

Annexes to the main evaluation report

# Evaluation of GGGI's Green Investment Services



DEVELOPED BY GGGI'S IMPACT AND EVALUATION UNIT (IEU) IN  
COLLABORATION WITH FINERGREEN ASIA PTE. LTD.

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Cover Image: GGGI in Thailand supporting Thai SMEs to obtain investment toward significant energy efficiency measures.

## ANNEX 1: Key facts about projects covered under this evaluation

The following are key facts about all the projects examined under this evaluation. All values included are in USD millions.

No.	Project name and year of reporting	Country	Thematic Area	Type of Project	Type of Services Provided	Value initially reported	Current value of investment	Investor Type	Project status
1	Pipeline of projects for the Mekelle City Water Project (2017)	Ethiopia	Water and Sanitation	Bankable Project	Pipeline building	337	250	Private sector	Signed investment agreement
		GGGI reported that investment commitment was secured from the international private sector for this project developed with the Ministry of Finance and Economic Cooperation (MoFEC). GGGI helped produce a pipeline of projects based on a request from the government to contribute to the target of improving water supply aligned with the Climate Resilient Green Economy (CRGE) strategy. Originally the Government of Denmark expressed interest to provide a long-term loan for the project to be implemented by Danish companies but did not proceed with their support after initial site visits were conducted. Following that the Government of China expressed interest to provide a long-term loan for this project to be implemented by a Chinese company (China Gezhouba Group Company Limited). The investment agreement was signed with the Chinese company in 2018 in Beijing in the presence of the Prime Minister of Ethiopia. The final agreement amount was USD 250 million and it was important to note that project components have not changed from the original design supported by GGGI.							
2	Adaptation Fund allocation to the CRGE Facility for a Climate Smart Integrated Rural Development Project (2017)	Ethiopia	Sustainable landscapes	Bankable Project	Proposal support / Accreditation	10	9.98	Public (International climate finance)	Disbursement stage
		GGGI supported the accreditation of the Ministry of Finance and Economic Cooperation (MoFEC) for direct access to the Adaptation Fund and then supported the development of one proposal of USD 9.98 million which was approved. The project is aligned with the Climate Resilient Green Economy (CRGE) strategy with the objectives of resilience building, poverty reduction and climate change. Project implementation and disbursements started in April 2018 with three sector ministries (Ministries of Agriculture, Water and Forest and Climate Change).							
3	Global Climate Fund (GCF) Project to enhance critical irrigations systems in regularly drought-stricken areas	Ethiopia	Water and Sanitation	Bankable Project	Proposal support / Accreditation	50	50	Public (International climate finance) + Public (Host)	Disbursement stage

No.	Project name and year of reporting	Country	Thematic Area	Type of Project	Type of Services Provided	Value initially reported	Current value of investment	Investor Type	Project status
	(2017)							government)	
		GGGI supported the GCF accreditation of the Ministry of Finance and Economic Cooperation (MoFEC) and contributed to the development of a project (including a feasibility study) to enhance critical irrigations systems in regularly drought-stricken areas. GCF approved the USD 50 million project, contributing USD 45 million with a USD 5 million co-contribution from the Ethiopian Government. The project was approved with conditions in October 2017. GGGI supported in addressing these conditions following which the project received the first disbursement of USD 3.8 million in May 2019. In July 2019, GGGI participated in the first inception workshop with the implementing partners and plans to continue supporting implementation with monitoring and reporting.							
4	Rwanda Green City pilot project (2017)	Rwanda	Green Cities	Bankable Project	Pre-feasibility study + Matchmaking	60	60	Private sector	Initial investment commitment
		GGGI helped mobilize USD 60 million in private investment for a Cactus Green Park development in Kigali as part of the Green City Pilot project, which will serve as a model for the implementation of the national green urbanization policy. GGGI provided extensive support to complete architectural drawings and pricing structures. This support allowed the private investment group, Horizon, to complete its business planning and move forward with the project development. Horizon is currently looking for investors and KfW has expressed interest in further supporting the project.							
5	Strengthening climate resilience of rural communities in Northern Rwanda (SCRNRP) – GCF (2018)	Rwanda	Sustainable landscapes	Bankable Project	Proposal support / Accreditation	33	33	Public (International climate finance)	Signed investment agreement
		GGGI supported FONERWA (Rwanda's Green Fund) to mobilize USD 33 million from the GCF by supporting the design and development of a project to strengthen climate resilience of rural communities in Northern Rwanda.							
6	FONERWA (Rwanda's Green Fund) funding by the Swedish International Development Cooperation Agency (SIDA) (2018)	Rwanda	Cross cutting	NFV	Proposal support / Accreditation	4	4	Public (Donor / ODA)	Initial investment commitment
		GGGI supported FONERWA in the development of a concept note for a project to SIDA who have indicated their intent to fund the project.							
7	Rwanda Environment Management Authority – Kigali City wetland	Rwanda	Green Cities	Bankable Project	Proposal support / Accreditation + Pre-feasibility	1.14	1.14	Public (Donor / ODA)	Disbursement stage

No.	Project name and year of reporting	Country	Thematic Area	Type of Project	Type of Services Provided	Value initially reported	Current value of investment	Investor Type	Project status
	development (2018)				study				
		GGGI has supported the Rwanda Environment Management Authority (REMA) to design and develop this project proposal in line with MoE/IMELS (Italy) priority areas on sustainable urban wetlands development within Kigali City. After the approval of the proposal, GGGI has continued to provide technical advisory support to the government to implement this cooperation with the Government of Italy.							
8	Rwanda Environment Management Authority – Government contribution for Kigali City wetland development	Rwanda	Green Cities	Bankable Project	Proposal support / Accreditation + Pre-feasibility study	0.6	0.6	Public (Host government)	Disbursement stage
		This is the same project as described above and includes the government co-funding for the project with the Government of Italy on sustainable urban wetlands development within Kigali City.							
9	Rice Husk Waste to Energy Projects Bundle, 1.5MW (2018)	Senegal	Sustainable Energy	Bankable Project	Pipeline building + Matchmaking	5.4	5.4	Private sector	Initial investment commitment
		Ministry of Agriculture and Rural Equipment (MAER) requested the support of GGGI in the design of bankable project opportunities in the agricultural waste to energy sector. GGGI has been working with MAER in the 'greening' of the rice milling industry through the introduction of rice husk waste to energy solutions. Coumba Nor Thiam SARL, VITAL and TERANGA, 3 rice mills operating in the north of the country were engaged and the Letter of Intent (Lols) have been signed between the rice mills, a financial institution (Agricultural Bank of Senegal – Caisse Nationale De Credit Nationale De Credit Agricole Du Senegal or CNCAS)), a technology supplier and GGGI for the development of bankable projects using rice husk as feedstock for clean energy solutions. The reported amount of USD 5.4 million corresponds to the value of the individual investment sizes of the 3 projects in the bundle.							
10	Solar irrigation systems for 150 farms in Manica Province (2018)	Mozambique	Sustainable Energy	Bankable Project	Pipeline building	13.52	0	Public (Host government)	N/a
		GGGI led the design and structuring of solar irrigation projects in areas affected by low electricity access and high poverty rates in Manica province. The designed solutions will be implemented by FUNAE –Mozambique national energy fund – across 150 medium scale farms, increasing the food security and climate change resilience of over 1,000 households. FUNAE committed to pursue the development and financing of USD 13.5 million for solar irrigation solutions across 1,128 hectares. GGGI exited the project after it was included in FUNAE's Carteira, which is a roadmap of projects that the state-owned fund commits to implement and fund by 2040. This was confirmed in a MOU signed in December 2018 which states that "FUNAE is keen to take this opportunity to develop the project. This might be possible if financial							

No.	Project name and year of reporting	Country	Thematic Area	Type of Project	Type of Services Provided	Value initially reported	Current value of investment	Investor Type	Project status
		conditions for its execution could be created". FUNAE is being funded by the Government of Mozambique whose financial resources are scarce. FUNAE is expecting support from GGGI to access external sources of funding (donors, ODA, international climate finance) to implement the project.							
11	Hungary-Balkan Regional Multi Donor Trust Fund (2018)	Hungary - Balkans	Sustainable Energy	NFV	Pre-feasibility study + Pipeline building	4.5	5	Public (Host government)	Initial investment commitment
		GGGI worked on the development of a regional financial instrument to support climate actions in the Western Balkans. The proposal was approved on December 2018 by the Government of Hungary. The Government decision calls for the establishment of the Western Balkans Green Center (WBGC) in 2019 with provision of capital for three years. The WBGC will support project preparation in the Western Balkans and build a strong portfolio of climate projects. The commitment for funding from the Government is for 3 years with a total between USD 4-6 million depending on the carbon price so an average of this has been assumed to be the amount of the initial investment commitment.							
12	Costa Rica Environmental Bank Foundation (FUNBAM) (2017)	Costa Rica	Sustainable landscapes	NFV	Pipeline building + Proposal support/ Accreditation	1	0	Public (Host government)	Initial investment commitment secured but project dropped
		GGGI provided inputs in support of a concept note for FUNBAM, a specialized financing vehicle for ecosystem management and sustainable development across the country. The inputs included an analysis of the current capacity, performance record and legal structure. The government subsequently approved seed funding to enable staff to be appointed. The project was cancelled in late 2018 due to a change in priorities of the new government moving away from the conservation agenda that included reforestation to a clear priority for decarbonization of the economy that will include green cities and urban planning, transport and waste management. The government intends to identify "catalyst projects" and the "right technical partners" to directly delve into technical-level discussions, which will support their national decarbonization plan.							
13	Distributed Solar PV program in Guyana, 14 MW (2018)	Guyana	Sustainable Energy	Bankable Project	Pipeline building + Matchmaking + Pre-feasibility study	18	16.5	Private sector	Initial investment commitment
		The overall objective pursued by GGGI was to develop distributed solar in Guyana. It focused on tackling three main hurdles for solar development: lack of awareness among local private stakeholders, regulatory barrier of 100 kWp cap on							

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		connecting to the grid imposed by the utility and lack of funding. GGGI had an on-site consultant visiting local companies to raise awareness and provide them with technical and financial solutions to implement solar power in their facilities. In the meantime, GGGI was discussing with the utility to lift the cap and trying to mobilize private investors (local and international through the HQ based team) to invest into the pipeline. A Letter of Intent (LOI) was secured from 2 private sector partners to invest in 14 MWp Solar PV project on the equity side. This included a local (FML) and German (Soventix) private companies. Initially (Oct 2018), the pipeline was estimated at 10 MWp, but later on it was revised to 14 MWp. Project costs in the LOI are estimated to be about USD 1.1-1.2 million per MWp, so for 14 MWp total project costs are USD 15-18 million so an average of this has been assumed to be the amount of the initial investment commitment rather than the upper level of the investment amount reported by GGGI.							
14	Sonora State Green Bond to implement the Sonora Green Growth Strategy and finance the first stage of BRT development (2018)	Mexico	Cross cutting	Financial Instrument	Pre-feasibility study	25	25	Public (Host government)	Initial investment commitment
		GGGI played a key role in 2018 in supporting the State of Sonora in Mexico to issue its first Green Bond to finance the implementation of the priority set out in the state's Green Growth Strategy which was developed by GGGI. The Treasury of the State of Sonora officially endorsed the Green Bond Framework developed by GGGI and included Green Bonds in the funding strategy of the State of Sonora for the year 2019. Upon submission of the Framework and after consultations with the Office of the Governor and Sonora Social and Environmental Commission, the State Treasury selected the Bus Rapid Transport system as the State's priority project and committed to issuing a first green bond tranche worth MDP 500 (approximately USD 25 million) to finance the first stage of BRT development. At the time of the evaluation it was noted that the government has appointed a financial advisor to review the feasibility and support the state to engage with underwriters.							
15	Vientiane's Solid Waste Management (SWM) (2018)	Lao PDR	Green Cities	Bankable Project	Pre-feasibility study +Proposal support	2.3	2.3	Public (Donor / ODA)	Signed investment agreement
		SWM was identified as a priority under the green cities policy work done by GGGI and a proposal was developed by GGGI in partnership with the government to secure ODA funds from the Korea International Cooperation Agency (KOICA) to construct 1 fecal sludge treatment plant and decentralized wastewater treatment systems in the secondary city of Pakse. Project implementation has been initiated at the time of this evaluation. The investment amount reported is the amount of the KOICA grant to be used for construction.							
16	Mongolia Green Finance Corporation (MGFC)	Mongolia	Cross cutting	NFV	Pre-feasibility study + Proposal support	10	10	Public (Host government)	Initial investment commitment

No.	Project name and year of reporting	Country	Thematic Area	Type of Project	Type of Services Provided	Value initially reported	Current value of investment	Investor Type	Project status
	(2018)	GGGI led the design of MGFC, the country's first and only dedicated financial vehicle for climate finance. GGGI helped in producing the MGFC Business Plan and commencement of a pipeline development project. Two letters of commitment to invest were obtained from the GoM (Ministry of Finance) and the Mongolian Sustainable Finance Association representing 10 commercial banks. Each letter pledges a USD 5 million equity investment and the project is now expecting GCF's approval of a proposal for USD 40 million to establish the fund.							
17	Ulaanbaatar City Thermo-technical retrofitting of residential buildings (2018)	Mongolia	Green Cities	Bankable Project	Pre-feasibility study	4.8	4.8	Public (Host government)	Signed investment agreement
		GGGI, in partnership with Ulaanbaatar Mayor's Office and the Energy Regulatory Commission (ERC), completed an energy audit of 3 residential buildings. Three pre-cast concrete buildings were selected and underwent heat metering to model the potential energy (heat) efficiency and financial gains from retrofitting. This work was completed in 2017 and an energy audit report was completed. The audit aimed to fill a key gap in the literature, which was the lack of data on how much energy could be saved from retrofits. The buildings selected for audits reflected 3 types of standardized building designs (5, 9 and 12 stories) that make up the total stock of such buildings in Ulaanbaatar. Thus, the data generated from these audits could be used to help build a larger-scale business case for retrofitting of not just 3 buildings but the total of 1077 pre-cast residential buildings. As a result of the work undertaken, the Mayor's Office of Ulaanbaatar successfully secured an allocation of MNT 12.8 billion (USD 4.8 million) in the state budget to finance retrofitting of an initial 24 residential buildings. GGGI has initiated the development of a EUR 18 million (USD 19.8 million) proposal to the NAMA Facility to build on this experience and retrofit a further 375 buildings.							
18	Ulaanbaatar City construction of a city green kindergarten (2018)	Mongolia	Green Cities	Bankable Project	Pre-feasibility study	0.6	0.6	Public (Host government)	Signed investment agreement
		GGGI supported the Ministry of Environment and Tourism and the Municipal Government of Ulaanbaatar in their efforts to design a demonstration green kindergarten. GGGI handed over the demonstration design of a public green kindergarten design officially to Ministry of Environment and Tourism in May 2017. The Government of Mongolia has signed a USD 50 million loan agreement with the Asian Development Bank, in April 2018, to finance growing demand for education buildings, under a five-year project titled "Sustaining Access to and Quality of Education During Economic Difficulties Project". A demonstration green kindergarten is included in the loan package and USD 600,000 has been allocated.							
19	Indonesia solar PV project in Mandalika	Indonesia	Sustainable Energy	Bankable Project	Pre-feasibility study + Matchmaking	17	17	Private sector	Initial investment commitment



No.	Project name and year of reporting	Country	Thematic Area	Type of Project	Type of Services Provided	Value initially reported	Current value of investment	Investor Type	Project status
	(2017)	GGGI supported the development of a large photovoltaic (PV) project in the special economic zone of Mandalika, demonstrating the commercial viability of solar power development for remote islands. GGGI handed over the technical and financial pre-feasibility study to the operating company of Mandalika SEZ - Indonesia Tourism Development Corporation (ITDC - a state-owned company). ITDC is joining with PLN (state-owned utility) to develop this project and an MOU was signed in 2018. PLN with its own expertise, will help to procure private developers who will own and operate the plant under PPA terms. Recently, ITDC secured USD 200 million funding from the Asian Infrastructure Investment Bank (AIIB) for developing the SEZ. However, it is not clear if any part of this funding will be used for developing the Solar Power plant. The ITDC-PLN joint venture is expected to be formalized by the end of 2019 based on which the project will progress.							
20	Indonesia solar PV project in NTT province (2017)	Indonesia	Sustainable Energy	Bankable Project	Pre-feasibility study	15	15	Private sector	Initial investment commitment
		GGGI completed a pre-feasibility study for the connection of existing diesel-powered grids to solar PV plants. The study nominated 6 locations out of 8 examined, which were financially viable with an estimated investment size of USD 15 million. The study was done following a formal request by the Governor of NTT and was subsequently submitted to the Governor. A private sector energy company, Engie, was already engaged with the NTT administration and GGGI supported the company to connect with PLN, the state-owned utility, as the off taker. Engie decided to invest in the project based on GGGI's pre-FS and has conducted further studies building on GGGI's analysis. Engie is currently waiting for a formal procurement process to be initiated by PLN to take this project forward.							
21	First SME-only National Energy Efficiency Program with a target to replace lighting, motors and variable speed drivers (2018)	Thailand	Sustainable Energy	Financial Instrument	Pipeline building + Matchmaking	20	20	Private sector	Initial investment commitment
		GGGI conducted walk through energy audits in 220 SMEs across different sectors to aggregate demand. Based on these audits, financial and business models were developed to engage energy service companies (ESCOs) and the Provincial Electricity Authority (PEA). The Indian state-owned ESCO, EESL, expressed interest based on the energy audits and proposed business models and PEA agreed to implement one of the options recommended by GGGI. EESL is committed and intends to invest USD 20 million in energy efficiency projects in Thailand's SME sector.							
22	Cotco Metal Works funding for energy efficiency projects in the SME sector (2018)	Thailand	Sustainable Energy	Bankable Project	Pre-feasibility study	1.23	2	Private sector	Disbursement stage
		Two green project proposals were developed in the form of Investment Grade Audit (IGA) reports. The IGA was based on preliminary utility assessments and customer requirements. It entailed a very thorough, calculated and detailed analysis to identify cost-effective energy conservation measures. In addition, the IGA presented the financial analyses of							

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		proposed measures, or the bankability of the project. Based on this, commitment to invest was secured from Cotco Metal Works who have subsequently implemented the energy conservation measures in one of their factories (replacing the galvanizing furnace). The actual cost of the investment was USD 2 million.							
23	Fiji Solar PV project on Taveuni Island (2017)	Fiji	Sustainable Energy	Bankable Project	Pre-feasibility study + Matchmaking	3.5	3.5	Public (Donor / ODA)	Initial investment commitment
		GGGI helped complete a pre-feasibility study for a project aiming to deliver 100% renewable energy for the Islands of Ovalau and Taveuni. The successful completion of the study for Taveuni has led to a full feasibility study undertaken with the Ministry of Economy and Fiji Electricity Authority for a 1.55-megawatt solar power system. Facilitated by GGGI's discussions and negotiations, KOICA has provided a commitment to the Ministry of Economy for the capital investment based on the completion of the full feasibility study. The Ministry made a formal announcement about the project in July 2019 which indicates that the project is progressing.							
24	National Green Energy Fund (NGEF) (2017)	Vanuatu	Sustainable Energy	NFV	Pre-feasibility study	0.67	0.068	Public (Host government)	Disbursement stage
		GGGI developed the National Energy Road Map (NERM) stipulating the need for a financing mechanism for energy access and green energy projects, then conducted various preparatory activities to establish the National Green Energy Fund (NGEF) including development of the law to establish the fund, business plan, operational manual, hiring of the fund manager etc. After the NGEF was established in May 2017 and its first staff was recruited, GGGI has continued to stay engaged to mobilize resources for the fund from various government sources and international funders. The seed funding of USD 68,000 was endorsed by the Council of Ministers in 2017. However, GGGI reported an additional USD 600,000 which was in the process of being allocated through concession agreements with electricity service providers but had not been approved as of 2017.							
25	National Green Energy Fund – contribution by the Government (2018)	Vanuatu	Sustainable Energy	NFV	Matchmaking	0.28	0.664	Public (Host government)	Disbursement stage
		GGGI continued fundraising support to the NGEF as GGGI's role transitioned after the NGEF legal entity was established and the fund manager was recruited. The additional funding was approved in 2018 by the Council of Ministers and came from savings from concession agreements with electricity service operators. The reported amount in 2018 included USD 138,000 / year for 2018 and 2019 but should also include the other amounts of USD 321,000 and USD 67,000 approved in 2018 (instead of reporting in 2017) so the total is USD 664,000. Details of the approved amounts in 2018 are as follows: -Luganville Concession: From past management contract received VT 37.3 million (USD 321,000)							

No.	Project name and year of reporting	Country	Thematic Area	Type of Project	Type of Services Provided	Value initially reported	Current value of investment	Investor Type	Project status
		-Luganville Concession: From new concession contract will receive VT 16 million/year (USD 138,000/year) – this was reported for two years of 2018 and 2019 and rounded up to USD 0.28 million in the 2018 annual report. -Port Vila Concession: From Article Six Fund there has been agreement to receive VT 8 million (USD 67,000).  In addition, further potential funding from the government is expected to be approved in 2019: - Port Vila Concession: VT 8 million (USD 67,000) once amended concession contract is signed - Government budget support: VT 500 million (USD 4.3 million) one off payment from 2020 government budget for which the proposal was being finalized at the time of this evaluation.							
26	National Green Energy Fund – funding for energy component of the Member Financial Service Limited's (MFSL) USD 100 million Green Affordable Housing Scheme  (2018)	Vanuatu	Sustainable Energy	NFV	Pre-feasibility study	15	0	Private sector	N/a
		GGGI worked with a subsidiary of the Vanuatu National Provident Fund (MFSL) to integrate a green energy and energy efficiency component into an affordable housing scheme. Under this housing scheme, MFSL was compiling a USD 100 million proposal to the ADB at the time of the country visit during this evaluation. The commitment letter from MFSL to GGGI noted that the NGEF will provide additional co-finance for the energy component and USD 15 million was reported by GGGI as corresponding to this. This amount had to be mobilized from other sources but the evaluation team noted that there was no evidence of investment commitment yet for this energy component from any investor.							
27	Vanuatu Outer Island Solar Power Project funded by Luxembourg  (2018)	Vanuatu	Sustainable Energy	Bankable Project	Proposal support	1.79	1.79	Public (Donor / ODA)	Signed investment agreement
		The project was identified in the updated National Energy Road Map (NERM) that GGGI supported. A proposal was developed by GGGI and approved by the Government of Luxembourg and includes the installation of 30 cyclone resistant standard solar PV powered water pumping units, along with policy enabling work.							
28	Solar freezers project funded by BMZ  (2016)	Vanuatu	Sustainable Energy	Bankable Project	Proposal support	0	0.1	Public (Donor / ODA)	Disbursement stage
		Based on the priorities identified in the NERM and NGEF business plan, GGGI partnered with the Department of Tourism Development to provide 10 solar freezers to rural bungalow operators with funding from Germany's Federal Ministry of Economic Cooperation and Development (BMZ). This was a pilot project and the vision was to scale up using NGEF funds. The impacts of the projects are evident in terms of increased income (from storage of various products including ice cream, cool drinks and ice for fishermen), reduced time of travelling multiple times to the market in the main island of Efate and improved business / customers. This project should have been reported in 2016 when the project was							

No.	Project name and year of reporting	Country	Thematic Area	Type of Project	Type of Services Provided	Value initially reported	Current value of investment	Investor Type	Project status
		implemented and has been included in this evaluation as part of the total value of initial investment commitments secured by GGGI between 2015-2018.							
<b>The following projects which have not secured initial investment commitments till the time of this evaluation were reviewed through online interviews with project managers:</b>									
1	India ACE Fund	India	Sustainable Energy	NFV	Pre-feasibility study + Proposal support	N/a	N/a	N/a	N/a
		GGGI helped design this off-grid energy financing solution to offer debt to off-grid energy companies that supply power to households without access to the grid. GGGI conceptualized the fund, conducted pre-feasibility studies and engaged with a range of stakeholders. Based on this, a commitment for co-financing of USD 60 million was received from the Indian Renewable Energy Development Agency (IREDA) contingent on the approval of GCF funding of USD 60 million including a USD 40 million loan, USD 17 million in credit enhancement and USD 3 million for an off-grid hub to be set up at IREDA. GGGI supported the development of the proposal to GCF and has been facilitating engagement between IREDA and GCF. The GCF proposal has not yet been approved at the time of this evaluation. The evaluation team examined the evolution of this project from inception and documented a number of lessons learned by GGGI.							
2	Viet Nam Sugar Mills	Viet Nam	Sustainable Energy	Bankable Project	Pre-feasibility study	N/a	N/a	N/a	N/a
		GGGI conducted pre-feasibility studies for a waste to energy project to retrofit sugar mills with efficient biomass utilization for combined heat and power (CHP) generation. However, the feed in tariff (FiT) was found to be too low to be feasible for implementation. GGGI developed this project over 3 years and collaborated with GIZ but the project has not been able to secure an initial investment commitment till the time of this evaluation. Following a re-think in the approach, GGGI has worked closely with local stakeholders to develop a publication using the data collected from the pre-feasibility studies to build a case for lowering the FiT. This publication has been shared widely with government departments and used to advocate for this regulatory change.							
<b>Out of the total universe of 38 projects, the focus was to examine the 28 investment projects listed above. The following 10 projects were excluded as they comprised of policy and planning related work which subsequently attracted allocations of partner government or ODA funds:</b>									
1	Commitment by Norway to the Amazon Vision Program to finance deforestation reduction (REDD+) measures (2015)	Colombia	Sustainable landscapes	N/a	N/a	100	N/a	Public (Donor / ODA)	N/a

No.	Project name and year of reporting	Country	Thematic Area	Type of Project	Type of Services Provided	Value initially reported	Current value of investment	Investor Type	Project status
2	Climate Resilient Green Economy (CRGE) Facility for 27 'Fast Track Investments' across 7 sectors (2015)	Ethiopia	Cross cutting	N/a	N/a	21	N/a	Public (Donor / ODA)	N/a
3	Local (district) government budget allocation for interventions in two green growth strategies (2015)	Indonesia	Cross cutting	N/a	N/a	5	N/a	Public (Host government)	N/a
4	Financing of electric mobility in public transport at sub-national level (2015)	India	Green Cities	N/a	N/a	5	N/a	Public (Host government)	N/a
5	Commitment by Norway to implement REDD+ activities based on a REDD+ strategy and investment proposal supported by GGGI (2016)	Ethiopia	Sustainable landscapes	N/a	N/a	80	N/a	Public (Donor / ODA)	N/a
6	Additional commitment by Norway to the Amazon Vision Program (2016)	Colombia	Sustainable landscapes	N/a	N/a	25	N/a	Public (Donor / ODA)	N/a
7	Business case and financing proposal for electric buses in Karnataka (2017)	India	Green Cities	N/a	N/a	30	N/a	Public (Host government)	N/a
8	EU, DFID, DANIDA funding to the CRGE Facility (2018)	Ethiopia	Cross cutting	N/a	N/a	68	N/a	Public (Donor / ODA)	N/a
9	Joint Declaration of Intent on Deforestation – Additional funding commitment from Norway (2018)	Colombia	Sustainable landscapes	N/a	N/a	250	N/a	Public (Donor / ODA)	N/a
10	Implementation of the Regional NDC Hub (2018)	Pacific Regional	Cross cutting	N/a	N/a	2.4	N/a	Public (Donor / ODA)	N/a

## ANNEX 2: List of stakeholders interviewed

### GGGI Headquarters

1	Mr. Frank Rijsberman	Director General
2	Mr. Gerard O'Donoghue	Assistant Director General, Operations Enabling Division
3	Ms. Susanne Pedersen	Assistant Director General, Investment and Policy Solutions Division
4	Mr. Lasse Ringius	Head of Green Investment Services, Green Investment Services (GIS)
5	Ms. Jin Young Kim	Director and Head of Programs, Asia
6	Mr. Mahamadou Tounkara	Director and Head of Office of the Director General
7	Mr. James Sheppard	Head of Partnerships, Strategy, Partnerships and Communication
8	Mr. Sakiusa Tuisolia	Strategy Specialist, Strategy, Partnerships and Communication
9	Mr. Donovan Storey	Deputy Director and Head of Green Cities
10	Mr. Nishant Bhardwaj	Deputy Director and Head of Sustainable Energy
11	Mr. Muharrem Kemal Askin	Specialist, Sustainable Energy
12	Mr. Vamsi Duraibabu	Principal Investment Specialist, GIS
13	Ms. Fenella Aouane	Principal Green Finance Specialist, GIS
14	Mr. Andrew Lee	Advisor, Private Sector Engagement, GIS
15	Mr. Gulshan Vashistha	Senior Officer, GIS
16	Mr. Jisu Min	Senior Analyst, GIS
17	Ms. Da Yeon Choi	Senior Associate, GIS

### Stakeholders interviewed during in-country visits

#### Vanuatu

18	Mr. Paul Kaun	Senior Officer, Vanuatu, Pacific, GGGI
19	Mr. Christopher Simelum	Analyst, GIS, Vanuatu, Pacific, GGGI
20	Ms. Eva Diaz Ugena	Program Lead, Vanuatu, Pacific, GGGI
21	Mr. Georgewin Garae	Fund Manager, National Green Energy Fund (NGEF)
22	Mr. John Ezra	Senior Policy Analyst, Governance and Leadership Sector, Department of Strategic Policy, Planning and Aid Coordination (DSPPAC), Prime Minister's Office
23	Ms. Astrid Boulekon	General Manager, Vanuatu Chamber of Commerce and Industry (VCCI)
24	Mrs. Dorothy Ericson	Deputy Director, Department of Finance and Treasury (DOFT), Ministry of Finance and Economic Management
25	Mr. Leith Veremaito	Director, Department of Local Authorities (DLA), Ministry of Internal Affairs
26	Mr. Jeremy Spooner	Director, Department of Tourism Development (DoTD), Ministry of Tourism, Trade, Industry and Ni-Vanuatu Business
27	Ms. Helen Wilson	Manager Administration and Finance, Department of Energy (DOE), Ministry of Climate Change
28	Mr. Donald Wouloseje	Program Analyst, UNDP
29	Mr. Moses Nakabea	General Manager, Member Financial Services Ltd. (MFSL)
30	Ms. Rothina Ilo Noka	Director, Department of Women's Affairs (DWA), Ministry of Justice
31	Mr. Mike Waiwai	Director, Department of Climate Change, Ministry of Climate Change
32	Mr. Malcolm Dalesa	Project Management Unit, Department of Climate Change, Ministry of Climate Change

- 33 Ms. Leisande Otto Liaison Officer, World Bank Vanuatu Liaison Office  
 34 Mr. Kamleshwar Khelawan Energy Specialist and Task Team Leader for Vanuatu, World Bank

**Thailand**

- 35 Mr. Khan Ram-Indra Country Representative, Thailand, Asia, GGGI  
 36 Ms. Nontaya Krairiksh Officer, Thailand, Asia, GGGI  
 37 Dr. Kittisak Prukkanone Director of Measure and Mechanism Development Section, Office of Natural Resources and Environmental Policy and Planning (ONEP)  
 38 Mr. Narunart Attasumpun Deputy Managing Director, Cotco Metal Works Co., Ltd.  
 39 Mr. Chartdanai Chartpolrak Executive Director, Energy Conservation Center of Thailand (ECCT)  
 40 Ms. Sirinthorn Vongsoasup Deputy Executive Director, Energy Conservation Center of Thailand (ECCT)  
 41 Mr. Chatra Chompatana Policy and Planning Group, Energy Conservation Center of Thailand (ECCT)  
 42 Ms. Teresa Le Partnerships – Energy Finance, CleanStart Program, United Nations Capital Development Fund  
 43 Mr. Ittiporn Intravisit First Vice President, Corporate Credit Product Management Department, Kasikornbank PCL  
 44 Mr. Jarun Boonyakongrat Manager of Energy Efficiency Encouragement Division (and his team), Provincial Electricity Authority (PEA)  
 45 Mr. Pirat Kiattikomol Directing Manager, Five Dragon Rubber Co., Ltd.  
 46 Mr. Anuroj Mingmuang Maintenance Supervisor, Five Dragon Rubber Co., Ltd.  
 47 Mr. Ashish Jindal Technical Consultant, EESL

**Indonesia**

- 48 Mr. Marcel Silvius Country Representative, GGPI, Indonesia, Asia, GGGI  
 49 Mr. Shashank Swan Lead, Investments, Energy & Infrastructure, GIS, Indonesia, Asia, GGGI  
 50 Mr. Vikalp Pal Sabhlok Senior Officer, Investments, Forest and Land-Use, GIS, Indonesia, Asia, GGGI  
 51 Ms. Dessi Yuliana GCF and Investment Specialist, GIS, Indonesia, Asia, GGGI  
 52 Ms. Berliana Yusuf Officer, Green Energy Program, GGPI, Indonesia, Asia, GGGI  
 53 Mr. Nizhar Marizi Deputy Director for Renewable Energy and Energy Conservation, Directorate of Energy, Mineral Resources and Mining, Ministry of National Development Planning / Bappenas  
 54 Ms. Puti Faraniza Sustainable Finance Division, PT Sarana Multi Infrastruktur (Persero)  
 55 Mr. Hari Wibisono Director, PT ITDC Nusantara Utilitas, Subsidiary of Indonesia Tourism Development Corporation  
 56 Mr. Irwan Dinata Chief Executive Officer, PT Moya Indonesia  
 57 Mr. Darmasen Anwar Chief Financial Officer, PT Moya Indonesia  
 58 Mr. Mohammad Syahrial Chief Executive Officer, PT Tamaris Hidro  
 59 Ms. Ivy Santoso Chief Executive Officer, Acuatico Pte. Ltd, Moya Holding Asia Limited  
 60 Mr. Ezrom M.D. Tapparan Former Deputy Director, Development Implementation of Various New Energy and Renewable Energy, Ministry of Energy and Mineral Resources. Currently in the Inspectorate Division of MEMR  
 61 Mr. Adrisman Tahar Business Development Manager, Engie

**GGGI stakeholders interviewed online**

62	Mr. Innocent Kabenga	Country Representative, Ethiopia, Africa and Europe
63	Ms. Ida Demmellash	Officer, Ethiopia Country Program
64	Mr. Zerihun Getu	Consultant, Ethiopia Country Program
65	Ms. Inhee Chung	Country Representative, Rwanda, Africa and Europe
66	Mr. Okechukwu Daniel Ogbonnaya	Lead, Rwanda Program Co-ordination, Africa and Europe
67	Mr. Juhern Kim	Country Representative, Philippines, Asia
68	Mr. Ferruccio Santetti	Analyst, GIS
69	Ms. Katerina Syngellakis	Pacific Regional Representative, Pacific
70	Ms. Roxane Castelein	Green Finance Specialist, GIS
71	Mr. Vincent Guinaudeau	Senior Officer, Pacific NDC Hub, Pacific
72	Mr. Mamadou Konate	Senior Officer, Senegal Program, Africa and Europe
73	Mr. Amadou Lamine Fall	Analyst, GIS
74	Ms. Francina Phakamea	Country Representative, Mozambique, Africa and Europe
75	Mr. Pablo Martinez	Country Representative, Mexico, LAC & Caribbean
76	Mr. Jaeseung Lee	Country Representative, Laos, Asia
77	Ms. Julie Godin	Lead, Strengthening Green Growth and Climate Funds, Africa and Europe
78	Mr. Miklos Szekely	Officer, Hungary, Africa and Europe
79	Mr. David Fernandez	Guyana Program Lead, LAC & Caribbean
80	Mr. Shantanu Gotmare	Country Representative, India, Asia
81	Mr. Unnikrishnan Nair	Lead, India Program, Asia
82	Mr. Adam Ward	Country Representative, Viet Nam, Asia



## ANNEX 3: List of documents reviewed

### Corporate level

- GGGI Refreshed Strategic Plan 2015-2020: Accelerating the Transition to a New Model of Growth
- GGGI Performance and Results reports for 2015, 2016, 2017 and 2018
- Work Program and Budget (WPB) for 2015-16, 2017-18 and 2019-20
- Director General's Progress Reports for 2018 and 2019
- Annual Reports 2015, 2016, 2017 and 2018
- Thematic Strategies: Focusing our work for greater impact (March 2017)
- G20 Background Paper: Green Growth to Achieve the Paris Agreement (January 2019)
- DRAFT GGGI Strategy 2030 submitted to GGGI's Council for approval in September 2019
- GGGI Project Cycle Management (PCM) Manual Part 3 – Project Development for Investment and Policy Projects (May 2018)
- Minutes of various meetings of the Management and Program Sub-Committee (MPSC) between 2015-2019.
- Joint Programmatic Progress (GGPI and IPSD) submitted to GGGI's Council in September 2019

### Corporate level - GIS Specific

- Mind the Gap: Bridging the Climate Financing Gap with Innovative Financial Mechanisms (November 2016)
- GGGI Green Investment Services: Policy objectives and guidance notes – guidelines for doing business (January 2017)
- Investment and Policy Solutions – Observations from two years of the green finance business at GGGI, submitted to GGGI's Council in October 2017
- Overview on GGGI Private Sector Engagements submitted to GGGI's Council in October 2017
- Closing the Financing Gap: Understanding “bankability,” risks and how GGGI supports countries to access green finance (January 2018)
- Integrated Origination and Preparation Process for Investment Projects & Policy Projects to be Developed by GGGI (January 2018)
- Investment and Policy Solutions – Status of portfolio including policy projects submitted to GGGI's MPSC in April 2018
- Green Investment Services: Thematic Diagnostics (September 2018)
- Green Investment Services: Theory of Change (internal document as of May 2019)

### Countries visited during the evaluation

#### Vanuatu

- End-of-Year Results Reports (Multiple)
- Annual Project Results Reports (Multiple)
- GGGI outputs delivered and other documents related to the National Green Energy Fund, including:
  - Council of Ministers, Decision 91 of 2017: Setting up of the National Green Energy Fund (NGEF) (31 May 2017)
  - Council of Ministers, Decision 093: Use of Government Funds from the Luganville Electricity Management Contract or the Government Fund to Initiate NGEF's Operationalization Phase under a Pilot Project Targeting Energy Companies Participating in the Vanuatu Electrification Program (VREP)

- Council of Ministers, Decision 101: Allocation of a Share of the Luganville Concession Fee to Luganville Municipal Council and Sanma Provincial Government Council
- Various other official communications from the Council of Ministers regarding the NGEF
- Republic of Vanuatu, Official Gazette, National Green Energy Fund Act No. 10 of 2018, July 2018
- Feasibility study of the Vanuatu National Green Energy Fund Development, Final Report, Enclude BV, May 2018
- Business Plan for Establishment of the Vanuatu National Green Energy Fund, Final report, December 2017
- NGEF Operations Manual, February 2019
- Various other documents related to NGEF including its products and services, results from household demand survey etc.
- Investment teaser – National Green Energy Fund (NGEF) in Vanuatu (August 2018)
- Investment teaser – accelerating rural electricity access through solar energy in Vanuatu (August 2018)
- Logframe for solar water pumping project funded by Luxembourg

## Thailand

- End-of-Year Results Reports (Multiple)
- Annual Project Results Reports (Multiple)
- GGGI Thailand Country Program Evaluation (GGGI, March 2018)
- GGGI outputs delivered and other documents related to the National Energy Efficiency Program, including:
  - Investment Teaser Thailand Industrial Energy Efficiency Program (August 2018)
  - Letter of Intent to the GGGI (Energy Efficiency Services Limited)
  - Various other documents related to the program which are not available for publication.

## Indonesia

- End-of-Year Results Reports (Multiple)
- Annual Project Results Reports (Multiple)
- GGGI Indonesia Country Planning Framework 2016-2020
- GGGI outputs delivered and other documents related to the two bankable projects: Solar PV Project in Mandalika and Solar PV Project in NTT Province, including:
  - GGGI Investment Teaser Development of 10 MW Solar PV Project: Mandalika Special Economic Zone (SEZ)
  - GGGI Investment Teaser Development of Aggregate 15 MW Solar PV Project: Nusa Tenggara Timur (NTT)
  - Various other documents related to the program which are not available for publication.

## Projects reviewed through online interviews

There were 11 countries (Costa Rica, Ethiopia, Fiji, Guyana, Hungary, Lao PDR, Mexico, Mongolia, Mozambique, Rwanda and Senegal) with a total of 15 outputs that were reviewed and interviewed online. In general, the documents reviewed included:

- End-of-Year Results Reports
- Annual Projects Results Reports
- Specific output documents
- Evidence of initial investment commitments secured



## ABOUT THE GLOBAL GREEN GROWTH INSTITUTE

The Global Green Growth Institute was founded to support and promote a model of economic growth known as “green growth”, which targets key aspects of economic performance such as poverty reduction, job creation, social inclusion and environmental sustainability.

Headquartered in Seoul, Republic of Korea, GGGI also has representation in a number of members and partner countries.

Members: Angola, Australia, Burkina Faso, Cambodia, Costa Rica, Denmark, Ecuador, Ethiopia, Fiji, Guyana, Hungary, Indonesia, Jordan, Kiribati, Republic of Korea, Mexico, Mongolia, Norway, Organisation of Eastern Caribbean States (OECS), Papua New Guinea, Paraguay, Philippines, Qatar, Rwanda, Senegal, Sri Lanka, Thailand, Tonga, United Arab Emirates, United Kingdom, Uzbekistan, Vanuatu, Viet Nam

Operations: Burkina Faso, Cambodia, China, Colombia, Ethiopia, Fiji, Guyana, Hungary, India, Indonesia, Jordan, Lao PDR, Mexico, Mongolia, Morocco, Mozambique, Myanmar, Nepal, Organisation of Eastern Caribbean States (OECS), Peru, Philippines, Rwanda, Senegal, Sri Lanka, Thailand, Tonga, Uganda, United Arab Emirates, Vanuatu, Viet Nam



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