

# 2024 Annual Report Global Environmental Institute



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# A Letter from Executive Director



The year 2024 has seen significant shifts in the global environmental and geopolitical landscape. It also commemorates the 20th anniversary of the Global Environmental Institute (GEI), a Beijing-born non-governmental organization that has observed and contributed to transformative environmental and sustainable development efforts by China and the international community over the past two decades. We witnessed the United Nations’ adoption of the 17 Sustainable Development Goals (SDGs), which integrated environmental and development priorities into global agendas; the Paris Agreement, uniting nations for the first time under a shared 1.5°C climate target; and the Kunming-Montreal Global Biodiversity Framework’s pledge to protect 30% of Earth’s land and oceans by 2030—a promise to safeguard planetary biodiversity. Meanwhile, China’s pioneering concepts, such as the “Two Mountains Theory,” “Ecological Civilization Construction,” and “Community with a Shared Future for Mankind,” have positioned the country as a global leader in climate action and ecological conservation.

Throughout 2024, GEI advanced approximately 20 projects across China and Global South partner nations. These initiatives spanned green energy transitions, eco-friendly community development, sustainable supply chain policies, and platforms like the “Action for Ocean” and “East and Southeast Asia Community Conservation Network (EASACCN)”. By aligning with the UN SDGs, national climate commitments (NDCs), and biodiversity targets, GEI bolstered global governance, energy innovation, and sustainable development while addressing emerging challenges.

Looking ahead to 2025, a year poised for continued transformation, GEI will adopt fresh strategic approaches to drive progress. We extend heartfelt gratitude to partners, collaborators, and supporters who have stood with us over the past 20 years. Together, we remain committed to advancing global green transitions and fostering a sustainable future for all.

Thanks!  
Executive Director  
Jin Jiaman



# 2.

## Energy and Climate Change Program

### 2.1 | Helping Indonesia Transform Its Energy Structure

#### 1 Analysis of and Research on the Potential of Biomass Power Generation



Indonesia's NDC target: It is planned that new and renewable energy will account for 23% of primary energy supply by 2025, and the proportion will increase to 31% by 2050.

In addition, Indonesia has set ambitious emission reduction targets: an unconditional emission reduction of 31.89%, which can reach 43.2% with international support.

As the largest archipelagic country in the world, Indonesia is rich in agricultural and forest resources, which gives it unique advantages in biomass energy development. This has become a key support for the diversification of the national energy structure and provided a solid foundation for achieving climate goals. However, making efficient use of biomass resources and maximizing their contribution to the renewable energy system remains a core challenge for Indonesia.



To help Indonesia promote the development of biomass energy, GEI conducted a comprehensive quantitative analysis of Indonesia's biomass resource distribution, power generation potential, economic benefits, and drew a geographical map to identify the most suitable areas for deploying biomass energy. The research results provided government decision-makers and stakeholders with a scientific basis in new energy development and helped them make more targeted policies and investment plans. In addition, to further strengthen technical exchanges and international cooperation, GEI invited Indonesian biomass power generation stakeholders (including representatives from Indonesia's Ministry of Energy and Mineral Resources, Biomass Energy Association, renewable energy cooperatives, etc.) to visit China in June 2024. This visit deeply focused on China's advanced experience in biomass energy utilization, technology research and development, as well as equipment manufacturing, with the aims of promoting in-depth cooperation between the two countries in the field of renewable energy, propelling technology sharing and industry matchmaking, and accelerating the development process of biomass energy in Indonesia.

SDGs



## ② Accelerating Indonesia's Coal Phase-Out for a Clean Energy Future

**Indonesia's NDC Target: Full phase-out of coal-fired power generation by 2040.**

GEI's biomass potential analysis has provided important support for Indonesia's new energy development, thus helping the Indonesian government and industrial circle to accurately identify the areas with the most potential biomass energy development and evaluate their power generation capacity. In addition, through the investigation of biomass technologies in China, Indonesian government officials, research institutions, and representatives of biomass associations had a deeper understanding of efficient biomass power generation modes and advanced technologies, thus laying a foundation for Indonesia to formulate a more perfect biomass energy development strategy in the future. In the future, GEI will continue to promote exchanges between the two countries in biomass energy development, policy design, and technical cooperation, jointly explore new opportunities for green and low-carbon transformation, and provide a model for the development of renewable energy in Indonesia and even Southeast Asia.

Historically dependent on its vast coal reserves, Indonesia generated 66% of its electricity from coal in 2022, with coal combustion contributing 57.5% (375 million tons of CO<sub>2</sub>) of national emissions. To meet its NDC commitments, the government announced a coal exit strategy, targeting a complete transition from coal by 2040. As an initial step, Indonesia's PT Perusahaan Listrik Negara (PLN) launched a biomass co-firing initiative, mandating specific blending targets for coal plants nationwide to curb coal use and accelerate decarbonization of the energy sector.

Leveraging our earlier analysis of Indonesia's biomass potential, GEI conducted field visits to coal plants on Java, Kalimantan, and Sumatra islands, engaging with PLN to evaluate phase-out progress. The team assessed biomass co-firing implementation, technical retrofitting needs, policy effectiveness, and barriers to coal substitution while identifying opportunities to scale solutions.

By cross-referencing site data, GEI systematically compared co-firing progress across plants, quantified emission reduction impacts, and developed tailored recommendations to enhance feasibility and scalability. These insights aim to optimize Indonesia's biomass integration strategy and strengthen alignment with its coal phase-out timeline.





GEI will continue supporting Indonesia's coal sector transformation by advising policymakers and industry leaders on evidence-based policies, technical upgrades, and global best practices. Concurrently, the initiative will deepen China-Indonesia collaboration in renewable energy, driving broader adoption of biomass in Indonesia's power grid to diversify its energy mix and advance sustainable, low-carbon development.

3 Advancing Low-Carbon Mobility in Jawa Tengah, Indonesia

SDGs

7

RENEWABLE ENERGY

9

INDUSTRIAL INNOVATION AND INFRASTRUCTURE

11

SUSTAINABLE CITIES AND COMMUNITIES

**Indonesia's NDC Targets: Renewables to supply 23% of primary energy by 2025, rising to 31% by 2050. Emission cuts include 31.89% (unconditional) and up to 43.2% with international support.**

As Indonesia strives for net-zero emissions by 2060, decarbonizing road transport—a major emissions source—is critical. Jawa Tengah, a key transport hub on Java Island, faces mounting challenges: underdeveloped public transit, surging private vehicle use, and escalating carbon footprints. Despite national ambitions to green the sector, gaps persist in policy design, technical capacity, and implementation strategies.

Since 2022, GEI and our Indonesian partner IESR, have spearheaded efforts to reshape Jawa Tengah's transport landscape. By early 2024, GEI convened Chinese experts to conduct field assessments, deliver training, and finalize low-carbon transport scenarios and policy frameworks. These efforts included a comprehensive evaluation of local infrastructure, leading to actionable recommendations for systemic reform.

To bridge knowledge gaps, GEI facilitated cross-border exchanges, hosting Indonesian delegations in China and organizing workshops in Semarang City. These engagements connected Jawa Tengah's transportation bureaus, energy agencies, and bus associations with Chinese expertise on bus electrification costs, policy incentives, and technology pathways.



The initiative has laid the groundwork for Jawa Tengah’s low-carbon transport framework while inspiring broader policy innovation across Indonesia. Next steps include analyzing renewable energy capacity and grid demand to power electric buses, alongside designing green financing mechanisms to attract private investment.

By integrating clean energy solutions with equitable transit planning, this project offers a replicable model for accelerating low-carbon mobility in Indonesia and Southeast Asia—advancing both national climate targets and global sustainability agendas.

4 Driving Green Industrial Parks in Indonesia

**Indonesia’s NDC Targets: Renewables to supply 23% of primary energy by 2025, rising to 31% by 2050, alongside emission cuts of 31.89% (unconditional) or up to 43.2% with international support.**



Since 1978, China’s industrial parks have evolved from resource-intensive hubs to models of low-carbon innovation, establishing robust policies, technologies, and management frameworks that offer global lessons in sustainable industrialization. Building on this legacy, China has intensified green partnerships with developing nations since 2016, sharing expertise to accelerate industrial upgrades and resource efficiency. The 2023 launch of the China-Indonesia “Two Countries, Twin Parks” initiative deepened bilateral collaboration, with over 1,000 Chinese firms now investing in Indonesia’s manufacturing, mining, and renewable energy sectors. These ventures have spurred infrastructure growth, job creation, and industrial modernization while advancing Indonesia’s green transition. Yet, gaps persist in policy design, technology adoption, and implementation know-how, underscoring the need for international cooperation.



In 2023, GEI facilitated a study tour for Indonesian officials to China’s green industrial parks, followed by a June 2024 expert delegation to Indonesia. Partnering with the Ministry of Industry, GEI convened forums to co-design green standards for Indonesian parks, addressing energy efficiency, carbon management, and policy alignment. Leveraging China’s experience, the teams explored tailored pathways for Indonesia’s low-carbon industrial growth. GEI also mapped rooftop solar PV potential nationwide, providing data-driven insights to shape renewable energy integration strategies.

GEI will continue supporting Indonesia’s Ministry of Industry in refining green standards, regulatory frameworks, and low-carbon development models aligned with local needs. The initiative will expand Sino-Indonesian collaboration in green tech transfer, renewable energy deployment, and industrial innovation, fostering efficient, sustainable parks that serve as global benchmarks. By bridging policy, technology, and investment, this partnership aims to catalyze Indonesia’s industrial decarbonization while advancing shared climate and development goals.





2.2 | Promotion and Expansion of Renewable Energy in Forest-Adjacent Communities

1Assisting Communities in Cameroon to Use Small-Scale Solar Power Generation Equipment

SDGs:



Southern Cameroon, situated in the Congo Basin, hosts the world’s second-largest tropical rainforest. This region serves as a critical ecological buffer but also faces one of the lowest electrification rates globally, particularly in rural areas where less than one-third of households have access to electricity. Out of Cameroon’s population of approximately 8.7 million, 53% lack a reliable power supply, and only around 2,300 of the country’s 13,000 villages are connected to the national grid. Aging and unreliable power infrastructure further exacerbate frequent outages, hindering economic growth and compromising residents’ quality of life. The energy deficit, combined with the abundance of rainforest resources, has led many rural residents to rely on logging as a primary income source, accelerating deforestation and causing severe ecological and biodiversity damage. Addressing this issue requires providing stable, sustainable energy solutions and creating alternative livelihood opportunities to reduce reliance on logging.

GEI is addressing energy poverty in off-grid African communities by introducing small-scale solar power systems. Beyond providing clean energy, GEI is working to diversify income sources, curb deforestation, and foster sustainable development through livelihood training programs. In June 2024, GEI, alongside its equipment supplier Shenzhen Power-Solution Ind. Co., Ltd., revisited Cameroon to discuss collaboration models with local community organizations and the Ministry of Forests and Wildlife. During this visit, GEI introduced a sustainable business model for solar energy adoption. Community residents expressed high hopes for the solar lighting systems, anticipating improved living standards, new job opportunities, and enhanced economic activity in their communities.

Additionally, GEI invited representatives from partner organizations to showcase the project’s achievements at COP 29 in Baku, where it garnered significant international attention. By delivering clean energy, the project has not only enhanced lighting conditions for households in impoverished forest-adjacent areas but also raised awareness about forest conservation and supported green development. Moving forward, GEI plans to expand the project’s reach, collaborating with more regions and partners to advance clean energy adoption and empower off-grid communities with sustainable development opportunities.





2.3 | Other Projects

1 Advancing Low-Carbon Rice Cultivation in Thailand

Thailand ranks among the world’s largest rice producers, with rice farming contributing to half of its agricultural greenhouse gas emissions. To support low-carbon development, the Thailand Rice Department initiated research into low-carbon agriculture in 2023. In February 2024, GEI facilitated a visit by Chinese experts to Thailand to study rice cultivation practices and share insights on low-carbon technologies. During this collaboration, GEI also produced an analysis report on the emission reduction potential of low-carbon rice, providing a solid foundation for further advancing sustainable rice farming in Thailand.



2 Supporting Vietnam in Building Capacity for Emission Inventories

The Vietnamese government has committed to expanding renewable energy in its power development plan but faces challenges due to technological gaps and limited experience in meeting carbon reduction targets. In 2024, GEI engaged in discussions with the Vietnam Institute of Natural Resources and Environment Strategy and Policy to explore the development of emission inventories. Currently, Vietnam lacks comprehensive carbon emission inventories at local and industry levels, creating a disconnect between policy and implementation. GEI aims to further support Vietnam’s renewable energy development and provide capacity-building initiatives to help the country achieve its emission reduction goals.



3 Harnessing Municipal Waste for Energy in Malaysia

Malaysia’s energy sector heavily relies on petroleum and natural gas. However, to meet its 2050 carbon neutrality target, the government has set a goal of achieving 31% renewable energy usage. In response, various Malaysian agencies have launched projects focused on energy transition and low-carbon emission reduction. In early 2024, GEI partnered with Malaysia’s Sustainable Energy Development Authority (SEDA) to implement a municipal waste project. This initiative includes waste-to-energy technology assessments, low-carbon toolkit training, and field visits, aiming to foster bilateral exchanges and cooperation in waste-to-energy utilization between the two countries.





# 3

## Ecological Conservation and Community Development Program

### 3.1 Chinese Non-State Actors Participating in Global Governance

#### ① Exploring Pathways for Social Organizations to Engage in Natural Protected Area Governance



The Kunming-Montreal GBF Action Objective 3 Protected Areas 3030, 15 Corporate Responsibility and Sustainable Production and 19 Resource Mobilization

Since the 18th National Congress of the Communist Party of China, China has established a natural protected area system centered on national parks. However, many of these protected areas still face significant funding gaps. Two key factors contributing to this financial shortfall are: the lack of clear pathways for social organizations to participate in the governance of natural protected areas, and the over-reliance on government funding, with limited awareness of diversified financing mechanisms.





To address these challenges, GEI initiated the *Research Project on Pathways for Social Organizations to Participate in the Governance of Natural Protected Areas (with a focus on funding)*. This project aims to identify pathways and methods for social organizations to secure diversified funding for their involvement in natural protected areas, providing stakeholders with actionable insights to access additional resources.

The research outlines several policy recommendations to encourage social organizations to contribute to the protection of natural protected areas through capital investment:

- **Government Support:** Establish supportive systems and frameworks to facilitate social organizations' investment in natural protected areas.
- **Strategic Planning:** Social organizations should develop clear strategies and plans for effective participation in protected area governance.
- **Capacity Building:** Strengthen institutional structures and enhance organizational capabilities to ensure efficient management and operations.
- **Risk Assessment:** Conduct thorough risk assessments for capital investments to ensure sustainable and impactful outcomes.
- **Stakeholder Collaboration:** Foster partnerships among stakeholders and amplify their influence to drive collective action and resource mobilization.

This research serves as a valuable reference for stakeholders seeking to enhance financial sustainability and governance effectiveness in protected areas.



## ② Chinese NGOs' Role in Advancing the Kunming-Montreal Global Biodiversity Framework (GBF)

The Kunming-Montreal GBF Action Objective 3 Protected Areas 3030, 14 Mainstreaming—Government Departments, 20 and 22

During the first phase of the 15th Conference of the Parties to the Convention on Biological Diversity (COP15) held in Kunming in 2021, the active participation of Chinese NGOs significantly enhanced the capacity of social organizations to engage in international forums. For the first time, Chinese NGOs demonstrated their collective action power on the global biodiversity stage, reshaping the international community's perception of their ability to collaborate effectively. The adoption of the Kunming-Montreal Global Biodiversity Framework (GBF) during the second phase of COP15 has set a clear direction for global biodiversity governance. Social organizations are now recognized as key players in advancing the GBF's objectives.

In the context of South-South Cooperation, GEI leveraged existing international and domestic networks, such as the China Citizens' Biodiversity Conservation Alliance, the East and Southeast Asia Community Conservation Network (EASACCN), and the China-Africa Non-governmental Biodiversity Dialogue Platform. By integrating biodiversity conservation with livelihood improvement and gender equality, GEI provided training on climate adaptation and shared community-based practices with non-state actors, including social organizations, local communities, and women's groups. These efforts aim to strengthen the climate resilience of civil society and local communities in China and Southeast Asia, contributing to the dual goals of biodiversity conservation and climate change mitigation.



At CBD COP16, GEI hosted a side event titled “Accelerating the Implementation of the Plan with All of Society: Other Effective Area-Based Conservation Measures (OECMs) and Local Communities Working Together to Achieve the 30x30 Goal and the Vision for the Future.” The event brought together representatives from the CBD Secretariat, China’s Ministry of Ecology and Environment, and other countries to discuss how non-state actors can contribute to the implementation of the Kunming-Montreal GBF. Additionally, GEI developed a summary guide to help social organizations and local communities better understand and interpret the GBF.



GEI also drafted the Strategy for Promoting OECMs by the Alliance of Public Welfare Protected Areas and the Citizens’ Biodiversity Conservation Alliance. Recognizing the potential of numerous non-governmental protected areas in China, the strategy provides recommendations on how these areas can be recognized as OECMs.

In Xining, GEI organized a seminar titled “Non-Governmental Protected Areas Helping China Achieve Its Biodiversity Conservation Goals,” and produced an operational guide for Chinese NGOs to effectively participate in the Conference of the Parties to the Convention on Biological Diversity. These initiatives aim to empower Chinese NGOs and local communities to play a more active role in global biodiversity governance and the realization of the Kunming-Montreal GBF objectives.

### 3.2 | Corporate Social Responsibility (CSR)

#### ① Ecological Restoration of Grasslands and Black-necked Crane Conservation in Nianbaoyuze, Sanjiangyuan



In 2023, with support from Galderma (China), GEI partnered with Longge Village in Baiyu Township, located in the Sanjiangyuan, to implement the “Touching the Heart, Starting from the Skin” social welfare project. This initiative focused on the ecological restoration of degraded grassland in the region. Through a combination of manual labor and traditional methods, alongside diligent management by two patrol guards, the project successfully restored 300 mu (approximately 20 hectares) of grassland. The rapid recovery of vegetation effectively prevented soil erosion and provided herders with additional economic opportunities. The project received widespread recognition from local governments, community herders, and businesses, generating significant social and environmental benefits.



Building on this success, Galderma (China) and GEI launched Phase II of the “Touching the Heart, Starting from the Skin” project in 2024. This phase included replanting grass seeds in the high elevation areas of the previously restored grassland to reinforce the remediation efforts. Additionally, the project expanded its scope by restoring an additional 200 mu (approximately 13.3 hectares) of degraded grassland in Baiyu Township. A key feature of this phase was collaboration with the Plateau Black-necked Crane Women’s Patrol Team, comprising 16 female patrol guards, to support monitoring and conservation efforts. By integrating ecological restoration with wildlife protection, the project aims to foster harmonious coexistence between humans and nature.

This initiative is a significant component of Galderma (China)’s global ESG strategy, demonstrating its commitment to environmental and social responsibility. As part of the project, Galderma and experts also developed a bilingual Chinese-Tibetan illustrated handbook titled “ Illustrated Handbook on Skin Care on the Plateau,” providing herders in high-altitude regions with valuable knowledge on skin health.

2 ALDFG Recovery and Monitoring Patrols in Paigang Village



“Abandoned, lost, or otherwise discarded fishing gear” (ALDFG), commonly referred to as “ghost gear,” poses a significant threat to marine ecosystems. As defined by the United Nations Food and Agriculture Organization (FAO), ghost gear includes any fishing equipment that is abandoned, lost, or discarded in the ocean. These discarded gears act as hidden hazards, continuously endangering marine species. Factors such as adverse weather conditions, conflicts between fishing vessels, natural wear and tear of equipment, and inadequate recovery and monitoring systems contribute to the proliferation of ghost gear.

To address this issue, we partnered with Paigang Village in Tanmen Town, Hainan Province, to establish an ALDFG recovery mechanism. This initiative aims to enhance awareness of marine conservation and sustainable fishing practices, protect critical habitats for sea turtles and other marine life, and promote the sustainable protection of ocean ecosystems.

With support from HowBottle and OLEADA, Paigang Village conducted a total of 119 patrols as part of its ALDFG recovery and monitoring project. During these efforts, 11,683 kilograms of ghost gear were recovered, generating a total recovery value of 21,638.2 yuan. Of the recovered fishing gear, 8,846 kilograms were successfully sold, while the remaining unsold gear was either stored or disposed of in designated waste bins.

3.3 Synergy between Biodiversity and Climate Change

1 Sharing China’s Community Conservation Model, Safeguarding Coastal Ecosystems, and Tackling Climate Change



The Kunming-Montreal GBF 3, 4, 5 and 8

To address the tension between biodiversity conservation and community development in ecologically critical areas and to foster the involvement of indigenous peoples and local communities in conservation efforts, the Community Conservation and Development Special Fund was established. Building on the long-standing implementation of GEI’s “Community Conservation Concession Agreement” (CCCA), the fund has supported research and pilot projects since 2017, focusing on an eco-service economy centered around community conservation in western China and Southeast Asia. Now in its third phase, the initiative has achieved significant milestones. Over the past five years, the community conservation and eco-service economy model has gained traction in China, with CCCA being integrated into the national park system. The capacity of protected areas and neighboring communities to deliver ecological products has strengthened, while public awareness and engagement in community conservation and ecological economies have grown.



Furthermore, the establishment of the “East and Southeast Asia Community Conservation Network” (EASACCN) in Southeast Asia aims to leverage China’s practical experience, encouraging China and South-east Asian nations to advance community conservation and eco-service economic practices. This initiative offers “Chinese solutions” for safeguarding endangered species and habitats while fostering sustainable development in local communities.



Recognizing the interconnectedness of climate change and biodiversity, the third phase focused on coastal ecosystems in China and ASEAN. By introducing and scaling up the community conservation and eco-service economy model, the initiative promotes the protection, climate resilience, and sustainable development of China-ASEAN coastal wetland ecosystems.

The project has documented the experiences from the first two phases of the community fund, compiling manuals that capture theoretical insights and best practices. Collaborating with experts from five Southeast Asian countries, the team used GIS technology to map mangrove distributions in China, Indonesia, Myanmar, the Philippines, and Vietnam, enhancing the understanding of mangrove forest coverage. Building on this, partnerships with local protected area authorities and NGOs in Dandong (China), the Philippines, and Myanmar have launched three community-driven coastal wetland conservation projects. These initiatives aim to strengthen community capacity for ecological restoration and ecotourism while protecting migratory bird habitats.

To ensure the financial sustainability of coastal conservation efforts, the project developed the China-ASEAN Coastal Protection Financing Mechanism Handbook, which is expected to benefit approximately 1,000 individuals.



## ② Unlocking the Triple Benefits of Climate Resilience, Ecological Conservation, and Sustainable Development in Southeast Asia

In 2021, GEI, in collaboration with social organizations from nine countries, established the “East and Southeast Asia Community Conservation Network” (EASACCN) to consolidate and share collective experiences. To amplify its impact, EASACCN has developed six core modules: capacity building, scientific research, implementation and demonstration, policy influence, publicity and promotion, and sustainable financing. By applying these modules to diverse themes, the network aims to deliver community-driven solutions for environmental protection, climate change mitigation, and sustainable development on a broader scale.



Mangroves, among the world’s most vital ecosystems, serve as a critical natural solution to global climate change. The China-ASEAN region, home to 33% of the world’s mangroves, boasts the highest concentration of these ecosystems. However, it also faces severe mangrove degradation, with ASEAN countries losing 1,467,883 hectares since 1990—an average annual loss rate of 1.1%. Degraded areas now account for 79.25% of the total mangrove distribution in the region.





To address this crisis and empower local communities to protect and restore mangrove ecosystems, GEI has focused on mangroves as a case study. By applying EASACCN’s six modules, the initiative explores community-based solutions for mangrove conservation and sustainable development in the China-ASEAN region. This approach aims to achieve three key outcomes: preserving mangrove ecosystems and biodiversity, enhancing blue carbon sequestration, and promoting the sustainable use of mangrove resources.

In 2024, GEI organized two training sessions in Indonesia on mangrove protection, restoration, and carbon sink measurement. These sessions equipped over 10 participants with the knowledge and skills needed to develop mangrove carbon sink projects, laying the groundwork for future initiatives. Additionally, international experts were engaged to analyze the current status of mangroves, relevant policies, and conservation efforts across seven countries, providing recommendations for regional cooperation. GEI also supported the Indonesian organization Yagasu in participating in the “Women’s Power in Sustainable Development” side event at UNFCCC COP29, highlighting the role of women in mangrove conservation and sharing their inspiring stories.

Through this project, GEI is refining and validating the EASACCN modules, adjusting and optimizing strategies to create a replicable and scalable framework. This model can be adapted to various topics, including rural renewable energy, combating illegal wildlife trade, and addressing the environmental and social impacts of investments on communities. By fostering collaboration and innovation, the initiative aims to deliver lasting benefits for climate resilience, ecological conservation, and sustainable development across Southeast Asia.

### 3 Public Education Initiative in the Yalu River Estuary National Nature Reserve, Dandong



The Yalu River Estuary National Nature Reserve in Dandong, situated at the northern end of the Yellow Sea Ecoregion, is a critical biodiversity hotspot. This reserve features a unique blend of inland wetland, aquatic, marine, and coastal ecosystems, with a primary focus on protecting wetland ecosystems and rare wildlife. It lies at the intersection of two of the world’s nine major migratory bird flyways, attracting hundreds of thousands of migratory birds annually as a vital resting and feeding ground. This makes the reserve a premier destination for birdwatching and a haven for migratory species. Since 2019, GEI has collaborated with the reserve to foster stakeholder cooperation and engage local communities in the co-management of its ecological and environmental systems, including the development of natural experience and ecotourism routes.





### 3. 4 | Empowering Communities in Sustainable Investment

In 2024, to further strengthen the co-management mechanism, GEI launched a public nature education project within the reserve. The project revolves around four key components: communication and outreach, talent development, public awareness and participation, and the blue economy. The following outcomes have been achieved:

**Educational Materials and Infrastructure:** In partnership with the reserve, GEI designed and produced public education and science communication materials, including the Handbook of Ecological Bird Watching in the Yalu River Estuary Wetland Nature Reserve and the Handbook of Ecological Beach Exploration and Observation. A biodiversity science education base was also established around model households to promote ecological awareness.

**Talent Development:** GEI conducted training programs for ecological tour guides and supported the creation of a pre-job training and certification system for the reserve. This initiative aims to build a robust talent pool to support ecological protection and the growth of the blue tourism economy.

**Public Engagement:** Nature education and demonstration activities were organized, with guided ecological tours to enhance public understanding and support for the reserve’s conservation efforts.

**Community Empowerment:** The project improved local communities’ capacity to host and service ecotourism activities, explored diversified livelihood opportunities, and increased the share of ecotourism income within traditional marine industries. This has contributed to the gradual transformation and value enhancement of blue marine culture.

#### 1 Strengthening the Capacity of Social Organizations in the Mekong River Basin

SDGs:   

The Lancang-Mekong region, encompassing southern China and Southeast Asian countries such as Cambodia, Laos, Myanmar, Vietnam, and Thailand, is one of the world’s most biodiverse areas. Over the past decade, the region has attracted significant foreign direct investment in sectors like mining, hydropower, agriculture, and infrastructure. While this rapid economic growth has brought development opportunities, it has also posed challenges to the ecological governance and conservation capacities of Lancang-Mekong countries. Given the region’s rich cross-border ecosystem corridors, river basins, and indigenous communities, there is an urgent need for collaborative efforts among countries and stakeholders to achieve sustainable development.



As the largest investor and a key trading partner in the region, China plays a pivotal role in advancing sustainable development initiatives, including ecological protection, community development, and eco-friendly investment practices. Through the “East and Southeast Asia Community Conservation Network” (EASACCN), this project aims to enhance the capacity of social organizations in Mekong countries to drive regional sustainable development.

To achieve this, over five training sessions were conducted in Vietnam, Laos, and Cambodia, bringing together stakeholders from China and the Lancang-Mekong countries. These sessions focused on topics such as sustainable rubber production, forestry, and agricultural investments, sharing China’s policies, experiences, and best practices with social organizations in the region. Additionally, visits were made to Chinese rubber, wood-processing, and agricultural enterprises operating in Vietnam, Laos, and Cambodia to study their sustainable investment practices. These efforts aim to better assist enterprises in contributing to local ecological protection and community development, fostering sustainable growth in the Lancang-Mekong region.



In collaboration with the Research Institute of Forestry Policy and Information under the Chinese Academy of Forestry, the project introduced a “community relations” section to the Country Handbook on Sustainable Overseas Forest Investment and Trade by Chinese Enterprises—Vietnam. This addition provides Chinese enterprises with practical recommendations for fostering cooperative, win-win relationships with local communities.



# Overseas Investment, Trade and Environment Program



# 4.1 | Advancing Sustainable Supply Chain for Commodities in China

## 1 Promoting the Sustainable Beef Supply Chain between China and Brazil

SDGs:



Agricultural expansion stands as a primary cause of global deforestation, responsible for approximately 90% of forest loss, with tropical regions particularly at high risk. Brazil, a key player in global agriculture production, exemplifies this trend where beef and soy production significantly contributes to deforestation. The beef industry's growth has led to massive pasture expansion, resulting in deforestation of 948,700 hectares between 2016 and 2020, severely damaging the Amazon and Cerrado ecosystems.

China's position as a major market for Brazilian beef creates both challenges and opportunities. Over the past eight years, China has emerged as the largest importer of Brazilian beef, accounting for over 50% of Brazil's total beef exports. Brazilian beef represents nearly 40% of China's beef imports, highlighting the interdependence of these two countries on the supply chain. This market power positions China to influence Brazil's agricultural practices, potentially leveraging demand-side influences to reduce deforestation.

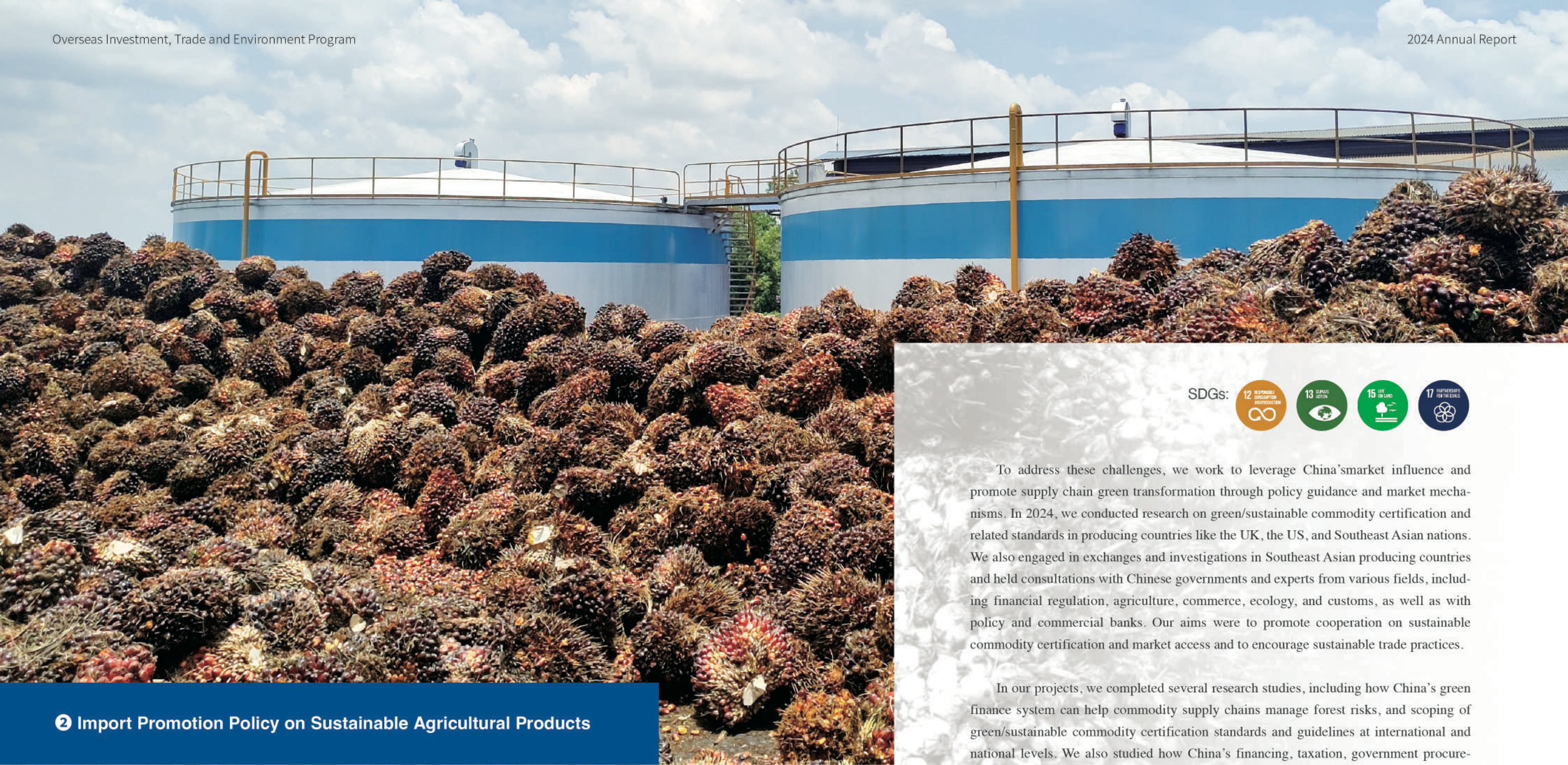


Building on a two-year-old memorandum of understanding with key stakeholders in both countries and previous research into supply chain traceability and certification, our 2024 efforts focused on advancing the "zero deforestation" traceability pilot for the China- Brazil beef supply chain. We introduced incentives like bilateral policy dialogue and sustainable financial models while exploring certification methods to support pilot implementation and facilitate market access for sustainable beef in China.

With project support, we organized experts from GS1 China to study traceability of Brazil's beef supply chain in Mato Grosso and conduct technical discussions with the Mato Grosso Meat Institute. We hosted two seminars on zero-deforestation beef certification and green financing for sustainable beef trade. Additionally, we engaged with Chinese beef importers, establishing initial cooperation intentions.

Our work gained significant recognition at major international events like the 2024 G20 Summit in Brazil, COP29, China International Import Expo (CIIE), and China International Supply Chain Expo (CISCE). These platforms helped promote the inclusion of the cooperation letter between China's State Administration for Market Regulation and Brazil's Ministry of Agriculture, Livestock, and Food Supply in the outcomes of President Xi Jinping's 2024 state visit to Brazil.





2 Import Promotion Policy on Sustainable Agricultural Products

As a global key trader of agricultural and forest products, China encounters environmental challenges from the supply chains of these products, particularly those with forest - related risks. Issues like illegal logging and biodiversity loss in the trade of commodities such as timber, palm oil, and rubber are becoming increasingly prominent. These problems not only threaten global forest resource sustainability but also put pressure on China's international environmental commitments and carbon goals.



To address these challenges, we work to leverage China’smarket influence and promote supply chain green transformation through policy guidance and market mechanisms. In 2024, we conducted research on green/sustainable commodity certification and related standards in producing countries like the UK, the US, and Southeast Asian nations. We also engaged in exchanges and investigations in Southeast Asian producing countries and held consultations with Chinese governments and experts from various fields, including financial regulation, agriculture, commerce, ecology, and customs, as well as with policy and commercial banks. Our aims were to promote cooperation on sustainable commodity certification and market access and to encourage sustainable trade practices.

In our projects, we completed several research studies, including how China’s green finance system can help commodity supply chains manage forest risks, and scoping of green/sustainable commodity certification standards and guidelines at international and national levels. We also studied how China’s financing, taxation, government procurement, and customs policies can promote green commodity import. We collected opinions from government departments, banks, and industry associations and had exchanges with stakeholders in Southeast Asian countries to clarify cooperation directions.

At the China Sustainable Investment Forum (China SIF), we co-organized a seminar on climate change mitigation and transformation for financial institutions with SynTao Green Finance, the Bank of Jiangsu, UNEP FI, and others. This seminar aimed to discuss with financial institutions the implications of supply chain management in preventing forest risks.



# 5.

## Global Environmental Innovation Fund (GEIF)

### 5.1 | GEIF Special Fund



In 2024, the GEIF Special Fund backed two significant projects: “Building a Low-carbon and Green Beef Supply Chain between China and Brazil” and “Exploring Community Conservation Networks in East Asia and Southeast Asia to Realize the Triple Benefits of Ecological Protection, Response to Climate Change and Sustainable Development by Taking Mangroves as an Example”.



The first project, **“Building a Low-Carbon and Green Beef Supply Chain between China and Brazil”**, was executed by GEI’s Overseas Investment, Trade Program from 2023 to 2024. Its goal was to help China and Brazil establish a sustainable beef supply chain. The project was successfully completed in March 2024. For more details, please refer to the project introduction in the Overseas Investment, Trade and Environment Program.

The second project, **“Exploring Community Conservation Networks in East Asia and South-east Asia to Realize the Triple Benefits of Ecological Protection, Response to Climate Change and Sustainable Development by Taking Mangroves as an Example”**, was launched in May 2024 by GEI’s Ecosystem Conservation and Community Development Program. This project aims to explore how community conservation networks can achieve ecological, climate, and development benefits in the region. For further information, please refer to the project introduction in the Ecosystem Conservation and Community Development Program.



5.2 | Marine Special Fund

① Phase II of “Action for Ocean”



During the Phase I project of “Action for Ocean,” we recognized that the core of marine protection efforts ultimately revolves around people. Coastal communities were grappling with environmental challenges such as the degradation of marine habitats, the disruption of marine ecosystems, and pollution from marine litter. Simultaneously, they faced issues like limited awareness, low participation, and insufficient capacity. We came to understand that genuine protection of marine ecosystems could only be achieved through collaboration with local communities.



To address this, we partnered with five outstanding non-governmental marine conservation organizations and research institutions to explore marine protection and sustainable development pathways tailored to various types of coastal communities. Through capacity-building training, public engagement activities, expert workshops, and other initiatives, we worked closely with sustainable fishing communities, horseshoe crab habitat communities, seagrass bed communities, and mangrove communities. Together, we began to practice and identify methods and pathways for community-led marine protection and sustainable development.

In the Phase II project of “Action for Ocean,” we collaborated with local communities to successfully restore seagrass beds and mangrove ecosystems. We also trained community members in ecological restoration techniques and technologies, empowering them to take the lead in providing ecological services to society. On the issue of marine litter, we connected communities with marine waste recycling enterprises, establishing a comprehensive industrial chain for waste collection, recycling, and treatment. In partnership with Huaqiao University, we developed a preliminary evaluation framework for the restoration of juvenile horseshoe crab habitats, laying the groundwork for the sustainable restoration and protection of these ecosystems. These initiatives not only improved the environment but also boosted the income of fishermen and coastal residents, offering a new model for sustainable development that balances ecological protection with economic benefits.



### 5.3 | Inspiration from Nature Special Fund

#### ① Theory and Best Practice of “Community Conservation Concession Agreement” (CCCA) and Ecological Service-Oriented Economy



Historically, the relationship between modern natural conservation and economic development has been marked by human activities as both the driving force and the focal point of conflict. The traditional "fortress conservation" approach, which excluded local communities from natural systems, has evolved into more inclusive models that recognize the critical role of local communities in biodiversity conservation. One of the most pressing global challenges is balancing the rational management of natural resources and human activities within protected areas to achieve equitable and sustainable development, thereby addressing the growing tension between conservation and economic growth.

GEI is a pioneer among Chinese environmental NGOs in advocating for community-based conservation and development. It was among the first to introduce the "Conservation Concession Agreement" (CCA) from the international community and adapt it to local contexts through innovative practices. GEI has focused on key concepts such as "ecological conservation systems," "ecological compensation," "payment for ecological services," "protection rights," and "operational rights," conducting extensive research and policy advocacy to reform China's ecological conservation framework 17.

In 2024, with support from GEIF’s Inspiration from Nature Special Fund, GEI collaborated with Yunhe Center to produce a comprehensive report on the Theory and Best Practice of the Mode of Community Conservation Concession Agreement (CCCA) and Ecological Service-Oriented Economy. This report draws on nearly two decades of joint research and practical experience with GEI’s partners, aiming to summarize effective methods and lessons learned from implementing CCCA and ecological service-oriented economies. It also identifies challenges and offers recommendations for improvement.

The report provides a detailed exploration of the operational steps and strategies for developing an ecological service-oriented economy in China. It highlights practical case studies involving two key actors: NGOs and social enterprises. By analyzing these cases, the report offers valuable insights into the successes and challenges of CCCA and ecological service-oriented economies. It concludes with specific recommendations for stakeholders looking to implement these models, emphasizing the importance of community involvement, equitable resource management, and sustainable development practices.





## Business Activity Table

From January 1, 2024 to December 31, 2024 (Currency: RMB)

Income	Unrestricted	Restricted	Total
Donation	13,262,249.65	0	13,262,249.65
Service	479,835.50	73,000.00	552,835.50
Other	1,599,136.06	0	1,599,136.06
Total Income	15,341,221.21	73,000.00	15,414,221.21
Expenditure	Unrestricted	Restricted	Total
Business Activity	16,668,849.27	72,579.09	16,741,428.36
Other	85,816.38	0	85,816.38
Total Expenses	16,754,665.65	72,579.09	16,827,244.74
Changes in Net Assets	-1,413,444.44	420.91	-1,413,023.53

## Balance Sheet

From January 1, 2024 to December 31, 2024(Currency: RMB)

Assets	Beginning Balance (2024.1.1)	Ending Balance (2024.12.31)
Current Assets	72,319,775.24	70,914,156.68
Fxed Assets	131,863.58	113,548.12
Total Assets	72,451,638.82	71,027,704.80
Liabilities		
Current Liabilities	47,648.59	36,738.10
Long Term Liabilities	0	0
Total Liabilities	47,648.59	36,738.10
Net Assets		
Unrestricted Assets	72,403,990.23	70,990,966.70
Restricted Assets	0	0
Total Net Assets	72,403,990.23	70,990,966.70
<b>Total Aet Assets and Liabilities</b>	<b>72,451,638.82</b>	<b>71,027,704.80</b>