Award criteria Part I
The GHG emissions saving criterion

Joao Serrano Gomes
DG CLIMA

Application of the GHG methodology

- To support applicants quantifying GHG emissions avoidance potential over the first 10 years of operation
- To form the basis of the scoring for the "GHG emission avoidance potential" criterion and cost efficiency
- To serve as KPI for project monitoring and disbursements of grants
- To inform on requirements for knowledge-sharing purposes

Selection criteria

Projects will be selected based on:

1. Potential of greenhouse gas emissions avoidance
2. *Degree of innovation*
3. *Project viability and maturity*
4. *Scalability*
5. *Cost efficiency (cost per unit of performance)*

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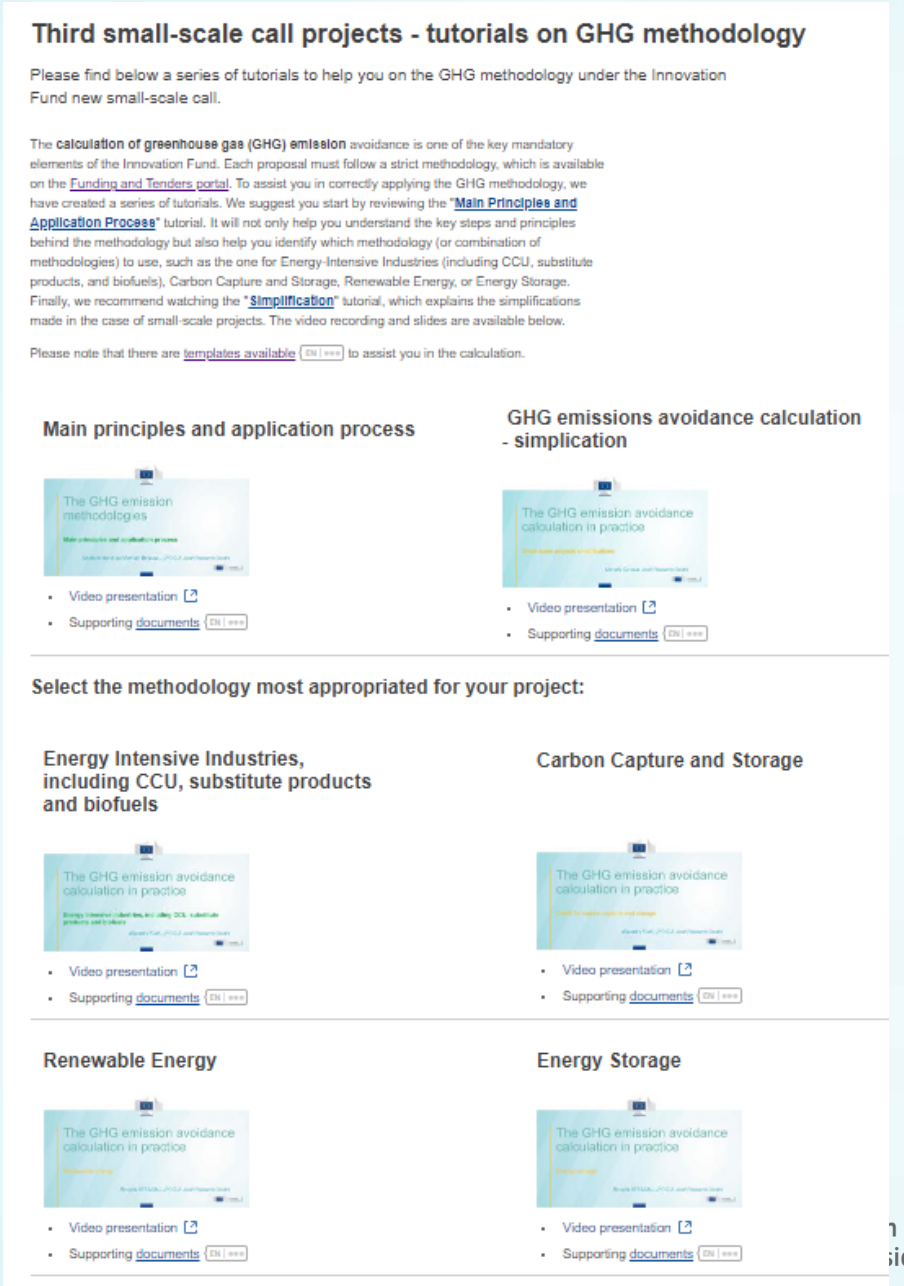
GHG tutorials available

GHG tutorials and recordings available in CINEA website

- Main principles and application process
- Small-scale call simplification
- EII intensive Industry (including CCU) methodology
- CCS methodology
- Renewable Energy methodology
- Energy storage methodology



Third small-scale call projects - tutorials on GHG methodology

Please find below a series of tutorials to help you on the GHG methodology under the Innovation Fund new small-scale call.

The **calculation of greenhouse gas (GHG) emission** avoidance is one of the key mandatory elements of the Innovation Fund. Each proposal must follow a strict methodology, which is available on the Funding and Tenders portal. To assist you in correctly applying the GHG methodology, we have created a series of tutorials. We suggest you start by reviewing the "**Main Principles and Application Process**" tutorial. It will not only help you understand the key steps and principles behind the methodology but also help you identify which methodology (or combination of methodologies) to use, such as the one for Energy-Intensive Industries (including CCU, substitute products, and biofuels), Carbon Capture and Storage, Renewable Energy, or Energy Storage. Finally, we recommend watching the "**Simplification**" tutorial, which explains the simplifications made in the case of small-scale projects. The video recording and slides are available below.

Please note that there are templates available EN to assist you in the calculation.

Main principles and application process

- Video presentation
- Supporting documents EN

GHG emissions avoidance calculation - simplication

- Video presentation
- Supporting documents EN

Select the methodology most appropriated for your project:

Energy Intensive Industries, including CCU, substitute products and biofuels

- Video presentation
- Supporting documents EN

Carbon Capture and Storage

- Video presentation
- Supporting documents EN

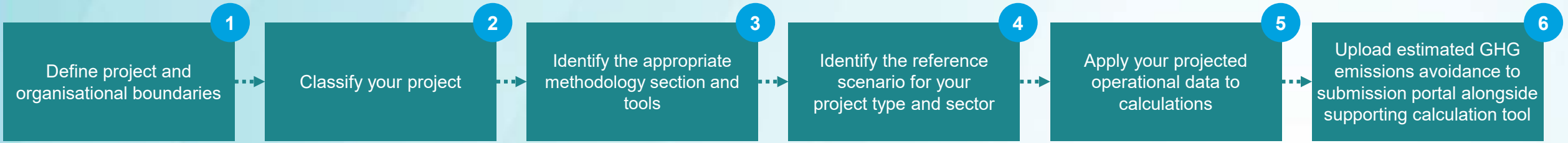
Renewable Energy

- Video presentation
- Supporting documents EN

Energy Storage

- Video presentation
- Supporting documents EN

Submitting an application
Step by step



Tip: in practice the applicants may finalise the decision about the project boundary after they have decided on principal product, reference and appropriate methodology.

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Absolute and relative GHG emissions avoidance

Absolute GHG emission avoidance is the difference between:

- the **emissions that would occur in the absence of the project** (*Ref*), and
- the **emissions from the project activity** (*Proj*)

Timescale: 10-years. Forecasting: emission factor will be fixed for the 10 years of calculation

Absolute GHG emissions avoidance

$$\Delta GHG_{abs} = \sum_{y=1}^{10} (Ref_y - Proj_y)$$

in tonnes CO_2e

Relative GHG emissions avoidance

$$\Delta GHG_{rel} = \frac{\Delta GHG_{abs}}{\sum_{y=1}^{10} (Ref_y)}$$

in %

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Boundaries

Boundaries vary depending on the sector of the project.
Overall, the methodology is structured with the intention of capturing the most common emission sources of the ETS GHGs, such as for example:

- Fuel combustion in stationary and on-site vehicles
- Fugitive emissions in geothermal power plants and CCS projects
- Emissions from the transport and supply of biomass-based fuels.

Emissions generally excluded (source of errors)

- Capital goods
- Extraction, processing, refining, distribution and storage of fossil fuel
- Fugitive emissions due to well testing and well bleeding in geothermal power plants
- Biogenic CO_2 emissions from combustion of biomass, decomposition or degradation at EoL, processes
- Indirect land use change
- Decommissioning of the power plant and machinery at the end-of-life
- Employee commuting, business travels and waste generation at administrative offices
- Manufacturing process in the sector 'Manufacturing of components for production of renewable energy or energy storage'.
- Transport in EII (with the exceptions of section 1.1.5)

1. Define project and organisational boundaries
2. Classify your project
3. Identify the appropriate methodology section and tools, if any
4. Identify the reference scenario for your project type and sector
5. Apply your projected operational data to calculations
6. Upload estimated GHG emissions avoidance to submission portal alongside supporting calculation tool

Energy-intensive industries, including CCU and biofuels, substitute products

Carbon Capture Credit: calculation detailed in section 3 but projects classified under relevant EII or RES sector

Production and use of **renewable electricity, heat and cooling**, including plants for the manufacturing of RES components

Energy storage including plants for the manufacturing of ES components

Emission avoidance calculation methodology

Includes:

- Scope
- System boundaries
- Absolute and relative GHG emissions avoidance
- Data and parameters: *default values to be used*
- In appendix: monitoring, reporting and verification of performance: *for disbursement and for knowledge-sharing purposes*

+ GHG calculators

+ Examples

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Serious inherent weaknesses (SIW) in the context of the Innovation Fund

- ***Serious inherent weaknesses*** are mistakes that can substantially influence the GHG emissions avoidance calculations. Such errors could derive from an incorrect application of the methodology or from a situation in which Part B of the application form and the GHG emissions calculator have not been filled-in correctly. Serious inherent weaknesses automatically fail the proposal.

Examples:

- Emissions that are outside the scope of the GHG methodology have been included in the GHG emissions avoidance calculation
- The proper reference scenario for the product that the project will fully or partly replace not selected;
- …

Hybrid projects – general indications

Possible error:

Double-counting of emissions or avoidance/reduction

Applicants may combine activities related to two or three eligibility categories (energy-intensive industry, renewable energy sources, energy storage), to be referred to as hybrid projects.

Projects that capture (some of) the CO_2 generated that have products under the EII eligibility category or produce energy under RES: combine the calculation of the CC component of the project following section 3 with the EII component following the section 2 or renewable energy component following section 4, whilst removing any double counting. These would not be hybrid projects though as they would be classified under EII or RES.

- **Absolute GHG emission avoidance**: calculate separately using respective sections of the methodology and add them up, while removing double counting of avoidance and/or emissions, if any.

- **Relative GHG emission avoidance**: calculate based on the added-up absolute emission avoidance and the added-up reference emissions

source of errors

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Reference scenario: The GHG emissions that would occur **in the absence of the project** are calculated based on the assumption that the **product** would be delivered under the following circumstances (examples): **(source of errors)**

Eligibility category / Sectors / products	Reference scenario
Energy intensive industry	Frequent cases are based on EU ETS benchmark(s) and/or fossil fuel comparators (FFCs). If the reference cannot be constructed by combination of benchmarks and/or FFCs and/or other predefined references as indicated in the methodology, then applicants should build an appropriate reference scenario
EII / Refineries / Biofuels	Adapted fossil fuel comparators from REDII
RES / Renewable electricity; EII/bio-electricity; (non-dispatchable) and EII electricity saving projects	Expected 2030 electricity mix (0.1757 tCO_2e/MWh)
RES / Renewable heat; EII/bio-heat	Natural gas boiler (0.202 tCO_2e/MWh)
RES / renewable cooling	Expected 2030 electricity mix (0.1757 tCO_2e/MWh)

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Tools have been made available to support the calculation in the various sectors

Summary

This is a Pivot Table. As such, changes you make to the data set are not automatically picked up by it.

To update the pivot table with the applied changes to the text or numbers in your data set, you need to refresh it: (1) Click any cell inside the pivot table. (2) Right click

Row Labels	Sum of t CO2e
Refinputs	
Refprocesses	
Refproducts	
Refuse	
RefEoL	
Grand Total	

Reference emissions calculation

Note: for many projects the reference emissions for processes will be based on an EU ETS benchmark, fossil fuel comparator or other natural-gas-base disaggregate process emissions, and may be no emissions in the inputs, products, use or end of life boxes. Note that there may still be input emissions

							Projected operational data		
Source	Plant / Unit	Process	Input	Output	Parameter monitored	Description of parameter	Data unit	Year 1	Year 2
Inputs *[add rows and column, as needed]*									
Ref_{inputs}									
Ref_{inputs}									
Ref_{inputs}									
Processes *[add rows and column, as needed]*									
$Ref_{processes}$									
$Ref_{processes}$									
$Ref_{processes}$									
Products *[add rows and column, as needed]*									
$Ref_{products}$									
$Ref_{products}$									

ETS benchmarks and other relevant emission factors already part of the database

GHG emission factors, and other conversion factors for calculation of reference emissions				
Type of data	**Description**	**Fuel / Feedstock / Product**	**Proposed value**	**Data unit**
Default factors				
ETS Product benchmarks	Coke-oven coke (obtained fror	Coke	0.217	tCO2e / t
ETS Product benchmarks	Agglomerated iron-bearing prc	Sintered ore	0.157	tCO2e / t
ETS Product benchmarks	Liquid iron saturated with carb	Hot metal	1.288	tCO2e / t
ETS Product benchmarks	Anodes for aluminium electroly	Pre-bake anode	0.312	tCO2e / t
ETS Product benchmarks	unwrought non-alloy liquid alur	Aluminium	1.464	tCO2e / t
ETS Product benchmarks	Grey cement clinker as total cl	Grey cement clinker	0.693	tCO2e / t
ETS Product benchmarks	White cement clinker for use a	White cement clinker	0.957	tCO2e / t
ETS Product benchmarks	Quicklime: calcium oxide (CaC	Lime	0.725	tCO2e / t
ETS Product benchmarks	Dolime or calcined dolomite as	Dolime	0.815	tCO2e / t
ETS Product benchmarks	Mixture of calcium and magne	Sintered dolime	1.406	tCO2e / t
ETS Product benchmarks	Float/ground/polish glass (as t	Float glass	0.399	tCO2e / t
ETS Product benchmarks	Bottles of colourless glass of a	Bottles and jars of colourless g	0.290	tCO2e / t
ETS Product benchmarks	Bottles of coloured glass of a r	Bottles and jars of coloured gla	0.237	tCO2e / t
ETS Product benchmarks	Melted glass for the productior	Continuous filament glass fibre	0.309	tCO2e / t
ETS Product benchmarks	Facing bricks with a density >	Facing bricks	0.106	tCO2e / t

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Assumptions | Applicants are required to document quantitative and qualitative assumptions used in the calculations

Quantitative assumptions

Data / Assumption	Proposed value	Data unit	Description	Basis or source of the assumption	Hyperlink to the original source, if applicable	Brief description of the monitoring plan	Area / Department responsible
Example: Share of organic waste in the MSW incinerated in project	*0.00%*	*%*	*Solid waste composition*	*Conservative assumption by the applicant to avoid possible overestimation of GHG emission avoidance claims*			

[add or exclude rows and columns, as needed]

Qualitative assumptions

Data / Assumption	Description	Basis or source of the assumption	Hyperlink to the original source, if applicable	Brief description of the monitoring plan	Area / Department responsible
Example: No demand for offshore service vessels	*No demand for offshore service vessels as O&M will be performed using drones*	*Based on project planning, and best practices in year 2020.*	Project Planning_O&M		

[add or exclude rows and columns, as needed]

Best practices: a transparent documentation of methods and secondary data used to extrapolate/estimate the operational data allow for a more effective review of the robustness of data adopted, e.g., check whether the characteristics of the proposed plant are credible and in line with basic engineering principles, or whether these have these been selected in a conservative yet accurate manner, i.e., to avoid under/over estimation

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Checklist | Applicants shall prepare their submission in line with the best practices

The document has been built based on the experience gathered from previous calls, the common mistakes identified as well as the best practices followed by applicants. This tab is made available to applicants to self-assess whether they are following the best practices in calculating and presenting GHG emission avoidance in order to eliminate possible mistakes.

Checklist for self-assessment of accordance with best practices

			Yes / No / NA
1	Alignment with the methodology	Have the GHG calculations been submitted in an excel sheet that mirrors the GHG methodology, using the same terminology for GHG emission sources and activities within the scope of the given sector? (Please note that an excel template now exists also for energy intensive industries.) Any deviations are explained clearly and justified.	
2	Alignment with the methodology	Have ONLY emissions inside the scope of the IF GHG avoidance criteria been considered for the final emissions calculation? (GHG savings that could be claimed under Net carbon removals and other GHG savings should be indicated separately, see next point.)	
3	Alignment with the methodology	In case the project presents benefits which are out of the scope of the IF GHG emission avoidance criterion, has an excel-based calculation of these additional benefits with respect to GHG emission avoidance been provided? Does the calculation of the additional GHG emission avoidance follow the logic of the IF GHG emission avoidance methodology? Have you presented the additional calculations in the separate tabs 'Other GHG emission avoidance' and "net carbon removals"? Have you referred to the excel file/tabs, when presenting the additional benefits under "Net carbon removals, other GHG savings" in Application Form B?	
4	Alignment with the methodology	Have sufficient data and explanations to fully explain the project, its boundaries and its interactions with other installations been provided? Have the data used and methods adopted to estimate the GHG emissions and emission factors been documented in a transparent manner, creating a clear verification trail? Have you provided information sources and hyperlinks to the original reference in the application files?	
6	Alignment with the methodology	Have the principal product(s) and the reference products they substitute been identified? Do the principal product(s) represent the main objective of the project? Are the principal product(s) all in the same sector?	
7	Alignment with the methodology	For projects with multiple products, have ONLY the GHG emissions attributed to the chosen “principal products” been considered in the reference emissions when calculating the RELATIVE GHG emission avoidance? (please note that whilst all emissions in the reference scenario shall be considered for the absolute avoidance calculation, ONLY emissions of PRINCIPAL PRODUCTS in the reference scenario shall be considered for the relative avoidance calculation)	
8	Alignment with the methodology	In case an EU ETS benchmark is used, are these values up to date? The EU ETS benchmarks have been updated in Implementing Regulation determining revised benchmark values for free allocation of emission allowances for the period from 2021 to 2025 pursuant to Article 10a(2) of Directive 2003/87/EC of the European Parliament and of the Council.	

Bonus points

New

Bonus	
1 - The potential to deliver **net carbon removals**	1 point (half point 0.5 possible)
2 - **other GHG savings** from emissions sources that go beyond the boundaries established in the Innovation Fund methodology for the given sector	1 point (half point 0.5 possible)
3: commitment to use **electricity from additional renewable sources**: projects that propose to use significant amounts of electricity from the grid are encouraged to demonstrate whether they are using additional electricity of renewable origin and whether they are adding to the deployment of renewable energy	1 point (half point 0.5 possible)

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Final remarks

- SIW automatically fails a proposal.
- Questions could be sent to the helpdesk during the opening period. We try to provide as clear answer as possible, but the final responsibility lies in your applicants' hands.
- To conclude, questions to the helpdesk must come in a standalone, self-explanatory fashion, by optionally including any brief application information that may be needed to make the question understandable.