



WBG SCORECARD FY24-FY30 METHODOLOGY NOTE

WBG Results Indicator

The purpose of this note is to ensure the rigor, transparency, and reproducibility of the WBG results indicators included in the new WBG Scorecard FY24-FY30, as well as their alignment with the WBG’s vision. Technical teams were asked to provide a sufficiently detailed methodology so that anyone who reads this note can understand its rationale, theory of change, data sources, and method of calculation.

Definitions included in this template are aligned to the WBG Scorecard paper endorsed by the Board on Dec 19, 2023. The methods notes are living documents and will be subject to updating and revision pending operational inputs and implementation lessons over time.

OVERVIEW																			
INDICATOR NAME	Net GHG emissions per year																		
SUB-INDICATORS	N/A																		
OUTCOME AREA	<input type="checkbox"/> Protection for the Poorest <input type="checkbox"/> Healthier Lives <input checked="" type="checkbox"/> Green and blue planet and resilient populations <input type="checkbox"/> Sustainable food systems <input type="checkbox"/> Affordable, reliable, and sustainable energy for all <input type="checkbox"/> Digital services <input type="checkbox"/> More and Better Jobs <input type="checkbox"/> No Learning Poverty <input type="checkbox"/> Effective Macroeconomics and Fiscal Management <input type="checkbox"/> Inclusive and equitable water and sanitation services <input type="checkbox"/> Connected Communities <input type="checkbox"/> Digital connectivity <input type="checkbox"/> Gender equality and youth inclusion <input type="checkbox"/> Better Lives for People in Fragility, Conflict, and Violence <input type="checkbox"/> More private investments																		
SDG ALIGNMENT	<p>See https://sdgs.un.org/ for further details on SDGs:</p> <table border="0"> <tr> <td><input type="checkbox"/> 1. No Poverty</td> <td><input type="checkbox"/> 10. Reduced Inequalities</td> </tr> <tr> <td><input type="checkbox"/> 2. Zero Hunger</td> <td><input type="checkbox"/> 11. Sustainable Cities and Communities</td> </tr> <tr> <td><input type="checkbox"/> 3. Good Health and Well-being</td> <td><input type="checkbox"/> 12. Responsible Consumption and Production</td> </tr> <tr> <td><input type="checkbox"/> 4. Quality Education</td> <td><input checked="" type="checkbox"/> 13. Climate Action</td> </tr> <tr> <td><input type="checkbox"/> 5. Gender Equality</td> <td><input type="checkbox"/> 14. Life Below Water</td> </tr> <tr> <td><input type="checkbox"/> 6. Clean Water and Sanitation</td> <td><input type="checkbox"/> 15. Life on Land</td> </tr> <tr> <td><input type="checkbox"/> 7. Affordable and Clean Energy</td> <td><input type="checkbox"/> 16. Peace, Justice and Strong Institutions</td> </tr> <tr> <td><input type="checkbox"/> 8. Decent Work and Economic Growth</td> <td><input type="checkbox"/> 17. Partnerships for the Goals</td> </tr> <tr> <td><input type="checkbox"/> 9. Industry Innovation and Infrastructure</td> <td></td> </tr> </table> <p>List of specific UN targets (if applicable):</p>	<input type="checkbox"/> 1. No Poverty	<input type="checkbox"/> 10. Reduced Inequalities	<input type="checkbox"/> 2. Zero Hunger	<input type="checkbox"/> 11. Sustainable Cities and Communities	<input type="checkbox"/> 3. Good Health and Well-being	<input type="checkbox"/> 12. Responsible Consumption and Production	<input type="checkbox"/> 4. Quality Education	<input checked="" type="checkbox"/> 13. Climate Action	<input type="checkbox"/> 5. Gender Equality	<input type="checkbox"/> 14. Life Below Water	<input type="checkbox"/> 6. Clean Water and Sanitation	<input type="checkbox"/> 15. Life on Land	<input type="checkbox"/> 7. Affordable and Clean Energy	<input type="checkbox"/> 16. Peace, Justice and Strong Institutions	<input type="checkbox"/> 8. Decent Work and Economic Growth	<input type="checkbox"/> 17. Partnerships for the Goals	<input type="checkbox"/> 9. Industry Innovation and Infrastructure	
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DISAGGREGATION	<input type="checkbox"/> Youth <input type="checkbox"/> Sex <input type="checkbox"/> Disability-inclusive <input checked="" type="checkbox"/> FCS <input checked="" type="checkbox"/> SS, SIDS and LDCs <input checked="" type="checkbox"/> IDA, IBRD, IFC and MIGA <input checked="" type="checkbox"/> Country income groups <input checked="" type="checkbox"/> Regions <input checked="" type="checkbox"/> WBG Joint Programming																		
ENGAGEMENT TYPE	<p>WORLD BANK</p> <input checked="" type="checkbox"/> IBRD <input checked="" type="checkbox"/> IDA <input type="checkbox"/> Trust Fund (TF) <input type="checkbox"/> Advisory Services and Analytics (ASA) <input type="checkbox"/> Treasury Products (including technical assistance) <p>IFC</p> <input checked="" type="checkbox"/> IFC Investment <input checked="" type="checkbox"/> IFC Upstream and Advisory Services <p>MIGA</p> <input checked="" type="checkbox"/> MIGA Guarantee																		
ENGAGEMENT	<p>WORLD BANK</p> <input checked="" type="checkbox"/> IPFs <input type="checkbox"/> DPFs <input type="checkbox"/> PforR <input type="checkbox"/> Guarantees																		

INSTRUMENT	<input type="checkbox"/> TF: IDA <input type="checkbox"/> TF: IBRD <input type="checkbox"/> TF: RETF ¹ <input type="checkbox"/> TF: GEF ² <input type="checkbox"/> TF: MONT ³ <input type="checkbox"/> TF: SPF ⁴ <input type="checkbox"/> ASA: BB ⁵ <input type="checkbox"/> ASA: BETFs/EFOs ⁶ <input type="checkbox"/> ASA: RAS ⁷ IFC <input checked="" type="checkbox"/> Loans <input checked="" type="checkbox"/> Equity <input checked="" type="checkbox"/> Blended Finance <input type="checkbox"/> Syndications <input type="checkbox"/> Asset Management <input checked="" type="checkbox"/> Advisory Services <input type="checkbox"/> Trade and Commodity Finance <input type="checkbox"/> Treasury Client Solutions MIGA <input checked="" type="checkbox"/> Political Risk Insurance <input checked="" type="checkbox"/> Credit Enhancement <input type="checkbox"/> Trade Finance Guarantees
LEGACY INDICATOR NAME	<input checked="" type="checkbox"/> WB Old Scorecard indicator: [Net Greenhouse Gas (GHG) emissions (tCO2eq/year)] <input type="checkbox"/> WBG Old Scorecard indicator: <input type="checkbox"/> N/A
RATIONALE	
DEFINITION	<p>Annualized⁸ estimations of net greenhouse gas (GHG) emissions are typically calculated as the difference between project emissions⁹ (aggregated over the economic lifetime of the project), and the emissions of a baseline scenario (aggregated over the same time horizon) for eligible IBRD, IDA, IFC, and MIGA projects. Emissions values are estimated ex-ante (i.e., during project preparation) at the project-level using approved GHG accounting methodologies. The indicator value is negative if the project is reducing emissions compared with the baseline scenario, and positive if the project is increasing emissions compared with the baseline scenario. Net GHG emissions per fiscal year (FY) are the sum of net emissions of projects approved (IBRD/IDA)/signed (MIGA)/committed (IFC) in the reported fiscal year.¹⁰</p> <p>WBG institutions follow the IFI Guideline for a Harmonized Approach to Greenhouse Gas Accounting,¹¹ which defines various terminologies relevant to GHG Accounting, including but not limited to Scope 1, Scope 2, Scope 3 emissions.</p>
REPORTING TIMELINE	<input type="checkbox"/> Results achieved ¹² <input checked="" type="checkbox"/> Results expected ¹³
DIRECT/INDIRECT	<input checked="" type="checkbox"/> Direct ¹⁴ <input checked="" type="checkbox"/> Indirect ¹⁵
ACTUALS/ MODEL-BASED	<input type="checkbox"/> Actuals <input checked="" type="checkbox"/> Model-based

¹ RETF: Recipient Executed Trust Fund

² GEF: Global Environment Facility

³ MONT: Montreal Protocol

⁴ SPF: Special financing

⁵ Bank's own administrative budget (BB).

⁶ Donors (via Bank-executed Trust Funds (BETFs) or Externally Financed Outputs (EFOs).

⁷ Clients (via Reimbursable Advisory Services (RAS).

⁸ Per the *IFI Guideline* (See footnote 11), annualized estimations can be estimated as an annual average or for a representative year.

⁹ This includes direct/ indirect absolute emissions (Scope 1 and Scope 2, and other indirect GHG emissions from other sources (Scope 3) on a case-by-case basis) and "other consequential emissions", per the *IFI Guideline* (see footnote 11)

¹⁰ Some institutions may use the term "relative emissions" instead of "net emissions", they are essentially the same.

¹¹ Source: [Guideline on GHG Accounting and Reporting](#). The WBG will make necessary adjustments as these guidelines are reviewed and updated. "

¹² New WBG Scorecard paper (Section G): it refers to *results that have occurred* at a given moment of the projects' results horizon. *Results achieved* can be based on actuals at the project level or can use model-based estimations at the portfolio level relying always on available project level data inputs.

¹³ New WBG Scorecard paper (Section G): it refers to the *anticipated results over the projects' results horizon*. *Expected results* is based on the latest available estimations of future results, including model-based or other informed estimations.

¹⁴ New WBG Scorecard paper (Annex I, Technical Criteria): it refers to outcomes with sufficient causal proximity to WBG interventions to allow for attribution of results.

¹⁵ New WBG Scorecard paper (Annex I, Technical Criteria): it refers to outcomes where attribution is located further down the causal chain, relative to WBG interventions, and may be contingent on other exogenous factors.

UNIT OF MEASURE	<input type="checkbox"/> Number of people <input type="checkbox"/> Number of countries <input type="checkbox"/> USD <input type="checkbox"/> GW <input type="checkbox"/> Hectares <input checked="" type="checkbox"/> tCO ₂ eq/year <input type="checkbox"/> Other: _____ [Please specify]
THEORY OF CHANGE	<p>Please see Annex 1 for a visualization of the theory of change.</p> <p>The World Bank Group undertakes public and private interventions in five key systems (CCAP 2021-2025) and supports the creation of enabling environments, country strategies and policy reforms for climate mitigation in client countries. These actions contribute to reduction in GHG emissions. See Annex I for Theory of Change that shows the logical sequence as to how WBG interventions contribute towards GHG emissions reduction.</p>
OUTCOME TYPE/ SUBTYPE	<p>Outcome type/subtypes from the IEG taxonomies developed in Results and Performance of the World Bank Group Annual Review (RAP) 2021 mapped to the outcome(s) measured by the indicator.¹⁶</p> <p>WORLD BANK L. Natural capital sustained¹⁷</p> <p>IFC M. Reduced GHG emissions¹⁷</p> <p>MIGA M. Reduced GHG emissions¹⁷</p>
INCLUSION CRITERIA	<p>GHG emissions accounting is currently a corporate mandate of the World Bank Group. The inclusion criteria for GHG accounting depends on the entity delivering the project:</p> <p>WORLD BANK: GHG accounting is undertaken by IBRD/IDA and Guarantee lending products (IPF) with Bank-approved GHG accounting methodologies. This currently covers activities across the following sectors:</p> <ul style="list-style-type: none"> • Agriculture: 1) Land use change, 2) Crop production, 3) Grassland, 4) Livestock, 5) Land degradation, 6) Wetlands, 7) Fertilizers, 8) Irrigated crops, 9) Agribusiness value chain, 10) Fisheries, 11) Aquaculture • Environment, Natural Resources, and the Blue Economy: 1) Afforestation / Reforestation, 2) Sustainable Forest Management / Fire Control, 3) Agroforestry, 4) Fisheries, 5) Aquaculture • Urban, Disaster Risk Management, Resilience, and Land: 1) Solid waste management • Water: 1) Water Supply, 2) Wastewater Collection and Treatment, 3) Desalination, 4) Wastewater Reuse, 5) Multipurpose Water Reservoirs, 6) Irrigation • Energy and Extractives: 1) Transmission and distribution, 2) Power generation (fossil fuel, solar, wind, geothermal, hydro), 3) Energy efficiency, 4) Energy access, 5) Pumped-storage hydro • Transport: 1) Roads, 2) Rail, 3) Waterways, 4) Urban transport <p>For each sector minimum thresholds¹⁸ are applied to project components/activities to decide if GHG accounting is needed. The main objective of the threshold values is to balance reliability with the ease of implementing the corporate mandate on GHG accounting. Projects below these thresholds can still choose to estimate and report GHG emissions, on a voluntary basis. Currently GHG accounting is undertaken if the following thresholds are reached:</p> <ul style="list-style-type: none"> • Agriculture: Net emissions exceed 20,000 tCO₂e per year

¹⁶ Independent Evaluation Group: [RAP 2021](#).

¹⁷ Note: not all net emissions results will qualify as a GHG reduction. Only a subset will align to the IEG taxonomy.

¹⁸ Harmonization of thresholds across IBRD/IDA, MIGA, and IFC is under discussion.

- **Environment, Natural Resources and the Blue Economy:** Net emissions exceed 20,000 tCO_{2e} per year
- **Urban, Disaster Risk Management, Resilience, and Land:** If investment cost exceeds \$5 million
- **Water:** 1) Components that build or expand on reservoirs used for hydroelectricity with emissions equal to or above 18.5 gCO_{2e}/kWh. 2) For non-hydro reservoirs, only components with reservoirs equal to or above 2,500 tCO_{2e}/km²
- **Energy and Extractives:** 1) For *energy sector transmission & distribution project component*: If investment cost exceeds \$15 million or net emissions exceed 20,000 tCO_{2e} per year or gross emissions associated with technical losses or land clearances exceed 100,000 tCO_{2e} per year. 2) For *energy access project component*: If investment cost exceeds \$5 million.
- **Transport:** investment costs are equal to or above \$15 million.

In the case of Additional Financing (i.e., extra funds to an existing project to cover costs that were not anticipated or to expand the project's scope) GHG accounting may be required if:

- The Additional Financing involves scaling up activities (i.e., additional activities in line with original project activities)
- The Additional Financing involves restructuring resulting in new or modified activities within the project design.
- The scaling up and/or restructuring activities expand the GHG emissions of the original project.

Data generated are used to meet the needs for corporate reporting. The annualized indicator is not often suitable for project results frameworks given the nature of result indicators and their evaluation. Often teams apply the project lifetime net emissions attributable to results achieved if they wish to provide an emissions results indicator.

IFC:

GHG accounting is undertaken by IFC in line with the IFI Guideline for a Harmonized Approach to Greenhouse Gas Accounting, complemented by the IBRD-IDA GHG accounting guidelines and other publicly available GHG accounting methodologies where appropriate and where data is available. This currently covers activities across the following sectors:

Direct [Real Sector] investment projects:

- **Manufacturing:** 1) Chemicals and fertilizers, 2) Nonmetallic mineral product manufacturing, 3) Primary metals, 4) Pulp and paper, 5) Textiles, apparel and leather, 6) Plastics and rubber, 7) Industrial and consumer products
- **Agribusiness:** 1) Crop Production, 2) Animal protein, 3) Fishing, 4) Forestry
- **Services:** 1) Tourism, retail, construction and real estate, 2) Health, education and life sciences
- **Infrastructure:** 1) Energy and mining, 2) Electric power generation, transmission and distribution, 3) Telecommunications, media and technology, 4) Water and wastewater utilities, 5) Waste treatment and management, 6) Airports and air transportation, 7) Rail transportation, 8) Ports and maritime transport, 9) Transit, ground passenger and freight transportation, 10) Highways, 11) Municipal finance

IFC currently undertakes Net GHG assessment for climate related projects [these are identified for projects with activities considered climate finance eligible according to the Common Principles for Climate Mitigation Finance Tracking]. This GHG Accounting practice is consistent with the IFI Guideline for a Harmonized Approach for GHG Accounting. Starting FY25, IFC will expand this coverage to gradually include all real sector projects with gross GHG emissions exceeding 25,000tCO_{2e} per year, where data and methodologies exist.

Indirect [Financial Intermediaries] investment projects:

	<p>IFC is developing a methodology using its Abacus tool for estimating Net GHG emissions for financial institutions' climate related long term finance projects [these are identified for projects with activities considered climate finance eligible according to the Common Principles for Climate Mitigation Finance Tracking]. Starting FY25, this tool and associated methodology will be updated to enable gradual inclusion of Net GHG emissions where data and methodologies exist.</p> <p>MIGA:</p> <p>Direct [Real Sector] investment projects: GHG accounting is required for real sector projects, when data and methodologies exist. For implementation of this method, MIGA will estimate net GHG emissions for all real sector projects.</p> <p>Indirect [Financial Intermediaries] guarantee projects: For guarantee projects enabling on-lending through financial intermediaries, there is no established methodology to estimate net emissions. Starting FY25, MIGA will work with IFC on FIs tool and associated methodology to enable gradual inclusion of Net GHG emissions for FIs where data and methodologies exist.</p>
<p>ADVANTAGES</p>	<p>Key to a livable planet is a livable climate. Tracking net GHG emissions is necessary to help us understand the impact we are having on a changing climate and to track efforts to reduce emissions and support economies in their low-carbon transition. This includes the development and mitigation contribution of projects.</p> <p>The outcomes from the calculation of net GHG emissions are outlined in the Theory of Change section above. The indicator now includes data from IFC and MIGA which is an update from the carried-over WB net emissions indicator from the old scorecard.</p>
<p>LIMITATIONS</p>	<p>The IBRD/IDA, MIGA and IFC are seeking to measure the impact of their respective lending operations. And all three institutions adhere to the IFI Framework for a Harmonized approach to GHG Accounting. Nonetheless, the associated analysis relies on i) the availability of data; ii) the availability of suitable methodologies; and iii) the application of professional judgement in setting the scope of analysis and the baseline for comparison.</p> <p>IBRD/IDA disclosures are limited to IPF operations where methodologies exist and exceed agreed thresholds to undertake GHG accounting. IFC currently undertakes Net GHG assessment for climate related long term finance real sector projects [these are identified for projects with activities considered climate finance eligible according to the Common Principles for Climate Mitigation Finance Tracking] and will expand assessment to include all real sector projects with gross GHG emissions exceeding 25,000 tCO₂e per year and climate related financial intermediary projects, where data and methodologies exist. MIGA discloses net GHG emissions for real sector projects, where data and methodologies exist¹⁹. Across all institutions, the results are calculated ex-ante and reflect assumed investments that will happen in the future.</p> <p>This indicator considers the net emissions from the stock of active projects in each institution. IBRD/IDA considers a project 'active' until the last disbursement. IFC considers the project active as long as there is an outstanding balance. MIGA projects are active until their impacts have been evaluated. Under the principle of conservativeness within the IFI Harmonized Guideline, it is preferable to overestimate project emissions and underestimate baseline emissions to give the smallest relative GHG emissions.</p>
<p>DATA AND CALCULATION</p>	
<p>INTERNAL DATA SOURCE(S)</p>	<ul style="list-style-type: none"> <input type="checkbox"/> World Bank's Operations Portal (PADs, PDs, ISRs, and ICRs) <input type="checkbox"/> World Bank's Operations Portal (Lending and Portfolio) <input checked="" type="checkbox"/> IFC Operational Portal (iDesk/iPortal) <input type="checkbox"/> IFC AIMM System <input type="checkbox"/> MIGA DEIS

¹⁹ Please note that the WBG is undertaking an effort to harmonize thresholds for GHG accounting across institutions.

**METHOD OF
CALCULATION
(CORE)**

- ☑MIGA Portfolio Records
- ☑Other: Data calculated by project teams during project development

GHG accounting at the World Bank Group follows the International Financial Institution (IFI) Guideline for a Harmonized Approach to Greenhouse Gas Accounting. The IFI framework recognizes that approaches to GHG accounting should be harmonized as much as possible, accounting for differing mandates and geographical coverage across institutions. Sector-specific approaches and standards for estimating emissions across IFIs can be found on the [IFI list of methodologies](#).²⁰

Calculating GHG emissions uses the following method:

A. Determine if GHG accounting will be undertaken.

See Inclusion Criteria.

B. Identify activity input and output, and associated emissions sources.

Review the design of the project and identify activities (both sources of emissions and emission sinks) that will be captured in GHG accounting. For each of these activities, identify the unit of activity level data (e.g., kWh, passengers per km), the timeframe, and the assessment boundary expected.

C. Identify the appropriate method and tool to calculate emissions.

WORLD BANK

IBRD/IDA GHG accounting methodologies/tools have been developed, revised, and broadened over time and cover key sectors with high GHG mitigation potential:

- **Agriculture:** 1) [Ex-ante Carbon-Balance Tool](#) (EX-ACT, developed by FAO)
- **Environment, Natural Resources and the Blue Economy:** 1) [Ex-ante Carbon-Balance Tool](#) (EX-ACT, developed by FAO)
- **Urban, Disaster Risk Management, Resilience, and Land:** 1) [Climate Action for Urban Sustainability Tool](#) (CURB) 2) IPCC First Order Decay [Model](#)
- **Water:** 1) Water GP GHG Accounting Excel Tool 2) [Ex-ante Carbon-Balance Tool](#) (EX-ACT, developed by FAO)
- **Energy and Extractives:** 1) Transmission and Distribution Tool, 2) Generation and Energy Efficiency Tool, 3) Energy Efficiency in District Heating Systems Tool, 4) Rehabilitation of Thermal Generation Plants Tool, 5) Guideline on Energy Access, 6) Guideline on Pumped Storage Hydro, 7) Guideline on Geothermal Electricity
- **Transport:** 1) Highway Development and Management Model (HDM-4), 2) [HDM-4 Road User Costs Model](#) (HDM-4 RUC), 3) [Roads Economic Decision Model](#) (RED)

In the case of project activities for which there is no Bank approved methodology, project teams are encouraged to apply publicly available methodologies/tools developed by independent international standards setting bodies.

IFC

IFC uses primarily the IFI Guideline for a Harmonized Approach to Greenhouse Gas Accounting, the IFI approaches for specific project types, complemented by IBRD/IDA and other publicly available GHG accounting methodologies, where appropriate and where the necessary data requirements have been fulfilled for the following sectors:

²⁰ <https://unfccc.int/climate-action/sectoral-engagement/ifis-harmonization-of-standards-for-ghg-accounting/ifi-twg-list-of-methodologies>

- **Manufacturing:** 1) Industry-specific GHG accounting tools, 2) CDM baseline methodologies, 3) IPCC sectoral methodologies
- **Agribusiness:** 1) Industry-specific GHG accounting tools, 2) [Ex-ante Carbon-Balance Tool](#) (EX-ACT, developed by FAO), 3) Food Loss Calculator (developed by IFC and Carbon Trust with FAO data), 4) IPCC sectoral methodologies
- **Services:** 1) EDGE calculator, 2) IPCC sectoral methodologies
- **Infrastructure:** 1) IFI approach to renewable energy, 2) IFI approach to energy efficiency, 3) IFI approach to transport, 4) EDGE calculator, 5) IPCC sectoral methodologies
- **Financial Intermediaries:** 1) IFC Abacus tool

MIGA

MIGA applies IBRD/IDA's methodologies (see above) and other applicable publicly available GHG accounting methodologies, where appropriate.

D. Calculate GHG emissions results.

GHG emissions reflect the impact of a project's activities in terms of tCO₂e. This is defined by factors such as the activity level, assessment boundary, scope of GHG emissions, and timeframe (for definitions and further information review the International Financial Institutions Guideline for a Harmonized Approach to Greenhouse Gas Accounting).

- GHG emissions (tCO₂e) generated by activities implemented in the project (i.e., **project emissions**). This includes **emission sources** –either an identifiable part of an asset – stationary unit or a mobile unit (e.g., a vehicle) – or a process²¹ from which GHGs are emitted (from combustion, process, or fugitive emissions) and **emission sinks** (identifiable biological or man-made systems that remove GHGs from the atmosphere).
- GHG emissions (tCO₂e) generated by a defined **baseline scenario** (see [IFI harmonization document](#))
- GHG emissions (tCO₂e) impact of the proposed investment projects design, calculated as the difference between the project emissions and baseline emissions using the same assessment boundary (i.e., **net emissions**)

Project emissions and baseline emissions

For emission scenarios the following steps are undertaken, either by the team completing the GHG accounting or with the tool being used:

- Convert activity level to appropriate unit for tool engaged under Step 3. The appropriate unit is defined by the emissions factor being used to generate the emissions results.

Example: A project has identified a crop land area in acres but is asked to present the information in hectares for the GHG Accounting tool used.

Acres x conversion ratio (0.40468) = Hectares

- Calculate GHG emissions from activities:

Activity Data × Emissions Factor × Global Warming Potential = CO₂e Emissions generated

CO₂ equivalent emissions (CO₂e) are used to generate a common unit across all GHGs. Global Warming Potentials (GWPs) are used to calculate CO₂e, transferring emissions of different gases to a common scale. The GWP for a time horizon of 100 years from the time the IPCC was adopted as a metric to implement the multi-gas approach embedded in the UNFCCC and made operational in the Kyoto Protocol.

Example: As part of a baseline scenario the kms driven by gasoline-powered passenger cars are considered. If the volume of cars is 2000 vehicles/day and they operate 365 days driving 20 km, the equation to derive total emissions per year is:

$$0.081 \text{ liter/km (specific fuel consumption)} \times 20\text{km} \times 2000\text{vehicles/day} \times 365 \text{ days/year} \times 0.0023 \text{ tons of CO}_2\text{e/liter (emission coefficient)} = \underline{2720 \text{ tCO}_2\text{e}}$$

- For both baseline and project scenarios, take the sum of emissions for each activity across the project to generate the total emissions for the project. For example:

Activity	Baseline (tCO ₂ e)	Project (tCO ₂ e)
Grasslands	-173,201	-3,293,233
Livestock	4,724,922	5,775,395
Inputs & Investments	830,152	1,568,038
TOTAL	5,381,873	4,050,200

Net Emissions

The common approach to calculating net emissions is:

$$\text{Project Emissions} - \text{Baseline Emissions} = \text{Net Emissions}$$

Activity	Baseline (tCO ₂ e)	Project (tCO ₂ e)	Net (tCO ₂ e)
Grasslands	-173,201	-3,293,233	-3,120,032
Livestock	4,724,922	5,775,395	1,050,473
Inputs & Investments	830,152	1,568,038	737,886
TOTAL	5,381,873	4,050,200	-1,331,673

- Increased emissions created by project:** A project is increasing emissions if the net emissions calculated are positive. This occurs when the emissions a project is generating are higher in comparison to the baseline (counterfactual) emissions scenario.
- Reduced emissions created by project:** A project is reducing emissions if the net emissions calculated are negative. This occurs when the emissions a project is generating are lower (negative in case of carbon sequestration) in comparison to the baseline (counterfactual) emissions scenario.

Alternatively, some activities apply an equation that looks at the emission impact from an efficiency gain or displaced activity to calculate negative net emissions (i.e., avoided emissions).

$$\text{Displaced Activity Data} \times \text{Emissions Factor} \times \text{Global Warming Potential} \\ = - \text{Net CO}_2\text{e Emissions (i.e. avoided emissions)}$$

E. Quality assurance.

Quality assurance is undertaken to confirm the results reported for each project (see Quality assurance process). This covers the inputs to the GHG accounting (see Theory of Change) and data and assumptions used.

METHOD OF CALCULATION (DISAGGREGATION)	<ul style="list-style-type: none"> • FCS: Results are aggregated according to the most recent FCS list.²² • Small States (SS), Small Island Developing States (SIDS), and Least Developed Countries (LDCs): Results are aggregated according to the most recent list of SS,²³ SIDS,²⁴ and LDCs.²⁵ • IDA/IBRD/IFC/MIGA: Project data are used to aggregate results by institution. • Region: Project data are used to aggregate results by WBG region.²⁶ • Country income group: Results are aggregated according to the income level list.²⁷ • WBG joint programming: The standardized approach specified in the Corporate Scorecard Results Calculation Handbook is followed.
PRINCIPLES TO AVOID DOUBLE COUNTING	<p>For more information, please refer to the Common Principles to Limit Double Counting.</p> <p>All decisions take a conservative approach, erring on the side of undercounting when possible.</p>
QUALITY ASSURANCE PROCESS	<p>In the World Bank, Task Team Leads engage GP GHG focal points to ensure completion of Internal Reporting Checklist (i.e., a short checklist covering general information required, key information to ensure it is reflected in the GHG accounting, and key documents to include with submission) when preparing emissions results for review. Results are then validated through a review by the central GHG Accounting team and a third-party hired through a competitive tender process.</p> <p>In IFC, Climate Specialists calculate and complete GHG accounting for each eligible project. In MIGA, Climate Specialists calculate and complete GHG accounting for each eligible real sector project.</p>
VERSION	Version 1. Revised March 28, 2024.

²² WB: [Classification of Fragile and Conflict-Affected Situations](#)

²³ <https://www.worldbank.org/en/country/smallstates/overview>.

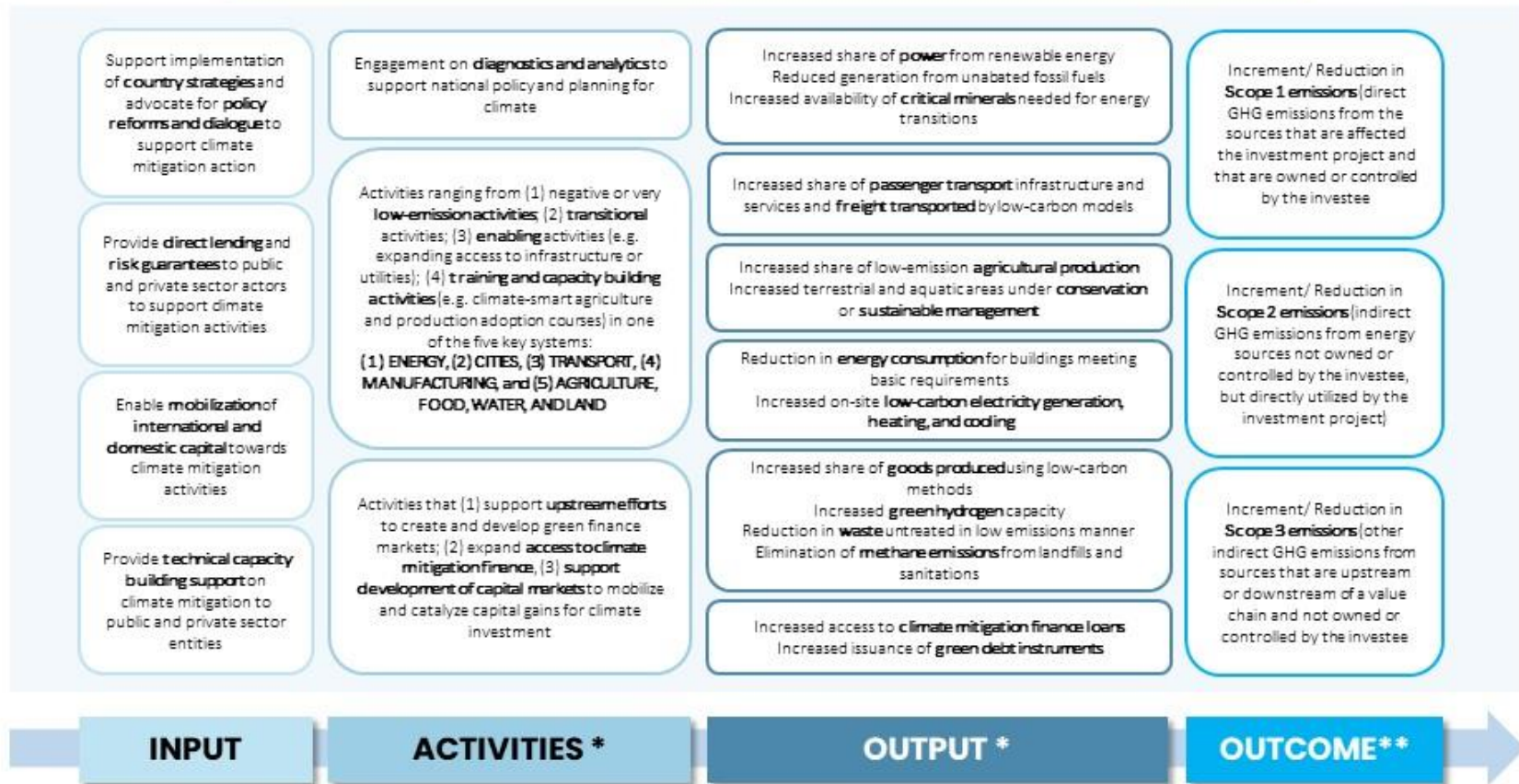
²⁴ UN List of SIDS: [List of SIDS](#)

²⁵ UN List of LDCs: [List of LDCs](#)

²⁶ WBG regions are Africa West, Africa East, East Asia & Pacific, Europe & Central Asia, Latin America & the Caribbean, Middle East & North Africa, and South Asia.

²⁷ WB Data: [WB Country and Lending Groups](#)

THEORY OF CHANGE FOR NET GHG EMISSIONS



[Footnotes:]

*Only a selected number of activities/ outputs are displayed here for demonstration purpose due to challenge in listing out all potential outputs supported by WBG operations.

**Increased emissions occurs when an operation is generating higher emissions in comparison to the baseline (counterfactual) emissions scenario whereas reduced emissions occur when an operation is generating lower emissions in comparison to the baseline (counterfactual) emissions scenario.