GGGI Technical Guideline No. 8

GGGI'S UPDATED STRATEGIC OUTCOME (SO) GUIDELINE

Frameworks and Methodologies for Development Project Outcomes Estimation

December 2023

Acknowledgments

This Updated Guideline for Strategic Outcome estimation was prepared by the Global Green Growth Institute as part of the organization's efforts to develop frameworks and methodologies for estimating project outcomes of its country-level and global activities. They are complemented by Methodology Guidance Sheets. While the Guideline introduces concepts and indicators to estimate and report Strategic Outcome targets and results, the Methodology Guidance Sheets focus on technical definitions, sectoral boundaries and estimation methodologies for each Core SO Indicator. They are revised regularly with the assistance of GGGI's thematic experts.

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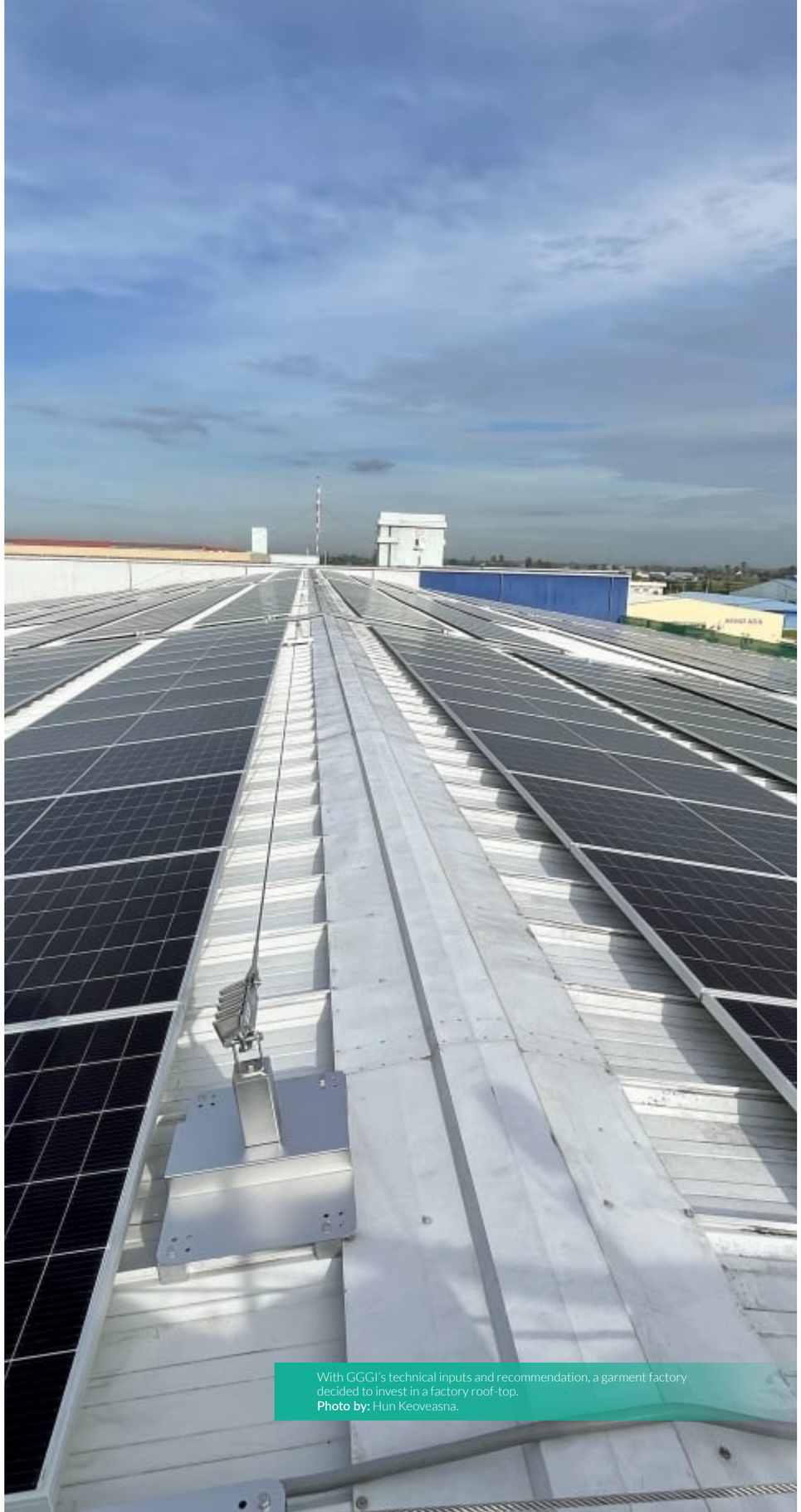
Cover photo: © East Kalimantan Forest Drone Shot. The forestry sector contributes to emissions reductions by reducing deforestation, reducing forest degradation, sustainable forest management, increasing carbon stocks, increasing the role of conservation, and peatlands management. Location and Date: East Kalimantan Forest, Indonesia (2019). Photo by: GGGI Indonesia.



With GGGI's technical inputs and recommendation, a garment factory decided to invest in a factory roof-top.
Photo by: Hun Keoveasna.

PART OF GGGI'S TECHNICAL GUIDELINES SERIES

1. Green Growth Planning Guidelines, Jin Young Kim, Robert Mukiza, Mohammed Angawi and Nobert Maass, 2016.
2. Green City Development Guidelines, Nguyet Minh Pham, Daniel Buckley, Adam Ward, Okju Jeong and Julie Robles, 2016.
3. Pro-poor, Inclusive Green Growth: Experience and a New Agenda, Steve Bass, Paul Steele, Camilla Toulmin, Oliver Greenfield, Chris Hopkins, Inhee Chung, Thomas Nielsen, 2016.
4. Green Energy Development, Dereje Senshaw, 2017.
5. NDC Implementation Roadmap Development: Guidelines for Small Island Developing States, Douglas Marett, Marc André Marr, Katerina Syngellakis, Kristin Deason, 2018.
6. GGGI Strategic Outcomes Guideline: Frameworks and Methodologies for Development Impact Estimation, Pranab Baruah, Frank Rijsberman, Diana Quezada, 2019.
7. Mitigation Outcome Purchase Agreements, Ximena Aristizabal, Carlos Maldonado, 2023.
8. GGGI's Updated Strategic Outcome (SO) Guideline, Diana Alejandra Quezada Avila, Stelios Grafakos, Romain Brillie, Gyoorie Kim, Lilibeth Acosta, Shivenes Shammugam, Siddhartha Nauduri and Jae Eun Ahn, 2023.

Abbreviations

ADB	Asian Development Bank
AfDB	African Development Bank Group
AFOLU	Agriculture, Forestry and Other Land Use
AQI	Air Quality Index
A/R	Afforestation/Reforestation
Ave	Average
BRT	Bus Rapid Transit
CBA	Cost-Benefit Analysis
CBI	Climate Bonds Initiative
CDM	Clean Development Mechanism
CHP	Combined Heat and Power
CO_2e	Carbon Dioxide equivalent
CDRF	Capacity Development Results Framework
CRF	Corporate Results Framework
CPF	Country Planning Framework
CSA	Climate Smart Agriculture
DEWATS	Decentralized Wastewater Treatment Systems
EBRD	European Bank for Reconstruction and Development
EOY	End-of-Year
E&S	Environmental and Social
EU	European Union
FAO	Food and Agriculture Organization of the United Nations
FSM	Fecal Sludge Management
FSTP	Fecal Sludge Treatment Plans
FRA	Forest Resources Assessment
FTE	Full-time equivalent
GCF	Green Climate Fund
GDP	Gross Domestic Product
GGGI	Global Green Growth Institute
GHG	Greenhouse Gas
GOP	Global Operational Priorities
GWP	Global Warming Potential
Ha	Hectare
HOB	Heat-Only Boilers
ICMA	International Capital Market Association
IDB	Inter-American Development Bank
IEA	International Energy Agency
IGES	Institute for Global Environmental Strategies
IO	Intermediate Outcome
ILO	International Labour Organization
ISO	International Organization for Standardization
IPCC	Intergovernmental Panel on Climate Change
IRENA	International Renewable Energy Agency
IUCN	International Union for Conservation Nature
JCM	Joint Crediting Mechanism
Km	Kilometer
KW	Kilowatt
KWh	Kilowatt-hour
LAC	Latin America and the Caribbean
LT-LEDS	Long Term-Low Emissions Development Strategy
Max	Maximum
MF	Methodology Framework
Min	Minimum
MOL	Methane Oxidation Layer
MRTS	Mass Rapid Transit System
MSW	Municipal Solid Waste
MW	Megawatt
MWh	Megawatt-hour
NFV	National Financing Vehicle
NDC	Nationally Determined Contribution
PCM	Project Cycle Management
PIN	Project Idea Note
Pkm	Passenger-kilometers
PS	Programmatic Solution
PV	Photovoltaic
OECD	Organization for Economic Co-operation and Development
OECS	Organization of Eastern Caribbean States
O&M	Operation and Maintenance
QA	Quality Assurance
QC	Quality Control
RBM	Results-Based Management
REDD+	Reducing Emissions from Deforestation and Forest Degradation Plus
RIA	Regulatory Impact Assessment
SDGs	Sustainable Development Goals
SIDS	Small Island Developing States
SMEs	Small and Medium Enterprises
SO	Strategic Outcome
ToC	Theory of change
UN	United Nations
UNEP	United Nations Environment Programme
USD	United States Dollar
U.S.-EPA	United States Environmental Protection Agency
UNFCCC	United Nations Framework Convention on Climate Change
UNICEF	United Nations Children's Fund
VCS	Verified Carbon Standard
Vkm	Vehicle-kilometers
WASH	Water, Sanitation and Hygiene
WB	World Bank
WHO	World Health Organization
WPB	Work Program and Budget

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Now that most consumers download and stream their movies and music, an increasing number of CDs and DVDs will be discarded or recycled.
Location and Date: Semarang, Central Java, Indonesia (2017).
Photo by: Yorkie Sutaryo, GGGI Indonesia.

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A site visit to mangrove area for a social forestry study.
Location and Date: Tuwung Forest, Central Kalimantan, Indonesia (2022).
Photo by: Mayang Meilantina/GGGI Indonesia.

DEFINITIONS

OECD Development Assistance Committee (DAC) definitions[1] followed by GGGI and used in this Guideline.

Accountability: Obligation to demonstrate that work has been conducted in compliance with agreed rules and standards or to report fairly and accurately on performance results mandates roles and/or plans.

Activity: Actions taken or work performed through which inputs, such as funds, technical assistance, and other types of resources are mobilized to produce specific outputs.

Attribution: The ascription of a causal link between observed (or expected to be observed) changes and a specific intervention. Note: Attribution refers to that which is to be credited for the observed changes or results achieved. It represents the extent to which observed development effects can be attributed to a specific intervention or to the performance of one or more partners, taking account of other interventions (anticipated or unanticipated), confounding factors, or external shocks.

Baseline Study: An analysis describing the situation prior to a development intervention, against which progress can be assessed or comparisons made.

Benchmark: Reference point or standards against which performance or achievement can be assessed.

Capacity Development: The process by which individuals, groups, and organizations develop their capability to identify and deal with challenges that they meet in the development process.

Contribution: The performance of one of the partners in a collaborative, joint intervention or the contribution to the results of such an intervention that can be attributed to the performance of one or several of the partners individually.

Development Intervention: An instrument for partner (donor and non-donor) support aimed to promote development. Note: Examples are policy advice, projects, programs. *Note: The Swedish policy for development cooperation underlines the distinction between the development activities of the partner country and the Swedish support of those activities. In English the Swedish support is described as Sweden's "contribution" and the partner country's development activity as a "development intervention" or "project/program".

Development Objective: Intended impact contributing to physical, financial, institutional, social, environmental, or other benefits to a society, community, or group of people via one or more development interventions. Note: In the terminology of log frame analysis a high-level objective provides the justification for undertaking a development intervention

Effect: Intended or unintended change due directly or indirectly to an intervention.

Evaluation: The systematic and objective assessment of an ongoing or completed project, program or policy, its design, implementation, and results. The aim is to determine the relevance and fulfillment of objectives, development efficiency, effectiveness, impact, and sustainability. An evaluation should provide information that is credible and useful, enabling the incorporation of lessons learned into the decision–making process of both recipients and donors. The evaluation also refers to the process of determining the worth or significance of an activity, policy or program. An assessment, as systematic and objective as possible, of a planned, ongoing, or completed development intervention. Note: Evaluation in some instances involves the definition of appropriate standards, the examination of performance against those standards, an assessment of actual and expected results, and the identification of relevant lessons.

Ex-ante Evaluation: An evaluation that is performed before the implementation of a development intervention.

Ex-post Evaluation: Evaluation of a development intervention after it has been completed. Note: It may be undertaken directly after or long after completion. The intention is to identify the factors of success or failure, to assess the sustainability of results and impacts, and to draw conclusions that may inform other interventions.

Impact: Positive and negative, primary and secondary long-term effects produced by a development intervention, directly or indirectly, intended or unintended.

Impact Evaluation: Evaluation of impact in the wide sense of the term (covering outcomes as well as impacts in the sense of long-term effects), usually with statistical methods. An impact evaluation tries to distinguish as carefully and reliably as possible between changes that can be attributed to the evaluated intervention and changes that would have occurred anyway.

Indicator: Quantitative or qualitative factor or variable that provides a simple, and reliable, means to measure achievement, to reflect the changes connected to an intervention, or to help assess the performance of a development actor.

Outputs: The products, capital goods, and services that result from development interventions.

Outcomes: The likely or achieved short-term and medium-term change and effects of intervention outputs.

Result: Development change i.e. outcome or impact (intended or unintended, positive and/or negative) of a development intervention.

Target: A performance objective defined as a value on an established performance indicator. A well-defined target is SMART, i.e. specific, measurable, adequate, realistic, and timed.

GGGI's definitions used in this Guideline

Intermediate Outcome: The likely or achieved mid-term change and effects of GGGI intervention outputs stated on GGGI's Theory of Change.

Investment Multiplier: The unit of outcome per USD invested - per technology/intervention - for a particular area of intervention. Each Strategic Outcome Indicator determines the unit of outcome.

Qualifying Project Outcome: An outcome that can be measured using a Strategic Outcome Indicator.

Strategic Outcome: The likely, or achieved, long-term change and effects of GGGI intervention outputs stated on GGGI's Theory of Change and reported in GGGI's Annual Reports.

Strategic Outcome Estimate: An approximate calculation, number, quantity or extent of the likely mid-term and long-term change and effects of intervention outputs.

Strategic Outcome Indicator: Quantitative or qualitative factor (or variable) that provides a simple and reliable means to measure achievement in order to reflect the changes connected to an intervention performed by GGGI. Linked to a Strategic Outcome.

Strategic Outcome Target: A performance objective estimated for a Strategic Outcome through the usage of investment multipliers or other means.

Theory of Change: Alternative method to formulate the intervention which describes the causal sequence for a development intervention (moving through activities and outputs, and culminating in outcomes, impacts, and feedback intervention) that will contribute to the targeted objective of GGGI.

[1] OECD. Network on Development Evaluation, a subsidiary body of the Development Assistance Committee (DAC). https://www.oecd.org/dac/evaluation/dcdndep/39249691.pdf

Nepenthes ampullaria is a very distinctive and widespread species of tropical pitcher plant, native to Borneo, the Maluku Islands, New Guinea, Peninsular Malaysia, Singapore, Sumatra, and Thailand.
Location and Date: Sebangau National Park, Central Kalimantan (2019).
Photo by: GGGI Indonesia.

1 INTRODUCTION

1.1 Measuring green growth progress

The Global Green Growth Institute (GGGI) was established with the sole mandate of advancing the green growth model in emerging and developing economies. GGGI assists its Member and Partner states to convert existing and emerging developmental and environmental challenges, including climate change, into opportunities for sustainable development. GGGI does so by formulating, promoting and implementing approaches to economic growth that are both environmentally sustainable and socially inclusive. Thus, GGGI emphasizes that green growth approaches serve as pathways to sustainable development.

Climate action and the transition to a low-carbon economy - as well as the protection of biodiversity and ecosystems - are central tenets of the green growth agenda. This is as they provide an integrated approach to simultaneously deliver economic development, climate resilience and environmental protection. Since adopting the UN Sustainable Development Goals (SDGs) and the Paris Climate Agreement in 2015, green growth has been pursued within these three global frameworks as a solution to the pressing economic, social and environmental challenges facing developing and emerging economies.

The analytical framework for measuring the progress and impact of green growth balances aspects of poverty reduction, social inclusion and equity, environmental sustainability and economic growth - especially in the developing country context. A premise of green growth is that these issues are interlinked and there are opportunities for creating synergies across them. Explicit consideration of synergies and trade-offs across economic sectors - and active engagement and empowerment of diverse stakeholders - are necessary for developing green growth solutions.

Considering this, GGGI has defined Strategic Outcomes (SOs), that reflect the key aspects of poverty reduction, social inclusion, environmental sustainability and economic development. Each SO has indicators aligned to the national development goals of GGGI Member and Partner country governments and the SDGs framework. The SOs are intended as a framework for measuring, monitoring and communicating the outcomes of green growth projects both at the GGGI country program level and the institutional level. Project outcomes contribute to measuring green growth progress.

1.2 About this guideline

The first version of GGGI's Strategic Outcome Guideline was published in 2019.[2] Since then, the guideline has been employed to establish GGGI's SO targets, harmonize measurement of project outcomes across all GGGI projects, develop GGGI's strategic narratives and guide strategic and operational planning.

This updated version of the guideline introduces important changes to concepts, indicators and methodologies to estimate outcome targets based on the institute's planned activities as well as to measure and report GGGI's Strategic Outcomes. The changes reflect the findings and recommendations to improve GGGI's Strategic Outcomes. They were drawn from a research and consultative process where ex-ante outcomes estimation methods of 18 international organizations[3], which have a similar scope to GGGI, were reviewed.

Specifically, three key changes are introduced in this updated Guideline:

1. It introduces **changes in GGGI's Strategic Outcomes**[4] and establishes new categories of Strategic Outcome indicators - including Additional Indicators - to foster a better alignment of GGGI's SO indicators with SDG indicators.
2. It clarifies how GGGI leverages its Theory of Change and results framework to **report on its contribution towards green growth results**. GGGI removed the distinction between Attributed and Contributed Strategic Outcomes to rename what used to be attributed SOs as contributed Strategic Outcomes (SO).
3. It introduces **improved investment multipliers** to estimate GGGI's target outcomes.

To clearly articulate the changes introduced this guideline is divided into four sections:

Section 2	Presents GGGI's Theory of Change (ToC) and its alignment with GGGI's Strategic Outcomes.
Section 3	Presents GGGI's five (updated) Strategic Outcomes and their corresponding Strategic Outcome Indicators.
Section 4	Introduces GGGI's framework for estimating Strategic Outcome targets, reporting and ensuring the quality of Strategic Outcome results.
Annexes	Further detail concepts, tools and analytical steps to estimate each Strategic Outcome. Technical definitions and sectoral boundaries are compiled in separate Methodology sheets.

This Guideline focuses on estimating GGGI's Strategic Outcomes through its corresponding indicators. The guideline does not address the estimation of other types of performance indicators of relevance for GGGI's Corporate Results Framework, such as: (1) *process indicators* (2) *efficiency indicators* (3) *effectiveness indicators* (4) *impact or performance indicators*.

This is a living document which GGGI will complement and update regularly to reflect feedback from users and recognized best practices**.**

[2] Rijsberman, Baruah, & Quezada. (2019, December). *GGGI Strategic Outcomes Guideline: Frameworks and Methodologies for Development Impact Estimation (Version 1)*. GGGI. https://gggi.org/wp-content/uploads/2020/02/GGGI-Technical-Guideline-No.-6-1.pdf

[3] The 18 organizations examined include five Multilateral Development Banks (MDBs) (i.e., ADB, AfDB, EBRD, IDB, and IFC), eight cooperation agencies (i.e., AfD, DANIDA, DFID/FCDO, EU, GIZ/KfW, JICA, KOICA, NORAD), three development financial organizations (i.e., GCF, GEF and Adaptation Fund), two United Nations Agencies (i.e., UNEP and UNDP), and the World Bank Group (WB). These organizations were selected based on: a) the robustness of their ex-ante assessment methodologies; b) the resemblance of their activities to GGGI's operations; and c) their importance as GGGI project partners or financiers.

[4] SO1 now includes 'Adaptation' (Former SO6), SO4 (Air Quality) is now captured as an additional indicator under SO1. The former SO5 (Natural Capital) is renumbered SO4 and a New SO5 (Socio-Economic Development) has been added to measure effects on development.

Bus Rapid Transit system in Semarang, a transportation solution to combat climate change. One of the GCF-funded projects in Indonesia.
Location and Date: Semarang, Central Java, Indonesia (2019).
Photo by: GGGI Indonesia.

2 THE STRATEGIC OUTCOMES (SO) AND GGGI'S THEORY OF CHANGE

2.1 Strategic Outcomes within GGGI's Theory of Change

GGGI uses two sets of development outcomes - **Intermediate Outcomes (IOs) and Strategic Outcomes (SOs).** The IOs are "vehicles" through which GGGI achieves the SOs. Figure 1 depicts the Theory of Change (ToC) and shows how the IOs are translated into SOs. The ToC theorizes how GGGI's activities related to policy, financing, projects and knowledge sharing are believed to lead to the desired positive outcomes found in the SO indicators.

The IOs are realized in the short-to medium-term through the delivery of GGGI's outputs. They aim to capture GGGI's success in creating the conditions for green growth in Member and Partner states through:

- Supporting the realization of green growth plans and policies (through the structuring of bankable projects) and the mobilization of green and climate finance (through innovative finance instruments and financing vehicles);
- Mainstreaming green growth concepts in national, sub-national and sectoral plans and policies;
- Improving capacity development, knowledge development and knowledge sharing in support of the above areas, and;
- Mainstreaming gender equality and social inclusion in green growth interventions.

Additional information on GGGI's IOs can be found in Annex I.

The SOs represent end-goals that GGGI aims to achieve through its projects to support the green growth transition in its Member and Partner states. (Refer to Table 1). SOs are aligned with GGGI's Member and Partner states' long-term national development priorities and goals. The ex-ante estimations of SOs provide data on expected future outcomes from GGGI's activities. All GGGI activities should contribute to achieving one or more of the SOs in the longer term.

In addition, **GGGI's Global Operational Priorities (GOPs) and Programmatic Solutions (PS)** are the institute's focus areas as part of its Strategy 2030.[5] Projects in these focus areas lead to the achievement of Strategic Outcomes. Table 2 depicts the relationship between them.

[5] STRATEGY 2030: A Low-Carbon, Resilient World of Strong, Inclusive, and Sustainable Growth. (2019, October). GGGI. https://gggi.org/wp-content/uploads/2019/12/Strategy-2030-EXTERNAL-191212_FINAL.pdf

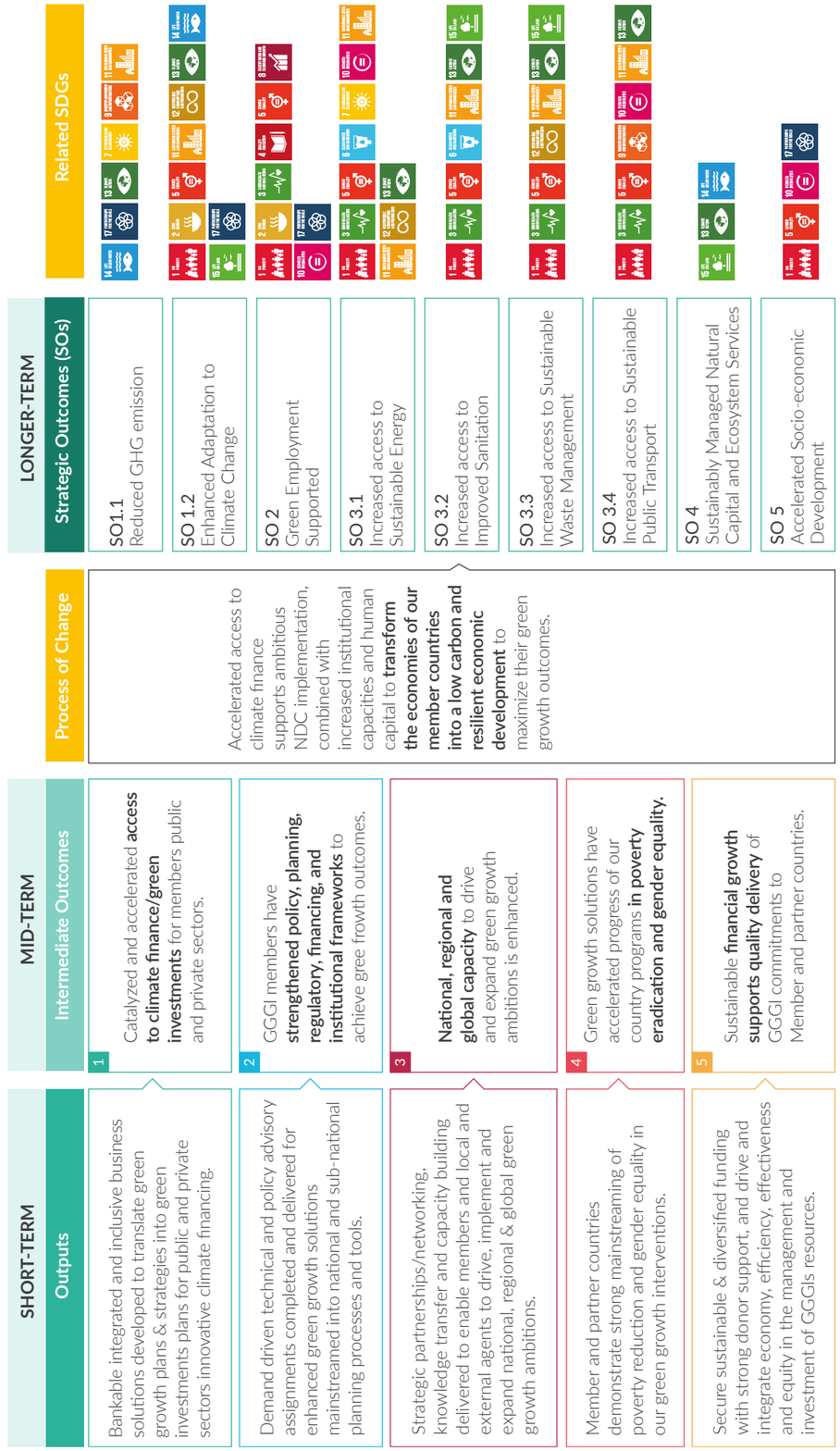


Figure 1. GGGI's Theory of Change

Table 1. Scope of measurement of Strategic Outcomes

STRATEGIC OUTCOMES	SCOPE OF MEASUREMENT [6]
SO 1.1 Reduced GHG Emissions	Includes outcomes - derived from climate change mitigation initiatives, measures and technologies - to reduce Greenhouse Gas (GHG) emissions and enhance sinks by reducing emissions per unit of output.
SO 1.2 Enhanced Adaptation to Climate Change	Includes outcomes - derived from climate adaptation initiatives and measures including technology implementation as well as direct investments in any economic sector - that will directly increase the resilience and/or reduce the climate risk of natural and human systems against actual, or expected, negative climate change effects. All types of adaptation are considered (e.g., anticipatory and reactive, private and public, and autonomous and planned).
SO 2 Green Employment Supported	Includes outcomes - derived from initiatives and measures including technology implementation as well as direct investments in an economic sector - that focus on stimulating decent[7] and green employment[8] creation. This could be through, for example, public works schemes, hiring subsidies, vocational training and retraining, the promotion of Small and Medium Enterprises (SMEs) and self-employment, and the implementation of technologies.
SO 3.1 Increased access to Sustainable Energy	Includes outcomes - derived from initiatives and measures including technology implementation as well as direct investments - related to: **a.** Electricity Security/Modern energy access: Providing a household, both urban and off grid, with reliable access to electricity from clean energy sources. It should be sufficient to supply a basic bundle of energy services initially, and then an increasing level of electricity over time, to reach the regional average[9]; **b.** Energy Efficiency and Demand Side Management (DSM) measures: At energy end-users (i.e. Buildings, Industries, Agriculture, etc.) via retrofitting, fuel change and other measures to increase the output ratio of performance-to-input energy; **c.** Electricity and heat generation with renewables: Initiatives and measures to generate electricity derived from solar, wind, ocean, small-scale hydropower, biomass, geothermal resources and carbon-neutral technologies - such as biofuels and hydrogen derived from renewable resources (IEA, 2002); **d.** Energy for productive purposes: Rural communities and farmers benefit from solar-powered pumps (to replace dependence on diesel-powered pumps) that leads to increased agricultural productivity; **e.** Fuel switching: Generator's ability to completely, and in the long-term, replace one fossil fuel generation source with a renewable source.

[6] The scope of measurement considered Core and Additional Outcome Indicators.

[7] Decent work: Productive work in which rights are protected, which generates an adequate income, with adequate social protection. Also means sufficient work, in the sense that all should have full access to income-earning opportunities.

[8] Green jobs: Employment that benefits the economy while contributing substantially to preserving or restoring environmental quality. Green jobs are decent jobs that reduce the consumption of energy and raw materials, limit greenhouse gas emissions, minimize waste and pollution, and protect and restore ecosystems.

[9] Defining energy access: 2020 methodology – Analysis - IEA. (n.d.). International Energy Agency. https://www.iea.org/articles/defining-energy-access-2020-methodology

STRATEGIC OUTCOMES	SCOPE OF MEASUREMENT
SO 3.2 Increased access to Improved Sanitation	Includes outcomes - derived from initiatives and measures including technology implementation as well as direct investments - that directly improve public health conditions related to domestic/community clean drinking water, treatment and disposal of human excreta and sewerage, and sanitation services, including handwashing facilities with soap and water (as in SDG 6.2.1).
SO 3.3 Increased access to Sustainable Waste Management	Includes outcomes derived from initiatives and measures - including technology implementation and direct investments that support the provision of Basic, Improved or Full levels of MSW services to either urban or rural populations. It includes interventions across all processes stages of the waste management value chain - i.e., production; disposal / handling of; processing; storage; transportation; reduction; reuse; recovery; and prevention of solid and liquid waste.
SO 3.4 Increased access to Sustainable Public Transport	Includes outcomes - derived from initiatives and measures including technology implementation as well as direct investments in the transport sector - that increase access to sustainable public transport. Examples include: the development of new Bus Rapid Transit systems (or its electrification), municipal buses, tram, metro, rail or any other public transport mode (i.e. bike sharing and e-scooter sharing); enhancement of feeder public transport; electrification of public transport modes (including taxis and tuk-tuks); and switching of existing public transport modes to cleaner forms of fuels (e.g. converting to Compressed Natural Gas). In Small Island Developing States (SIDS), inter-island maritime transport plays a key role. SIDS pay a greater share of transport costs on their imports compared to the world average. Therefore, passenger maritime transport modes that enhance capacity and affordability, and freight maritime transport modes that use cleaner forms of fuel can be included.
SO 4 Sustainably Managed Natural Capital and Ecosystem Services	Includes outcomes – derived from initiatives and measures including technology implementation as well as direct investments - focused on the restoration, conservation and sustainable management of natural capital. Outcomes also include initiatives and measures focused on improving the role of and protecting the environment and ecosystems in supporting human well-being through the supply of natural goods and services - such as clean water, fertile soils, marine resources and valuable genetic resources (i.e., provision of ecosystem services).
SO 5 Accelerated Socio-economic Development	Includes outcomes - derived from initiatives and measures including technology implementation as well as direct investments-that directly improve the economic well-being and quality of life of a nation, region, local community or individual according to targeted goals and objectives. The social dimensions include, but are not limited to, income, gender equality, social inequality, access to health, access to education, access to infrastructure, culture, etc. The economic dimensions include, but are not limited to, market productivity, an increase in Gross Domestic Product (GDP), an increase in household income, etc.

Table 2. Relationship between GGGI's Strategic Outcome and GGGI's Global Operational Priorities and Programmatic Solutions

GLOBAL OPERATIONAL PRIORITIES	PROGRAMMATIC SOLUTIONS	STRATEGIC OUTCOMES
GOP 1. Catalyzing and accelerating access to climate finance/ green investments for members' public and private sector	PS 1. Green Investment PS 11. Carbon Pricing (Cross Cutting)	SO 1. Climate Change mitigation and adaptation SO 2. Green Employment Supported SO 3. Access to Sustainable Services (Sustainable Energy, Improved Sanitation, Sustainable Waste Management, Sustainable Public Transport) SO 4. Sustainably Managed Natural Capital and Ecosystem Service SO 5. Accelerated Socio-economic Development
GOP 2. Supporting our members in strengthening policy, planning, regulatory frameworks and institutional capacity to achieve green growth outcomes	PS 2. Climate Action PS 11. Carbon Pricing (Cross Cutting)	SO 1. Climate Change mitigation and adaptation SO 2. Green Employment Supported SO 3. Access to Sustainable Services (Sustainable Energy, Improved Sanitation, Sustainable Waste Management, Sustainable Public Transport) SO 4. Sustainably Managed Natural Capital and Ecosystem Services SO 5. Accelerated Socio-economic Development
GOP 3. Achieving a sustainable and circular bioeconomy while securing healthy natural systems	PS 3. Climate Resilient Agriculture PS 4. Sustainable Forests PS 5. Coastal Resilience and Blue Economy PS 11. Carbon Pricing (Cross Cutting)	SO 1. Climate Change mitigation and adaptation SO 2. Green Employment Supported SO 4. Sustainably Managed Natural Capital and Ecosystem Services
GOP 4. Making cities and communities sustainable, livable and resilient - supported through green jobs, services and green infrastructure	PS 6. Circular Economy and Sustainable Waste Management PS 7. Sustainable Mobility PS 8. Green Buildings PS 9. Sustainable Energy PS 10. Green Industries	SO 1. Climate Change mitigation and adaptation SO 2. Green Employment Supported SO 3. Access to Sustainable Services (Sustainable Energy, Improved Sanitation, Sustainable Waste Management, Sustainable Public Transport
GOP 5. Accelerating progress in our country programs in poverty eradication and gender equality through our operations	Cutting across all programmatic solutions.	SO 1. Climate Change mitigation and adaptation SO 2. Green Employment Supported SO 5. Accelerated Socio-economic Development

2.2 Contextualizing GGGI's contribution to development impacts using Strategic Outcomes

GGGI's projects generally target the mobilization of investment commitments and adoption of green growth policies. The impacts of which depend on their effective implementation and occur largely after GGGI's projects are completed. Projects are also often implemented jointly with partner organizations and financed by external donors. In that sense, **GGGI's projects' Strategic Outcomes are not exclusively attributable to the organization, but are instead a significant contribution to the achievement of green growth objectives.**

Considering this, GGGI estimates and reports on its **Contribution towards the global, national and/or local green growth objectives via its Strategic Outcomes (SOs)**. SOs should be easily relatable to both policymakers and the general public as they capture key aspects of the green growth transition in GGGI Member and Partner states. They represent green growth in the context of the achievement of the Nationally Determined Contributions (NDCs) under the Paris Agreement and the UN-SDGs.

SOs are not intended to be all encompassing. They are a concise set of outcomes with a relatively simple set of indicators. This enables effective communication of GGGI's impacts at country level and enables the aggregation of country-level impacts at the organization level. **GGGI reports its annual Contribution by aggregating results over each Strategic Outcome indicator at national, regional and global levels.** The aggregation of results over Strategic Outcome Indicators provides an overview of the direct and expected (*ex-ante*) long-term results of the institution across GGGI's Strategic Outcomes.

The aggregated results over Strategic Outcome Indicators, in combination with case examples of specific projects and in reference to GGGI's Theory of Change (ToC), provide estimates to GGGI's stakeholders of how the institution contributes to achieving its Mission and Vision. The global level aggregation of Strategic Outcomes results provides a quantitative analysis of the order of magnitude of effects of all GGGI interventions. The national-level aggregation of Strategic Outcome Indicators, when compared against SDG targets, provides a contextualization of the contribution of expected outcomes of a GGGI program to national level objectives. **To further contextualize the effects of GGGI's projects at the national level, case examples are utilized**. Finally, the ToC helps illustrate how the effects occurred as a result of the project. The aggregation of Strategic Outcomes results is published in GGGI's Annual Reports.[10]

[10] Results. (n.d.). GGGI. https://gggi.org/about/results/

Smallhold farmer with a water melon in her own unheated greenhouse, where cabbage, cucumber and paprika also grow.
Location and Date: Karakalpakstan, Uzbekistan. June (2022).
Photo by: Jooyoung Yoo.

The Physical Development planning process for Arua City under the Greening Uganda's Urbanisation and Industrialisation Project funded by the European Union. **Location and Date:** Arua city, Uganda (October 2021). **Photo by:** Dagmar Zwebe.

3 UPDATED STRATEGIC OUTCOMES AND INDICATORS

3.1 Updates to Strategic Outcomes and Indicators

Strategic Outcome Indicators assess expected (ex-ante) development outcomes to be delivered after a project has been closed. This is as most GGGI projects deliver further Strategic Outcome level results after they have ended. It is expected that most GGGI projects contribute to the reporting of one or more strategic Outcome Indicators in the long term. SO indicators are neither fixed or exhaustive. They are complemented and updated regularly to better reflect GGGI's Global Operational Priorities and Programmatic Solutions.

GGGI has updated its Strategic Outcomes and its corresponding indicators. Initially, GGGI reported six Strategic Outcomes (*SO1. Reduced GHG emissions; SO2. Creation of green jobs; SO3.1. Access to clean affordable energy; SO3.2. Access to improved sanitation; SO 3.3. Access to sustainable waste management; SO 3.4. Access to sustainable transport; SO 4. Improved air quality; SO5. Adequate maintenance of natural capital, and; SO 6. Enhanced adaptation to climate change*).

This guideline introduces five updates:

1. Strategic Outcomes were regrouped to better reflect GGGI's Programmatic Solutions. Specifically, *SO 1. Reduced GHG emissions* and *SO6. Enhanced adaptation* are now encompassed as SOs 1.1 and SO 1.2 to reflect outcomes related to the Programmatic Solution 2 – Climate Action.

2. Strategic Outcomes were re-named to better reflect their scope of measurement. For example, SO 3.1 was previously called "*Access to clean and affordable energy*" is renamed as "*Improved access to clean energy*".

3. Strategic Outcomes with no direct relationship to Programmatic Solutions are now considered additional indicators; such is the case of Strategic Outcome 4 – *Improved air quality.* (See section 3.2)

4. A Strategic Outcome to measure socio-economic development is added to measure outcomes on GGGI's Intermediate Outcome 4 *Green growth solutions support member and partner countries in reducing poverty eradication and achieving gender equality*.

5. The indicators of all Strategic Outcomes were reviewed to be further aligned to the SDG Framework and its specific indicators as well as with GGGI's Member and Partner states' long-term national development goals. (See Annex III)

The updated Strategic Outcomes and corresponding indicators are shown in Figure 2.

3.2 Categories of SO Indicators

The indicators of each Strategic Outcome are divided into three categories: 1) Core indicators; 2) Additional indicators; and 3) Project-level indicators. (Refer to Table 3)

- **Core SO Indicators** – They aim to: (i) reflect GGGI's outcomes in a specific Programmatic Solution and in relation to an institutional global operational priority; and (ii) facilitate decision-making and comparison between projects across different interventions. Only these Core SO Indicators are aggregated for corporate target setting and reporting.

- **Additional SO Indicators -** They are alternative indicators to be utilized when Core SO Indicators are inappropriate for estimating a project's main targets/outcomes within a SO. They are optional indicators for project-level corporate reporting. "If possible," additional indicators will be aggregated up to organizational level. However, there will not be organization targets set for these indicators.[11]

- **Project-specific Indicators** - They aim to provide detailed information on how a project supports national, subnational or project-specific environmental or socio-economic development objectives. They are not used for corporate target setting and reporting. However, they can be used for donor reporting and to report back to other project stakeholders. More information on project-specific indicators is provided in Annex IV.

[11] For example, an energy project with a focus on energy efficiency could better measure its outcome using the additional outcome indicator related to energy efficiency (i.e., Electrical energy or thermal energy saved, with respect to baseline as a result of GGGI's intervention) rather than the core outcome indicator related to access to clean energy (i.e., No. of people who gained access to clean fuels and/or electricity as a result of GGGI's intervention).

A woman discussing the topic of 'Gender and Social Inclusion in Climate Change' under the GCF Readiness Program. **Location and Date:** Bogor, West Java, Indonesia. 2019. **Photo by:** GGGI Indonesia.

Figure 2. Updated Strategic Outcome Indicators

Strategic Outcomes Indicators

STRATEGIC OUTCOMES		CORE Outcome Indicators Reflect GGGI's outcomes in a specific area of intervention and in relation to an institutional global priority.	ADDITIONAL Outcome Indicators Opt-in indicators for assessing additional environmental, economic, and/or social factors within an area of action. These indicators are used as alternative reporting in case core indicators are unable to measure the target outcome of a project.
SO 1 – Climate Change (Mitigation & Adaptation)	SO 1.1 – Reduced GHG Emissions	**Reduced or Avoided GHG Emissions** GHG emissions reduced or avoided as a result of GGGI's intervention (*Million tons of CO2eq*) **SDG ALIGNED (13.2.2)**	**Improved Air Quality** Number of annual days above U.S.-EPA 'Orange' Air Quality Index (AQI) as a result of GGGI's intervention (*Days*)
	SO 1.2 –Enhanced Adaptation to Climate Change	**Enhanced Adaptation to Climate Change** No. of people directly supported to cope with the effects of climate change as a result of GGGI's intervention (*Million people*)	**Not applicable**
	SO 2 – Green Employment Supported	**Green Employment Supported** No. of direct green jobs supported as a result of GGGI's intervention (*Number of Full-Time Equivalent jobs*)	**Improved Working Conditions** No. of people that benefited from improved working conditions as a result of GGGI's intervention (*Number of people*) **Access to Skills Development** No. of people who increased their access to skills training as a result of GGGI's intervention (*Million beneficiaries*) **Enabling Environment for Employment Creation** No. of developed and operationalized national or subnational strategies for employment as a distinct strategy as a result of GGGI's intervention (*No. of policies*)
SO 3 – Access to Sustainable Services	SO 3.1 –Increased Access to Sustainable Energy	**Access to Clean Energy** No. of people who gained access to clean fuels and/or electricity as a result of GGGI's intervention (*Million people*) **SDG ALIGNED (7.1.1)**	**Renewable Energy Infrastructure Development** Newly installed renewable energy-generation capacity as a result of GGGI's intervention (*MW*) **SDG ALIGNED (7.b.1)** **Energy Efficiency** Electrical energy or thermal energy saved, with respect to baseline- as a result of GGGI's intervention (*Tonnes of Oil Equivalent*)
	SO 3.2 – Increased Access to Improved Sanitation	**Access to Improved Sanitation** No. of people who have gained access to improved sanitation services and/or wastewater treatment as a result of GGGI's intervention (*Million people*) **SDG ALIGNED (6.2.1)**	**Sanitation Infrastructure** Amount of domestic and industrial wastewater flow safely treated as a result of GGGI's intervention (*1000 m3/day*) **SDG ALIGNED (6.3.1)**
	SO 3.3 – Increased Access to Sustainable Waste Management	**Access to Waste Mgmt. Services** No. of people who gained access to either basic, full, or improved waste management services (i.e., collection and control) as a result of GGGI's intervention (*Million people*) **SDG ALIGNED (11.6.1)**	**Waste Mgmt. Infrastructure** Municipal solid waste or hazardous industrial waste collected and managed in controlled facilities as a result of GGGI's intervention (*Million Tonnes/day*) **SDG ALIGNED (11.6.1; 12.4.2)** **Waste Generation** Reduction in waste generated through prevention, reduction, recycling, and reuse, as a result of GGGI's intervention (Million (*Tonnes/year*) **Circular Economy – Recycling** Total waste recycled as a result of GGGI's intervention (*Million Tonnes of material recycled/year*) **SDG ALIGNED (12.5.1)** **Circular Economy – Food loss** Change in total amount of food loss as a result of GGGI's intervention (*Million Tonnes/year*) **SDG ALIGNED (12.3.1 a)** **Circular Economy - Industry** Change in circular material use rate as a result of GGGI's intervention (*%*)
	SO 3.4 – Increased Access to Sustainable Public Transport	**Access to Sustainable Public Transport** No. of people with new or enhanced access to sustainable public transport as a result of GGGI's intervention (*Million people*)	**Public Transport Demand** Total number of annual passengers boarding sustainable public transport as a result of GGGI's intervention. Linked trips (*Passengers per year*)
	SO 4 – Sustainably Managed Natural Capital and Ecosystem Services	**Natural Capital Sustainably Managed** Sustainably managed area of natural capita as a result of GGGI's intervention (*Million Ha*) **SDG ALIGNED (15.1.1, 15.1.2 and 15.2.1)**	**Ecosystem Services** No. of people who gained social or economic benefits from a natural area being intervened as a result of GGGI's intervention (*Million beneficiaries*) **Sustainable Agriculture** Agriculture area under productive and sustainable agricultural practices as a result of GGGI's intervention (*Million Ha.*) **SDG ALIGNED (2.4.1)**
	SO 5 – Accelerated Socio-Economic Development NEW STRATEGIC OUTCOME	**Population with Increased Income** No. of people who have increased their annual income as a result of GGGI's intervention (*Million people*)	**Population with Increased Living Standards** No. of people who have increased their living standards above the national poverty line as a result of GGGI's intervention (*Million beneficiaries*) **SDG ALIGNED (1.2.1)**

Table 3. Categories of Strategic Outcome Indicators

	STRATEGIC OUTCOME INDICATORS		
	Core Outcome Indicators	Additional Outcome Indicators	Project- Specific Outcome Indicators
PURPOSE	**Strategic, operational and project planning**: These are used for target setting. They are also used to facilitate decision-making and comparison between projects across different areas of intervention. **Project, Program and Corporate results reporting:** These are used to reflect GGGI's strategic outcomes in a specific area of intervention.	**Project planning**: These are used for target setting at the project level. **Project, Program and Corporate results reporting:** These are optional indicators for assessing additional environmental, economic and/or social outcomes within an area of intervention. They are also used for alternative reporting in case Core indicators are unable to measure the main strategic outcomes of a project.	**Project level planning and Reporting:** These provide detailed information on how a project supports the achievement of national, subnational or local environmental - or socio-economic development - objectives.
CHARACTERISTICS	There are nine indicators selected from the OECD, World Bank, SDG indicators databases or key donor indicators.	These indicators have been selected from OECD and SDG indicators.	These indicators are reported by projects to suit project-specific (national, subnational or local) circumstances or requirements from earmarked donors.
AGGREGATION	They are aggregated at an institutional level.	They are aggregated at an institutional level.	They are not aggregated beyond the project level. National, subnational or local level indicators are linked to project-specific targets or objectives.
FRAMEWORK	They reflect key areas of action across GGGI Member and Partner states.	They reflect key areas of action across GGGI Member and Partner states.	They reflect key areas of action within a project.
PUBLICATION OF ESTIMATES	Strategic and Operational Planning and Corporate Annual Reporting Documents.	Corporate Annual Reporting Documents.	Project results reporting.

3.3 Qualifying Project Outcomes for Strategic Outcome estimation

Not all outcomes from GGGI projects are expected to have an effect that can be expressed in terms of SOs. GGGI's SO indicators measure any achievements of project outcomes that are "Qualifying" for SO estimation. These include outcomes with a direct causal link to Strategic Outcomes:

i. Investment mobilization for infrastructure development projects;

ii. Sustainable finance instruments (developed with GGGI's support) that serve to finance one - or a set of - specific projects. This includes, for example, National Financing Vehicles (NFVs), lines of credit, guarantees, Green Bonds/Thematic Bonds frameworks, Debt for Nature Swaps, Climate risk disclosure, Credit enhancement Banking/Funds, Carbon transactions, etc.

iii. Policies (developed with GGGI's support) that have been formally adopted and for which the estimation of ex-ante outcomes is feasible. For example, Nationally Determined Contributions (NDCs), Long-Term Low-Emissions Development Strategies (LT-LEDS), Green Growth Strategies, etc.

Capacity development and knowledge-sharing outcomes cannot be measured using GGGI's SOs. Outcomes of these activities will be measured using recognized frameworks, such as the World Bank (WB)'s Capacity Development Results Framework (CDRF).

Guidance on methodologies, indicators and tools to measure Policy- and Capacity-building outcomes will be elaborated as an addition to the Guideline.

Qualifying project outcomes are described and placed in the context of GGGI's Theory of Change in Figure 3 and explained in detail in Annex II.

Figure 3. Qualifying project outcomes to be estimated with Strategic Outcome Indicators

SHORT-TERM	MID-TERM	LONGER-TERM
Outputs	**Intermediate Outcomes**	**Qualifying project HomeSite to be measured with SO indicators**
Bankable integrated and inclusive business solutions developed to translate green growth plans & strategies into green investments plans for public and private sectors innovative climate financing.	1 Catalyzed and accelerated **access to climate finance/green investments** for members public and private sectors.	1. Investment projects, Sustainable finance instruments
Demand driven technical and policy advisory assignments completed and delivered for enhanced green growth solutions mainstreamed into national and sub-national planning processes. and tools.	2 GGGI members have strengthened policy, planning, regulatory, financing, and institutional frameworks to achieve gree frowth outcomes.	2. Some categories of Policy, financing/ development strategies, and planning frameworks
Strategic partnerships/networking, knowledge transfer and capacity building delivered to enable members and local and external agents to drive, implement and expand national, regional & global green growth ambitions.	3 National, regional and global capacity to drive and expand green growth ambitions is enhanced.	No qualifying Outcomes Outcomes are measured with recognized frameworks such as the World Bank (WB)'s Capacity Development Results Framework (CDRF)
Member and partner countries demonstrate strong mainstreaming of poverty reduction and gender equality in our green growth interventions.	4 Green growth solutions have accelerated progress of our country programs in poverty eradication and gender equality.	3. Investment projects, policies or development strategies under 1. and 2.

Members of the El Bagre community paint a mural as part of a series of workshops on deforestation control in the municipalities with the highest deforestation rates in the Antioquia Department. Green Growth Program funded by Norway and supported by the Government of Antioquia, WWF, and regional environmental organizations (March 2021).
Photo by: Valentina Álvarez

4 ESTIMATING SO TARGETS AND REPORTING ON SO RESULTS

4.1 Linking SO estimation with GGGI's Strategic, Operational Planning and Programming

The estimation of Strategic Outcomes is a key feature of GGGI's results-based management (RBM). GGGI's RBM rests on a set of processes that ensure a focus on results at each stage of the strategic, operational and project lifecycle.

Figure 4. When are Strategic Outcomes estimated?

Strategic Outcomes estimation along the Project Cycle

HIGH-LEVEL SO **TARGETS**		REFINED SO **TARGETS**		SO **RESULTS**	**IMPACT**
1 **Strategic Framework**	2 **Proposal Development**	3 **Project Initiation**	4 **Project Implementation**	5 **Results Reporting**	6 **Project Evaluation** [Planned Stage]
What to estimate?					
Ex-ante SO Targets at country level based on **investment multipliers**	**Ex- ante SO Targets at project level** based on baseline and **informed assumptions**	**Refined ex- ante SO Estimates at project level** based on **pre-feasibility studies**		**Ex- ante SO Results at project level** based on **estimated results** Compare Ex-ante SO results vs. SO targets	**Ex-post SO impact** Compare with SO results
Who leads estimation?					
Strategy unit, Regional office, Country office	Proposal/ PIN development lead	Project Manager with Thematic and M&E staff		Project Manager, with Thematic and M&E staff	Impact Evaluation Unit
Where are estimates captured?					
◦ Strategy 2030 ◦ Roadmap 2021-2025 ◦ Regional Strategies ◦ Country Planning Frameworks ◦ Work Program and Budgets (WPB)	◦ Project Idea Notes ◦ Earmarked Project proposals	◦ GGGI Online system **Feedback**		◦ Annual Results Report ◦ Donor reports ◦ Strategic Reviews and Evaluations	

Estimations over Strategic Outcome Indicators are conducted at all stages of GGGI's Strategic, Operational Planning, Programming and Project cycle. (See Figure 4)

a. **Strategic Framework stage:** High-level estimates are developed at the Global, Regional or Country level. It involves estimations of intermediate outcome-level delivery (for instance investment commitments to be mobilized) and related multipliers.

b. **Project development and initiation stages:** The relevant ex-ante Strategic Outcome Indicators are estimated based on assumptions about the context and the scope of interventions. Whenever possible, a first estimation of the project's relevant Strategic Outcome Indicators must be included in the Project Idea Note (PIN) or the Project Proposal to a donor.

c. **Project implementation stage**: Initial ex-ante estimations must be improved during the **inception phase or baseline setting stage of a project -** as initial assumptions made may change and affect estimates. Strategic Outcome estimates may then **increase or decrease as better data becomes available**, for instance on the scope and content of investment projects GGGI helps in preparing.

d. **Reporting annual SO results of projects:** When **reporting annual SO results of projects, an updated estimate of SO results is conducted** using the most up to date information available about related outcomes.

e. **Ex-post evaluations:** In addition, GGGI will explore the possibility to **complement ex-ante estimates by ex-post evaluations** of actual impact over SOs after project closure.

Methodological guidance to estimate Strategic Outcomes - such as technical definitions, sectoral boundaries, methodologies for estimation, data collection methods, baselines and worked examples - are outlined in the **Methodology Notes of each Core Strategic Outcome Indicator** and are available as separate documents.

Leading the estimation of Strategic Outcomes is the primary responsibility of project teams and technical experts directly involved in projects.

A woman weaving rattan into highly economical products.
Location and Date: Central Kalimantan, Indonesia (2019).
Photo by: GGGI Indonesia.

4.2 Estimating ex-ante Strategic Outcome Targets using investment multipliers

The ex- ante estimation of outcomes from expected GGGI activities is the result of multiplying: (1) *investment multipliers;* with (2) GGGI's expected investment amounts to be mobilized per specific technology/ intervention for each of the five Strategic Outcomes.

1. *Investment multipliers* are defined as the unit of outcome per USD invested - per technology/intervention - for a particular area of intervention. Each Core Strategic Outcome Indicator[12] determines the unit of outcome. Each SO Indicator has an investment multiplier value - expressed as a range (maximum, minimum and average), per geographical region, and per technology/ intervention. For example, the investment multiplier for employment creation uses a Core Strategic Outcome Indicator which measures the number of direct green jobs supported by GGGI's intervention in Full-Time Equivalent (FTE) jobs. Therefore, the investment multiplier in the agriculture sector - specifically for the implementation of agroforestry interventions - ranges from 396 to 594 direct FTE jobs per million USD invested in Latin America and the Caribbean[13] and a Global average range of 998 to 1,278 direct FTE jobs per million USD invested for all GGGI's countries of intervention.

GGGI's investment multipliers for each Strategic Outcome can be viewed in Annex V together with details of the methodology used to compile them.

GGGI teams can use the investment multipliers together with data on expected investment commitments mobilized for technologies covered to estimate ex-ante outcomes. This should be undertaken when the information available is not sufficient for using the Strategic Outcomes' methodology sheets. The use of investment multipliers is mostly relevant when setting targets in Strategies, Country Planning Frameworks and new project proposals.

It is expected that at the stage of reporting on Strategic Outcome results estimates, enough additional information about the project or intermediate outcome qualifying for estimation is available. At this stage the use of methodology sheets is systematically preferred over the use of multipliers.

4.3 Reporting Strategic Outcome estimates

GGGI estimates Strategic Outcomes over its SO Indicators as part of its End of Year reporting. This is in connection with the delivery of Intermediate Outcome-level results from projects and programs:

1. When investment commitments are mobilized thanks to GGGI's support;
2. When a policy GGGI helped design gets formally adopted; and
3. In specific cases (e.g. green bond issuance), at the time when information on impact is made available,[15] or when project Outputs directly impacting SOs are completed (e.g. cash handouts for improved resilience to climate change, climate smart agriculture pilots etc.).

Reported SO results estimates are expected to be of a higher level of detail than target estimates because they are based on:

1. Feasibility studies and other project preparation documents which allow for the use of Methodology sheets. *For investment commitment mobilization related estimates.*

[12] Core Strategic Outcome Indicator: The Core Outcome Indicators aim to: 1) reflect GGGI's outcomes in a specific area of intervention and in relation to an institutional global priority; and 2) facilitate the decision-making and comparison between projects across different areas of intervention.

[13] 2021 Data for Latin America and the Caribbean. Source: Pino, Opperman, Weber, Fabricius, Escobar, Aceituno, Llewellyn, Close, Pino, Wright, Pacheco, Leonard, Harsdorff, Gutierrez, Tsukamoto, & Morales. (2020, October). *NATURE HIRES: How Nature-based Solutions can power a green jobs recovery*. WWF, International Labour Organization. https://www.ilo.org/wcmsp5/groups/public/---ed_emp/documents/publication/wcms_757823.pdf

[14] See methodological note to estimate impact from Thematic bonds in Annex XVII.

2. Ex-ante assessment methodologies - for instance Cost-Benefit Analyses (CBA).[15] *For policy adoption related estimates.*

3. Other forms of evidence supporting reported values - such as Allocation and Impact reports (in the case of green bonds) or evidence of completion of Outputs. *For other cases.*

The reported Strategic Outcome results for each project and program are estimated by project teams and uploaded in the GGGI Online system as part of GGGI's End-of-Year reporting process. They use a template provided by GGGI's Strategy Unit.

The aggregation of country, regional and global level estimates reported over Strategic Outcome Indicators - published in GGGI's annual reports - is made by the Strategy Unit using data submitted for each project in the GGGI Online System.

4.4 Ex-post evaluation of Strategic Outcomes

Currently, GGGI does not currently conduct ex-post evaluations of GGGI's Strategic Outcome results but aims to progressively pilot this subject to resource availability.

4.5 Ensuring the quality of Strategic Outcomes estimates

Quality control over the estimation of ex-ante Strategic Outcomes takes place at all stages of GGGI's Project Cycle Management (PCM) framework.

a. **Strategic SO Targets** are included in Strategies, Country Planning Frameworks (CPF) and Work Program and Budgets (WPB). They are developed by relevant teams and predominantly rely on investment multipliers. They are reviewed by the Strategy Unit.

b. **Project level SO Targets** are developed by project teams at project proposal stage whenever possible. At this stage, ex-ante SO targets are estimated by the proposal team based on: high-level assumptions of project Intermediate Outcome level results; data from official national statistics; or by using other assumptions. They can be estimated using methodology notes for each Strategic Outcome Indicator or, in the absence of enough information, using investment multipliers. They are reviewed by sectoral experts as part of GGGI's project proposal review process. Initial estimates are to be refined by project teams **during project implementation** with the support of sectoral experts involved in project implementation. This is part of the updating of project baselines and the monitoring of projects results over targets. When conducting investment project preparation or qualifying policy design work (i.e. feasibility studies), ex-ante outcome indicators must be estimated with the support of a technical expert.

c. **Strategic Outcome Results** estimated and reported by project teams should build on estimates updated during project implementation and use the latest available information about qualifying outcomes. At this stage, the support of a technical expert is necessary to ensure the effective use of estimation methodologies. Estimated results which have been verified by a technical expert should be identified as such in the **End of Year Reporting**. The Strategy Unit coordinates the additional review of SO results at the time of reporting - and of associated calculations - by relevant GGGI technical experts.[16]

[15] The framework and methodologies to estimate ex-ante Strategic Outcome results from the adoption of specific categories of policies will be further elaborated in a document complementing the present Guideline.

[16] A separate guidance note describing the SO Result verification process will be elaborated.

Day 2 of Musanze District NMT Infrastructure Workshop & Marathon began with cycling tour of Musanze

5 ANNEXES

Annex I. GGGI Intermediate Outcomes

GGGI Strategy 2030 outlines **five Intermediate Outcomes.** The four programmatic outcomes are outlined below.

Intermediate Outcome 1: Accelerated access to, and mobilized, climate finance / green investment commitments for members from both public and private sectors. Green investments refer to: the allocation of financial resources to projects; financing vehicles and instruments that support green and resilient practices; technologies; and the conservation and sustainable use of natural resources. This outcome results from outputs that include investment project preparation17or framework documents that apply to green bond/loan principles.

Intermediate Outcome 2: GGGI members have strengthened policy, planning, regulatory, financing and institutional frameworks to achieve green growth outcomes. This outcome is primarily an enabling one. It results from outputs that support the design and adoption of national, sub-national or sectoral policies, strategies, plans, laws, regulations, rules, norms and standards.18 Green growth policies also include new or improved organizational strategies, policies and plans within specific organizations - such as public or private financial institutions or other organizations.

Intermediate Outcome 3: National, regional and global capacity to drive and expand green growth ambitions is enhanced. This outcome is primarily an enabling one and results from outputs that include capacity development, knowledge-sharing and activities aimed at raising the green growth agenda among stakeholders (e.g. green growth forums, training programs, etc.).

Intermediate Outcome 4: Green growth solutions support Member and Partner countries in reducing poverty eradication and achieving gender equality. This outcome measures GGGI's contribution to poverty eradication and gender equality. It results from outputs explicitly supporting poverty reduction of poor, disadvantaged and low-income people, as well as gender equality.

[17] For instance pre-feasibility and feasibility reports, concept notes, funding proposals which can be composed of studies and assessment such as financial and technical feasibility studies, financial models, business and deal structures, legal assessments, market assessments, ESS assessments, risks assessments and other supporting project documents such as information memorandum and other transaction related documents.

[18] For instance Policy advisory outputs can include Policy Recommendations, Policy Briefs, Research Reports, Economic social and environmental assessments, Cost-Benefit Analyses, Legislative or norms and standards drafts, Strategies and policy planning documents as well as Policy implementation planning tools and documents and Policy Evaluations.

Example project and outputs that correspond to Intermediate Outcome 1:

Project: (IN28) Renewable Energy Focused Infrastructure Debt Fund (RIDF).

Outputs:

1. Identification and securing equity partners in RIDF.
2. Establishment of RIDF involving development and refinement of RIDF business model and structure, engagement with potential investors, securing in-principle interest from investors, and signing of term sheet.
3. Operationalization of the RIDF that will enable the availability of capital with FIs and Banks.

Example project and outputs that correspond to Intermediate Outcome 2:

Project: (ET16) Towards a Long-Term Low Emission Development Strategy for Ethiopia.

Outputs:

1. Organize the LEDS Process - Institutional arrangements, coordination and multi-stakeholder engagement process.
2. Assess current strategies, policies, practices and capacities.
3. Identify policy, financing and other implementation options and priorities.
4. Prepare LEDS Ethiopia document.

Example project and outputs that correspond to Intermediate Outcome 3

Project: (FJ028) Capacity Building for Climate Change Act Implementation.

Outputs:

1. Provide capacity-building to government institutions to fully operationalize relevant parts of the Climate Change Act 2021.

Example project and outputs that correspond to Intermediate Outcome 4

Project: (ROC02) Solar Grandmothers in Burkina Faso.

Outputs:

1. Practical trainings in the installation, operation and maintenance of solar energy - for the benefit of rural villages - are conducted.
2. Providing 100 households with 100 solar kits.

Double roof of the offices combined with the ventilated effect. Burkina Faso, Laongo, opera village of the architect Fransis Kere. Part of Burkina Faso's report on circularity in the built environment in partnership with One Planet with Care. **Photo by:** Isabelle Ky in (June 2021).

Annex II. Qualifying Project Outcomes

What are Qualifying Project Outcomes?

Qualifying Project Outcomes are Intermediate Outcomes within a project that qualify for the estimation of Strategic Outcomes.

Following GGGI's Theory of Change (ToC), Strategic Outcomes (SO) are enabled based on the delivery of Intermediate Outcomes (IO):

- **Intermediate Outcome 1**: Accelerated access to, and mobilized climate finance/green investments commitments for, members from both public and private sectors.
- **Intermediate Outcome 2**: GGGI members have strengthened policy, planning, regulatory, financing and institutional frameworks to achieve green growth outcomes.
- **Intermediate Outcome 3:** National, regional and global capacity to drive and expand green growth ambitions is enhanced.
- **Intermediate Outcome 4:** Green growth solutions support Member and Partner countries in reducing poverty eradication and achieving gender equality.

Which Project Outcomes qualify for SO estimation?

Projects that deliver Intermediate Outcomes results in Intermediate Outcome 1 and Intermediate Outcome 2 categories qualify for the estimation of Strategic Outcomes using the methodologies and indicators in this Guideline. Specifically, projects with results planned on:

1. **Intermediate Outcome 1 - green investment commitment mobilization.** These include, for instance, infrastructure investment projects, financing instruments and mechanisms that have been developed with the support of GGGI and for which GGGI receives evidence of investor commitment. SOs can be estimated using methodologies available in the Annexes of the Guideline.
2. **Intermediate Outcome 2 - green growth policies adopted.** These include the formal adoption of policies - such as national, sub-national or sectoral policies, strategies, plans, laws, regulations, rules, norms and standards. Green growth policies also include new or improved organizational strategies, policies and plans within specific organizations - such as public or private financial institutions or other organizations. **This Guideline will be complemented by a specific methodology identifying: (i) which categories of policies qualify for SO estimation; and (ii) methodological guidance on how to perform SO estimation for these policies.**

Which Project Outcomes do NOT require SO estimation?

Project Outcomes that correspond to IO3 and IO4, or that are not related to any of the four Intermediate Outcomes, do not qualify for the estimation of Strategic Outcomes:

- **Intermediate Outcome 3 - capacity enhanced**. For IO3, another framework will be used. **This Guideline will be complemented by a specific methodology to estimate SOs from related outcomes.**
- **Intermediate Outcome 4 - gender equality and poverty eradication.** For IO4, SO level results are captured thanks to the disaggregation of relevant SO indicators over categories of beneficiaries (Male/Female, vulnerable). It is also a result of the newly introduced SO5 – Socio-Economic development. These are estimated in connection with IO1 and IO2.

Are there any exceptions to the above?

In specific cases, project Outputs with no direct links to Intermediate Outcomes may qualify for SO estimation.

This includes for instance:

a. Direct support to beneficiaries - such as cash handouts, small grants and other outputs involving the direct transfer of goods and resources to beneficiaries.

b. Pilots of green practices - or technologies implemented - as part of a GGGI project.

What information is used to identify Qualifying Project Outcomes?

Qualifying Project Outcomes are identified based on projects' logical frameworks. Strategic Outcome- and Intermediate Outcome- level statements and indicators in the logframe should be used as the basis to identify these with direct causal links to achieving at least one of the SOs.

Annex III. Relationship between GGGI's SO Indicators and SDG indicators

STRATEGIC OUTCOMES	INDICATOR DIFFERENTIATION	GGGI OUTCOME INDICATORS	SDG INDICATOR (MIRROR TO GGGI'S INDICATOR)
SO 1.1 Reduced GHG Emissions	Core	GHG emissions reduced or avoided as a result of GGGI's intervention *(Million tons of CO_2 equivalent)*	13.2.2 Total greenhouse gas emissions per year[19]
	Additional	Number of annual days above United States Environmental Protection Agency (U.S.-EPA) 'Orange' Air Quality Index (AQI) as a result of GGGI's intervention *(Days)*	Indicator with no mirror SDG indicator
SO 1.2 Enhanced Adaptation to Climate Change	Core	No. of people directly supported to cope with the effects of climate change as a result of GGGI's intervention *(Million people)*	Indicator with no mirror SDG indicator
SO2 Green Employment Supported	Core	No. of direct green jobs supported as a result of GGGI's intervention *(Number of Fulltime Equivalent Jobs)*	Indicator with no mirror SDG indicator
	Additional	No. of people that benefited from improved working conditions as a result of GGGI's intervention *(Number of people)*	Indicator with no mirror SDG indicator
		No. of people who increased their access to skills training as a result of GGGI's intervention *(Million beneficiaries)*	Indicator with no mirror SDG indicator
SO2 Green Employment Supported		No. of developed and operationalized national or subnational strategies for employment as a distinct strategy as a result of GGGI's intervention *(No. of policies)*	Indicator with no mirror SDG indicator
SO3.1 Increased access to Sustainable Energy	Core	No. of people who gained access to clean fuels and/or electricity as a result of GGGI's intervention. *(Million people)*	7.1.1 Proportion of population with access to electricity[20]
	Additional	Newly installed renewable energy-generation capacity as a result of GGGI's intervention *(MW)*	7.b.1 Installed renewable energy-generating capacity in developing countries (in watts per capita)[21]
		Electrical energy or thermal energy saved, with respect to baseline- as a result of GGGI's intervention *(Tons of Oil Equivalent)*	Indicator with no mirror SDG indicator
SO3.2 Increased access to Improved Sanitation	Core	No. of people who have gained access to improved sanitation services and/or wastewater treatment as a result of GGGI's intervention *(Million people)*	6.2.1 Proportion of population using (a) safely managed sanitation services[22]
	Additional	Amount of domestic and industrial wastewater flow safely treated as a result of GGGI's intervention *(1000 m^3/day)*	6.3.1 Proportion of domestic and industrial wastewater flows safely treated[23]
SO3.3 Increased access to Sustainable Waste Management	Core	No. of people who gained access to either basic, full or improved waste management services (i.e., collection and control) as a result of GGGI's intervention *(Million people)*	11.6.1 Proportion of municipal solid waste collected and managed in controlled facilities out of total municipal waste generated, by cities[24]

[19] SDG indicator metadata Goal 13 Target 13.2: United Nations, Department of Economic and Social Affairs Statistics. (2021, March 1). SDG indicator metadata (Harmonized metadata template - format version 1.1). https://unstats.un.org/sdgs/metadata/files/Metadata-13-02-02.pdf

[20] SDG indicator metadata Goal 7 Target 7.1: United Nations, Department of Economic and Social Affairs Statistics. (2023, March 31). *SDG indicator metadata (Harmonized metadata template - format version 1.1)*. https://unstats.un.org/sdgs/metadata/files/Metadata-07-01-01.pdf

[21] SDG indicator metadata Goal 7 Target 7.b : United Nations, Department of Economic and Social Affairs Statistics. (2022, March 31). *SDG indicator metadata (Harmonized metadata template - format version 1.1)*. https://unstats.un.org/sdgs/metadata/files/Metadata-07-0b-01.pdf

[22] SDG metadata Goal 6 Target 6.2: United Nations, Department of Economic and Social Affairs Statistics. (2021, December 20). *SDG indicator metadata (Harmonized metadata template - format version 1.1)*. https://unstats.un.org/sdgs/metadata/files/Metadata-06-02-01a.pdf

[23] SDG metadata Goal 6 Target 6.3: United Nations, Department of Economic and Social Affairs Statistics. (2020, September 14). *SDG indicator metadata (Harmonized metadata template - format version 1.1)*. https://unstats.un.org/sdgs/metadata/files/Metadata-06-03-01.pdf

[24] SDG metadata Goal 11 Target 11.6: United Nations, Department of Economic and Social Affairs Statistics. (2021, December 20). *SDG indicator metadata (Harmonized metadata template - format version 1.1)*. https://unstats.un.org/sdgs/metadata/files/Metadata-11-06-01.pdf

SO3.3 Increased access to Sustainable Waste Management	Additional	Municipal solid waste or hazardous industrial waste collected and managed in controlled facilities as a result of GGGI's intervention *(Million Tons/ day)*	12.4.2 (a) Hazardous waste generated per capita; and (b) proportion of hazardous waste treated, by type of treatment[25]
		Reduction in waste generated through prevention, reduction, recycling and reuse, as a result of GGGI's intervention *(Million (Tons/ year)*	Indicator with no mirror SDG indicator
		Total waste recycled as a result of GGGI's intervention *(Million Tons of material recycled/ year)*	12.5.1 National recycling rate, tons of material recycled [26]
		Change in total amount of food loss as a result of GGGI's intervention *(Million Tons/year)*	12.3.1 (a) Food loss index[27]
		Change in circular material use rate as a result of GGGI's intervention (%)	Indicator with no mirror SDG indicator
SO3.4 Increased access to Sustainable Public Transport	Core	No. of people with new or enhanced access to sustainable public transport as a result of GGGI's intervention *(Million people)*	11.2.1 Proportion of population that has convenient access to public transport, by sex, age and person with disabilities[28]
	Additional	Total number of annual passengers boarding sustainable public transport as a result of GGGI's intervention. Linked trips *(Passengers per year)*	Indicator with no mirror SDG indicator

[25] SDG metadata Goal 12 Target 12.4: United Nations, Department of Economic and Social Affairs Statistics. (2023, March 31). SDG indicator metadata (Harmonized metadata template - format version 1.1). https://unstats.un.org/sdgs/metadata/files/Metadata-12-04-02.pdf

[26] SDG metadata Goal 12. Target 12.5 United Nations, Department of Economic and Social Affairs Statistics. (2023, March 31). *SDG indicator metadata (Harmonized metadata template - format version 1.1).* https://unstats.un.org/sdgs/metadata/files/Metadata-12-05-01.pdf

[27] SDG metadata Goal 12. Target 12.3 United Nations, Department of Economic and Social Affairs Statistics. (2022, November 22). *SDG indicator metadata (Harmonized metadata template - format version 1.1).* https://unstats.un.org/sdgs/metadata/files/Metadata-12-03-01A.pdf

[28] SDG metadata Goal 11 Target 11.2: United Nations, Department of Economic and Social Affairs Statistics. (2021, September 1). *SDG indicator metadata (Harmonized metadata template - format version 1.1).* https://unstats.un.org/sdgs/metadata/files/Metadata-11-02-01.pdf

SO4. Sustainably Managed Natural Capital and Ecosystem Services	Core	Sustainably managed area of natural capita as a result of GGGI's intervention *(Million Hectares)*	15.1.1 Forest area as a proportion of total land area 15.1.2 Proportion of important sites for terrestrial and freshwater biodiversity that area covered by protected areas, by ecosystem type[29] 15.2.1 Progress towards sustainable forest management[30] 14.5.1 Coverage of protected areas in relation to marine areas[31]
	Additional	No. of people who gained social or economic benefits from a natural area being intervened as a result of GGGI's intervention *(Million beneficiaries)*	Indicator with no mirror SDG indicator
		Agriculture area under productive and sustainable agricultural practices as a result of GGGI's intervention *(Million Hectares.)*	2.4.1 Proportion of agricultural area under productive and sustainable agriculture[32]
SO5. Accelerated Socio-Economic Development	Core	No. of people who have increased their annual income as a result of GGGI's intervention *(Million people)*	Indicator with no mirror SDG indicator
	Additional	No. of people who have increased their living standards above the national poverty line as a result of GGGI's intervention *(Million beneficiaries)*	1.2.1 Proportion of population living below the national poverty line, by sex and age[33]

[29] SDG metadata Goal 15 Target 15.1: United Nations, Department of Economic and Social Affairs Statistics. (2022, July 7). *SDG indicator metadata (Harmonized metadata template - format version 1.1).* https://unstats.un.org/sdgs/metadata/files/Metadata-15-01-02.pdf

[30] SDG metadata Goal 15 Target 15.2: United Nations, Department of Economic and Social Affairs Statistics. (2023, May 15). *SDG indicator metadata (Harmonized metadata template - format version 1.1).* https://unstats.un.org/sdgs/metadata/files/Metadata-15-02-01.pdf

[31] SDG metadata Goal 14 Target 14.5: United Nations, Department of Economic and Social Affairs Statistics. (2022, July 7). *SDG indicator metadata (Harmonized metadata template - format version 1.1).* https://unstats.un.org/sdgs/metadata/files/Metadata-14-05-01.pdf

[32] SDG metadata Goal 2 Target 2.4: United Nations, Department of Economic and Social Affairs Statistics. (2023, May 15). *SDG indicator metadata (Harmonized metadata template - format version 1.1).* https://unstats.un.org/sdgs/metadata/files/Metadata-02-04-01.pdf

[33] SDG metadata Goal 1 Target 1.2: United Nations, Department of Economic and Social Affairs Statistics. (2023, March 31). *SDG indicator metadata (Harmonized metadata template - format version 1.1).* https://unstats.un.org/sdgs/metadata/files/Metadata-01-02-01.pdf

Annex IV. Project Specific Outcome Indicators

Similar to Core and Additional Outcome Indicators, **Project Specific Outcome Indicators** measure the specific socio-economic and environmental change that result from a program or project. Project Specific Outcome Indicators are all those indicators not covered by either Core or Additional Strategic Outcomes Indicators. They are relevant to the intended beneficiaries, stakeholders, project donors or funders. They provide detailed information on changes on national, sub-national or local sustainable development. **Project Specific Outcome Indicators should facilitate transparency and accountability and help express the project contribution towards national, subnational or project specific targets.**

For example, in a green hydrogen project the Core Outcome Indicators that are most likely to be measured are: (1) GHG emissions avoided or removed as a result of GGGI's intervention - either through policy advisory or investment mobilization (Million tons of CO_2e); (2) No. of direct green jobs supported as a result of GGGI's intervention (Number of Fulltime Equivalent Jobs); and (3) No. of people who gained access to clean fuels and/or electricity as a result of GGGI's intervention (Million people). The additional Outcome Indicator that is most likely to be measured is (1) Newly installed renewable energy generation capacity as a result of GGGI's intervention, in Megawatt (MW). Therefore, the project specific indicators could include hydrogen production rate, national consumption of hydrogen produced, reliability of operation, reduction in system's capital cost, etc.

Contrary to Core or Additional Outcome Indicators, **Project Specific Outcome Indicators can combine quantitative and qualitative measures** - describing the number of people benefitting from a project and the nature of those benefits. For example, specific project Outcome Indicators for a project related to plastic waste reduction in oceans may include: changes in the number of innovative approaches or technology to reduce plastic waste (a quantitative indicator); and awareness of plastic waste reduction strategies (a qualitative indicator).

Project Specific Outcome Indicators should be disaggregated by gender when possible and reflect action toward equity - describing the extent to which a project benefits different beneficiary groups. For example, potential economic gains of increasing carbon tax, income gains in the broader economy, etc.

The utilization of project-specific Outcome Indicators is optional. However, similar to Core and Additional Outcome Indicators, project-specific outcome indicators must be initially estimated at the project concept stage. The first estimation of the project's specific outcome indicators must be reported on the Project Idea Note (PIN) or the Project Proposal to a donor. The initial estimation must be improved during the implementation stage of the project. Project-specific Outcome Indicators must be re–estimated at the end of the project or at GGGI's project exit point.

Project-specific Outcome Indicators cannot be aggregated. Project Specific Outcome Indicators will be reported only in project results reporting.

The estimation of project-specific Outcome Indicators is the responsibility of the project team and technical experts directly involved in the project team.

Mr. Zoungrana of solar irrigation pumping systems receiving his kit. Rawelgue, Burkina Faso. Part of solar irrigation pumping systems project with Denmark financial support. **Photo by:** Isabelle Ky (August 2021).

Annex V. Methodology for estimating GGGI's investment multipliers

Methodology for estimating GGGI's investment multipliers

The estimation of investment multipliers follows three steps.

Step 1. Selection of technologies and interventions to be assessed.

Twenty-five sectoral interventions/technologies were selected. The selection of interventions/technologies was based on: (a) its mitigation and adaptation potential; and (b) GGGI's future ability and potential to develop projects related to the technology/intervention. Technologies with a medium or high mitigation potential (i.e., contribution to net emission reduction equal to or above 0.5 $GtCO_2$-eq and technologies with a net lifetime abatement cost equal to or below 50 USD tCO_2-eq-1) as well as interventions with the most significant potential for adaptation, in accordance with the latest Intergovernmental Panel on Climate Change (IPCC) reports[34] [35]. In addition, the selection of interventions/technologies was made through a consultative process with sectoral technical experts within GGGI which assessed the demand for these from GGGI members.

Step 2. Data collection

The estimation of investment multipliers is based on a literature review of the costs and impacts (unit of outcome) of sustainable development projects in the above 25 technologies/interventions. The projects chosen directly implemented one of the selected technologies/interventions in at least one GGGI Member country. Each data point reflects the costs and impacts stated on the impact evaluation report of completed projects[36]. Data from pre-feasibility studies of project proposals were utilized in cases with limited data availability of completed projects. Project reporting results range from 2018 to 2022. Each data point considers the average of at least three different projects within the same country and for the same technology. Data per country was aggregated into seven distinct regions (i.e., Latin America and the Caribbean[37], Southeast Asia[38], Southern Asia[39], Central Asia[40], Middle East[41], Africa[42] and the Pacific[43]). If no suitable project examples for a certain technology for any GGGI Member country were found, the result is indicated as not available. Investment multiplier results are reported as regional averages and, when possible, a range is provided.

The main sources utilized include databases from project financers and implementors - such as the Green Climate Fund (GCF); the World Bank (WB); Development Banks such as the European Bank for Reconstruction and Development (EBRD), Inter-American Development Bank (IDB), Asian Development Bank (ADB) and African Development Bank (AfDB); and the United Nations (UN) and its different commissions. Databases were utilized from research institutes and intergovernmental organizations - such as the International Renewable Energy Agency (IRENA), International Labor Organization (ILO), etc. In addition, multiple research reports were utilized. (Refer to full sources per investment multiplier in Annex VIII).

Step 3. Utilization of productivity factors per region

Economic productivity factors – (i.e., value-added per employee per country) – were utilized to estimate regional averages when the sample of countries within an average was limited. This approach was mostly

[34] Technical Summary Report Figure. (2022). IPCC. https://www.ipcc.ch/report/ar6/wg3/figures/summary-for-policymakers/IPCC_AR6_WGIII_FigureSPM7.png?utm_term=642ea63353b440595e0d2d7d58b2dbde&utm_campaign=DownToEarth&utm_source=esp&utm_medium=Email&CMP=greenlight_email

[35] *Technical Summary*. (2022.). IPCC. https://www.ipcc.ch/report/ar6/wg2/chapter/technical-summary/

[36] Completed Projects

[37] Latin America and the Caribbean (LAC) Member Countries: Antigua and Barbuda, Colombia, Grenada, Mexico, Peru, St. Lucia, Costa Rica, Ecuador, Guyana, Mexico, Nicaragua, Organization of Eastern Caribbean States (OECS), Paraguay.

[38] Southeast Asia Member Countries: Cambodia, Indonesia, Myanmar, Philippines, Thailand, Vietnam, Lao PDR.

[39] Southern Asia Member Countries: Nepal, Pakistan, Sri Lanka, India.

[40] Central Asia Member Countries: Mongolia, Kazakhstan, Kyrgyz Republic, Turkmenistan, Uzbekistan.

[41] Middle East Member Countries: Jordan, Bahrain, Qatar, UAE.

[42] Africa Member Countries: Burkina Faso, Ethiopia, Rwanda, Senegal, Morocco, Cote d'Ivoire, Zambia.

[43] Pacific Member Countries: Marshall Islands, Fiji, Kiribati, Papua New Guinea, Samoa, Solomon Islands, Tongo, Tuvalu, Vanuatu, Angola, Cote d'Ivoire, Rwanda, Uganda.

utilized for Core Strategic Outcome Indicator 2 - Employment Creation and Core Strategic Outcome Indicator 1.2 Enhanced Adaptation to Climate Change.

Limitations of the methodology

The project costs and impacts utilized for the estimation of investment multipliers were taken from various sources. Thus, investment multiplier users should understand that these costs and impacts vary widely depending on the geographical location, duration of project implementation, the technology implemented, and the project scale. They also vary depending on other factors - such as economies of scale and scope, differences in contracts and negotiations over the length of time a project, characteristics of the target population, etc. Similarly, each source utilized has a different methodology to quantify project costs and impacts which results in differences when comparing investment multipliers from projects with the same technology, scale and geographical location.

Moreover, investment multipliers are based on a literature review of project costs and impacts per technology per country. As a result, there is a risk of the information being skewed towards publicly disclosed projects mostly from the public sector. To offset this factor, information was obtained through targeted searches, yielding data from research reports, development bank websites, and databases from international organizations.

The limitations of the methodology were mitigated through an ample sampling of projects and the validation of multipliers through experts' consultation. However, given the extent of the limitations, it is acknowledged that investment multipliers' estimates will only be accurate to one order of magnitude.

Annex VI. Updated Investment Multiplier Tables

SO1.1–Reduced GHG Emissions (First Approach)[44]

Unit: USD/ton CO_2e

AREA	TECHNOLOGY	GLOBAL MARGINAL ABATEMENT COSTS FOR 2030		
		Min	Ave	Max
Agriculture	Agroforestry[45]	-176.00	-14.5	147.00
Energy Efficiency	Buildings – Weatherization/Retrofit	-133.78	39.78	234.04
	Industries - Waste Heat Recovery, Combined Heat and Power	-	-	-
	Industries – Fuel Switching	-132.17	-24.00	153.07
	Industries – Reduction of non-CO_2 emission (Methane gas optimization including Methane reduction from Flaring oil & gas industry)	-9.26	-	17.12
Energy Systems	Stand-alone smart grid systems	-	-	-
Renewable Energy	Photovoltaic Systems (Utility Scale)	-7.1	32.98	51.9
	Off-Grid Solar Photovoltaic Systems	-	-	-
	Solar pumps for Irrigation in Agriculture	-	-	-
	Waste to Energy Projects	-	-	-
	Green Hydrogen	-	-	-
Sustainable Landscapes	Avoided Deforestation[46]	-	20.00	-
	Forest management improvement[47]	-	50.00	-
	Forest Restoration[48]	1.4	-	2.3
	Restoration – Coastal Areas[49]	114.6	-	127.5
	Protection – Coastal Areas[50]	-	23.1	-
Sustainable Transport	Mobility – Electric Road Transport	-73.82	11.47	254.46
	Infrastructure – Bus Rapid Transit (BRT) System	-	-	-
	Infrastructure – Renewable-based Charging Equipment for E-mobility	-	-	-
	Infrastructure – Non-motorized Transport System (i.e., cycling lanes)	-	-	-
Waste	Infrastructure for Municipal Waste Management Systems[51]	-	-	75.00
	Municipal Waste Management Collection, Recycling, and Reuse	-		-
Sanitation	Decentralized Wastewater Treatment Systems (DEWATS)	-	-	-
	Fecal Sludge Management (FSM) services and Fecal Sludge Treatment Plans (FSTP)	-	-	-

[44] First Approach SO1 Investment Multipliers show carbon marginal abatement costs i.e., investment costs plus the difference in operating costs by the avoided emissions. Investment Multipliers from the first approach is used exclusively for target setting and should not be utilized for SO estimation.

[45] For the average, only the following activities were considered: Variable rate fertilization, Reduced N overapplication in China and India, Low or no tillage, improved equipment maintenance, Improved fertilization timing-controlled release and stabilized fertilizers, conversion from flood to drip or sprinkler irrigation.

[46] Value for IPCC Annex I countries. For non-Annex I countries assumed 4.1666*10^-8.

[47] Value for IPCC Annex I countries. For non-Annex I countries assumed 4.1666*10^-8.

[48] Rainforest restoration.

[49] Data from Vietnam for Mangrove Restoration.

[50] Data from Vietnam for Mangrove Protection.

[51] Review source for specific technologies epa.gov/sites/default/files/2016-07/documents/mac_report_2014-exec_summ.compressed.pdf

SO1.1 – Reduced GHG Emissions (Second Approach)

Unit: USD/ton CO_2e

AREA	TECHNOLOGY	LAC			SOUTH EAST ASIA			SOUTHERN ASIA			CENTRAL ASIA			MIDDLE EAST			AFRICA			PACIFIC			GLOBAL
		Min	Ave	Max	Min	Ave	Max	Min	Ave	Max	Min	Ave	Max	Min	Ave	Max	Min	Ave	Max	Min	Ave	Max	Average
Agriculture	Agroforestry	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Energy Efficiency	Buildings – Weatherization/Retrofit	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	$120
	Industries- Waste Heat Recovery, Combined Heat and Power	-	$195	-	$3	$32	-	$26	$62	$142	-	-	-	-	-	-	-	-	-	-	-	-	-
	Industries – Fuel Switching	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	$29	-	-	-	-	-
	Industries – Reduction of non-CO_2 emission (Methane gas optimization including Methane reduction from Flaring oil & gas industry)	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	$652	-	-	-	-
Energy Systems	Stand-alone smart grid systems	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Renewable Energy	Photovoltaic Systems (Utility Scale)	-	$56	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Off-Grid Solar Photovoltaic Systems	-	$458	-	-		-	$1	-	$215	-	-	-	-	$308		$35	-	-	-	-	-	-
	Solar pumps for Irrigation in Agriculture	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	$47
	Waste to Energy Projects	-	$17	-	-	-	-	-	$68	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Green Hydrogen	-	$3	-	-	-	-	-	-	-	-	$9	-	-	-	-	-	-	-	-	-	-	-

AREA	TECHNOLOGY	LAC			SOUTH EAST ASIA			SOUTHERN ASIA			CENTRAL ASIA			MIDDLE EAST			AFRICA			PACIFIC			GLOBAL
		Min	Ave	Max	Min	Ave	Max	Min	Ave	Max	Min	Ave	Max	Min	Ave	Max	Min	Ave	Max	Min	Ave	Max	Average
Sustainable Landscapes	Avoided Deforestation	-	$8	-	-	-	-	-	-	-	$16	-	$25	-	-	-	-	-	-	-	-	-	-
	Forest management improvement	-	$9	-	-	-	-	-	-	-	$30	-	$50	-	-	-	-	-	-	-	-	-	-
	Restoration - Forest	-	-	-	-	-	-	-	-	-	$4	-	$9	-	-	-	-	-	-	-	-	-	-
	Restoration - Coastal Areas	-	-	-	-	-	-	-	$3	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Protection - Coastal Areas	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sustainable Transport	Mobility – Electric Road Transport	-	-	-	-	$389	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Infrastructure – Bus Rapid Transit (BRT) System	-	-	-	-	$84	-	-	$41	-	-	-	-	-	-	-	$458	$624	$789	-	-	-	-
	Infrastructure – Renewable-based Charging Equipment for E-mobility	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Infrastructure – Non-motorized Transport System (i.e., cycling lanes)	-	-	-	-	-	-	-	-	-	-	$216	-	-	-	-	-	-	-	-	-	-	-
Waste	Infrastructure for Municipal Waste Management Systems	-	$17	-	-	-	-	-	$68	-	-	-	-	-	-	-	-	$28	-	-	-	-	$38
	Municipal Waste Management Collection, Recycling, and Reuse	-	-	-	$6	$32	$50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sanitation	Decentralized Wastewater Treatment Systems (DEWATS)	-	-	-	-	$2	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-
	Fecal Sludge Management (FSM) services and Fecal Sludge Treatment Plans (FSTP)	-	-	-	-	-	-	-	$293	-	-	$292	-	-	-	-	$260	$344	$402	-	-	-	-

SO1.2 Enhanced Adaptation to Climate Change

Unit: Number of people directly supported to cope with the effects of climate change per 1 Million USD invested

AREA	TECHNOLOGY	LAC			SOUTH EAST ASIA			SOUTHERN ASIA			CENTRAL ASIA			MIDDLE EAST			AFRICA			PACIFIC			GLOBAL
		Min	Ave	Max	Min	Ave	Max	Min	Ave	Max	Min	Ave	Max	Min	Ave	Max	Min	Ave	Max	Min	Ave	Max	AVERAGE
Agriculture	Agroforestry	628	3,583	5,082	1,531	3,058	4,585	1,765	2,850	3,936	780	4,447	6,308	258	1,472	2,088	1,493	5,352	7,309	1,223	2,442	3,662	3,315
Sustainable Landscapes	Forest - Reforestation and Afforestation	1,367	1,800	2,270	858	2,768	6,597	989	3,442	7,605	437	4,782	3,359	145	374	1,112	1,838	4,749	14,132	685	1,770	5,269	2,812
	Forest - Restoration																						
	Forest - Conservation																						
	Coastal Areas - Conservation																						
	Development of Early Warning Systems	9,021			25,351			50,858			11,197			4,273			85,890			16,844			29,062
Water	Integrated Water Management System (excluding Solar PV and agricultural activities)	324	1,539	2,412	789	3,158	5,880	909	3,844	6,778	402	1,698	2,994	133	562	991	1,690	41,395	12,595	630	9,230	4,696	8,775

SO2 Green Employment Supported

Unit: Number of direct jobs per Million USD invested

AREA	TECHNOLOGY	LAC			SOUTH EAST ASIA			SOUTHERN ASIA			CENTRAL ASIA			MIDDLE EAST			AFRICA			PACIFIC			GLOBAL
		Min	Ave	Max	Min	Ave	Max	Min	Ave	Max	Min	Ave	Max	Min	Ave	Max	Min	Ave	Max	Min	Ave	Max	Average
Agriculture	Agroforestry[52]	396	495	594	1,148	1,435	1,722	1,438	1,798	2,158	664	830	996	130	163	196	1,836	2,294	2,753	353	441	530	1065
Energy	Buildings – Weatherization/ Retrofit[53]	-	102	-	-	43	-	-	105	-	-	45	-	-	19	-	-	38	-	-	30	-	55
	Industries-Waste Heat Recovery, Combined Heat and Power	-	31	-	-	101	-	-	77	-	-	30	-	-	14	-	-	122	-	-	55	-	61
	Industries – Fuel Switching	-	19	-	-	49	-	-	46	-	-	19	-	-	8	-	-	77	-	-	32	-	36
	Industries – Reduction of non-CO_2 emission (Methane gas optimization including Methane reduction from Flaring oil & gas industry)	-	8	-	-	20	-	-	19	-	-	8	-	-	3	-	-	31	-	-	13	-	14
Energy Systems	Stand-alone smart grid systems[54]	-	30	-	-	98	-	-	75		-	29	-	-	13	-	-	119	-	-	54	-	60
Renewable Energy	Photovoltaic Systems (Utility Scale)[55]	-	6	-	-	16	-	-	15	-	-	6	-	-	3	-	-	25	-	-	10	-	12

[52] Ploughing, sowing, composting, watering, raising livestock, tree planting, raised beds for agriculture, landscape planning, monitoring & reporting, indigenous & technical knowledge transfer, among many others.

[53] Average of jobs created for home weatherization and commercial building retrofits. Commercial retrofits include measures in energy efficiency: lighting control, distribution/ventilation, boilers and water conservation.

[54] Smart Grid, or electrical upgrades along with energy-conserving end-use technology.

[55] For utility-scale solar PV, 1 million dollars of capital spending creates: 3 local construction jobs, 6 manufacturing jobs, and 0.3 - 0.4 operations and maintenance jobs.

AREA	TECHNOLOGY	LAC			SOUTH EAST ASIA			SOUTHERN ASIA			CENTRAL ASIA			MIDDLE EAST			AFRICA			PACIFIC			GLOBAL
		Min	Ave	Max	Min	Ave	Max	Min	Ave	Max	Min	Ave	Max	Min	Ave	Max	Min	Ave	Max	Min	Ave	Max	Average
Renewable Energy	Off-Grid Solar Photovoltaic Systems[56]	-	19	-	-	49	-	-	46	-	-	19	-	-	8	-	-	77	-	-	32	-	36
	Solar pumps for Irrigation in Agriculture	-	5	-	-	12	-	-	12	-	-	5	-	-	2	-	-	22	-	-	9	-	10
	Waste to Energy Projects	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Renewable Energy	Green Hydrogen	6	10	15	15	27	39	14	25	37	6	10	15	2	4	7	25	46	67	9	17	25	20
Sustainable Landscapes	Forest - Reforestation and Afforestation[57]	177	289	402	458	750	1,042	568	929	1,290	192	315	437	45	73	102	700	1,146	1,592	131	214	297	531
	Restoration - Forest																						
	Forest - Conservation58		210			543			673			228			53			830			155		385
	Coastal Areas - Conservation[59]	233	264	295	634	718	803	634	718	803	239	271	303	59	67	75	957	1,084	1,212	174	197	220	474
Sustainable Transport	Mobility – Electric Road Transport	-	17	-	-	40	-	-	42	-	-	17	-	-	8	-	-	68	-	-	31	-	32
	Infrastructure – Bus Rapid Transit (BRT) System	-	31	-	-	73	-	-	77	-	-	30	-	-	14	-	-	124	-	-	57	-	58
	Infrastructure – Renewable-based Charging Equipment for E-mobility	14	26	39	36	71	105	34	67	99	14	27	40	6	12	18	58	113	168	24	48	71	52
	Infrastructure – Non-motorized Transport System (i.e., cycling lanes)	-	46	-	-	148	-	-	114	-	-	44	-	-	20	-	-	182	-	-	83	-	91

[56] Rooftop solar PV construction jobs (labor-intensive).

[57] Land preparation, nurseries, planting trees and shrubs, monitoring & reporting, watering/ protecting seedlings, landscape management, law enforcement.

[58] Conservation lands, including parks and conservation areas.

[59] $1M investment would improve the livelihoods and incomes of 55,000 fishermen, while additional 865 jobs could be created at ice-making enterprises.

AREA	TECHNOLOGY	LAC			SOUTH EAST ASIA			SOUTHERN ASIA			CENTRAL ASIA			MIDDLE EAST			AFRICA			PACIFIC			GLOBAL
		Min	Ave	Max	Min	Ave	Max	Min	Ave	Max	Min	Ave	Max	Min	Ave	Max	Min	Ave	Max	Min	Ave	Max	Average
Waste	Infrastructure for Municipal Waste Management Systems[60]	-	36	-	-	94	-	-	89	-	-	36	-	-	16	-	-	147	-	-	61	-	68
	Municipal Waste Management Collection, Recycling, and Reuse[61]	7	13	19	19	34	49	18	32	47	7	13	19	3	6	8	29	53	77	29	53	77	29
	Establishing waste and material recycling industries in developing countries: Steel recycling	-	8	-	-	21	-	-	20	-	-	8	-	-	3	-	-	33	-	-	14	-	15
	Establishing waste and material recycling industries in developing countries: Aluminum recycling	-	8	-	-	21	-	-	20	-	-	8	-	-	3	-	-	33	-	-	14	-	15
	Establishing waste and material recycling industries in developing countries: Pulp and paper recycling	-	20	-	-	51	-	-	48	-	-	20	-	-	8	-	-	79	-	-	33	-	37
	Establishing waste and material recycling industries in developing countries: Plastic recycling	-	7	-	-	17	-	-	16	-	-	7	-	-	3	-	-	27	-	-	11	-	13

[60] Using landfill generated methane for energy generation. It is estimated that and LFG energy project will capture roughly 60-90% of the methane emitted from the landfill. LFG use can also create jobs associated with the design, construction and operation of energy recovery systems. Much to the project costs are spent locally for drilling, piping, construction and operational personnel.

[61] Jobs created in establishing recycling industries.

AREA	TECHNOLOGY	LAC			SOUTH EAST ASIA			SOUTHERN ASIA			CENTRAL ASIA			MIDDLE EAST			AFRICA			PACIFIC			GLOBAL
		Min	Ave	Max	Min	Ave	Max	Min	Ave	Max	Min	Ave	Max	Min	Ave	Max	Min	Ave	Max	Min	Ave	Max	Average
Sanitation	Decentralized Wastewater Treatment Systems (DEWATS)[62]	-	574	-	-	1,378	-	-	1,429	-	-	564	-	-	252	-	-	2,304	-	-	1,028	-	1,076
	Fecal Sludge Management (FSM) services and Fecal Sludge Treatment Plans (FSTP)	-	-	85	-	-	279	-	-	213	-	-	84	--	-	38	-	-	305	-	-	153	165
Water	Integrated Water Management System (excluding Solar PV and agricultural activities)[63]	-	59	-	-	143	-	-	189	-	-	63	-	-	24	-	-	225	-	-	98	-	114
	Graywater systems	-	61	-	-	148	-	-	195	-	-	65	-	-	25	-	-	232	-	-	101	-	118
	Storm water	-	51	-	-	166	-	-	127	-	-	49	-	-	23	-	-	202	-	-	92	-	101
	Ground water	-	51	-	-	166	-	-	127	-	-	49	-	-	23	-	-	202	-	-	92	-	101
	Recycled water	-	52	-	-	171	-	--	131	-	-	51	-	-	23	-	-	208	-	-	95	-	104

[62] Wastewater treatment, number of people employed in wastewater treatment plant (within the plant).

[63] Jobs created in water use efficiency projects: water conservation, graywater systems, stormwater, groundwater, recycled water.

SO3.1 – Increased access to Sustainable Energy

Unit: Number of people who gained access to clean energy per 1 Million USD invested

AREA	TECHNOLOGY	LAC			SOUTH EAST ASIA			SOUTHERN ASIA			CENTRAL ASIA			MIDDLE EAST			AFRICA			PACIFIC			GLOBAL
		Min	Ave	Max	Min	Ave	Max	Min	Ave	Max	Min	Ave	Max	Min	Ave	Max	Min	Ave	Max	Min	Ave	Max	AVERAGE
Energy	Buildings – Weatherization/ Retrofit	-	810	-	-	810	-	-	810	-	-	592	-	-	196	-	-	2,490	-	-	928	-	948
Energy Systems	Stand-alone smart grid systems[64]	1,112	1,821	2,841	3,100	4,439	6,924	3,125	5,117	7,983	1,380	2,260	3,526	457	748	1,167	5,806	9,509	14,833	2,165	3,545	5,530	3,920
Renewable Energy	Photovoltaic Systems (Utility Scale)	1,882	2,590	3,296	4,588	6,312	8,035	5,289	7,277	9,263	2,336	3,214	4,091	773	1,064	1,354	9,828	13,522	17,212	3,664	5,041	6,417	5,574
	Off-Grid Solar Photovoltaic Systems	1,271	1,418	1,566	3,097	3,457	3,817	3,571	3,985	4,400	1,577	1,760	1,943	522	583	643	6,635	7,405	8,176	2,474	2,761	3,048	3,053
Renewable Energy	Solar pumps for Irrigation in Agriculture[65]	-	11,106	-	-	27,071	-	-	31,209	-	-	13,784	-	-	4,563	-	-	57,991	-	-	21,620	-	23,906
	Waste to Energy Projects[66]	-	7,771	-	-	18,943	-	-	21,838	-	-	9,645	-	-	3,193	-	-	40,579	-	-	15,128	-	16,728

[64] Consider as increased access to electricity for rural households in villages in developing countries.

[65] Considers data from groundwater recharge and solar micro irrigation.

[66] Energy production from biomass sources.

SO3.2 – Increased access to Improved Sanitation

Unit: Number of people who gained access to improved sanitation per 1 Million USD invested

AREA	TECHNOLOGY	LAC			SOUTH EAST ASIA			SOUTHERN ASIA			CENTRAL ASIA			MIDDLE EAST			AFRICA			PACIFIC			GLOBAL
		Min	Ave	Max	Min	Ave	Max	Min	Ave	Max	Min	Ave	Max	Min	Ave	Max	Min	Ave	Max	Min	Ave	Max	AVERAGE
Waste	Infrastructure for Municipal Waste Management Systems	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Municipal Waste Management Collection, Recycling, and Reuse	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sanitation	Decentralized Wastewater Treatment Systems (DEWATS)	-	414	-	56	-	491	438	-	4,412	6	554	-	-	14,624	-	-	13,342	-	-	546	-	6,668
	Fecal Sludge Management (FSM) services and Fecal Sludge Treatment Plans (FSTP)	-	-	-	-	34,531	-	-	-	-	-	-	-	-	-	-	2,973	8960	-	-	-	-	-
Water	Integrated Water Management System (excluding Solar PV and agricultural activities)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

SO3.3 – Increased access to Sustainable Waste Management

Unit: Number of people who gained access to waste management services per 1 Million USD invested

AREA	TECHNOLOGY	LAC			SOUTH EAST ASIA			SOUTHERN ASIA			CENTRAL ASIA			MIDDLE EAST			AFRICA			PACIFIC			GLOBAL
		Min	Ave	Max	Min	Ave	Max	Min	Ave	Max	Min	Ave	Max	Min	Ave	Max	Min	Ave	Max	Min	Ave	Max	Average
Waste	Infrastructure for Municipal Waste Management Systems	-	-	-	-	-	-	-	71,428	-	-	-	-	-	-	-	-	92,813	-	-	-	-	-
	Municipal Waste Management Collection, Recycling, and Reuse	-	-	-	-	-	-	-	71,428	-	-	-	-	-	-	-	-	92,813	-	-	-	-	-

SO3.4 – Increased access to Sustainable Public Transport

Unit: Number of daily users per 1 Million USD invested

AREA	TECHNOLOGY	LAC			SOUTH EAST ASIA			SOUTHERN ASIA			CENTRAL ASIA			MIDDLE EAST			AFRICA			PACIFIC			GLOBAL
		Min	Ave	Max	Min	Ave	Max	Min	Ave	Max	Min	Ave	Max	Min	Ave	Max	Min	Ave	Max	Min	Ave	Max	Average
Sustainable Transport	Mobility – Electric Road Transport	No information found for any region																					
	Infrastructure – Bus Rapid Transit (BRT) System	No information found																					
	Infrastructure – Renewable-based Charging Equipment for E-mobility	Not Applicable																					
	Infrastructure – Non-motorized Transport System (i.e., cycling lanes)	No information found																					

SO4 –Sustainably Managed Natural Capital and Ecosystem Services

Unit: Sustainably managed USD/ Ha invested

AREA	TECHNOLOGY	LAC			SOUTH EAST ASIA			SOUTHERN ASIA			CENTRAL ASIA			MIDDLE EAST			AFRICA			PACIFIC			GLOBAL
		Min	Ave	Max	Min	Ave	Max	Min	Ave	Max	Min	Ave	Max	Min	Ave	Max	Min	Ave	Max	Min	Ave	Max	Average
Sustainable Landscapes	Forest - Reforestation and Afforestation	2,880	2,571	2	6,800	3,216	400	823	524	224	546	284	21	-	-	-	1,250	677	79	-	-	-	1,454
	Forest - Conservation	3000	1136	4	38	12	1	5266	793	4	326	142	36	-	-	-	50	33	11	451	183	10	383
	Coastal Areas - Conservation	875	486	3	3900	1592	33	11385	5719	54	N/A	N/A	N/A	-	-	-	-	-	-	-	-	-	2,599
	Development of Early Warning Systems	No information found																					

Note: The maximum value is lower than the minimum value because the investment amount needs to be divided by the investment multiplier.

Annex VII. Note on SO Results from Finance Mobilized for Thematic Bonds with the support of GGGI

Introduction

GGGI's Strategic Outcomes are **directly linked to the green and climate finance GGGI helps to mobilize**. For projects where financing comes from equity or debt instruments other than bonds - for instance, an infrastructure investment in renewable energy or electric buses - estimating SOs is straightforward. This is as the contours of the project are well defined.

However, for financial instruments - such as bonds - the sectors and projects in which funds will be invested are not always clear at the moment the bond is issued. It is, therefore, not possible to estimate the SOs before the allocation of proceeds.

Instead of GGGI making its own estimates based on a tentative allocation of the bond's proceeds, GGGI will **make use of information contained in the bonds' allocation and impact reports published annually by issuers. This is aligned with the current market practices and the ones of Multilateral Development Banks (MDBs).**

Allocation and Impact reports

Whenever GGGI supports thematic bonds issuance, it follows guidelines from the **International Capital Markets Association (ICMA) and/or Climate Bonds Initiative (CBI)**. These are the main standard-setting entities in the thematic bond space. Both ICMA and CBI recommend issuers to prepare and **publish annual impact and allocation reports starting from 12 months after bond issuance.** The table below summarizes key elements of Impact and Allocation reports.

	TIMEFRAME	CONTENTS
Impact reports	Published annually on the website of the issuer - starting 12 months after bond issuance and until full maturity of the bonds.	→ Environmental and Social (E&S) impact of funded projects and programs (based on indicators defined in the Framework). → Methodologies and assumptions used to prepare the impact indicators.
Allocation reports	Published annually on the website of the issuer - starting 12 months after bond issuance and until full allocation of the bonds.	→ Brief description of the projects, expenditures and amounts disbursed. → Percentage of proceeds allocated per project or expenditure. → Percentage of proceeds allocated for financing and refinancing. → Remaining balance of unallocated proceeds → Percentage of co-financing per project or expenditure.

Estimation methodology

1. **Country teams - and specifically Project Managers** - are asked to **report impacts from bonds** issued in a specific section as part of their End-of-Year (EOY) reporting on SO Results. Numbers will either be **directly drawn from bond impact reports** (when SOs are part of the bond's impact indicators) or **Teams will make relevant estimates** using the allocation of proceeds (in cases where SOs are not part of the bond's impact indicators) described in allocation reports.

2. The **bond framework** is the document which includes the **choice of impact indicators** on which the issuer will report. This means GGGI, in most cases, is involved in advising on the set of indicators to select for reporting.

3. The Green Bonds Principles and **ICMA Harmonized Framework for Impact Reporting** includes indicators corresponding to:

→ **SO1.1** [Annual GHG emissions reduced/avoided in tons of CO_2 equivalent];

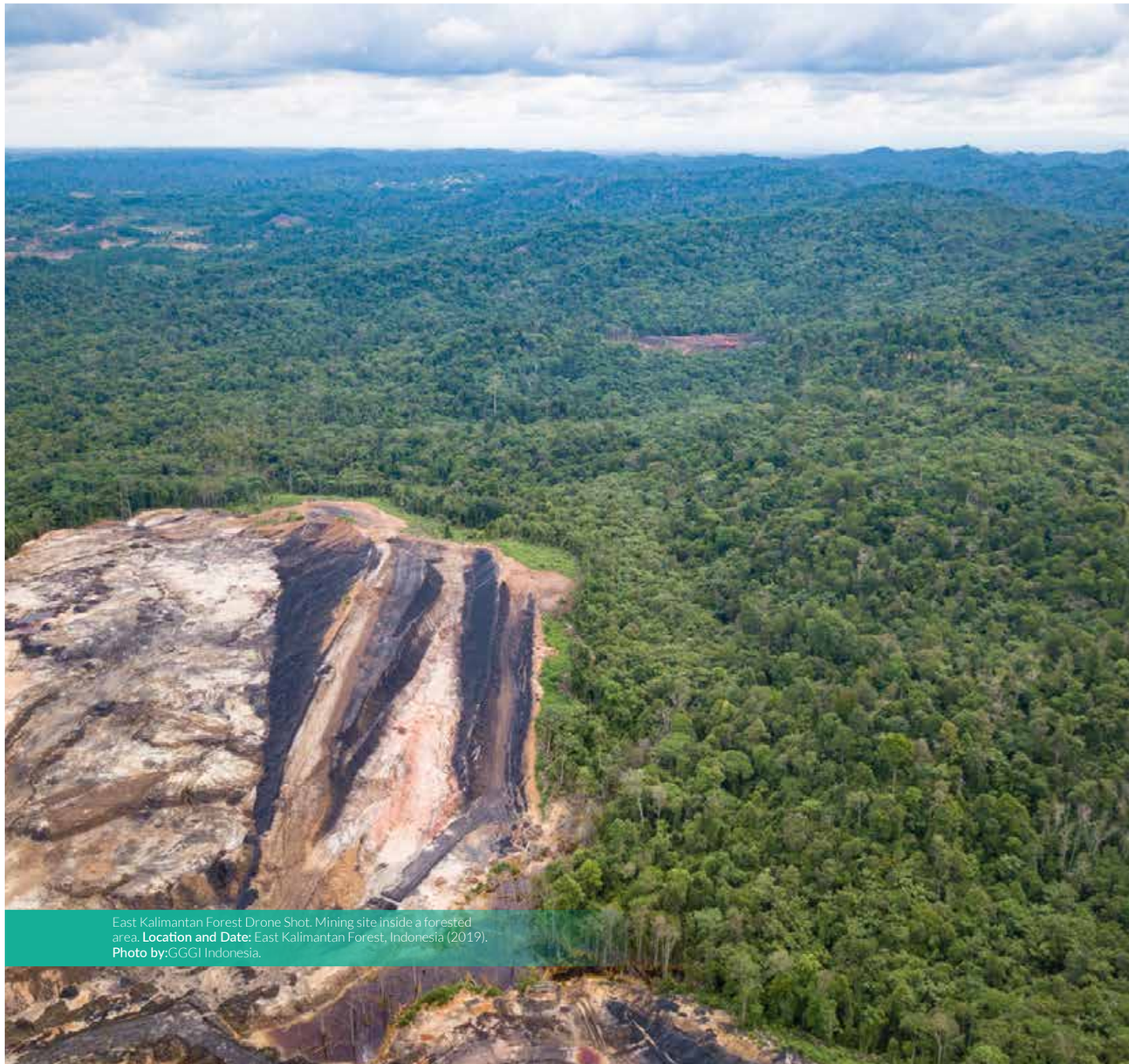
→ **SO3.2** [Number of people with access to improved sanitation facilities under the project];

→ **SO3.3** [Number of people or % of population with access to waste collection under the project];

→ **SO4** [Maintenance/safeguarding/increase of natural landscape area (including forest) in km² and in % for increase, Maintenance/safeguarding/increase of natural landscape area in urban areas in km² and in % for increase, Increase of area under certified land management[29] in km² or m² and in % (in buffer zones of protected areas)]; and

→ **Other SOs (SO1.2, SO2, SO3.1, SO3.4) are not explicitly covered** but can be derived from impact or allocation reports.

4. The Strategy Unit **verifies reported SO Results** as part of the checks it conducts on EOYR. It will request **access to evidence of calculations -** including bonds impact and allocation reports.



East Kalimantan Forest Drone Shot. Mining site inside a forested area. **Location and Date:** East Kalimantan Forest, Indonesia (2019). **Photo by:**GGGI Indonesia.

Annex VIII. References for Multiplier Tables

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GGGI's Rwanda District Technical Assistant in Musanze District, Kabera Andrew joined the Rotary KV Tree Planting Activity in KINIGI IDP MODEL VILLAGE where they planted 1000 fruit trees.

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