the green transformation of buildings and infrastructures through investment. Asia Green Fund provides a wide range of support to East Low Carbon, including assisting in strategic transformation, from a traditional energy-saving technology provider to an AIoT-enabled comprehensive energy service platform; optimizing organizational structure by introducing key talent; connecting industrial resources to promote collaborative development among portfolio companies; and facilitating international certification, such as ISO14064 (organizational carbon emissions accounting) international certification. East Low Carbon is a leading domestic provider of intelligent energy efficiency management solutions, with a cumulative retrofit area of nearly 10 million square meters, reducing carbon dioxide emissions by 100,000 tons, optimizing enterprise comprehensive energy efficiency, reducing energy costs, and decreasing pollutant emissions."



Established in 2011, East Low Carbon is committed to providing customers in the buildings and industrial sectors with end-to-end, digitalized carbon neutrality solutions and efficient energy management services. It integrates comprehensive energy-saving practices with innovative technologies, photovoltaic power generation, and advanced artificial intelligence Internet of Things (AIoT) technologies. East Low Carbon offers AIoT-enabled smart carbon management solutions for industrial facilities, high-end hotels, top-tier hospitals, data centers, commercial supermarkets, and other fields. It has a full coverage of the entire dual-carbon pathway from carbon inventory checking to carbon verification, carbon emission reduction, carbon assets, and carbon neutrality.

East Low Carbon has provided intelligent energy efficiency optimization and management services for over 100 large-scale projects in more than 40 major cities nationwide. In terms of scientific research and innovation, the company has obtained nearly 70 independent intellectual property rights, including utility model patents, invention patents, software copyrights, etc. It has participated in the formulation of several government-related standards and provincial-level research projects, and has built a leading comprehensive energy optimization core technology system in China.

The East Low Carbon AIoT Dual-Carbon Smart Management Platform breaks through traditional single-energy-saving product or equipment upgrade transformations by achieving multidimensional energy savings. Using independently developed AI algorithms, it optimizes the management of energy-consuming equipment, facilitating energy efficiency improvement and carbon emission reduction. This platform innovates in application scenarios, implementation processes, and technologies, achieving the "three more" effects: more efficient—AI helps engineering personnel improve efficiency by 40%; more energy-saving—AI energy-saving achieves 3% to 10%, combined with energy-saving transformations, energy savings can reach 20% to 40%; and more intelligent—comprehensive carbon emission management, AI-driven, achieving carbon emission optimization.



Addressing Customer Pain Points

In March 2022, the Ministry of Housing and Urban-Rural Development issued "14th Five-Year Plan for Building Energy Conservation and Green Building Development," which clearly states that by 2025, newly built urban buildings must be green buildings. The energy utilization efficiency of buildings will steadily increase, the energy consumption structure of buildings will be gradually optimized, and the growth trend of building energy consumption and carbon emissions will be effectively controlled. This will essentially form a green, low-carbon, and circular development mode for construction, laying a solid foundation for carbon peak in the urban and rural construction sector by 2030.

After more than a decade of deep cultivation and practice in the field of green building energy conservation, East Low Carbon has accumulated rich experience in energy management in various sectors such as hotels, industrial enterprises, hospitals, commercial supermarkets, and data centers. Among these, hotels have attracted particular attention due to their high comprehensive functional requirements compared to other types of public buildings, resulting in significant energy consumption issues.

Taking a large hotel as an example, considering the existing building energy conservation and green building management needs, as well as the direction of digital transformation development in the city, East Low Carbon proposed the AIoT dual-carbon smart management platform to upgrade the hotel's limited digitalization and intelligence capabilities in energy management. East Low Carbon implemented comprehensive energy-saving optimization measures, including efficient equipment energy saving, application technology energy saving, AIoT control and management energy saving, and continuous operation and debugging diagnosis of AIoT. This involved a combination of hardware transformation and software platform to comprehensively optimize and transform the electrical system, hot water system, HVAC system, water system, steam system, and control system of the hotel. By driving data-enabled energy efficiency optimization, this initiative aimed to reduce carbon emissions and promote the digital transformation of energy management.

The AIoT Intelligent Cloud Platform automatically collects energy consumption data, monitors the operating status of energy-consuming devices, and provides real-time monitoring of energy usage in hotel buildings. It offers flexible and diverse visualization, prediction, and analysis of energy consumption data. Additionally, it can complement AIoT algorithms to provide energy-saving renovation suggestions, enhance the effectiveness of energy-saving transformations, assist in energy management decision-making, and reduce and control current energy waste and consumption. This ultimately leads to an overall energy savings of 23% for the hotel, a reduction in annual carbon emissions by 5941 tons, and energy savings of 7 million RMB per year.

Strategic Deployment: Empowering Sustainable Urban Development

In its role as a comprehensive, data-driven carbon-neutral solution provider, East Low Carbon actively integrates into the national strategy for achieving carbon peak and carbon neutrality by 2060. Additionally, responding to the policy calls in Shanghai regarding the development of AI, digital transformation in manufacturing, green development, and low-carbon transition, East Low Carbon continuously refines and upgrades its AIoT platform products and services. Leveraging its extensive practical experience in the field of dual-carbon services, East Low Carbon contributes to the advancement and achievement of Shanghai's carbon peak and carbon neutrality goals. Several service projects and application scenarios have gained recognition and approval from government departments.

Furthermore, leveraging its years of service accumulation in energy conservation and low-carbon initiatives, as well as its development advantages in energy and carbon IT, East Low Carbon strengthens cooperation and fosters collaborative innovation with various stakeholders. It continuously explores the path of sustainable development, aiding in the realization of zero-carbon transformation and green development under the vision of carbon neutrality. In 2023, East Low Carbon forged strategic partnerships in ESG (Environmental, Social, and Governance) business with Deheng HanTong Law Firm, and signed a strategic cooperation agreement with the Shanghai Industrial Cooperation Promotion Center and DEKRA, aiming to promote ESG sustainable development in net-zero hotels, buildings, and industrial parks. East Low Carbon is committed to further cultivating the path of green and low-carbon development in the future.

*According to statistics, in 2020, the total energy consumption in the entire process of building construction in China reached 22.7 billion tce (tons of standard coal equivalent), accounting for 45.5% of the total energy consumption in the country. With the continuous increase in the total number of buildings, improvement in living comfort, and accelerated urbanization, building energy consumption is expected to continue to rise. After China's pledge of reaching Carbon Peaking by 2030 and Carbon Neutrality by 2060, green buildings and building energy efficiency have become an urgent priority in China.

For existing public buildings, in the limited space for energy conservation, it is necessary to explore new ways to achieve more and faster energy efficiency improvements and carbon emission reductions. Traditional methods of energy efficiency assessment on building designs are time-consuming and labor-intensive, and the designed energy consumption plan cannot be correlated with operational energy consumption, making it difficult to predict energy consumption and control the total amount.

The current artificial intelligence infrastructure (i.e., Internet of Things and big data) in the field of building energy efficiency in China is still relatively weak. There is a need to promote the deeper integration of new generation digital technologies into the field of construction, contributing value to the improvement of building energy efficiency in China. With the development of digital technology, digital technologies represented by AI are playing an increasingly important role in empowering energy conservation and efficiency improvement and promoting dual-carbon intelligent management.

Empowering with Data Intelligence: Leading Innovation in Energy Management Practices

Guided by the dual-carbon strategic goals, the digitization of energy management and the improvement of energy efficiency have become intrinsic driving requirements for corporate development and transformation. East Low Carbon has independently developed an AIoT-enabled dual-carbon smart management platform, transforming enterprise energy management practices. It has transformed traditional management methods, primarily experience-based, into ones primarily driven by intelligent data decision-making, thereby assisting enterprises to be well-positioned for carbon peak and carbon neutrality. East Low Carbon employs AI-driven energy efficiency improvements, combining hardware upgrades with software platforms. It has transitioned from a traditional energy-saving company to a comprehensive, digitalized carbon neutrality solution service provider, offering customers multidimensional, deep-level, one-stop, and comprehensive carbon neutrality solution services. This empowers enterprises in their digital and intelligent energy management transformation and drives the industry's sustainable development.



The East Low Carbon AIoT Dual-Carbon Smart Management Platform consists of three major sub-platforms: "Dual-Carbon," "AIoT Energy Efficiency," and "Green Energy." It supports both SaaS and enterprise versions to serve users' dual-carbon needs, allowing for flexible combinations according to user requirements. It distinguishes itself from one-off manned "carbon" services by providing long-term, end-to-end, digitalized, and intelligent "carbon + energy" services. This platform assists users in establishing a comprehensive dual-carbon pathway, creating new incremental value.

*Data sources: <2022 China Building Energy Consumption and Carbon Emission Research Report>

"In 2022, Asia Green Fund participated in BABO's Series D financing. As a bamboo fiber ecological technology company, BABO has pioneered the 'biomass refining technology' for bamboo fiber extraction. It is an important investment by Asia Green Fund in the field of consumer-oriented new materials. BABO is committed to promoting the sustainable development of the bamboo industry through the power of technology and practical actions. Not only does it benefit bamboo farmers by vigorously developing the bamboo industry to drive bamboo forest planting and continuously increase farmers' income, but it also benefits consumers by integrating green and low-carbon lifestyles into their lives, practicing new ways of green consumption, and fostering new concepts of green living. Babo is creating a green supply chain that truly transforms the ecological value of bamboo into economic and social value."



BABO is a leading Chinese brand, with lifestyle paper products made of bamboo fiber. It advocates the concept of "healthier without bleaching" with bamboo fiber, leading to new consumption trends, and capturing 30% of the market share for natural lifestyle paper products in China.

The company is among the top 500 agricultural enterprises in China, a dual leader in national agricultural and forestry industrialization, recognized as a "Green Factory" by the Ministry of Industry and Information Technology. It is a prominent member of the Paper Industry Association directly under the All-China Federation of Industry and Commerce and is a strategic partner of the International Bamboo and Rattan Organization.

Implementing ESG Principles as a Part of Corporate Development

ESG is an important means to enhance the core competitiveness of enterprises, and BABO has always aimed to build an enterprise with ESG values. The company has systematically developed its environmental, social, and governance values in accordance to the United Nations Sustainable Development Goals, the national carbon neutrality strategy, and the National Development and Reform Commission's "Three-Year Action Plan to Accelerate the Development of 'Bamboo Instead of Plastic'." By promoting industrial development, BABO contributes to the national "rural revitalization" strategy and ecological civilization construction, protects the green ecology, promotes social progress, safeguards consumers' healthy living, and builds an enterprise image with widespread social influence and a good reputation.

In December 2023, the company released its first Sustainable Development Report for the year 2023, titled "Sichuan Huanlong New Materials Co., Ltd. 2023 Sustainable Development Report," to the public. The report disclosed the company's ESG strategy, governance framework, core issues, and management and practices in sustainable development.

Bamboo-Centric Innovation: Driving Industrial Development

High-quality bamboo species is the basis for promoting the high-quality development of the bamboo industry, and BABO insists on long-term investment in the selection, planting and promotion of high-quality and high-yield bamboo species. The company has established an international research and development platform, including the Sichuan Bamboo Biomass Refining Technology Engineering Laboratory and provincial-level enterprise centers. Collaborations with renowned research institutions such as the VTT National Research Institute of Finland, the International Bamboo and Rattan Organization, and the Chinese Academy of Sciences have facilitated the development of bamboo biomass full-value utilization technology, promoting innovative applications of bamboo fiber materials across multiple domains.

Through years of continuous research and development, BABO has successfully cultivated the high-yielding bamboo species 'BABO 1.' This variety boasts a yield nearly 6-8 times higher per acre compared to ordinary bamboo forests. Additionally, 'BABO 1' exhibits significant carbon sequestration capabilities, with each acre of bamboo forest sequestering 5-6 tons of carbon annually (forming a carbon sink of approximately 4 tons per year). Calculated based on the consumption of 400,000 tons of bamboo material per 100,000 tons of production capacity, the carbon sequestration capacity of 'BABO 1' bamboo forests can reach 400,000 tons per year.

Furthermore, to comprehensively assess the carbon sequestration capacity of 'BABO 1' bamboo forests and promote high-quality bamboo species, the company has invited experts in bamboo forest carbon sequestration to conduct carbon sink quantification studies. These studies provide essential data support for bamboo species replacement, capacity enhancement, and carbon sink accounting. Additionally, in collaboration with local governments, the company is actively promoting the high-quality 'BABO 1' bamboo species. In accordance with the requirements for the development of Certified Carbon Emission Reduction (CCER) projects verified by national authorities, efforts are underway to develop CCER projects and explore carbon sink resources in agroforestry operations. This initiative aims to transform carbon sink resources into vital assets for local economic development.



Carbon Reduction and Efficiency Improvement: Building a Sustainable Industrial Chain

In recent years, BABO has gradually built a complete bamboo industry chain based on the advantages of high-quality bamboo species cultivation, making significant contributions to reducing plastic pollution, addressing climate change, and achieving sustainable development.

On the production front, BABO has achieved technological breakthroughs in innovation. The company employs globally pioneering biomass refining technology, with low-temperature extraction and no bleaching, avoiding harmful chemical additives and significantly reducing environmental impact, with COD emissions 60% lower than industry standards. Meanwhile, substantial savings in raw materials, water, and energy consumption compared to traditional industries have been achieved, along with 100% utilization of solid waste resources, resulting in a 30% reduction in overall carbon emissions compared to traditional industries.

To better quantify carbon footprints and enhance carbon reduction efforts, the company has established a Carbon Footprint Office. It has institutionalized and standardized the carbon footprint accounting system of the company's product production process, calculating the carbon footprint from raw material acquisition to product manufacturing completion, to provide data support and solutions for guiding carbon reduction in production and operation. The company has commissioned the China Quality Certification Association to complete the carbon footprint certification of BABO's original color household paper produced at the Anzhou base and commissioned the Carbon Footprint Research Team of Sichuan University to complete the carbon footprint accounting of the full lifecycle of original color bamboo pulp at the Qingshen base.

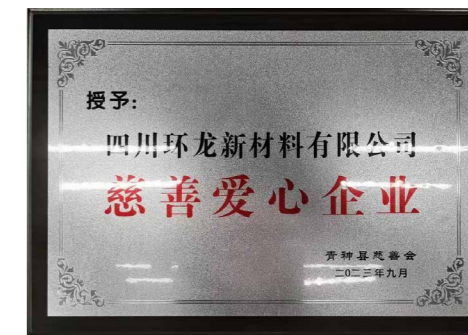
BABO actively participates in industry and association standardization efforts for 'Replacing Plastic with Bamboo', collaborating with industry enterprises to jointly develop group standards for bamboo pulp fibers. BABO also contributes to the formulation of environmental footprint accounting standard guidelines for pulp, paper, and paper products by industry associations and societies, aiming to better promote industry development and regulate market order.

On the logistics front, BABO adopts digital logistics and establishes a Transportation Management System (TMS). Through order lifecycle management and node monitoring, BABO achieves full visibility of logistics operations, effectively enhancing the efficient operation of information flow, product flow, and capital flow in logistics operations, thereby achieving a dual enhancement in operational efficiency and business benefits.

Committing to Poverty Alleviation and Rural Revitalization

BABO has always adhered to the concept of "Brands for Good" and actively responded to the country's rural revitalization strategy. Through vigorously developing bamboo planting, it has successfully driven the development of upstream and downstream industries, benefiting approximately 1 million farmers, covering 2070 villages, creating 10,000 job opportunities, and cumulatively increasing farmers' income by 3 billion RMB, with an average increase of 20,000 RMB per household. At the same time, it has driven the development of packaging, transportation, and other industries, with a total scale of about 4 billion RMB, truly transforming the ecological value of bamboo into economic and social value.

Since 2016, BABO has been actively engaged in philanthropic activities, consistently conducting various charitable events. With cumulative donations exceeding 15 million RMB, BABO has received multiple provincial or national commendations. In February 2023, BABO participated in the "Love Without Borders" international charity event initiated by the Ministry of Foreign Affairs of the People's Republic of China, donating all proceeds to the China Rural Development Foundation. Additionally, the company donated 100,000 RMB to the China Rural Development Foundation, providing targeted support for the implementation of the "Warmth Project" in Jinping County and Malipo County, Yunnan Province.



Baoying Gases

Driving the Green Transformation and Sustainable Development of Industrial Gases in China

“In 2021, Asia Green Fund collaborated with Sheng Zhongke, former General Manager of Baosteel Gases, and founded Baoying Gases. The investment aims to establish Baoying Gases as a green benchmark enterprise in the specialty gas industry. Baoying Gases adopts a comprehensive development model, with traditional industrial gases as the foundation and specialty gases as a premium segment. While focusing on business development in the traditional industrial gas sectors, it increases research and development investment in intelligent manufacturing. Additionally, Baoying Gases vigorously develops areas such as hydrogen energy, medical gases, green energy, and energy storage to accelerate the scale development of the hydrogen energy industry and promote the healthy and high-quality development of the domestic hydrogen energy industry.”

Baoying Gases is a nationwide industrial gas investment and operating company, committed to becoming a value creator in industrial gases, a participant in the full value chain of industrial gases, and a leader in hydrogen energy and carbon neutrality systems. The company absorbs the excellence in company culture from international gas industry leaders, integrates the standardized management mechanisms of central enterprises, and possesses strong professional service capabilities. Its team members have extensive industry experience and project operation experience.

Baoying Gases adopts a comprehensive development model, combining traditional industrial gases as the foundation with premium specialty gases. It delves deep into the traditional industrial gas sector and strategically positions itself in areas such as hydrogen energy, medical gases, green energy, and energy storage.



Focusing on Technological Innovation in Building the Hydrogen Energy Industry Service Chain

With the global demand for clean energy on the rise, hydrogen energy, as an efficient and environmentally friendly form of energy, has garnered widespread attention. Against this backdrop, China's hydrogen energy industry has accelerated its development. As a leading technology company in the industry, Baoying Gases is strategically positioning itself in the field of hydrogen energy. Over the two years since its establishment, Baoying has become the largest hydrogen gas retail supplier in East China, establishing long-term stable partnerships with over 50 hydrogen energy users, including hydrogen refueling stations, manufacturers of new energy commercial vehicles, hydrogen fuel cell component enterprises, and chip factories.



Currently, there are mainly two routes for hydrogen production: (1) "Light Green" hydrogen production technologies based on fossil fuels, such as tail hydrogen pressure swing adsorption purification, natural gas decomposition, and coal gasification. Among these technologies, natural gas decomposition has demonstrated the best economic stability. (2) "Deep Green" hydrogen production technologies based on renewable energy sources, such as electrolysis of water and biomass, but none have reached industrial-scale production and sales. Therefore, Baoying Gases firmly chooses to pursue both "Light Green" and "Deep Green" development paths. This decision reflects the company's commitment to environmental protection and its determination to promote the transition to clean energy.

Additionally, Baoying Gases adheres to the belief that technological innovation is the primary productive force. It continues to increase research and development investment in hydrogen production, storage, transportation, utilization, and refueling. This includes: (1) Developing electronic-grade ultra-high-purity hydrogen to meet the process requirements of domestic high-end chip manufacturers, with mass production planned for 2024. (2) Researching and developing integrated technology for 30MPa filling systems, conducting small-scale trials at hydrogen refueling stations and major customers' sites to reduce customers' hydrogen storage and transportation costs. (3) Researching and developing safe and stable, cost-reducing technologies for large-scale ALK alkaline electrolysis hydrogen production routes. (4) Continuously optimizing high-power hydrogen fuel cell durability in hydrogen gas plants, providing external test environments and inexpensive hydrogen sources for fuel cell manufacturers. Compared to traditional coal-based hydrogen production methods, Baoying Gases reduced approximately 40 million kilograms or 40,000 tons of carbon dioxide emissions in 2023 through hydrogen production. Through acquisitions and on-site hydrogen production using SOS technology, Baoying Gases has achieved a design capacity of 10,000 cubic meters/hour at domestic hydrogen production sites, with plans to further increase capacity in 2024 to meet market demand.

Diversified Exploration for Building a Green Industrial Ecosystem

In response to the evolving dynamics of the gas industry, Baoying Gases has proactively prepared itself for the future. Beyond its hydrogen energy ventures, the company has been actively exploring possibilities in synthetic ammonia production and green methanol, among other areas, with investments made in regions like Xinjiang. With a focus on carbon reduction and clean energy, Baoying Gases aims to further expand its footprint in green electricity gases and energy storage gases, driving industry diversification and sustainable development. Baoying Gases remains committed to its path of carbon reduction and clean energy. Leveraging existing green electricity and biomass resources, the company will produce green energy products such as green air separation, green hydrogen, and green methanol.

In the synthetic ammonia project, ammonia is produced by purifying tail gas from methanol production, with an annual output of 100,000 tons to 150,000 tons. Compared to traditional coal-based methods, each ton of synthetic ammonia produced reduces CO₂ emissions by 4 tons. Upon completion, the project is expected to annually reduce carbon emissions by 400,000 tons, offering not just economic benefits but also significant positive environmental impact, driving sustainable development in society.

In 2023, Baoying Gases achieved significant economic, environmental, and social benefits under its ESG governance framework. The company not only enhanced the capacity and technological level of its hydrogen energy business but also actively expanded into new markets and diversified business areas, demonstrating a strong sense of social responsibility and innovation spirit. Baoying Gases will continue to uphold the concept of green development, actively exploring new growth opportunities and innovative paths to further contribute to the healthy development of China's hydrogen energy industry and the implementation of the national clean energy strategy. Furthermore, the company will continuously optimize its ESG governance system, continually enhancing its sustainable development capabilities and comprehensive value creation, and working with all sectors of society to build a greener and more sustainable future.





GREEN IMPACT INVESTMENT IMPACT



· Asia Green Fund ESG Awards · Portfolios ESG Awards

ASIA GREEN FUND ESG AWARDS

The Asia Green Fund aims to utilize its influence in green investments to drive positive social and environmental impacts, empowering capital to support sustainable development.

AWARDS



· 2022 China Top20 Best Investment Institution in Carbon Neutrality Industry



· 2022-2023 China Best Investment Institution in New Energy Field



· 2023 Excellent Investment Institution in Carbon Neutrality of Golden Bull



· 2023 Best ESG Investment Institution
· 2023 Outstanding Venture Capital Institution in New Materials Industry



· 2022-2023 Special Contribution Institution in ESG Investment
· Being selected in the <Collection of Excellent ESG Investment Cases in 2022-2023>



· 2023 ESG Best Practice Award for China's VC Firm
· 2023 Top 10 Best Practices for Annual Impact Investment of Invest for Good



· 2023 China Top20 Investment Institution in New Materials Field
· 2023 China Top 50 Best ESG Practice Investment Institutions



· 2023 Top20 Soft Power GP of Social Responsibility of Investment Institutions



· 2023 Top30 Best Investment Institution in New Energy



· 2023 Top20 ESG Pioneer



· 2023 Best ESG Investment Institutions

NEWS



The Future Path of ESG Development in China



The necessary conditions for Chinese companies to "go global" with ESG and collaborate with large international organizations



The carbon-neutral investment track is on the rise, characterized by long cycles and heavy asset involvement, demanding expertise and patience



The "Primary Custodian" of Green Impact Investment



From "Fragrant Latte" to Synthetic Biology: The Opportunity to Tap into a 40 Trillion Investment Landscape is Unfolding

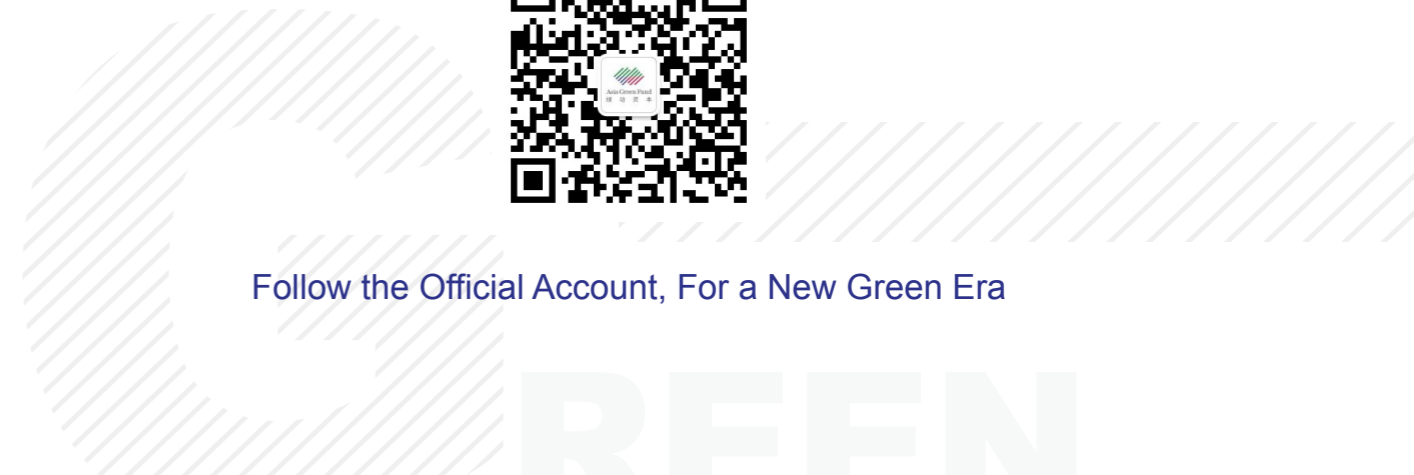
PORTFOLIOS ESG AWARDS

With the progression of sustainable development and the pursuit of "dual carbon" targets, ESG has emerged as a crucial criterion for evaluating a company's level of social responsibility. In 2023, the portfolios were recognized with industry awards for their ESG practices.

 <p>箱箱共用 xiangxiang.com</p>	<ul style="list-style-type: none"> · 2023 Outstanding Cases of "Future Sustainable Investments" · 2023 Top 10 Green Low-Carbon Technological Achievements · Top 10 Technological Innovations Empowering Green Transformation with Digital Technologies
 <p>东方低碳 EAST LOW CARBON</p>	<ul style="list-style-type: none"> · Outstanding Energy Saving and Emission Reduction Cases in Shanghai in 2022 - Green Practice Cases · Digital Transformation Demonstrative Applications in the Energy Dual Carbon Field of Shanghai
 <p>斑布BABO®</p>	<ul style="list-style-type: none"> · Meishan Charity Award: Charitable Enterprises of Love · 2023 Top 10 Business Philanthropists · 2023 Business Philanthropy Enterprise Nomination Award
 <p>ACETECH</p>	<ul style="list-style-type: none"> · ESG Practice Pioneer Enterprises · 2023 Top 50 Carbon Neutrality of Venture50
 <p>SUNWODA EVB</p>	<ul style="list-style-type: none"> · Selected as an Outstanding Business Case in the Asian Low-Carbon Technology Innovation Conference · 2023 Top 50 Carbon Neutrality of Venture50
 <p>好享家</p>	<ul style="list-style-type: none"> · China's Top 30 Low-Carbon Technology Innovation Enterprises
 <p>青昀新材 Kingwills New Material</p>	<ul style="list-style-type: none"> · 2023 Top 50 Carbon Neutrality of Venture50



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