

Global Europe Results Framework Indicator Methodology Note

1. Indicator name
<p>GERF 2.7: Greenhouse Gas (GHG) emissions avoided (tonnes CO₂eq) with EU support</p>
2. Technical details
<p><i>Please use the information provided in OPSYS or the SWD.</i></p> <p><u>Results Dashboard code(s)</u>: 65203.</p> <p><u>Unit of measure</u>: Tonnes of CO₂ equivalent.</p> <p><u>Type of indicator</u>: Quantitative (not qualitative) – Numeric (not percentage); Estimated ex-post (not actual, but not ex-ante either); Annual (not cumulative).</p> <p><u>Level of measurement</u>: Overall Objective – Impact; Specific Objective – Outcome; Direct Output; Output.</p> <p><u>Disaggregations</u>: None.</p> <p><u>DAC sector codes</u>: 23210 – Energy generation, renewable sources, multiple technologies; 23320 – Coal-fired electric power plants; 23330 – Oil-fired electric power plants.</p> <p><u>Main associated SDG</u>: 13.2 Integrate climate change measures into national policies, strategies and planning.</p> <p><u>Other associated SDGs</u>: 1.5 resilience to shocks and disasters; 3.9 environmental pollutants; 7.2 renewable energy; 7.3 energy efficiency; 8.4 resource efficiency; 9.1 sustainable and resilient infrastructure; 9.4 upgrade infrastructure and clean technology; 11.2 sustainable transport; 12.1 sustainable consumption and production; 13.3 improve capacity incl climate mitigation; 14.3 ocean acidification.</p> <p><u>Associated GERF Level 1 indicator</u>: 1.6 Domestic material consumption per capita (SDG 12.2.2).</p> <p><u>Associated GERF Level 3 indicators</u>:</p> <p>3.1 Amount and share of EU-funded external assistance contributing to: (a) climate change (adaptation and mitigation), (b) protecting biodiversity, (c) combating desertification, (d) protecting the environment (Aid to Env)</p> <p>3.4 Amount and share of EU-funded external assistance contributing to: (a) aid for trade, (b) aid for trade to LDCs, and (c) trade facilitation</p> <p>3.5 Leverage of EU blending and guarantee operations financed by EU external assistance, measured as: (a) Investment leverage ratio, (b) Total eligible financial institution financing leverage ratio, (c) Private financing leverage ratio</p> <p>3.13 Number and share of EU- external interventions promoting gender equality and women’s empowerment</p> <p>3.14 Number and share of EU-funded external interventions promoting disability inclusion</p>

3.16 Amount and share of EU-funded external assistance qualifying as ODA
3. Policy context and Rationale
<p>The European Union (EU) is committed to combating climate change as a fundamental aspect of its policy framework, aligning with the Paris Agreement and the European Green Deal. The Paris Agreement, adopted in 2015, aims to limit global warming to well below 2°C above pre-industrial levels and to pursue efforts to limit the temperature increase to 1.5°C. The European Green Deal, introduced in 2019, sets the blueprint for making the EU's economy sustainable by transforming climate and environmental challenges into opportunities and ensuring a just and inclusive transition for all.</p> <p>Greenhouse gas (GHG) emissions are the leading cause of climate change, driving global warming and resulting in adverse effects such as extreme weather events, rising sea levels, and loss of biodiversity. Thus, reducing GHG emissions is crucial for mitigating climate change and achieving the EU's goal of climate neutrality by 2050. One of the 3 bets of the Staff Working Document on “Empowering Development: Implementation of the new European Consensus on Development in energy cooperation”¹ is to contribute to the fight against climate change through reducing GHG emissions.</p>
4. Logframe inclusion
<p>If an intervention generates the result measured by this indicator, then it must be reported in OPSYS. Corporate targets have been set for the indicators used to monitor the Strategic Plan and the Multiannual Financial Framework (see Section 9). Progress towards these targets is reported annually in the Annual Activity Plan (for the Strategic Plan) and the Programme Performance Statements (for the Multiannual Financial Framework). These values are calculated by aggregating the results reported in OPSYS. These reports ultimately contribute to the Annual Management Performance Report submitted by the European Commission to the Council and Parliament during the annual budgetary discharge procedure. If targets are not met, explanations must be provided. Therefore, it is crucial that all results are recorded in OPSYS.</p> <p>There are two ways of doing this:</p> <ol style="list-style-type: none"> 1. Include the indicator directly in the logframe (recommended approach); 2. Match the indicator to the closest logframe indicator (only if the indicator was not originally included in the logframe and modification is not possible). <p>Why? The matching functionality in OPSYS only accommodates reporting current values and does not yet support encoding baselines and targets. This is a significant drawback because targets are a valuable piece of information, especially at the beginning of a Multiannual Financial Framework. Indeed, results take time to materialise as they are the last step in the chain, appearing only after programming, commitments, contracting, and spending have occurred. Targets allow to see what results are expected long before they materialise, which is reassuring to the different</p>

¹ https://ec.europa.eu/europeaid/empowering-development-implementation-new-european-consensus-development-energy-cooperation_en

stakeholders concerned with accountability. **Therefore, include all corporate indicators directly in the logframe whenever possible, and reserve the matching functionality only for cases when this is not feasible.**

5. Values to report

The following values must be determined in line with the definitions provided in Section 6.

Baseline value: the value measured for the indicator in the baseline year. The baseline value is the value against which progress will be assessed.

Current value:

- **For logframe indicators:** the most recent value for the indicator at the time of reporting. The current value includes the baseline value which is reported separately for logframe indicators in OPSYS.
- **For matched indicators:** the most recent value for the results achieved at the time of reporting since the start of implementation of the intervention. This value is obtained by taking the most recent value for the indicator at the time of reporting and subtracting off the baseline value which is not reported separately for matched indicators in OPSYS.

Current values will be collected at least once a year and reported throughout the implementation period.

Final target value: the expected value for the indicator in the target year.

Intermediate target values (milestones). A tool has been developed in OPSYS to generate intermediate targets automatically².

- **For outputs:** the intermediate targets are generated using a linear interpolation between the baseline and target values because it is assumed that outputs materialise sooner and more progressively over implementation (than outcomes).
- **For outcomes:** the expected progression over the course of implementation

² This has been done in the context of the Primary Intervention Questionnaire (PIQ) for the EAMR. Three new KPIs provide an overall assessment of ongoing interventions (current performance and future performance) and completed interventions (final performance). Scores will be calculated for all INTPA and NEAR interventions participating in the annual results data collection exercise.

- *KPI 10* reflects the relevance, efficiency and effectiveness of ongoing interventions. The information on relevance is provided by the Operational Manager's response to a question in a survey. The information on efficiency and effectiveness is provided either by the logframe data, if sufficient data is available, or the response to a question in a survey, if not.
- *KPI 11* reflects expectations regarding the most probable levels of relevance, efficiency, effectiveness and sustainability that can be achieved by ongoing interventions in the future. In this case, all the information is provided by the Operational Manager's responses to questions in a survey.
- *KPI 12* reflects the relevance, efficiency and effectiveness of completed interventions. The information on relevance is provided by the Operational Manager's response to a question in a survey. The information on efficiency and effectiveness is provided by the logframe data if sufficient data is available, or the response to a question in a survey, if not.

will vary across interventions. During the creation of a logframe, the expected outcome profile must be selected (OPSYS offers four options³) and this selection triggers the generation of intermediate targets for all 30 June and 31 December dates between the baseline and target dates for all output and outcome quantitative indicators. All automatically generated intermediate targets values and dates can be subsequently modified by the Operational Manager or the Implementing Partner with the approval of the Operational Manager.

6. Calculation of values

Specify all assumptions made, list definitions for all technical terms, provide any relevant guidance on (double) counting, and include checklist for quality control.

The value for this indicator is calculated by counting the number of tonnes of CO₂ equivalent Greenhouse Gas (GHG) emissions avoided with EU support, using the technical definitions and counting guidance provided below. Please double check your calculations using the quality control checklist below.

Technical definitions

GHG emissions include all carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), Hydrofluorocarbons (HFCs), Perfluorocarbons (PFCs) and Sulphur hexafluoride (SF₆) emissions.

This indicator measures the net change in the GHG emissions achieved with the intervention relative to the assumed Business-As-Usual or baseline scenario for a typical year of operation. This is not directly observable and must be estimated. The exact calculations will vary by type of intervention, but the following steps outline the general approach to be taken:

1. Define the Business-As-Usual or baseline scenario. This scenario is the theoretical alternative to the intervention scenario; it describes what would credibly happen if the intervention were not to take place.
2. Determine the GHG emissions per year for the Business-As-Usual or baseline scenario using emissions factors.
3. Determine the GHG emissions per year for the intervention scenario using emissions factors.
4. Calculate the net change in GHG emissions per year (step 3 output – step 2 output). Note that this number could be negative or positive.

The estimate of GHG emissions avoided over a typical year of operation should come from intervention information whenever possible. These estimates should be based on credible assumptions and using country- technology- intervention- specific emission factors as much as possible. This applies to interventions in the energy sectors as well as those in other sectors.

For the energy sector, in rare cases where no information is available, the following simplified methods may be used to estimate the direct GHG emissions avoided over a

³ a. *steady progress*: The outcomes are achieved continuously throughout implementation; b. *accelerating progress*: The outcomes are achieved towards the end of implementation; c. *no progress until end*: The outcomes are mostly achieved at the end of implementation; d. *none of the above*.

typical year of operation for the following types of interventions.

- *Renewable electricity generation interventions* - we can assume that emissions factors for renewable sources of electricity generation are zero. Thus, the direct GHG emission per year from supported renewable electricity generation interventions would be zero. This means the direct net change in GHG emissions per year is then the same as the GHG emissions per year in the baseline scenario. So, the estimated direct net change in emissions per year would be:

$$\text{electricity produced per year (MWh)} \times \\ \text{country specific combined margin emission factor (tCO}_2\text{e/MWh)}$$

where the country-specific combined margin emission factor is provided by the Institution Institute for Global Environmental Strategies (IGES), List of Grid Emission Factors: <https://www.iges.or.jp/en/pub/list-grid-emission-factor/en>. If the country specific combined margin emission factor is not available, please use the regional combined margin emission factor, or the world average as a last resort (0.786 tCO₂e/MWh, IGES version 11.4).

The operating or build margin grid emissions factor may be used instead of the combined margin emission factor if they are deemed to be more suitable for the context.

If the energy generation capacity installed is used as the basis to estimate the electricity produced per year, please remember that plants will not be performing at full capacity all of the time, so the average power generation will be less than the generation capacity installed. Please use an appropriate capacity factor.

- *Electricity efficiency interventions* – the net change in GHG emissions per year may be estimated as follows using electricity savings information reported by the intervention:

$$\text{electricity savings (MWh)} \times \\ \text{country specific average combined margin emission factor} \\ \text{(tCO}_2\text{e/MWh)}$$

- *Clean cooking or Heating systems interventions* - the net change in GHG emissions per year may be estimated as follows using fuel savings information reported by the intervention:

$$\text{fuel savings (MJ or MWh or kg)} \times \\ \text{fuel specific emission factor (tCO}_2\text{e/MJ or tCO}_2\text{eq/MWh or} \\ \text{tCO}_2\text{e/kg)}$$

where the fuel-specific emission factor from the 2006 IPCC Guidelines for National Greenhouse Gas Inventories is available in the EFDB emission factor database: <https://www.ipcc-nggip.iges.or.jp/EFDB/main.php>.

Here are some potentially useful emissions factors: Firewood - 0.112 kgCO₂eq/MJ; Charcoal –0.112 kgCO₂eq/MJ; Natural Gas residential heat boiler – 0.0561 kgCO₂eq/MJ; Diesel residential heat boiler – 0.0741 kgCO₂eq/MJ.

The net change in GHG emissions should take account of direct GHG emissions and

where possible indirect GHG emissions. However, the inclusion of the latter is not mandatory.

Counting guidance

1. Beware that blending operations and guarantees often finance actions that result in GHG emissions avoided INDIRECTLY, in two different ways. 1. Instead of financing a specific intervention that will directly result in GHG emissions avoided, the EU provides technical assistance which includes feasibility studies of interventions, some of which are expected to result in GHG emissions avoided. 2. Instead of financing a specific intervention that will directly result in GHG emissions avoided, these leverage-based mechanisms involve setting up a fund which will provide financing to a portfolio of interventions which are not yet known, some of which are expected to result in GHG emissions avoided. In both cases, the monitoring will involve reporting upon the expected results to be generated by the interventions. Unfortunately, these EXPECTED results are often reported using the same indicators as the ACTUAL results. This is incorrect and must be avoided. Reporting results for this indicator must take place only after the intervention is under implementation and the results have already materialised.
2. The estimated GHG avoided per year should be reported once the action that is supposed to generate this result has been completed, most probably at the end of implementation.
3. If the value reported is cumulative, then convert to an annual figure by dividing the cumulative figure by the corresponding number of years. Record the calculations in the calculation method field to facilitate quality control.
4. Although primarily relevant for interventions in the energy sector, this result should also be reported for the other sectors when possible.

Quality control checklist

1. Has the indicator been included directly in the logframe? Reserve the OPSYS matching functionality only for cases when this is not feasible.
2. If the indicator has been included directly in the logframe, does the current value *include* the baseline value? If the indicator has been matched to a logframe indicator, does the current value *exclude* the baseline value?
3. Has implementation begun? If not, report the GERF value as zero. Note that a feasibility study or the inclusion of an intervention in a portfolio to be financed do not count as implementation.
4. Does the GERF value correspond to a typical year of operation? Good! It is not a cumulative figure.
5. Is the GERF value expressed as an absolute value? Good! A percentage must be converted to an absolute value.
6. Is the GERF value expressed in tonnes of CO₂ equivalent? Good! Be particularly careful with figures reported in kilotonnes or kilogrammes, which should be converted to tonnes. See the technical definitions above for details on how to deal with conversions for solar power, LPG, and other fuels.
7. Have all calculations been recorded in the calculation method field? Has all relevant information, including the geographic location of results, been reported in the comment field?

7. Examples of calculations
<p><u>Example 1</u></p> <p>In Country X, an intervention is undertaken to install a solar power generator.</p> <p>After the installation of the solar power generator is finalised, the following value is reported in the annual progress report:</p> <p style="padding-left: 40px;">Electricity production = 10 MWh/year</p> <p>If solar power generation was not available, then the electricity production would have come from a combination of existing and new power plants.</p> <p>According to the IGES database version 11.4:</p> <p style="padding-left: 40px;">Combined margin emission factor for Country X = 0.529 tCO₂/MWh</p> <p>If we assume that solar power generation has no emission:</p> <p style="padding-left: 40px;">GHG emissions avoided per year = 10 x 0.529 = 5.29 tCO₂e/year</p>
8. Data sources and issues
<p><i>Please use the data source categories specified in OPSYS.</i></p> <p><u>EU intervention monitoring and reporting systems</u>: <i>Progress and final reports for the EU-funded intervention; ROM reviews; Baseline and endline surveys conducted and budgeted by the EU-funded intervention.</i></p> <p><u>International organisation data portals and reports</u>: <i>Global SDG Indicators Database, https://unstats.un.org/sdgs/indicators/database/</i></p> <p><i>Include any issues relating to the availability and quality of the data.</i></p> <p>Data quality will vary between interventions, and those using solely partner government data systems may be of a lower quality. The feasibility and credibility of the assumptions used, especially used to estimate the baseline emissions estimates will also vary. Where possible, it is good practice to check their feasibility and credibility.</p>
9. Reporting process & Corporate reporting
<p>The data collected on this indicator will be reported in OPSYS by the Implementing Partner. The values encoded in OPSYS will be verified, possibly modified and ultimately validated by the Operational Manager. Once a year the results reported will be frozen for corporate reporting. The methodological services in HQ that are responsible for GERF corporate reporting will perform quality control on the frozen data and aggregate as needed to meet the different corporate reporting requirements.</p> <p>This indicator is used for corporate reporting in the following contexts:</p> <ul style="list-style-type: none"> ● <i>NDICI via the Annual Report</i> ● <i>NDICI via the Programme Statements</i> ● <i>INTPA Strategic Plan via the Annual Activity Report</i> ● <i>NEAR Strategic Plan via the Annual Activity Report</i> ○ <i>FPI Strategic Plan</i> <p>This indicator has been included in the following other Results Measurement</p>

<p>Frameworks:</p> <ul style="list-style-type: none"> ● <i>EFSD+</i> ○ <i>GAP III</i> ● <i>IPA III</i> ● <i>TEI-MORE</i>
10. Other uses
<p>GERF 2.7 can be found in the following thematic results chain:</p> <ul style="list-style-type: none"> - Sustainable cities - Water <p>GERF 2.7 can be found in the following groups of EU predefined indicators available in OPSYS, along with other related indicators:</p> <ul style="list-style-type: none"> - Climate change - Energy - Sustainable cities <p>For more information, see: Predefined indicators for design and monitoring of EU-funded interventions Capacity4dev (europa.eu)</p> <p>External bodies using the same or similar indicator:</p> <ul style="list-style-type: none"> - African Development Bank Group - emissions reduction in energy (thousand tons CO₂). - World Bank Group/World Bank Corporate Scorecards tier 2 indicator - Emission reductions with support of special climate instruments (millions tons CO₂ eq). - The Asian Development Bank - Greenhouse gas emission reduction (tCO₂-equiv/year). - The European Investment Bank measures the carbon footprint of projects: http://www.eib.org/attachments/strategies/eib_project_carbon_footprint_methodologies_en.pdf - USAID - greenhouse gas emissions, measured in metric tons of CO₂ equivalent reduced or sequestered, or avoided through clean energy activities.
11. Other issues