Compensation office Status as of 01 June 2022, Version 1

Emission reduction and carbon storage projects and programmes
Requirements for monitoring report calculation documents

Annex M of the communication Emission reduction and carbon storage projects and programmes

1 Introduction

The monitoring plan for a compensation project shows, among other things, how the emission reductions are calculated from the measured values. Errors in this calculation may result in an overestimation of the emission reductions, which could mean that the requirements for compensation projects are no longer met. Consequently, the monitoring plan and the calculations it contains are an essential part of the project description, validation and registration, as well as of the monitoring report and verification.

Every monitoring plan must be submitted in the form of a spreadsheet (Excel or similar). Furthermore, the spreadsheet must contain ex-ante monitoring data so that a sample calculation can be performed.

The following file formats are permitted: .xlsx, .xls, .ods and .odf.

2 Formal requirements

The spreadsheet must always clearly indicate the project number, project name, version, date and author.

2.1 'Monitoring data' worksheet

The first row contains the names of the columns, including units for measured values (where relevant).

Each subsequent row corresponds to a data point. At least the following columns must be included:
- Measured values (one or more)
- Time of measurement hh:mm (if applicable)
- Date of measurement dd/mm/yyyy
- Location of measuring device/source
- Measuring device/source
- Calibration
- If applicable, photos/images (in the file or as a link)

2.2 'Calculation' worksheet

General requirement
- All calculations must be formatted in separate boxes marked with thick borders.

2.2.1 Box 1: Fixed parameters

1) Fixed parameters

- *These parameters (e.g. emission factors, efficiency, correction factors) are determined once for the entire crediting period, as part of the qualification decision.*
- *Complete the table in full for each parameter of the formulas in section 5.2.1 of the project description.*
- *Further information can be appended in Annex A5 of the project description.*

Parameter
Description of parameter
Value
Unit
Data source

Example:

Fixed parameters

| Name	Description of parameter	Value	Unit	Data source
FCRF	Allowance factor for the feed-in remuneration at cost (CRF); this parameter must be set at 1 because no CRF is received.	1	-	CO₂ Ordinance, Annex 3a, section 3.4
EF_{wv}	Standard emission factor for the local heating network	0.22	tCO₂e/MWh	CO₂ Ordinance, Annex 3a, section 3.4
$RF_{y<20}$	Reference factor for year y; this is 100% if year y falls within 20 years of the installation of the old boiler, otherwise it is 70%.	100%	-	CO₂ Ordinance, Annex 3a, section 3.4
$RF_{y>=20}$	Reference factor for year y; this is 100% if year y falls within 20 years of the installation of the old boiler, otherwise it is 70%.	70%	-	CO₂ Ordinance, Annex 3a, section 3.4
WVN	Standard deduction of 10% for heat losses from the heating network	10%	-	CO₂ Ordinance, Annex 3a, section 3.4
$EF_{existing}$	Emission factor for the local heating network, depending on the type of central boiler to be replaced	0.226	tCO₂e/MWh	CO₂ Ordinance, Annex 3a, section 3.4
$EF1_{gas}$	Emission factor for natural gas in accordance with Annex 10 converted into tCO₂eq/MWh	0.203	tCO₂e/MWh	CO₂ Ordinance, Annex 3a, section 3.4
Conversion factor	For converting the unit tCO₂eq/TJ into tCO₂eq/MWh, the factor 0.0036 TJ/MWh must be used.	0.0036	TJ/MWh	CO₂ Ordinance, Annex 3a, section 3.4
Emission factor for natural g	Natural gas in gaseous state	56.4	tCO₂/TJ	CO₂ Ordinance, Annex 10
$EF2_{gas}$	Emission factor for natural gas in accordance with Annex 10 of the CO₂ Ordinance	0.203	TJ/MWh	CO₂ Ordinance, Annex 3a, section 3.5

2) The cells in the 'Value' column must be labelled with the name of the parameter (top left in Excel, see screenshot below).

This name then appears in all formulas and makes them easier to read:

3) The cells in the 'Data source' column should include a direct hyperlink to the source. If the source cannot be accessed via a link, or if assumptions have been made, a clear description of the data source or reference must be given here, as well as an explanation of why any assumptions made are conservative.

Example: inserting a hyperlink:
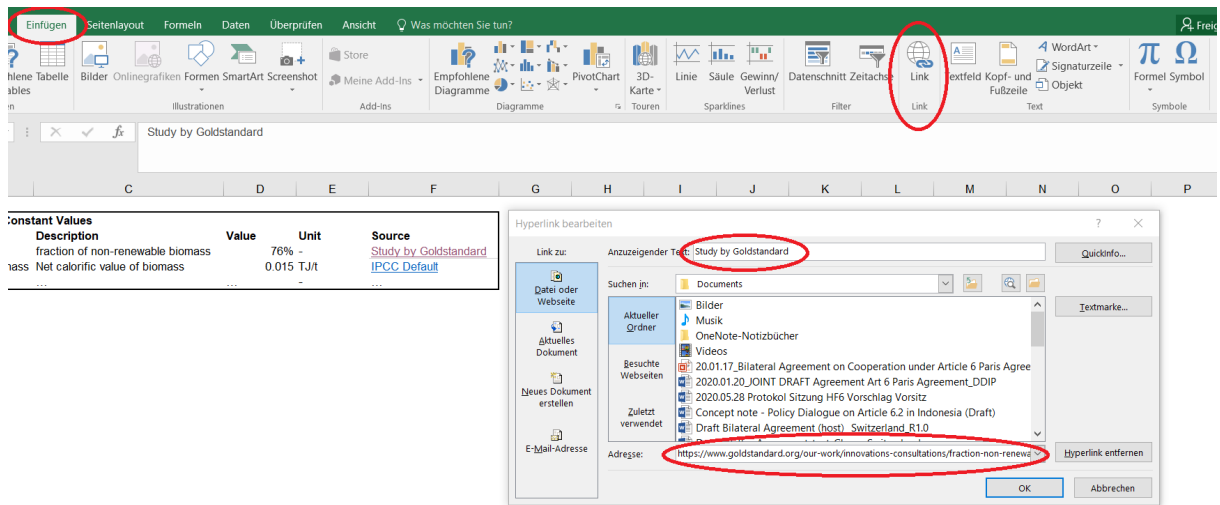
2.2.2 Box 2: Dynamic parameters and measured values

- *E.g. measured heat production, fuel consumed, biodiesel sold*
- *Complete the table in full for each parameter of the formulas in section 5.2.1 of the project description.*
- *Further information can be appended in Annex A5 of the project description.*

1) For each parameter and measured value, ten columns are required:

Dynamic parameter/measured value[1]
Description of parameter/measured value
Value
Unit
Data source
Data collection/evaluation tool
Description of measurement procedure
Calibration procedure
Precision of measurement method
Measurement interval
Person responsible

Example:

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[1] *Copy this block for each parameter used in the monitoring. Where appropriate, include further documentation on the monitoring in Annex A5.*

Dynamic parameters										
Name	Description of parameter/measured value	Value	Unit	Data source	Data-collection/evaluation tool	Description of measurement procedure	Calibration procedure	Precision of measurement method	Measurement interval	Person responsible
$\sum_i W_{new,i,y}$	Sum of all quantities of heat supplied to new consumers, where the measuring point is the point of transfer from the local heating network to the consumer	149,272	MWh	Heat meter	Measuring device XY, company XY, type XYZ, measuring device number XYZ	Digital remote reading from company XYZ	Quality assurance is based on the requirements of the Measuring Instruments Ordinance of 15 February 2006 (MIO) and the corresponding implementing provisions of the Federal Department of Justice and Police (FDJP).	+/- X%	Every second	First and last name, position, company
$\sum_i W_{existing,i,y}$	Sum of all quantities of heat supplied to existing consumers, where the measuring point is the point of transfer from the local heating network to the consumer	0	MWh	Heat meter	Measuring device XY, company XY, type XYZ, measuring device number XYZ	Digital remote reading from company XYZ	Quality assurance is based on the requirements of the Measuring Instruments Ordinance of 15 February 2006 (MIO) and the corresponding implementing provisions of the Federal Department of Justice and Police (FDJP).	+/- X%	Every second	First and last name, position, company
$M_{gas,y}$	Quantity of gas burned to operate the heating system in year y	15,043	MWh	Gas measuring device	Measuring device XY, company XY, type XYZ, measuring device number XYZ	Annual meter reading and calculation of difference	Quality assurance is based on the requirements of the Measuring Instruments Ordinance of 15 February 2006 (MIO) and the corresponding implementing provisions of the Federal Department of Justice and Police (FDJP).	+/- X%	Continuous	First and last name, position, company

2) The cells in the 'Value' column must be labelled with the name of the parameter (top left in Excel). They must also contain a reference to the 'Monitoring data' worksheet so that it is clear how the emission reductions calculation ('Calculation' worksheet) follows from the measurement data ('Monitoring data' worksheet).

Example: referencing to the 'Monitoring data' worksheet

2.2.3 Box 3: Calculation of reference emissions

1) At least four columns are required in each row:
Name; Description; Formula; Unit.

2) The cells in the 'Formula' column must be labelled with a meaningful name for the formula (top left in Excel).

Example:

3) Only cell names within the file may be used in the calculation. No cell in this column may contain a simple numerical value.

4) As many interim results as possible should be calculated. This also means avoiding parentheses and instead calculating parenthesised terms in a separate, named cell. This avoids having very large formulas in a cell.

2.2.4 Box 4: Calculation of project emissions
See Box 3.

2.2.5 Box 5: Leakage
See Box 3.

2.2.6 Box 6: Calculation of emission reductions

This box should contain only the difference between the reference and project emissions, taking leakage into account.

2.2.7 Box 7: Apportionment of effect and interfaces with other instruments of the CO2 Act (where applicable)

In this box, the consideration of the apportionment of effect and the interfaces is to be presented in such a way that it is clear how the emission reductions calculated in Box 6 have been adjusted to produce the applied-for emission reductions.

In the case of apportionment of effect, at least the following must be listed: the distribution key/formula governing the apportionment of effect, and a reference to the 'apportionment of effect' document signed by the applicant and the canton, or other actors among whom the effect is apportioned.

2.2.8 Box 8: Plausibility check of data and calculations

Description of the plausibility check (process) performed on the data collected in accordance with section 5.3.2 of the project description and the calculated emission reductions (e.g. description of the other data with which the data collected for the monitoring are compared). This must be described separately for each dynamic parameter.

For each parameter and measured value, five columns are required:

Dynamic parameter/measured value
Description of parameter/measured value
Unit
Data source
Type of plausibility check

2.2.9 Box 9: Review of influencing factors (where applicable)

If section 3.2 of the project/programme description contains factors influencing the economic feasibility analysis or the amount of emission reductions achieved, these should be listed in the table below. Describe how the influencing factors and their development over time will be verified as part of the monitoring (i.e. the process involved and the parameters to be examined). This applies insofar as such a verification is planned and the influencing factors are not assumed to be constant over the crediting period. In addition, describe the procedure for the review and for any resulting adjustment of the ex-ante defined reference development in the monitoring.

For each parameter and measured value, five columns are required:

Influencing factor
Description of influencing factor
Effect on project emissions or emissions of the programme's planned component activities or the reference development

Planned adjustment of reference development
When and under what circumstances will this be adjusted and how?

Data source