



Global Green Growth Institute

Seventh Session of the Assembly and
Eleventh Session of the Council (Joint Session)
October 31, 2017; Seoul, Republic of Korea

Overview on GGGI Private Sector Engagements

i. *GGGI has increased and will continue to increase engagement with private sector entities.*

GGGI reported at the last Council session that while the investment portfolio had private-sector parties involved and the projects were designed to catalyze private capital by reducing various risks to investment, most of the engagements addressed private sector entities indirectly. As a result, GGGI developed Private Sector Engagement Rules to guide project teams through a transparent selection process for the identification of private sector partners ([Link](#)). Subsequently, GGGI has been able to increase its direct engagement with private sector entities and also increase private sector engagement through its green industry initiatives by promoting resource efficient and inclusive business models. Besides decoupling productivity from environmental degradation, green industry initiatives are expected to result in more opportunities for women to work, more decent and green jobs created as well as improved health and safety of workers.

ii. *What have we done with Private Sector Engagement so far?*

| Country | Project | Private Sector Engagement |
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| Indonesia | Development of Aggregate 15 MW Solar PV Project: Nusa Tenggara Timur (NTT) | <p>The installed power in the island archipelago province of Nusa Tenggara Timur (NTT) caters to only 58.64% households. Power is generated mostly from diesel fueled generator stations, with the fuel requiring 48-56 hours of transport to reach these remote islands, making the power generation expensive. GGGI has designed 15 MW solar photovoltaic (PV) projects in eight fragmented islands of NTT. Engie global, one of the largest solar PV developers globally committed to invest USD 32M for Engineering, Procurement and Construction (EPC) of the project. Key factors to engage Engie to invest were:</p> <ul style="list-style-type: none"> • Strategic alignment with the Government, 15MW of solar PV project contributes to achieving 100% renewable energy as outlined in its planning document |

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| | | <p>target. For the private sector, development of a first inline solar PV project in the region provides a first-mover advantage.</p> <ul style="list-style-type: none"> • Bundling together of 8 project locations into a single investment opportunity made an investible proposition for the firm. Individual project sites are too small to be attractive for private investors. • GGGI designed technical study not only gained attention of various private developers but was also appreciated by Perusahaan Listrik Negara (PT PLN) - the national electricity company. <p>By proving the business models for the 8 fragmented sites, GGGI has demonstrated a replicable business model for islands and the same can be deployed at scale in other regions of the country.</p> |
| <p>Vanuatu</p> | <p>Mobilizing Finance for Green Energy through the National Green Energy Fund (NGEF)</p> | <p>The aim for this project was to improve access to energy for households and businesses in rural and peri-urban areas resulting in improved livelihoods, gender equality, job creation and greater opportunities for income generation through implementation of renewable energy and energy efficiency projects. GGGI supported the installation of 10 solar refrigeration system for small rural tourism operators in selected off-grid sites in Vanuatu with the aim to improve access to refrigeration powered by solar systems that enables diversification of services and improved income streams. Key factors to engage private developers to invest were:</p> <ul style="list-style-type: none"> • The project has replication potential within Vanuatu and includes private sector engagement as the main beneficiaries were tourism micro-enterprises and solar PV product suppliers. • Data collection and surveys with private sector with potential for renewable energy and energy efficiency projects were carried out and the information was collated and analyzed. • Linked to this work GGGI organized private sector capacity building workshops in Espiritu Santo and Port Vila to introduce Energy Efficiency and Renewable Energy applications in industrial and commercial facilities. • LOI was issued from the National Bank of Vanuatu. • Member Financial Services Limited committed to USD 100 co-financing for 5 years. |

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| | | <ul style="list-style-type: none"> GGGI is continually working to share the knowledge with private sector representatives in the country and assess project pipeline options. |
| Viet Nam | Biomass Waste to Energy | <p>GGGI worked with GIZ to conduct feasibility assessments of five major sugar mills to convert waste residues into a source of energy. Key factors to engage private developers to invest were:</p> <ul style="list-style-type: none"> At the end of the process, GGGI selected the best in class sugar mill. Investment project was a 25MW biomass power plant that uses multi-fuel technology (bagasse + woodchip) with over 300 operational days per year developed by a listed Vietnamese sugar company. The total investment size was approx. USD 40m, of which 30% is financed by owner equity. GGGI was requested to assist to raise remaining 70% of capital expenditures (i.e. USD 28m) in terms of debt financing. LASUCO, private entity will efficiently catalyze the sugar industry in Vietnam. |
| Viet Nam | Municipal Solid Waste to Energy Project, Vietnam | <p>In partnership with the Energy and Environment Partnership Programme with the Mekong Region, GGGI provided investment advisory services to Vietnamese MSWTE developers. Key factors to engage private developers to invest were:</p> <ul style="list-style-type: none"> GGGI analyzed EEP supported projects (feasibility studies conducted) and selected the best risk/reward project to further de-risk and mobilize finance for project implementation. The early indications were that the EEP supported developers have project sizes of around 100-500 ton/day, CAPEX range is EUR14-97m, permitting is partly completed, and the developers can invest (or through a partner) the equity capital. The business models are economically feasible under the current feed-in-tariff and tipping fee schemes. The technology solutions include biogas, incineration and composting. We expect to engage with FMO, BIO, Proparco, Nefco and Finnfund and we expect EDFIs to consider equity and debt capital investments |
| Viet Nam | Distributed Solar Rooftop Leasing Finance Facility | <p>In partnership with the Clean Energy Investment Accelerator (CEIA). GGGI developed a Distributed Solar Rooftop Leasing Facility. Key factors to engage private developers to invest were:</p> <ul style="list-style-type: none"> GGGI acted as a mandated financial advisor for a potential leasing operator (i.e. local bank) to form a Solar |

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| | | <p>Rooftop Leasing Facility. The initial capitalization target of the finance facility in 2019 is USD 20m and USD 100m in 2020, i.e. two closings.</p> <ul style="list-style-type: none"> • Currently, GGGI is performing a legal assessment on the regulatory framework to identify the most suitable legal structure for the finance facility. Leasing offers a more cost-efficient model and the finance facility provides both needed economies of scale and supportive standardization framework. The leasing finance facility model incorporates asset securitization to finance the solar installations for industrial customers. |
| Mongolia | Mongolian Green Finance Corporation (MGFC) | <p>The Mongolia Green Finance Corporation (MGFC) is a national financing vehicle (NFV) or green financial institution designed by GGGI, and whose overall objective is to contribute to GHG emissions reduction, climate change mitigation and air pollution reduction in Mongolia. It specifically targets the mainstreaming of green, affordable and gender inclusive financial products to allow households and large energy consuming entities to switch to low carbon technologies as well as to contribute to create an improved policy environment and build the capacity and awareness of stakeholders in support of the mainstreaming of green finance. Key factors to engage investors are:</p> <ul style="list-style-type: none"> • The MGFC is a private sector initiative for public benefits, where the private sector ensures that operations are carried efficiently and transparently, and the public sector ensures that its development and policy goals are properly financed and achieved. • Letters of commitment for USD 5m equity were signed by the GoM and the Mongolian Sustainable Finance Association (under the MBA, representing 10 commercial banks). A funding proposal was submitted in 2018 to the Green Climate Fund for an additional USD 5m equity contribution, a USD 33m loan financing and USD 2m technical assistance grant. The total size of the investment was set at USD 50m. Is it expected that MGFC will be operational in 2019. • Overall the first financial products of the institution should help deliver a reduction of at least 3,163,406 tCO₂e (direct emissions) and avoid the consumption of more than 40,000 tons of raw coal, the main source of urban air pollution in Mongolia. |
| Mongolia | PPP program for green and energy efficient | GGGI provided technical assistance to Ulaanbaatar Capital City Municipality (Ulaanbaatar City) on the development of a business case for a pilot project of procuring 10 green and energy efficient schools and kindergartens facilities in |

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| | urban infrastructure | <p>Bayangol, Bayanzurkh and Chingeltei districts through private sector participation in a Public Private Partnership (PPP) arrangement. The project will successfully demonstrate GoM to attract private sector investment into green and social infrastructure sector in Mongolia. Key factors to engage private developers to invest are:</p> <ul style="list-style-type: none"> • Increased number of facilities with 2620 units • Expected energy savings of 55% and GHG emission reduction of 54% compared to BAU scenario • Timely provision of a large number of facilities through performance based output, specification PPP model, fast track delivery of priority infrastructure • Economic growth with greater resource efficiency and lower GHG emissions intensity with enhanced social inclusion and public health |
| Mozambique | Solar irrigation | <p>GGGI worked closely with Mozambique National Energy Fund (FUNAE) to deliver rapid technical assistance (RTA) to expand energy access in the country, with focus on renewable energy supply to increase agriculture productivity in rural areas. Key factors to engage private developers to invest were:</p> <ul style="list-style-type: none"> • GGGI led the design and structuring of solar irrigation projects in areas affected by low electricity access and high poverty rates. • The targeted beneficiary of this project were smallholder farmers, currently reliant on rainfed agriculture and willing to provide 10-30% of the investment cost. • The designed projects will be implemented by FUNAE, the country’s main off-grid implementing agency, leveraging grants and soft loans made available by international donors with financial support programs starting in Q4 2018. |
| Thailand | Accelerating Implementation of Thailand’s Nationally Determined Contribution | <p>GGGI is working closely with the Thai Government and private sector to accelerate effective and successful implementation of GHG reduction commitments under the Paris Agreement. In addition to development of NDC Action Plan for the Industrial and NDC capacity development activities, GGGI is successfully working with industries to develop bankable green projects. Key factors to engage private developers to invest were:</p> <ul style="list-style-type: none"> • Work closely with 50 industries/companies to identify the potential green projects, focusing on energy efficiency and/or renewable energy • Develop bankable green projects in order to address the downstream challenges of NDC implementation |

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| | | <ul style="list-style-type: none"> As a result of intervention, one of the industries have decided to self-invest in its energy efficiency project. With this, at least USD 1.3 million has been successfully mobilized for green project development |
| Thailand | Thailand Industrial Energy Efficiency Program | <p>GGGI is working with the Provincial Electricity Authority (PEA; a state-own utility) and Energy Service Companies (ESCOs) to design an energy efficiency investment framework. This framework would enable investors (both public and private) to get in a contractual agreement with local Thai energy service companies or industrial clusters directly to promulgate the EE program. Key factors to engage private developers to invest were:</p> <ul style="list-style-type: none"> Work closely with PEA to design practical and effective energy efficiency investment framework for small and medium enterprises (SMEs) Engage with 220 SMEs for energy audits to identify potential energy efficiency projects Actively engage with international/regional investors for investment opportunities for the above projects Successfully ensure USD 20-million-investment-commitment from an international source for Thailand’s energy efficiency which could unlock a total of USD 380 of green investment |
| Thailand | Transitioning to Green and Smart Industrial Town: Case Study of AMATA | <p>GGGI is working in partnership with Amata Corporation PCL, a leading industrial developer in Thailand, to develop a green and smart city. Phase 1 of the project, which has been started in early 2018, is focusing on green and smart industrial town transitioning model and potential project pipeline. Key factors to engage private developers to invest were:</p> <ul style="list-style-type: none"> Work closely with Amata and relevant government agencies to identify gaps and formulate recommendations for green and smart city development Develop a pipeline of potential green and smart projects <p>Built on Phase 1 outputs, Phase 2 which could be implemented in 2019 will aim for bankable project(s) development and sharing the knowledge acquired from the project.</p> |
| Thailand | E-waste Treatment Facility | <p>GGGI in partnership with Udon Thani City Municipality, is working towards establishing a systematic e-waste management system and a scalable material recycling center. Key factors to engage private developers to invest were:</p> <ul style="list-style-type: none"> GGGI acts as the financial advisor to establish a finance facility for e-waste treatment in Thailand. The initial |

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| | | <p>capitalization of the finance facility in 2019 is USD 10m and the 2020 target is USD 40m</p> <ul style="list-style-type: none"> • Udon Thani is the pilot e-waste treatment plant and the facility’s second closing will finance five additional treatment plants to cover Thailand’s entire annual e-waste output. • GGGI is currently conducting a study on alternative e-waste collection models and their economic feasibility. Based on the findings, GGGI will design a PPP model suitable for the project model, such as a Pay-for-Success (PFS) structure. |
| <p>Senegal</p> | <p>Waste-to-Energy Projects</p> | <p>GGGI supports the Government of Senegal (GOS) and the private sector in promoting investments for waste-to-energy projects, specifically focused on energy for productive uses.</p> <p>Initiative 1: Installation of a 275 kW biogas cogeneration plant at an industrial facility, where waste residues from the production process at “Société de Gestion des Abattoirs du Senegal” (SOGAS) slaughterhouse will be treated anaerobically to generate heat and electricity. Domestic fuel pellets will also be produced from the cogeneration slurry by-product. The operator of the cogeneration plant, Thecogas Senegal SARL, will supply the power generated to SOGAS at a price 13% lower than retail electricity tariff from the grid.</p> <p>SOGAS produces up to 200 tons of waste per day (solid and liquid), representing close to 60% of the total slaughterhouse waste in the Senegal. The project will reduce severe environmental pollution and health risk issues by utilizing the liquid and organic waste previously disposed of in an uncontrolled manner either in the Hann Bay or at the unmanaged Mbeubeuss landfill. Furthermore, the project will require additional personnel to run the plant, contributing to an increase in green jobs.</p> <p>Key factors to engage private developers to invest:</p> <ul style="list-style-type: none"> • GGGI supported Thecogas Senegal SARL to apply for project financing from a green credit line set-up by the French Development Bank (Afd) and administered locally by partner banks Societe Générale des Banques du Senegal (SOCGEN) and the Oragroup. The total investment for the project is USD 1.5m. • GGGI was instrumental in (1) navigating the project through SOCGEN’s financial due diligence process to obtain a provisional financing agreement and (2) |

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| | | <p>securing the project guarantee from Fonds de Garantie des Investissements Prioritaires (FONGIP), a sovereign guarantee fund.</p> <p>Initiative 2: ‘Greening’ of the rice milling industry by the introduction of rice husk waste to energy solutions. Production of energy from rice husk waste will increase the competitiveness of rice mills by lowering the cost of energy by 42-62%, while at the same time reducing their dependency on the grid. The initiative is aligned with the Senegalese Nationally Determined Contributions by contributing to the increase of green energy production to 20% in the national energy mix.</p> <p>Lower cost green energy solutions will allow rice mills to expand their milling activities contributing to an increase in green jobs. One of the rice mills GGGI is engaging with, Terranga Enterprise, is led by a women entrepreneur who is keen to further empower women in the sector. During the assessment of the waste to energy project opportunities, GGGI specifically included a gender, social inclusion and poverty reduction baseline assessment as a key consideration for project evaluation.</p> <p>Key factors to engage private developers to invest:</p> <ul style="list-style-type: none"> • GGGI played an instrumental role in this transformational change to the rice milling sector by the identification, assessment and bringing to finance the first rice husk waste to energy demonstration projects. • GGGI worked with three rice mills, Vital, Coumba Nor Thiam and Terranga Enterprise, in the financial and technical assessments of their rice husk waste to energy potential. • GGGI held an investor forum to showcase the project opportunities, the result of which was an expression of interest to finance the projects by Caisse Nationale de Crédit Agricole du Sénégal, the country’s national bank for Agriculture. In addition, Ankur Scientifics Energy Technologies Private Limited (a gasification technology provider based in India) has expressed interest in providing the gasification technology for the projects. • GGGI is in the process of finalizing a letter of intent between the various parties to secure the deal. The total investment for all three projects is approximately USD 1.5m. |
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| Colombia | Palm Oil Mill Effluent to Energy Project | <p>GGGI collaborated with palm oil mills for the development of POME biogas projects to identify and test a business model around which private sector project developers and investors can converge to finance and implement projects.</p> <p>The Private Sector Actors were drawn from the Colombian Palm oil industry association (FEDEPALMA) and the palm oil mills themselves. Key factors to engage private developers to invest were:</p> <ul style="list-style-type: none"> • The investment target was to reach investor commitment for the development of palm oil mill effluent to biogas plants (min. USD 10M). • GGGI also supported in developing the study on “Innovative business models and financing mechanisms to catalyze private investment for waste biomass to energy biogas projects in Colombia.”(Link) |
| Philippines | Greening MSMEs in the food processing industry | <p>GGGI completed a study on “<i>Best Green Business Practices among MSMEs in the Food Processing Industry of the Philippines</i>” (Link) which contains assessment results of ongoing best greening efforts being practiced among 12 micro, small, and medium enterprises (MSMEs) from selected food processing industries: coffee, cacao, processed fruits and nuts.</p> |

iii. *Lessons learnt so far and the way Forward*

1. GGGI has developed a Private Sector Engagement Process which employs a matrix of principles-based and rules-based regulatory considerations. This acknowledges that "one size does not fit all." Every case must be assessed in detail by both our country and headquarters-based experts.
2. We have learned that engaging the private sector in the inclusive green economy transition can come in many forms. GGGI is currently applying the following possible pathways in partnering with private sector entities:
 - Sub-sectoral Finance Facilities working with local banks and development financiers in the structures where the investment capital is allocated to a fleet/portfolio of private sector developers, such as in Distributed Solar Rooftop Leasing Finance Facility in Vietnam.
 - Pathway through a developing partner who has conducted well documented screening process (e.g. CfP for the feasibility grants) such as in Municipal Solid Waste to Energy Project in Vietnam.
 - Investment endorsements by government counterparts, i.e. in some cases government partners have conducted well documented selection of preferred private sector partners.

- In sectors like water or green cities, GGGI's first engagement is often a municipality and preferred investment structure is a Public-Private-Partnership (PPP) model, such as in E-waste Treatment Facility, Thailand. In this case, GGGI applies best international standards and zero tolerance to corruption applies in both selection of technology and implementing partners, i.e. municipalities are required to conduct well documented tendering process. In the Mongolia case, it is shown that private sector participation exist as result of market sounding assessment. However, local market players need to improve technical capacity by cooperating with international ESCOs. Thus, GGGI plays a role between local and international potential bidders to establish capacity building and knowledge sharing approach.
 - Occasionally, GGGI complies full in-house screening for a project developer selection process such as in Biomass Waste to Energy Project, Viet Nam, i.e. an open Call for Proposal (CfP) working with the local industry association that attempts to reach out to all possible partners.
 - In addition to the Government's investment commitment, leveraging financing from private sector is most attractive to international climate funds and investors. Therefore, private sector banks' co-financing is recommended to be at least 30% at project financing level in order to increase leveraged financing potential and reduce credit risk.
 - Developing green PPPs in the social infrastructure sector, especially in countries without a track record, requires risk mitigation instruments such as third-party payment guarantee and grant component for covering incremental cost of being greener provided by potential donors.
 - Promoting resource efficient, sustainable consumption and production patterns in industries is an important element in realizing green growth. With an initial focus in the food and beverage sector in Southeast Asia and the Pacific region, GGGI is supporting micro enterprises as well as SMEs to green their operations to demonstrate how environmentally-friendly and resource efficient production can be beneficial both financially and socially.
 - An additional consideration is an analysis of the catalytic impact of an underlying engagement and investment. It is important to assess if and how the investment intervention could it scale up and include the whole sector in a later stage, i.e. transformational impact of the investment intervention.
 - GGGI's investment intervention may impact favorably to the underlying permitting process of the project. The MOU level investment commitment is commonly required form of "proof of funds" and it is often a pre-request for applying, for example, a Power Purchasing Agreement (PPA).
3. GGGI has been actively engaging young entrepreneurs, stimulating innovation and encouraging job creation in the context of green growth.
- The key intervention in 2018 was to launch a brand new global start-up incubating program, called Greenpreneurs ([Link](#)), designed to supercharge green growth startups particularly in/for developing countries. The program provided an opportunity for youth (age between 18-35) in developing countries through a 10-week virtual module (e.g. from customer segmentation to financial modelling), mentoring/networking, and business

plan competition for small-scale seed capital, providing them the resources and support needed to take the next step – which is to demonstrate unique value proposition and ready to pitch to raising capital.

- This global intervention is now expanding to a country level engagement: notably in 2018 PacificGreenpreneurs ([Link](#)) program was launched across Fiji, Kiribati, and Vanuatu providing an intensive course to new and/or early stage businesses. Such platform allowed the participants to seek clarity with their ideas and provided access to experts to receive guidance and mentorship.

In conclusion, GGGI is currently looking to diversify our pathways to demonstrate more opportunities in engaging the private sector at all levels (from start-ups, SMEs and large-scale businesses). From developing enabling policy environments, mobilizing private investment in green growth projects, supporting government partners to pool green finance through national blended financing vehicles to working with the industries to promote resource efficient and sustainable production practices. Going forward we will continue to improve the current PSE selection criteria to promote transparency and involve the relevant government ministry and other stakeholders. We will enforce the procedures for conducting [due diligence](#) for private sector organizations and share lessons learned within GGGI on private sector engagement.

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