



GGGI

Cambodia



HEADQUARTERED IN SEOUL, REPUBLIC OF KOREA, GGGI HAS 43 MEMBERS WITH OPERATIONS IN 37 COUNTRIES

MEMBER COUNTRIES

Angola, Australia, Bahrain, Burkina Faso, Cambodia, Colombia, Costa Rica, Côte d'Ivoire, Denmark, Ecuador, Ethiopia, Fiji, Guyana, Hungary, Indonesia, Jordan, Kiribati, Kyrgyz Republic, Lao PDR, Mexico, Mongolia, Nicaragua, Norway, Organisation of Eastern Caribbean States (OECS), Pakistan, Papua New Guinea, Paraguay, Peru, Philippines, Qatar, Republic of Korea, Rwanda, Senegal, Sri Lanka, Thailand, Tonga, Turkmenistan, Uganda, United Arab Emirates, United Kingdom, Uzbekistan, Vanuatu, Viet Nam

OPERATIONS

Burkina Faso, Cambodia, Colombia, Côte d'Ivoire, Ethiopia, Fiji, Guyana, Hungary, India, Indonesia, Jordan, Kiribati, Lao PDR, Mexico, Mongolia, Morocco, Mozambique, Myanmar, Nepal, Organisation of Eastern Caribbean States (OECS), Papua New Guinea, Paraguay, Peru, Philippines, Qatar, Rwanda, Samoa, Senegal, Sri Lanka, Thailand, Togo, Tonga, Uganda, United Arab Emirates, Uzbekistan, Vanuatu, Viet Nam

- ▶ 13 MEMBERS
- ▶ 30 MEMBERS & OPERATIONS
- ▶ 7 PARTNERS & OPERATIONS

WHO WE ARE

The Global Green Growth Institute (GGGI) is a new international organization dedicated to developing and diffusing green growth.

LEADERSHIP

President of the Assembly and Chair of the Council – Mr. Ban Ki-moon
Director-General – Dr. Frank Rijsberman

VISION

GGGI is an interdisciplinary, multi-stakeholder organization driven by the needs of emerging and developing countries.

It was founded on the belief that economic growth and environmental sustainability are not merely compatible objectives; their integration is essential for the future of humankind.

MISSION

GGGI is dedicated to supporting developing and emerging countries in demonstrating new pathways to climate resilient and pro-poor economic growth that simultaneously targets transformational aspects of economic performance, social inclusion and environmental sustainability.



SWITCH GARMENT: PROMOTION OF SUSTAINABLE ENERGY PRACTICES IN THE GARMENT SECTOR IN CAMBODIA 2020-2024



BACKGROUND

The garment industry is the industrial sector's largest employer. In 2017, the garment industry alone employed more than 800 000 workers comprising 86% of the total industrial workforce, according to the Ministry of Industry, Science, Technology and Innovation. The sector's expansion is reflected in its growing energy demand, with total final consumption increasing by 11% between 2010 and 2015. This triggers a steep growth in GHG emissions. The predominant use of unsustainable fuelwood by garment suppliers contributes to the country's rapid forest depletion and further exacerbates the sector's ecological footprint.

Meanwhile, Cambodia's garment industry is losing its edge compared to countries like Bangladesh, Myanmar, and Viet Nam, given its relatively high labor and energy cost. The sector also suffered from demand reduction and supply chain disruptions due to the global Covid19 pandemic. There is an opportunity for Cambodian factories to use sustainability as a competitive advantage. An increasing number of international brands, to which Cambodian factories are supplying garments, have set corporate targets to lower the environmental footprint of their supply chains. Sustainable energy solutions can reduce production costs and green production processes, improving competitiveness while reducing negative environmental externalities. This sets factories on a track to green recovery.

GGGI's economic modeling projects that a 20% increase in energy efficiency in the garment sector would lead to an increase of 31% in energy productivity by 2030 and US\$ 2 billion of avoided energy costs. However, there are a number of barriers preventing large scale uptake of sustainable energy practices which this project aims to address.

OBJECTIVE

This project aims to increase competitiveness and decrease the environmental impact of garment producing SMEs by promoting the adoption of sustainable energy practices and facilitating investments in cleaner technologies. The project works on multiple fronts: (i) support to the National Council for Sustainable Development and the Ministry of Industry, Science Technology and Innovation in developing regulatory and enforcement measures (ii) stimulating demand for sustainable energy technologies and services and (iii) increasing the supply of technologies, services and financial solutions for sustainable energy in manufacturing.

EXPECTED RESULTS

- Regulatory and enforcement measures for the promotion of sustainable energy practices in manufacturing adopted
- Demand from factories for sustainable energy technologies and services increased through outreach, training and leveraging international brands
- Improved access of SMEs to technologies, services and financial solutions for sustainable energy in manufacturing
- Establishment of a guarantee scheme to de-risk SME investments in sustainable energy solutions, with a targeted capitalization of US\$ 5 million by 2023 leveraging US\$ 25 million in bank loans by 2035

IMPACT

- Reduction in GHG emissions of 175,000 tCO₂e by 2025
- Reduction of average energy cost for garment manufacturing by 20%
- Creation of green jobs
- Improved air quality

FUNDING SOURCE



PROJECT PARTNER



ESCO BUSINESS ECOSYSTEM STRENGTHENING 2022



BACKGROUND

Energy productivity of the Cambodian economy is low, resulting in high carbon intensity and weakening competitive positioning. Sustainable energy investments are becoming more attractive in the manufacturing and building sectors as green finance sources expand, electricity costs remain high and enabling policies are being developed by the government. However, one of the barriers for investments in energy efficiency is a weak business ecosystem that is capable of fully leveraging green finance through energy service models.

OVERALL OBJECTIVE

This project seeks to establish a commercial ESCO (Energy Service Company) Forum in Cambodia. This Forum is expected to bring together clean energy technology providers, energy service companies and financial institutions to forge new business opportunities, promote ESCO business models and foster technical and finance innovation to strengthen the clean energy business environment.

EXPECTED RESULTS

- Establish an ESCO forum within EuroCham to serve as a platform for clean energy business ecosystem strengthening, connecting key actors such as energy service companies, energy technology providers, financial institutions, public sector and end users

- Develop Model Contract templates for innovative sustainable energy business models (in partnership with UNDP)
- Draft an ESCO market roadmap for Cambodia (in partnership with UNDP)
- Establish an online directory of clean energy service-related information
- Awareness raising and training activities

IMPACT

- Contributing to the government's NDC target of reducing emissions from the energy sector with 13.7 MtCO₂e GHG against BAU in 2030
- Increased access to sustainable energy management services

FUNDING SOURCE



PROJECT PARTNER





MATS CAMBODIA FACT SHEET 2021-2023



BACKGROUND

In November 2021 at COP26 in Glasgow the rules and guidance for Article 6 of the Paris Agreement were finalized. Article 6 establishes the framework for international carbon trading under the Paris Agreement. These mechanisms enable countries to cooperate, go beyond their climate mitigation goals and incentivize private sector climate action.

The Paris Agreement introduced climate mitigation targets for all countries, in the form of Nationally Determined Contributions (NDCs). In order to avoid double counting between countries that cooperate through Article 6, the rules of the mechanisms stipulate that corresponding adjustments must be applied to trading countries' emissions balances. Therefore, participating countries are required to be much more involved in international carbon trading by providing authorizations, making and tracking international transfers, and reporting to the UNFCCC. Meeting these responsibilities requires new institutional capacity to be built in all participating countries.

OBJECTIVE

To build government capacity for carbon trading under the Paris Agreement and facilitate a first trade.

EXPECTED RESULTS

- Governance frameworks in place for engaging in Article 6 cooperation, manage Article 6 authorizations, transfer of emission reductions internationally, and report on to the UNFCCC
- Mitigation Outcome Purchase Agreement for a transaction agreed

IMPACT

- Creating enabling structures to support Cambodia reach its NDC GHG emission reduction target of 64.6 MtCO₂eq against business as usual in 2030

FUNDING SOURCE





CAMBODIA LONG-TERM STRATEGY FOR CARBON NEUTRALITY (LTS4CN) 2021



BACKGROUND

While Cambodia emits very few greenhouse gas emissions, it was one of the first Least Developed Countries in the world to prepare a plan to become carbon neutral by 2050. The Royal Government of Cambodia submitted its Long-Term Strategy for Carbon Neutrality (LTS4CN) to the UNFCCC in December 2021. The strategy was developed upon the direct request of the Prime Minister ahead of COP26.

As a trusted advisor to the Ministry of Environment, GGGI was tasked with leading the development of the waste section of the LTS4CN in consultation with the relevant stakeholders.

OBJECTIVE

To support the Royal Government of Cambodia to develop the waste chapter of their long-term low emission development strategy.

The LTS4CN waste chapter progressively introduces proven best practice technologies in Cambodia, such as landfill gas extraction and organic waste processing, while improving existing practices to minimize waste, increase waste collection and separation, and reducing open burning. It outlines actions to improve the management of wastewater treatment plants and decentralized systems in rural areas.

RESULTS

Under the leadership of the Ministry of Environment, GGGI undertook

- Background research and development of the Business as Usual scenario to 2050
- Identification of mitigation actions and targets, including GHG reduction potential and cost
- Modelling of the low emission scenario

IMPACT

The LTS4CN offers a credible pathway to carbon neutrality for Cambodia, and a roadmap for Cambodia meeting international climate commitments. Implementation of the strategy will help reduce GHG emissions by 1.22 million tCO₂e by 2050, compared to 2016 (56% decrease). Remaining emissions will be offset by other sectors such as forestry.

FUNDING SOURCE



PROJECT PARTNER



ENHANCING THE NATIONALLY DETERMINED CONTRIBUTION TO THE PARIS AGREEMENT FOR THE INDUSTRIAL SECTOR (2020)



BACKGROUND

The Royal Government of Cambodia submitted its intended Nationally Determined Contribution to the Paris Agreement on Climate Change (later called the first Nationally Determined Contribution or NDC) in 2015. Cambodia is a low emitter of GreenHouse Gas (GHG) emissions while being highly vulnerable to the negative effects of climate change. The Cambodian NDC sets out commitments to mitigate GHG emissions across economic sectors and to ramp up Cambodia's resilience to climate change. With regard to the industries specifically, the NDC commits to promoting the use of renewable energy and adopting energy efficiency for a number of manufacturing sectors.

At the 26th Conference of Parties of the UN Convention on Climate Change in 2021, Parties to the Convention, including Cambodia, will be expected to submit an enhanced NDC, raising the bar to keep global warming below 1.5 degrees.

Drawing on its track record of work in the industrial sector in Cambodia, GGGI is supporting the National Council for Sustainable Development of Cambodia and the Ministry of Industry, Science, Technology and Innovation, with analysis and projections to set more ambitious climate targets for the Cambodian industrial sector.

OBJECTIVE

This project aims to support the Royal Government of Cambodia to enhance its Nationally Determined Contribution to the Paris Agreement on Climate Change for the industry sector.

EXPECTED RESULTS

Under the leadership of the National Council for Sustainable Development of Cambodia and the Ministry of Industry, Science, Technology and Innovation, GGGI will:

- (i) Undertake a baseline assessment and projections for GHG emissions in the industrial sector based on solid analytics.
- (ii) Propose more specific, comprehensive and ambitious targets to reduce GHG emissions from Cambodian industries.
- (iii) Identify potential measures and actions to meet the identified targets.

IMPACT

Strengthened international climate action commitments.

FUNDING SOURCE



PROJECT PARTNER





SCALING UP THE DEPLOYMENT OF ELECTRIC MOTORCYCLES (2019-2023)



BACKGROUND

Gasoline motorcycles currently dominate Cambodia's national vehicle market, although the total cost of ownership of electric motorcycles including lifetime operating costs is often lower than that of gasoline motorcycles. With strong economic growth in recent years, the number of vehicles has been growing rapidly in Cambodia. In 2016, more than 3.2 million vehicles were registered; with motorcycles accounting for 84% of the total registered vehicles. Transforming the growing fleet of motorcycles into low-emission motorcycles will contribute to achieving Cambodia's international climate commitments.

OBJECTIVE

In partnership with the Ministry of Environment and the Ministry of Public Works and Transport, GGGI promotes the shift from gasoline to electric motorcycles in Cambodia

EXPECTED RESULTS

- Market and policy gap analysis
- Relevant policies introduced to facilitate the deployment of electric motorcycles;
- Training and awareness raising
- Support the fleet switch of a major public and private institution from gasoline to electric motorbikes
- Design of an investment concept for the deployment of electric motorcycles;
- Investment commitment of at least US\$ 10 million

IMPACT

- Contributing to the GHG emission reduction of 13.7 MtCO₂e / year in 2030 in energy sector
- Green jobs creation
- Reducing air pollution

FUNDING SOURCE



GREEN
CLIMATE
FUND

KOICA
Korea International
Cooperation Agency

CAMBODIA CLIMATE CHANGE ALLIANCE
អង្គការកម្ពុជាសម្រាប់ការប្រឆាំងប្រែប្រួលអាកាសធាតុ
Sverige



GREENING MOBILITY – PHASE II 2020-2022



BACKGROUND

Strong economic growth and increasing per capita income have led to a rise in vehicle demand in Cambodia, with approximately 4.6 million registered vehicles as of 2018. Within Cambodia's energy sector, transport is expected to have the largest increase and share of Greenhouse Gas (GHG) emissions in 2050 at 10,816 GgCO₂e. The rapid rise in the use of private transport has also resulted in increasing traffic volumes in urban areas, leading to congestion and air pollution. While feasibility work for some mass transit options is underway, public transport systems are limited across Cambodian cities.

Home to the World Heritage site of Angkor, the city of Siem Reap is Cambodia's main tourist destination. Pre-COVID-19, Siem Reap welcomed around 2.6 million tourists annually. Expanding sustainable transport options in Siem Reap through the deployment of electric buses provides an opportunity to support Cambodia's tourism sector in its post-COVID-19 recovery and contribute to achieving climate targets.

OBJECTIVE

On behalf of the Ministry of Public Works and Transport (MPWT), GGGI supports the deployment of electric buses to increase mobility in the city of Siem Reap and reduce GHG emissions and pollution from the transport sector.

EXPECTED RESULTS

- Pre-feasibility study for the deployment of electric buses in the city of Siem Reap, including the World Heritage Site of Angkor, through data collection, an investment comparison analysis, and a financial evaluation
- Investment facilitation

IMPACT

- Reduced GHG emissions
- Improved air quality
- Increased access to sustainable transport

FUNDING SOURCE

KOICA
Korea International
Cooperation Agency





CAMBODIA SOLID WASTE PROGRAM 2019-2022



BACKGROUND

Improving waste management is a key challenge for Cambodian cities, as they are faced with uncontrolled disposal, accumulation of household waste in waterways and drainage systems, as well as open burning. These cause negative impacts on public health, particularly because of the release of toxic gases during burning, and reduce the overall livability, resilience and competitiveness of the cities. In 2015, sub-decree 113 was released setting out grounds to decentralize urban solid waste management through transferring responsibility and associated financial resources to the provincial, municipal and district levels. Successful implementation of this sub-decree will have a significant impact on public health of Cambodian citizens, livability of urban centers, and tourism potential of cities.

OVERALL OBJECTIVE

Improved and financially sustainable waste management services in the cities of Kep and Battambang

EXPECTED RESULTS

- Establishment of dedicated waste and sanitation units
- Development of an enforcement mechanism, improved regulations and digital accounting and billing system
- Financial modeling, support to local businesses' strategy and product diversification
- Separation and collection trials for plastic and organic waste, along with awareness raising campaigns, in Battambang markets and schools
- Development of a small-scale plastic recycling facilities, with equipment through a UNIDO grant.

IMPACT

- An estimated 175,802 urban population gain access to improved sustainable waste management services in targeted cities (Battambang & Kep).
- Contribute to GHG emission reduction from the waste sector estimated at 0.6 MtCO₂eq / year in 2030
- Reduced air pollution caused by waste sector

FUNDING SOURCE



PROJECT PARTNER





REFUSE-DERIVED-FUEL PLANT IN PHNOM PENH 2019-2022



BACKGROUND

In Phnom Penh, the amount of municipal solid waste transported to landfill has been growing exponentially, from 241,000 tons/year in 2004 to more than 1 million tons per year today. The waste is transported to the Dangkor landfill which is operated by Phnom Penh, has limited environmental controls and is nearly full.

The ongoing economic and construction boom in Cambodia has created huge needs for building materials, in particular cement, which is a key ingredient of concrete. There are currently 5 cement kilns operating in Cambodia which produce up to 8 million tons of cement per year. Given increasing cement demand, the industry's absolute energy use will continue to grow in the coming decade. The cement production sector is highly polluting and is responsible for around 5% of global CO₂ emissions. One of the reasons for this is the extreme heat (about 1500 °C) required to produce cement. Producing one ton of cement requires the equivalent of about 180 kg of coal and generates nearly one ton of CO₂. The fuel used by cement factories in Cambodia is generally coal imported from Indonesia. To reduce fuel costs and promote a greener production process, cement factories are on the lookout for cheaper combustible materials to co-process as fuel alongside traditional coal.

OBJECTIVE

The project addresses an existing demand for fuel from the cement kilns and a shift away from their current coal use. It establishes a model for RDF to be produced from municipal waste. Non-combustible materials, recyclables and contaminants are removed, and the residual material is then shredded and compacted. This means the project offers a potential solution for mixed and hazardous waste, which are a challenge for landfills and other waste-to-resource strategies. The project supports government counterparts in assessing technical and financial feasibility of the RDF plant, and in designing a suitable procurement and contractual set-up for a PPP.

EXPECTED RESULTS

- Pre-feasibility and feasibility study for an RDF plant in Phnom Penh assessing technical and financial options, together with environmental and social safeguard requirement
- Recommendations for an optimal procurement process
- Targeted investment commitment of US\$ 17 million

IMPACT

- Reduced GHG emissions
- Improved air quality

FUNDING SOURCE





GREEN CITY CAPACITY DEVELOPMENT 2019-2020



BACKGROUND

Cambodia's urban population is growing at a rate of 4.4% per year, according to the World Bank. By 2030, an estimated 44% of the Cambodian population will live in cities. Cities drive economic activities, propel job creation and GDP growth. Phnom Penh alone represents over 30% of Gross National Product. However, this urbanization also poses significant demands on infrastructure and services such as water supply, sanitation and transport. Cities face challenges such as congestion, pollution and affordable housing.

GGGI worked with the Ministry of Interior, the National Council for Sustainable Development (NCSD) and national and municipal counterparts on a Sustainable City Plan for Phnom Penh and for seven secondary cities: Battambang, Kampong Cham, Siem Reap, Kep, Bavet, Suong, and Sihanoukville. The Plans propose a holistic concept of green urban economic growth, social inclusion and resilience – addressing a broad range of urban issues including energy, transport, building and public space, solid waste, drainage and wastewater.

The project on Green City Capacity Development aims to build the skills of national and municipal counterparts to implement these plans.

OBJECTIVE

NCSD and GGGI work together to enhance the capacity of key national and city officials to effectively and efficiently engage in sustainable city development through the implementation of the sustainable city plans. The project aims for:

- **Awareness:** Creating momentum, awareness and visibility around the adoption of the sustainable city plans through events and communication initiatives.
- **Mainstreaming:** Integrating the identified green city priorities into cities governance processes such as investment planning, monitoring and institutional coordination.
- **Knowledge sharing:** Deepening the technical understanding of green city development by training and coaching government officials, entrepreneurs and other stakeholders in building sustainable cities.

EXPECTED RESULTS

- Adapted municipal processes and stronger skills among government officials, entrepreneurs and other stakeholders to enable cities to take forward the implementation of sustainable city plans.

IMPACT

- Increased access to sustainable services

Greenpreneurs a global business accelerator program and business plan competition by GGGI, Student Energy and Youth Climate Lab. In Cambodia, GGGI also runs a national greenpreneurs chapter, whereby local waste recycling businesses and start-ups receive coaching on business readiness, financial planning and sales strategies. The program enables the entrepreneurs to start-up or scale-up recycling businesses and demonstrate business solutions for a circular economy.

FUNDING SOURCE



PROJECT PARTNER





CAMBODIA WASTEWATER AND SANITATION PROGRAM 2018-2019



BACKGROUND

NCSD and GGGI have supported government and city authorities in Cambodia in developing sustainable city plans for Phnom Penh and seven secondary cities: Battambang, Kampong Cham, Siem Reap, Kep, Bavet, Suong, and Sihanoukville. The plans propose a holistic concept of green urban economic growth, social inclusion and resilience – addressing a broad range of issues including energy, transport, building, public space, solid waste, drainage and wastewater management, combined with a project prioritization exercise. The GGGI-supported wastewater and sanitation program supports the implementation of these sustainable city plans. Approximately 9.4 million Cambodians lack access to improved sanitation, which particularly impacts the poor and marginalized communities.

OBJECTIVE

GGGI works with national and municipal counterparts on business models for decentralized sanitation, bringing affordable solutions to urban and peri-urban communities, which these communities can realistically operate and maintain over time through simple cost recovery schemes.

In parallel, GGGI also works to enhance the enabling policy and regulatory framework for urban sanitation.

EXPECTED RESULTS

- GGGI helped to establish the Sub-Technical Working Group on urban wastewater and sanitation, a much-needed group to co-ordinate efforts in the sector, chaired by the Ministry of Public Works and Transport (MPWT). GGGI supported the drafting of the Sub-Decree on the Management of Drainage and Wastewater Treatment System and related prakas, while also advising MPWT on a wastewater law. In partnership with GIZ, GGGI supported the development and publication of MPWT's guidelines on Wastewater System Operation and Maintenance.
- GGGI designed a technology-based business model for improved fecal sludge management in Siem Reap city. Through a call center and app, the model proposes a platform for scheduled desludging, better matching of supply and demand and lower cost of service. The platform is designed to promote sanitary standards of services, enhance monitoring, combat illegal disposal and promote re-use through conversion into fertilizer for on-sale to farmers.
- In the city of Kep, GGGI and Borda designed an affordable decentralized sanitation system and a public-private cost recovery scheme for Koh Tonsay island, for inclusion into the city investment plan. The model is suitable for replication in other cities, in particular tourist destinations and islands, where hospitality businesses have a stake in cleaner water and beaches.

IMPACT

- Access to sustainable sanitation services

FUNDING SOURCE



PROJECT PARTNER



GGGI IN CAMBODIA

Cambodia is a founding member of GGGI. GGGI's engagement with the Royal Government of Cambodia began in 2011, assisting the government in establishing a national policy framework and institutional arrangements for inclusive green growth. GGGI's goal in Cambodia is to support the government in achieving its ambitious climate, green growth and sustainable development agenda, through capacity development, policy and investment advice at the national and sub-national level.

GGGI Cambodia is housed within the General Secretariat of the National Council for Sustainable Development (NCSD). GGGI also has offices in the Ministry of Interior, the Ministry of Public Works, and Phnom Penh Capital Administration.

GGGI is proud to be recognized by the Minister of Environment of Cambodia for pioneering green city work in the Kingdom. GGGI has worked with national and municipal counterparts to develop sustainable city plans for Phnom Penh and seven secondary cities: Siem Reap, Battambang, Sihanoukville, Kep, Kampong Cham, Bavet and Suong. These plans look holistically at the requirements for green urban development, addressing clean energy, sanitation, waste management, mobility, green building, manufacturing and more. GGGI Cambodia now advises its counterparts on business models and investment solutions for the implementation of green city projects.

GGGI IN CAMBODIA

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