Understanding the issues around quantifying GHG emissions in the financial sector

Volume 2

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VOLUME 2 - Reporting on GHG emissions

1. Objective

Volume 2 sets out the main methodological guidelines for players to report on greenhouse gas emissions within their operational boundaries, similar to those of a tertiary activity. This document sets out the 'operational' boundaries of suggested priority and secondary categories within the sector and gives the quantification method for each of these categories. Emissions from operations are the direct GHG emissions from the company's operations not related to its core business. These include Scope 1 and 2 emissions but also some Scope 3 emissions associated with cross-cutting support functions (I.T., purchasing, travel and so on).

Emissions from operations

Most banks and insurance companies report their GHG emissions in annual reports and corporate communications. They generally cover Scope 1 and Scope 2 'overlaid' onto regulatory 'requirements' and environmental rating questionnaires but Scope 3 is now under review.

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2. Organisational boundaries

2.1. Establishing organisational boundaries

Before an emissions report can be produced, its organisational boundaries should be defined and any changes managed. This involves determining and listing the entities to be included in the report.

The organisational boundaries defined as the company's constituent parts to be included in the GHG emissions report. Standard ISO 14064-1 describes two consolidation methods for determining organisational boundaries:

1. The 'control' approach involves the reporting organisation counting emissions from the sites over which it has financial or operational control.
2. The 'equity share' approach involves counting the emissions from sites in proportion to equity share.

The range of perspectives and organisational structures of the players means that no single approach can be recommended. However, a reminder of consolidation methods and criteria against which the most appropriate method can be chosen will be set out below.

Control consolidation method

According to this approach, total emissions are accounted for where the reporting group has control of the entity, even if they only have a stake. Conversely, an entity or structure[1] in which it has an interest but where control is exercised by another group is completely excluded from consolidation (the interest here is simply a financial stake).

The control method of consolidating GHG emissions is determined either by the financial criterion or the operational criterion:

- an entity has financial control if it has the capacity or ability to govern the financial and operating policies of an organisation so as to derive economic benefits from its activities;
- an entity has operational control over an operation if it has full powers or if one of its subsidiaries has full power to introduce or implement its operational policies.

Equity share consolidation method

The equity share method involves allocating to the group the emissions of each entity in which it has an interest, on a pro-rata basis.

The equity share represents the share of economic benefit or profit derived from an organisation. This consolidation method increases the utility of GHG information for different users and is an attempt at reflecting as faithfully as possible the methods used in financial accounting and reporting standards.

[1] Here, structure means a specific organisation such as a Joint venture, for example

The equity share method may prove particularly useful for multinationals with operations in different jurisdictions who want to know their GHG 'footprint'.

Good practice

When deciding which consolidation method to use, ISO 14064 suggests using one of the two aforementioned methods. However, adjustments are permitted if documented. In the normal way, the entity must document the consolidation method used and explain any changes made.

A table such as the one below may be useful in helping to define boundaries. It lists the entities included in the report, the sites where they operate and their nature (offices, branches, headquarters etc.) as well as whether or not they are controlled by the reporting entity or are included in or excluded from the inventory. Example of a table

ENTITY	ENTITY TYPE	TYPE OF CONTROL	WITHIN BOUNDARIES OR NOT	METHOD FOR INCORPORATING EMISSIONS
Parent entity				
Associated entity 1				
Associated entity 2				
…	…		…	…

Explanation of column headings:
- Nature of the site: State the entity's purpose or activity This may be a business or a clustering of activities
- Type of control: State whether operational or equity share
- Boundaries: State whether the entity is included or the reason for its exclusion
- Method: State whether consolidation is 100% or another percentage.
For Volume 2 of the guide it is completely possible to distinguish between the sites belonging to the network and administrative sites. In order to better align reduction action plans to the different issues, some organisations find it useful to distinguish between monitoring indicators according to site procedures (owners, tenants etc.).

2.2. Geographical area and critical mass

Geographical area

It is essential to account for the geographical area when defining organisational boundaries for the GHG inventory. Several aspects should be taken into account when determining whether an entity should be included or excluded based on 'geographical' criteria and more generally in the case of boundaries incorporating several countries. For example:
- Limited degree of representation of a 'local' entity compared with a group representing a country for example.
- Difficulty in accessing data
- Regulatory requirements may determine the boundaries (for example, article 75 of the Grenelle 2 law, under which the boundaries are restricted to France).

Critical mass:

It may not be possible to quantify total GHG emissions for all sites. A greenhouse gas report may prove complex for a large scale entity with many sites spread across large areas. As such, each entity may decide not to include, or to extrapolate emissions from certain sites to ensure reliable results or to comply with restrictive regulatory reporting requirements.

In this case, exclusions from boundaries must be explained and documented with, where possible, an order of magnitude of the impact considered.

The choice will also be made according to the CSR boundaries already in place within the company. Indeed, the ultimate aim of the 'operations' part of a GHG report is to take action. Ensuring that 'carbon' boundaries correspond to CSR boundaries will also increase the legibility of internal and external communications.

2.3. How should boundaries be defined?

Here is a proposal for the key steps in determining organisational boundaries:
a. Recap reporting objectives for emissions from operations (See Volume 1)
b. Map out consolidation boundaries for non-financial indicators and those for financial data
c. Estimate the relative share of emissions from each entity so as to estimate the extent to which it is representative of the whole
d. Estimate the capacity to produce reliable data and any methodological difficulties
e. Determine the level of detail of the inventory (breakdown by entities, business, site, geographical zone and so on)
f. Develop a strategy for boundary changes (subsidiaries incorporated gradually into the boundaries and so on).

2.4. How can boundary changes be managed?

A GHG emissions report varies according to the activity of the entity or the actions implemented. In order to monitor these changes, a baseline period and a reporting period should first be defined. This reporting period may be annual, every few years or even every two months: it is up to the reporting entity.

Where changes during a reporting period are analysed compared with the baseline period, care must be taken that:
- The emission factors used are the same
- The boundaries (organisational and operational) are the same.

In terms of good practice, standard ISO 14064-1 states that any 'significant' changes made
to emission factors or any boundary changes must be explained and, where necessary, recalculations performed.

The recalculation procedure for the baseline year must be documented and take into account:
- Any changes to organisational boundaries
- Ownership and control of the sources of GHGs transferred within or beyond organisational boundaries
- Changes made to the methodologies for quantifying GHGs resulting in significant changes.

Moreover, where there are significant boundary changes, the entity must present an analysis of changes, separating out changes arising from the boundary change from the changes arising from the activity itself.

To ensure any results are transparent and representative, any changes made in calculating emission factors or boundary changes should be documented and explained.

3. Operational boundaries

3.1. Identifying emission categories that are relevant to the sector

Relevance rules

Once organisational boundaries have been determined operational boundaries must be defined, i.e. the categories generating GHG emissions within the organisational boundaries.
Several criteria should be taken into account in assessing the relevance of a given emissions category:
- Materiality: does accessible and reliable information exist for this category?
- Relative significance: is the volume of emissions under this category significant or negligible compared with other emissions categories?
- Levers for action: what are the possible levers for reducing emissions in this category?

In terms of relative significance, the entity should estimate emissions from all sources to gain an initial idea of the contributions under the various categories.
A 'significance threshold' may be defined, below which a category will be deemed negligible.

Relevant categories for the greenhouse gas report

Drawing on the relevance criteria above, it is possible to place the different categories into three groups:
- Priority category
- Secondary category
- Categories not relevant to the sector within the scope of emissions from operations (item NR)

Such a classification is not intended to be unique or systematic for all players in the financial sector, rather as a recommendation.

In order to rank the categories and functions of its organisation, the entity may use a table in which it rates each of the three criteria (evidence, volume, levers for action) for each category, or sub-category. The most significant categories will rank the highest. Conversely, the least significant may be excluded.

Illustration

Specific sub-category for banks	Relevant for materiality	Relevant in terms of volume of emissions as a proportion of the total	Relevant in terms of levers for actions	Priority	Secondary category	Category
(illustration)	++	++	+++	category		NR
Headquarters	++	+++ (if banking network)	++ (if banking network)	x		
Branch	++	++	+++	x		
Data centre	+	++	+++	x		
Vehicle fleets	-	-	-	x		
Liquid emissions from vehicle refrigerants	-	+	+		x	x

The table on the next page contains a breakdown of all categories relevant to the sector with recommendations based on a classification drawn from players' current practices.

Scope	N° ISO category	ISO category description	Relevance of emissions	Corresponding category in Carbon report	Examples of sources for the sector	Sub-categories specific to the sector	Guide factsheet
1	1	Direct emissions from stationary combustion	Priority	Energy	Headquarters	Heating (gas, oil)	1
						Energy	
					Agency	Heating (gas, fuel)	
						Other	
					Internal data centre	Heating (gas, fuel)	
						Other	
1	3	Direct process-related emissions	NR category	Excluding energy	Not applicable to the sector	Not applicable to the sector	/
1	4	Direct fugitive emissions	Secondary	Excluding energy	Headquarters:	Refrigerants buildings	5
					Agency	Refrigerants buildings	
					Internal data centre	Refrigerants buildings	
1	5	Direct emissions and removals from Land Use, Land Use Change and Forestry (LULUCF) (excluding combustion)	NR category		Not applicable to the sector	Not applicable to the sector	/
2	6	Indirect emissions from electricity consumed	Priority	Energy	Headquarters	Electricity	2
					Branch	Electricity	
					Internal data centre	Electricity	
					Vehicle fleet	Electricity	
2	7	Indirect emissions from consumed electricity imported through a physical network (steam, heat or cooling)	Priority	Energy	Headquarters	Heating	3
						Cooling	
					Agency	Heating	
						Cooling	
					Internal data centre	Heating	
						Cooling	
3	8	Emissions from energy-related activities not included in direct emissions and energy indirect emissions	Secondary	Energy	Upstream emissions from energy included in categories 1, 6 and 7: headquarters, branch, internal data centre and vehicle fleet.	Upstream transport and distribution of categories 1, 2, 6 and 4	6
3	9	Purchased products and services	Secondary	Inputs	Purchasing goods and services	High material input services	
						Low material input services	
						Supplies	
						Intra-group services	
					Publishing	Blank paper	
						Recycled and/or approved paper	
					Other paper: office	Blank paper	
						Recycled and/or approved paper	
				I.T. data centre	External data centre: fixed assets	I.T. servers	
						Inverters	
						Switch	
						Routers	
						Firewall	
				Excluding data centre energy	External data centre	Refrigerants buildings	
				Data centre energy	External data centre	Electricity	
						Natural gas	
						Oil	
						Heating	
						Cooling	

Scope	N° ISO category	ISO category description	Relevance of emissions	Corresponding category in Carbon report	Examples of sources for the sector		Sub-categories specific to the sector	Guide factsheet
3	10	Fixed assets	Secondary	Fixed assets	Amortisation of vehicles			8
					IT	Office computers		
						Laptops		
						Screens		
						Small printers		
						Large printers/photocopiers/scanners		
						Smartphones		
						Mobile phones		
						Landline		
						I.T. servers		
						Inverters		
						Switch		
						Routers		
						Firewall		
					Buildings	Amortisation of buildings / works		
					ATMs	Amortisation of equipment		
3	11	Waste generated from organisational activities	Secondary	Direct waste	NHIW			9
					Paper			
					Cardboard			
					Food waste			
					Glass			
					Plastic			
					Metals			
					WEEE			
3	12	Upstream transport and distribution	Secondary	Transportation	Upstream freight	Raw materials		10
					Internal freight	Transporting funds		
3	13	Business travel	Priority	Travel	Personal vehicles for business travel	Distance travelled		4
					Vehicle fleet	Fuel consumed or distance travelled		
					Train	Distance travelled		
					Aeroplane - short haul	Distance travelled		
					Aeroplane - medium haul	Distance travelled		
					Aeroplane - long haul	Distance travelled		
3	14	Upstream leased assets	Secondary	Depends on type of asset	Identify operating leases using the financial control method			11
3	15	Investment	NR category	Fixed assets	Excluding operational boundaries	Excluding operational boundaries		/
3	16	Client and visitor travel	Secondary	Travel	Headquarters:	Car		12
						Air travel		
						Public rail transport		
						Public bus transport		
					Agency	Car		
						2 wheels		
						Public rail transport		
						Public bus transport		
3	17	Downstream transport and distribution	Secondary	Transportation	Downstream freight	Post and goods sent to clients		10
3	18	Use stage of the product	NR category	Use				/
3	19	End of life of the product	NR category	End of life				/
3	20	Downstream franchises	Secondary	None				13

3.2. Estimation methods

3.2.1. The recommendations in this guide explained

This guide proposes the following breakdown for each of the emission categories referenced in ISO TR 14069:

- **Relevant activities and nature of emissions**: description of the emissions category and related activities.

- **Specificities of the financial sector**: this point allows the specificities of the financial sector to be addressed.

- **Preferred method:** method recommended for calculating emissions

- **Data and sources:** data to be collected in order to use the method. This point also includes suggested sources and sites within the entity or available from other partners for gathering these data.
Comment: data followed by an asterisk (*) are ratios or average values. Values are proposed in Annex 2 where a relevant default value exists.

- **Points to consider**: additional important explanations about the method, data or emission factors.

- **Formula**: formula for applying the method.
Comment: The values of emission factors proposed in the formulas are summarised in Annex 1.

- **Alternative methods**: presented in the same way as the preferred method, the alternative methods (one or two proposed methods depending on the category) are a means of calculating emissions where it is difficult to use the preferred method due to the current state of information systems (raw data unavailable, for example).
Comment: The alternative method formula does not always provide emissions directly, unlike the preferred method. In such cases, the suggested formula produces data to which an appropriate emission factor will then be applied.

3.2.2. Quality of data

The user may estimate the accuracy of activity input data in their GHG emissions report. The table below gives an indication of the level of uncertainty according to the original data source. In practice, this stage, which involves estimating the accuracy of activity data, is still difficult to complete given the quality of existing data

Quality		Uncertainties	
Very good	Primary data	Very low	≤ 10%
Good	Secondary data or a representative sample	Low	10 % à 30 %
Acceptable	Extrapolated data or average representative sample	Acceptable	30 % à 50 %
Low	Approximate data or a limited representative sample	High	≥ 50 %

Table 2: assessment of the quality / uncertainty of activity data
(source ADEME, using the OEF method)

3.2.3. Allocation of flows related to buildings and travel

The allocation of emissions related to buildings or travel may prove complex depending on the chosen control method. The two tables below serve to clarify certain scenarios.

3.2.3.1. Buildings

The purpose of this point is to specify how to account for emissions from the use of energy in buildings, depending on whether buildings are owned or leased, by the entity or a third party, and according to the type of control chosen. This covers categories 1, 2, 6 and 7 (factsheets 1, 2 and 3).

Building categories	Building categories	Operational control	Financial control
Building owned and used by the entity	Gas, oil	Direct emissions from stationary combustion	ibid
	Electricity	Indirect emissions from electricity consumed	Ibid
	Leaks of refrigerants	Direct fugitive emissions	Ibid
	Heating or cooling	Indirect emissions from consumed electricity imported through a physical network (steam, heat or cooling)	ibid
Building rented and used by the entity	Gas, oil	Direct emissions from stationary combustion	Upstream leased assets
	Electricity	Indirect emissions from electricity consumed	Upstream leased assets
	Leaks of refrigerants	Direct fugitive emissions	Upstream leased assets
	Heating or cooling	Indirect emissions from consumed electricity imported through a physical network (steam, heat or cooling)	Upstream leased assets
Building owned but rented to another entity		Downstream leased assets (excluding emissions from operations)	Downstream leased assets (excluding emissions from operations)

Certain branches, business centres (as well as ground floor retail outlets) are part of a jointly-owned building alongside residential and/or office space owned by other companies. Often a building may be shared by different companies, or only part of a building is taken into account in an emissions report.

In some cases, meters or individual installations can be used to draw a distinction between the energy consumption of the different players (consumption available directly). Where this is not the case there are several solutions for estimating the entity's consumption based on the building's total consumption.

- If the total number of occupants is known, and the activities of the various building residents are comparable (office activities), it is then possible to estimate the entity's consumption on a pro rata basis according to the number of employees on site.
- Similarly, if the total surface area is known, the same logic can be applied on a pro rata basis according to the area occupied by the entity.
- Another option is to ask any building management body to send information on the entity's energy consumption. In France, the building management should also know the share of the building occupied which can be used to break down consumption.

When collecting information on energy consumption, any time-lag between the billing period and the reporting period should be taken into account.

3.2.3.2. Personal travel

Category of person	Type of transport	Operational control	Financial control
Employee	Owned company car	Business travel	Ibid
	Leased company car	Business travel	Upstream leased assets
	Rental car	Business travel	Business travel
	Aeroplane, train for non-business travel	Business travel	Ibid
	Personal car for business travel	Business travel	Ibid
	Personal car for commuting	Employee travel	Ibid
	Public transport (train, bus, underground etc.) for commuting	Employee travel	Ibid
Regular external service provider		Visitor and client transport	Ibid
Clients, visitors, others	Car, train, bus etc.	Visitor and client transport	Ibid

3.3. Communicating on the scope of categories used

To make results more legible, facilitate the analysis of changes and in some cases the comparison of the performance of several entities, it is essential to state the scope of the categories chosen or excluded. It is also essential to state which calculation method has been used for which category. The following table, which may be used by each entity, breaks down emissions in each category according to the methods chosen. If the category is excluded from the report, this is also specified.

Such a table will make it easier to understand the results of the report and to compare with the results of other reports in the financial sector.

Example of a table: the values are given solely as an example

EMISSION CATEGORIES	Preferred	Alternative 1	Alternative 2
1. Direct emissions from stationary combustion	90 %	10 %	0 %
2. Direct emissions from mobile combustion	0 %	50 %	50 %
3. Direct process-related emissions			
4. Direct fugitive emissions	Exclud	Exclud	
5. Direct emissions and removals from land-use, land-use change and forestry (excluding combustion)			
6. Indirect emissions from electricity consumed	50 %	50 %	0 %
7. Indirect emissions from consumed electricity imported through a physical network (steam, heat or cooling)	50 %	50 %	
8. Emissions from energy-related activities not included in direct emissions and energy indirect emissions	0 %	50 %	50 %
9. Purchased products and services	100 %	0 %	
10. Fixed assets	50 %	50 %	0 %

EMISSION CATEGORIES	Preferred	Alternative 1	Alternative 2
11. Waste generated from organisational activities	90%	10 %	0 %
12. Upstream transport and distribution	Exclud	Exclud	
13. Business travel	50 %	50 %	
14. Upstream leased assets			
15. Investment			
16. Client and visitor travel	100 %		
17. Downstream transport and distribution			
18. Use stage of the product			
19. End of life of the product			
20. Franchises			
21. Downstream leased assets			
22. Employee travel	100 %		
23. Other indirect emissions not included in the other 22 categories			

4. Producing a GHG report: detailed factsheets about priority and secondary categories

4.1. Priority categories

4.1.1. FACTSHEET 1: DIRECT EMISSIONS FROM STATIONARY COMBUSTION

PRIORITY

Scope and category:
Scopes 1, category 1
Relevant activities and nature of emissions
This category covers emissions related to fuel consumption (mainly natural gas and/or oil) for heating or other uses on sites controlled by the entity, whether leased or owned and under operational control.

Specificities of the financial sector
The control method chosen (operational or financial) may affect whether the following categories are included (see point 3.2.3.1):
- Unoccupied controlled sites
- Controlled sites occupied by entities outside the organisational boundaries (such as shared canteens, work council etc.)
- Sites not controlled or occupied by the entities within the boundaries

Moreover, for more accurate analysis, it is possible to think about a breakdown of results in terms of offices (headquarters, business centres etc.), the network of branches, internal I.T. centres and other premises.

Preferred method

Data and sources

▶ Data:
  - kWh of natural gas and litre (or kWh) of oil.
▶ Sources:
  - Energy bills or meter readings
▶ Where to find the data
  - General resources department, technical department

- About the quality of data
    - Data are usuallyavailable. However, it is important to check that the periods of consumption due to a time lag between consumption and billing.
    - Extrapolations may be made, particularly based on internal statistics Kwh/m2
    - Other types of fuel exist (LPG and wood for example).
- About emission factors
    - Take particular care when choosing between NCV or GCV emission factors (1 kWh GCV = 1.11 kWh NCV for natural gas and 1kWh GCV = 1.09 kWh NCV for fuel).

Formula

*For natural gas: Emissions = kWh natural gas * EF natural*
*gas For oil: Emissions = Litre oil * EF oil*

Alternative method 1

Data and sources

- Data:
    - Amount billed for purchasing natural gas and oil
    - Average price of kWh NCV of natural gas or oil
- Sources:
    - Energy bills
- Where to find the data:
    - General resources department, accounts

Points to consider
- About the quality of data:
    - By accounting for purchases as input data, the potential impact of stock is not included. However the difference between purchases and consumption is not significant as it might be for some other industries (except in the case of domestic oil).
    - Moreover, there may be a time-lag between consumption and billing. The impact of this difference should be measured and a decision should be made on whether a correction should be made in relation to the significance threshold.
    - In order to piece together the consumption in KWh, an average price may be used, or indeed the price of energy suppliers (may vary according to the energy deal). Tariffs, plans, connection costs and taxes should also be taken into account.
- About emission factors:
    - See preferred method

Formula

kWh NCV of natural gas = (Natural gas purchase in €) / (average price of kWh NCV) Litres of oil = (Purchase of oil in €) / (average price litre of oil)

Alternative method 2
Data and sources
▶ **Data:**
  - The surface areas and share of the buildings with natural gas heating and share with oil heating.
  - Average consumption per m2
▶ **Sources:**
  - On surface area: Central or technical services department
  - On average consumption: external databases or internal statistics
▶ **Where to find the data:**
  - General resources department, supported by estates division if there is one.

Points to consider
▶ **About the quality of data**
  - The areas to be taken into account are the operational areas (usable floor area)
  - For average consumption: Here this is calculated using extrapolated data (acceptable uncertainty, see 3.2.2 Quality of data), and not an average of actual measured consumption.
▶ **About emission factors**
  - See preferred method

Formula

kWh NCV of natural gas = (Surface area in m2) * (Natural gas consumption of offices with gas heating in kWh NCV/m2)
Litres of oil = (Total surface area in m2 with oil heating) * (Oil consumption of offices with oil heating in Litres/m2)

Scope and category :
Scope 2, category 6.

Relevant activities and nature of emissions
This category relates to emissions from electricity consumption. All electricity consumption will be taken into account, whether for heating (if electric) or for a specific use of electricity (lighting, I.T. etc.).

Specificities of the financial sector
N/A

Preferred method

Data and sources

▸ Data:
  - kWh of electricity consumption
▸ Sources :
  - Bills or meter readings
▸ Where to find the data:
  - Bill: General resources department or directly from electricity suppliers or the property management company in the case of jointly-owned buildings.
  - Meter readings: technical services department or contractors.

Points to consider

▸ About the quality of data
  - Meter readings are the most accurate source.
  - Bills also give a very accurate figure for consumption. A proportion of the consumption may be estimated (time-lag between consumption and billing) but where the supplier's report is requested for the annual period, the figures may correspond to the reporting period.

▸ About emission factors
  There are a number of different emission factors for electricity. These vary according to:
  - The geographical zone: There is an average EF per country, according to the energy mix in that country (i.e. the breakdown of energies used to produce electricity: coal, gas, nuclear and so on). If the entity has a presence in several countries, the electricity consumption in each country must be separated out.
  - The electricity supplier: if the supplier is known, a more specific EF for that supplier and its energy mix may be used. This also depends on the country (a supplier may be present in several countries but the energy mix used by the supplier will also differ according to the country).
  - Separating out usage (heating, lighting, I.T. etc.) allows a more specific EF to be used. However it is difficult to get hold of a breakdown if the buildings are not fitted with so-called smart meters, allowing a distinction to be made between different uses. This may be particularly true in the case of data centres.

Formula

Emissions = (kWh electricity *EF electricity)

Alternative method 1

Data and sources

▶ Data:
 - Electricity bill amounts
 - Average price of electric kWh
▶ Sources :
 - Energy bills.
▶ Where to find the data:
 - General resources department
 - Purchasing department, accounts department

Points to consider
▶ About the quality of data:
 - Billing amounts allow an accurate estimate of electricity consumption as, except for the administrative costs, they relate directly to consumption. It is important to check that the periods of consumption correspond to the billing period.
▶ About emission factors:
 - A suggested method for calculating the average price per kWh of electricity, according to the year and the entity's tariff is included in the annex to this volume.

Formula

kWh of electricity = (Electricity purchased in €) / (average price of electric kWh

Alternative method 2

Data and sources

▶ **Data:**
 - **Surface area of premises**
 - **Proportion of premises with electric heating in % or m2**
 - **Average specific electricity consumption for the premises in kWh/m2**
 - **Average electricity consumption from heating the premises in kWh/m2 (for premises with electric heating)**
▶ **Sources:**
 - **Surface area of premises: commercial lease or tenancy agreement**
 - **Share of premises with electric heating: suppliers**
▶ **Where to find the data:**
 - **Central or technical services department**

Points to consider
▶ **About the quality of data**
 - **The share of the premises with electric heating will be the most important value as heating consumption is usually higher than specific forms of electrical consumption (lighting, I.T.) in an office or a commercial branch. For data centres, see below.**
▶ **About emission factors**
 - **See preferred method**

Formula

*kWh of electricity = (Total surface area in m2) * [(Specific electricity consumption by offices per m2) + (% of surface area with electric heating) * (Consumption of electricity from heating offices per m2)] (Total surface area in m2) * (Oil consumption of offices with oil heating in Litres/m2)*

Specific case: Purchase of electricity from renewable sources
When purchasing electricity from renewable sources (for example with renewable energy certificates), the question of whether to consider using a lower emission factor to take into account this consumption is raised. We have not opted for this solution in this guide, in accordance with regulations. 'Certified' kWhs must therefore be entered with other electricity consumption.
The savings under these 'certified kWh's may, however, be highlighted in an emissions reduction action plan.

Specific case: data centres
Only emissions from 'internal' data centres are accounted for here. Electrical consumption of 'external' data centres will be accounted for under category 9 (see factsheet 7).

Scope and category
Scope 2, Category 7.

Relevant activities and nature of emissions
Certain entities are connected to heat and/or cold networks for heating and air-conditioning. Transmission losses are allocated to category 8 (factsheet 6).

Specificities of the financial sector
N/A

Preferred method

Data and sources

▶ Data:
  - kWh of heat or cold
▶ Sources :
  - Bills or meter readings
▶ Where to find the data:
  - Bill: energy suppliers, maintenance contractors.
  - Meter readings: Technical services department

Points to consider

▶ About the quality of data
  - The meter reading is the most accurate source.
  - Bills are also very accurate. A proportion of consumption may be estimated on some invoices but where reporting is annual, values are reliable.
▶ About emission factors
  - In France, there is no 'average' EF for calculating cold networks. The energy mix of networks varies greatly. Official EFs are provided in the decree published on 15 September 20062.
  - It can be tricky to get hold of an emission factor for a network in some foreign countries.

Formula

*Emissions = (kWh *EF cold network) + (kWh *EF heating network)*

Alternative method 1 (for heating networks only)

Data and sources

▶ Data:
  - Premises heated or air-conditioned by a network
  - Heating consumption of offices heated by a heating network in kWh
  - Refrigerant consumption of offices air-conditioned through a cold network in kWh
▶ Sources :
  - Surface area of premises: commercial lease or tenancy agreement
▶ Where to find the data:
  - Central or technical services department
  - Meter readings: Technical services department

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[2] The decree is available at www.legifrance.gouv.fr/affichTexte.do?cidTexte=JORFTEXT000000788395

Points to consider
- ▶ About the quality of data: N/A.
- ▶ About emission factors:
  - - See preferred method

Formula

*Total consumption of steam network (kWh) = (Surface area of premises heated or air-conditioned by a network in m2) * (Heat consumption of offices heated by network in kWh)*

4.1.4. FACTSHEET 4: BUSINESS TRAVEL

Factsheet 4 combines two emission categories:
- **'Business travel', Scope 3, Category 13**
- **'Direct emissions from stationary combustion', Scope 1, Category 2**

4.1.4.1. Les déplacements professionnels

Scope and category:
Scope 3, Category 13

Relevant activities and nature of emissions
This category covers business travel excluding that related to a vehicle fleet. This can only be from business travel by:
a. Car, motorcycle
b. Taxi, short-term car rental
c. Air travel
d. Rail

Specificities of the financial sector
N/A

Preferred method

Data and sources

a. Car, motorcycle

▶ Data:
  - Distance travelled for business
▶ Sources :
  - Distance declared by employees (in km).
▶ Where to find the data:
  - Human Resources
  - General resources department
  - Accounts

b. Taxis

▶ Data:
  - Distance travelled by taxi (if managed by a taxi firm)
  - Or number of fares and average distance
▶ Sources :
  - Expense forms (if refunded by the entity)
  - Taxi company invoices
▶ Where to find the data:
  - Human Resources
  - General resources department
  - Accounts
  - Taxi company

c. Air travel

▸ Data:
  - Distance travelled by short, medium and long-haul
▸ Sources :
  - -Annual breakdown given by travel agencies
▸ Where to find the data:
  - Human Resources
  - General resources department
  - Accounts
  - Taxi company

d. Rail

▸ Data:
  - Distance travelled by rail
▸ Sources :
  - Annual statement supplied by travel agencies
▸ Where to find the data:
  - Human Resources
  - General resources department
  - Accounts
  - Taxi company

Points to consider

▸ About the quality of data
  - Travel agencies supply information about the CO2 emissions for the entity's travel. This information often includes distances travelled or the number of journeys. It is a matter of identifying the methodologies used by these agencies.
▸ About emission factors
  - It is also worth drawing a distinction according to type of aircraft in order to apply more accurate emission factors.

Formula

a. Personal car
   *Emissions = (km travelled * EF average car in km)*
b. Taxis
   *Emissions = (km travelled * EF average car in km)*
c. Air travel
   *Emissions = km travelled short haul * EF short haul air travel) + (km travelled medium haul * EF medium haul air travel) + (km travelled long haul * EF long haul air travel)*
d. Rail
   *Emissions = (km travelled by high speed rail * EF high speed rail) + (km travelled by standard rail * EF standard rail)*

Alternative method 1

a. Car, motorcycle

▶ Data:
  - Total claim per kilometre in Euros
  - Average claim per road kilometre in €/km
▶ Sources :
  - Human Resources
  - General resources department
  - Accounts
  - Vehicle rental company
▶ Where to find the data:
  - Human Resources
  - General resources department
  - Accounts

b. Taxis

▶ Data:
  - Taxi invoice totals
  - Average cost per kilometre by taxi
▶ Sources :
  - Expense forms (if refunded by the entity)
  - Taxi company invoices
▶ Where to find the data:
  - Human Resources
  - General resources department
  - Accounts
  - Taxi firm

c. Air travel

▶ Data:
  - Total spending on airline tickets
  - Average cost of airtravel per kilometre
▶ Sources :
  - Annual statement supplied by travel agencies
  - It is a matter of identifying the methodologies used by these agencies
▶ Where to find the data:
  - Human Resources
  - General resources department
  - Accounts
  - Travel agency

d. Rail

▶ Data:
  - Total spending on train tickets
  - Average cost by train per kilometre
▶ Sources :
  - Annual statement supplied by travel agencies
▶ Where to find the data:
  - Human Resources
  - General resources department
  - Accounts
  - Travel agency

▶ About the quality of data: N/A.
▶ About emission factors: N/A.

Formula

a. Personal car
Km travelled = (total expense claims / average claim per kilometre)

b. Taxis
Km travelled = (taxi invoices total / average cost by taxi per kilometre)

c. Air travel
Km travelled short haul = (total spending on airline tickets * % short haul) / average cost short haul travel per km
Km travelled medium haul = (total spending on airline tickets * % medium haul) / average cost medium haul per km
Km travelled long haul = (total spending on air tickets * % long haul) / average cost long haul per km

d. Rail
Km travelled = (total train receipts / average cost by train per kilometre)

4.1.4.2. Business travel: vehicle fleets

Scope and category:
Scope 3, Category 13

Relevant activities and nature of emissions
This category covers emissions from monitored company vehicles (owned or long-term lease) which run on fossil fuels (electric cars => electricity consumption). Short-term rentals do not fall under this category but the under the first part of factsheet 4.

Specificities of the financial sector
Emissions generated by the subsidiaries of the group should be separated out. Unlike other sectors, financial players have long leasing operations for their own entities but also for external users.

Preferred method

Data and sources

▶ Data:
   - The total quantity of fuel consumed (diesel, petrol, LPG etc.) by the vehicle fleet
▶ Sources :
   - Petrol card or diesel card records.
   - If the entity uses a centralised vehicle leasing service, the service provider should be able to provide a breakdown of the distances travelled or fuel consumption.
   - Finally, the manager of the company vehicle fleet usually monitors fuel consumption or kilometres travelled by company cars.
▶ Where to find the data:
   - General resources department
   - Internal leasing service
   - Fleet manager (contractor)

Points to consider

▶ About the quality of data
   - Fuel consumption is the most reliable data for estimating emissions from vehicle use.
   - If electrical vehicles are used and recharged on site, the electrical consumption is not reported in this category but will be included in the category 'energy from stationary sources'. For hybrid vehicles, only fuel consumption is taken into account in this category
▶ About emission factors
   - Diesel, petrol and LPG are the most widely used types of fuel. Biofuels (such as E10 and E85) are sometimes also used and should be incorporated with specific emission factors (they are refined and biomass-related storage may be presented separately..

Formula

*Emissions = (litre petrol * EF petrol) + (litre diesel*EF diesel) + (Litre LPG *EF LPG)*

Alternative method 1

Data and sources

▶ Data:
   - The distance travelled may also be used if fuel consumption is not available. This 'meter reading' information is available for the purposes of charge-back and vehicle fleet rotation.

- Sources :
    - See preferred method
- Where to find the data:
    - See preferred method

Points to consider

- About the quality of data
    - Although less accurate than fuel consumption, distance generally offers data of a satisfactory quality. Particular attention must be paid to reporting periods
- About emission factors
    - Uncertainty is greater because an averaged emission factor is used. However, averages may be refined according to the type of journey (urban areas, periphery, town centre) or the taxable horsepower of vehicles

Calculation

Emissions = (litre petrol * EF km of petrol) + (litre km of diesel * EF diesel) + (km LPG * EF LPG km)

Alternative method 2

Data and sources

- Data:
    - Total number of vehicles
    - Average distance travelled by an average vehicle
    - Breakdown of fleet according to fuel
    - Average fuel consumption per km
- Sources :
    - See preferred method
- Where to find the data:
    - See preferred method

Points to consider

- About the quality of data
    - The number of vehicles as well as the types of fuel used are usually available.
    - Here, the average distance travelled per vehicle will probably need to be estimated if no records exist.
- About emission factors
    - See preferred method

Formula

Litre of petrol = (Average distance per year, per vehicle) * (Total number of vehicles used) * (Percentage of vehicles running on petrol) * (Average fuel consumption per km)
Litre of diesel = (Average distance per year, per vehicle) * (Total number of vehicles used) * (Percentage of vehicles running on diesel) * (Average fuel consumption per km)
Litre of LPG = (Average distance per year, per vehicle) * (Total number of vehicles used) * (Percentage of vehicles running on LPG) * (Average fuel consumption per km)

4.2.1. FACTSHEET 5: DIRECT FUGITIVE EMISSIONS

Scope and category:
Scopes 1, Category 4

Description
In the financial sector, this category usually corresponds to emissions from the leakage of refrigerants used in air-conditioning. Leakage over a year may be from air-conditioning system refills (with initial fills of new installations deducted minus the fluids extracted over the year and sent for recycling).

Specificities of the financial sector
Data centres have high cooling requirements for I.T. servers As such, these buildings are equipped with cooling systems which generally use refrigerants.
Vehicles with air-conditioning also use refrigerants. For the purposes of comprehensive reporting, these emissions may also be included in this category. Nevertheless, compared with liquid emissions from buildings, these liquid emissions from vehicles are secondary and will not be broken down in this guide.

Comment: In this category, only emissions of 'internal' data centres will be accounted for.

Preferred method

Data and sources

▶ Data:
  - The quantity of leaks (in kg and by type) of refrigerants emitted over the reporting period. This quantity, which is not measured directly, is by default equal to the quantity of refrigerant refills (with initial refills for new installations deducted minus the fluids extracted over the year and sent for recycling).
▶ Sources :
  - Records of refrigerant refills (reprocessing new system fills) or invoices
▶ Where to find the data:
  - Air-conditioning maintenance companies (or internal departments) are required to keep a record of refrigerants refills (under Article R543-82 of the French Environmental Code).
  - Or from the General resources department

Points to consider

▶ About the quality of data
  - The quantity of leaked refrigerants cannot be measured directly (much too dispersed). To estimate this value, the quantities refilled each year should be taken (in order to compensate for the leaks and keep the apparatus in good working order).
▶ About emission factors
  - There are many types of refrigerant. EFs vary greatly from one gas to another but are generally very high. It is therefore important to have an inventory of the different gases used.

Formula

*Emissions = (quantity fluid 1 * EF fluid 1) + (quantity fluid 2 * EF fluid 2) + (quantity fluid 3 * EF fluid 3) etc.*

Alternative method 1

Data and sources

▶ Data:
- Air-conditioned surface area in m2.
- Type of refrigerant gas used
- Average leakage rate in kg/m2

▶ Sources :
- Air-conditioned surface area = occupied surface area + air-conditioned technical premises
- Type of gas and leakage rate: regular inspection reports (under French decree n°2010-349 of 31 March 2010 and order of 16 April 2010).

▶ Where to find the data:
- Central services
- Technical services department
- Air-conditioning maintenance company

Points to consider

▶ About the quality of data
- In the absence of more accurate information, a type of gas may be taken as a default scenario for the purposes of choosing an EF. Nevertheless, due to the wide range of refrigerant gases in existence, this method is much less accurate than the preferred method. But this allows a first estimate of emissions under this category.
- Be sure to separate out the gases subject to the Kyoto protocol and the others.

▶ About emission factors
- If more than one gas is used and their specific breakdown is unknown, it is preferable to take the gas with the highest EF in the first instance. This ensures that the category is not underestimated.

Formula

*Refrigerant leakage (in kg) = (Air-conditioned area in m2) * (Average leakage rate in kg/m2)*

Scope and category:
Scope 3, Category 8

Relevant activities and nature of emissions
This category covers:
- Upstream emissions from energy accounted for in categories 1, 2, 6 and 7
- Losses from electricity, heat or cold networks accounted for in categories 6 and 7.

Upstream emissions include emissions generated prior to fuels being burned (extraction, refinery, transportation). Also included are construction emissions from power stations and networks.

NB: *Unlike the ISO, under 'article 75' of the required GHG report, transmission losses are accounted for as Scope 2, rather than Scope 3 emissions.*

Specificities of the financial sector
N.A.

Method

Données et sources

▶ Data:
- Data and sources of data will be the same as for categories 1, 2, 6 and 7. Indeed, the same data will be used here. Only the emission factors will change

Points to consider

▶ About the quality of data
- Depends on the methods chosen for categories 1, 2, 6 and 7.
▶ About emission factors
- For foreign countries, the 'upstream' emission factor of electricity is not always easy to get hold of.

Formula

As for the data, the formulas will be same as those used for categories 1, 2, 6 and 7 with the emission factors being the only difference.

Scope and category:
Scopes 3, Category 9

Relevant activities and nature of emissions
This category includes emissions from the manufacture of goods used as well as those from services used by the entity for its operations.

Although an increasing number of suppliers are likely to have estimated their GHG emissions, it is only in rare cases that a carbon footprint can be obtained for services purchased and even then only on an annual basis.

Certain sectors who are also pushed to do so by regulatory requirements, pool their methodological efforts to produce this type of information as in the case of the transportation of goods and people.
There are two main methods for calculating emissions under this category:
- The physical method
- The monetary ratio method

The physical method (or preferred method in this guide) involves calculating emissions based on the physical quantities of a product (tonne, litre, metre and so on). It can be used effectively for paper consumption, for example.
Where goods or service cannot be measured by physical quantity due to their very nature (for example, services provided by a security firm) or where physical quantities are not available, it is possible to estimate the emissions based on a financial sum, to which 'monetary' emission factors must then be applied.

Specificities of the financial sector
In order to produce a diagnosis that is accurate enough to identify the key levers for action, the main categories commonly used in a GHG emissions report for the financial sector are:

Categories	Sub-category	Recommended physical	Recommended monetary
Paper and envelopes	Software		
	Office paper	X	
	Print-outs and paper used in branches	X	
	Other paper		X
	Receipts	X	
Services	Security		X
	Communication and marketing, archiving and documentation		X
	Building maintenance, cleaning, maintenance of green spaces, Care-taking		X
	I.T. services and software		X
	Telecommunications		X
	Cards and cheques, processing payment		X
	Entertainment costs, hotels (excluding travel costs)		X
	Litigation		X
	Fees (audit, consultancy, legal etc.)		X
	Reception services		X
	Insurance premium		X
	ATM and automatic checkout maintenance		X

Categories	Sub-category	Recommended physical	Recommended monetary
Meals	Meals		X
Supplies	Office supplies		X
	Safety equipment		X

NB: *If the categories above are performed in-house and are already accounted for elsewhere in the report, the emissions should not be counted again here (double-counting).*
For example, an in-house I.T. department charges its services to the different divisions of the entity. Its electricity consumption, equipment and travel are already accounted for in the relevant categories of the GHG report. As such these emissions should not be counted again using the invoices.

Method

Data and sources

▶ Data:
  - Physical data or suppliers' GHG report
▶ Sources :
  - Purchase records
  - Contractor records
▶ Where to find the data:
  - Central services
  - Purchasing department and accounts department
  - Contractors

Points to consider

▶ About the quality of data
  It tends to be difficult to get hold of physical quantities for most purchase categories. The collection of information on physical data should be prioritised for the methodological benefits.
  - For example, the physical data tends to be accessible for paper consumption (in tonnes). Moreover, this allows paper consumption to be monitored.
  - Conversely, information on the nature and quantity of products used by cleaners is rarely available. Suppliers may be asked for an estimate of emissions (particularly if a strategic supplier).
▶ About emission factors
  - Certain databases such as the carbon database contain emission factors for 'commonly used' goods and services.

Formula

*Emissions = (Quantity product A * EF product A) + (Quantity product B * EF product B) + etc.*

Alternative method 1

Data and sources

▶ Data:
  - Amount spent (excluding tax) on different purchased products and services
▶ Sources :
  - Balance of 'external costs', operational expenditure
  - Enterprise Resource Planning software (ERP)

▶ Where to find the data:
  - Central services, purchasing department or accounts department

Points to consider

▶ About the quality of data
  - Purchase amounts are recorded in accounting systems. The difficulties lie in getting hold of accurate purchase amounts for carbon reporting to break down purchase amounts into the categories included in emission factor databases.
  - The calculation basis used excludes tax.
  - The calculation basis should include all services over the reporting period as well as deliveries/receiving of goods. The accounting source should be specified (accounts or orders: concept of commitment, expenditure/payment: concept of completion, reporting period etc.)
▶ About emission factors
  - 'Monetary' emission factors are less accurate than 'physical' EFs (high uncertainty) as they are generally based on the average price of goods or services.
  - Emission factors per Euro of products purchased from an industry (in kgCO2eq/€) may also be estimated based on the principles of the NAMEA methodology ('National Accounting Matrix Including Environmental Accounts'). This methodology allows the physical counts of direct greenhouse gas emissions by economic activity and country to be combined with the input-output tables of national accounts to produce direct and indirect emissions for each sector of activity. In the case of France, in the near future such factors should be included in ADEME's carbon database. Similar analyses exist in other countries, such as, for example, the following databases: CENSA (UK), EIOLCA (United States), 3EID (Japan) or E2IOT and Exiopol (Europe).

Formula

Some of the accounts correspond to emissions already accounted for using physical data. For example, energy spending in buildings already accounted for in the category
'Building energy consumption' using electricity, gas and oil bills (kWh), litres etc.). As such, these amounts should be excluded from the monetary analysis of purchases.
Other accounts correspond to expenses incurred by the company but which are not within the boundaries of the emissions report: for example taxes, wages and depreciation of assets. These should also be excluded.
The exercise involves reprocessing purchase accounts to exclude expenditure already accounted for elsewhere in the GHG report and to exclude expenditure that does not fall within the boundaries of the report.

*Emissions = (€ product A + € product B + …)*EF High materiality) + (€ product C + € product D + …)*
* EF low materiality

Monetary ratios are set out in the Annex of Volume 2.

Specific case: data centres

Emissions generated by 'external' data centres should be accounted for in this category. The emission factor for purchasing a hosting service should take into account:
- Refrigerant emissions
- Electricity consumption
- Manufacturing emissions (assets)

For calculation methods, refer to categories 4, 6 and 10 respectively. However, data sources can only be obtained from the companies running the data centres.

Scope and category:
Scope 3, Category 10.

Relevant activities and nature of emissions
This category corresponds to emissions from the manufacture of 'fixed' durables used by the entities and amortised over a baseline period. These include:
a. Owned or rented buildings
b. Owned or leased vehicles
c. I.T. equipment
d. Other durable goods (furniture etc.)

Specificities of the financial sector
The I.T. function is essential and crucial for players in the finance sector given the volumes of transactions as well as security requirements relating to data and archiving. As such there is a high density of I.T. equipment which can result in high volumes of emissions.
In terms of buildings and related works, some players manage substantial housing stock requiring constant repair work and/or renovations.

Method

a. Owned or rented buildings

Data and sources

▶ Data:
  - Building surface area (m2 net floor area)
  - Construction year of buildings
  - Amortisation period
▶ Sources :
  - Commercial leases, tenancy agreement (insurance cover)
▶ Where to find the data:
  - Central or technical services department

b. Owned or leased vehicles

Data and sources

▶ Data:
  - Number of vehicles in the fleet
  - Average weight of vehicles
  - How often vehicles are replaced
▶ Sources :
  - Record of changes to the fleet of vehicles
▶ Where to find the data:
  - The vehicle leasing company or manager of the vehicle fleet in-house

c. I.T. equipment

Data and sources

▶ Data:
  - Inventory of I.T. equipment (number of units by type)
  - Amortisation period
▶ Sources :
  - Inventory of I.T. stock
▶ Where to find the data:
  - Information systems department and/or contractor

Points to consider

▶ About the quality of data
  - The age of buildings can be used to determine which buildings to account for under the emissions from assets category. If the age of buildings is greater than the amortisation period, it can be assumed that emissions from buildings were amortised a long time ago.
  - The same approach can be used for the vehicle fleet. However, vehicles are replaced regularly. It is therefore rare for vehicles to be amortised (from the point of view of GHG emissions).
  - For vehicles, this category only includes emissions from manufacture and not usage (fuel consumption
▶ About emission factors
  - Emission factors used for fixed assets, unless from supplier data, are average values with significant uncertainty.

Formula

a. Owned or rented buildings
  *Emissions = (m2 of buildings) * (EF construction) / (amortisation period)*
b. Owned or leased vehicles
  *Emissions = (no. of vehicles) * (Average weight of vehicles) / (amortisation period) * (EF vehicle tonnage)*
c. I.T. equipment
  *Emissions = (Quantity equipment A) * (EF equipment A) / (amortisation period equipment A)*
  *+ (Quantity equipment B) * (EF equipment B) / (amortisation period equipment B)*
  *+(Quantity equipment C) * (EF equipment C) / (amortisation period equipment C) + etc.*

See annex for the list of I.T. equipment to be accounted for

Alternative method 1

a. Owned or rented buildings

Data and sources

▶ Data:
  - Branch staff and headquarters/office staff
  - Surface area of offices in m2/FTE
  - Surface area of branches in m2/FTE
  - Age of buildings
▶ Sources :
  - Staff records
▶ Where to find the data:
  - Human resources or general resources department

b. Owned or leased vehicles

Data and sources

▶ Data:
  - Data:
  - km travelled by the vehicles by type of fuel
▶ Sources :
  - Record of distances, only for owned fleets or long-term leasing agreements (see 4.1.4.2)
▶ Where to find the data:
  - Centralised vehicle leasing company
  - Company car fleet manager

c. I.T. equipment

Data and sources

▶ Data:
  - Workforce
  - List of technical equipment per person
▶ Sources :
  - Information systems department
  - I.T. Contractor
▶ Where to find the data:
  - Human Resources
  - I.T. Department

Points to consider

▶ About the quality of data
  - Ratios are suggested for the m2/FTE of branches and offices. Nevertheless, where possible, it is preferable to use ratios that are specific to the entity.
  - It is worth separating out surface area by category of building to improve analysis of the results. As such, when drawing up an action plan, a distinction can be drawn between the headquarters and network to separate out renovation policies with different purposes and means. As is the case with the preferred method, if certain buildings are very old (built over 40 years ago), they should not be included in the report.
▶ About emission factors: See preferred method

Formula
a. Owned or rented buildings
  Emissions = [(FTE offices) * (ratio m2/FTE offices) + (FTE branches) * (ratio m2/FTE branches)] * (EF construction) / (amortisation period)
b. Owned or leased vehicles
  Emissions = (km petrol * EF manufacture petrol) + (km diesel* EF manufacture diesel)
c. I.T. equipment
  Emissions = FTE * [(ratio equipment A per FTE) * (EF equipment A) / (amortisation period equipment A)
  + (ratio equipment B per FTE)* (EF equipment B) / (amortisation period equipment B)
  + (ratio equipment C per FTE)* (EF equipment C) / (amortisation period equipment C) +...]

See annex for the list of I.T. equipment to be accounted for. There is no default ratio for I.T. equipment. In annex 2, a method for calculating an EF for I.T. equipment per person is suggested.

Alternative method 2

a. Owned or rented buildings

Data and sources

▶ Data:
  - Construction/renovation work carried out over the period
▶ Sources :
  - Records of real estate investment
▶ Where to find the data:
  - General resources department, estates division if there is one

b. Owned or leased vehicles

Data and sources

▶ Data:
  - Number of new vehicles purchased over the reporting period
▶ Sources :
  - Inventory of the vehicle fleet
▶ Where to find the data:
  - Company car fleet manager

c. I.T. equipment

Data and sources

▶ Data:
  - Quantity of new computer equipment purchased over the reporting period
▶ Sources :
  - Inventory of I.T. equipment stock
▶ Where to find the data:
  - I.T. Department

Points to consider

▶ About the quality of data
  - This approach involves counting by annual flows rather than based on amortisation.
  - This method facilitates data collection: it is often easier to perform an inventory of new buildings/vehicles/equipment for the current period rather than a full inventory.
  - The disadvantage is that there are often significant year-on-year variations. This makes the analysis of variations in the GHG report more complicated.
▶ About emission factors: See preferred method

   Formula

   a. Owned or rented buildings
      *Emissions = (m2 of new buildings purchased or having undergone substantial renovation delivered over the period * EF construction*
   b. Owned or leased vehicles
      *Emissions = (no. of 'incoming' vehicles) * (Average weight of vehicles) * (EF vehicle tonnage)*
   c. I.T. equipment
      *Emissions = (Quantité « entrante » dans l'inventaire équipement A) * (FE équipement A) +*
               *(Quantité « entrante » dans l'inventaire équipement B) * (FE équipement B) +*
               *(Quantité « entrante » dans l'inventaire équipement C) * (FE équipement C)*

Scope and category:
Scope 3, Category 11

Relevant activities and nature of emissions
This category includes emissions from the manufacture of goods used and those from services. This category includes emissions related to the end of life of waste generated by the entity for its operations. Office waste is the main source of waste and paper makes up the majority of it.

Specificities of the financial sector
An entity in the finance sector uses a lot of I.T. equipment. As such, it also generates a significant quantity of WEEE (Waste Electronic and Electrical Equipment). Paper consumption (records, contracts, marketing) are also sources of high levels of waste.

Preferred method

Data and sources

▸ Data: annual quantity of waste in tonnes, by category:

- NHIW (non-hazardous industrial waste
  - Paper
  - Card
  - Food waste
  - Glass
  - Plastic
  - Metals
  - Other
- WEEE (waste electronic and electrical equipment)
▸ Sources :
  - inventory of waste, records of waste collection contractors
▸ Where to find the data:
  - Waste management company (invoices, contracts)
  - Records of quantities (weight) fed back by General resources department

Points to consider

▸ About the quality of data
  - Quantities of waste are often monitored for environmental reporting purposes (waste management requirements). However, the breakdown of different processing methods (incineration, recycling etc.) is much more difficult to get hold of.
▸ About emission factors
  - There are many EFs for waste depending on end-of-life: incineration, burial, energy recovery etc. An 'average' end-of-life should be taken corresponding to how the average mix of waste is processed.
  - This mix depends on the country where the waste is collected.

Formula

Emissions =
(Quantity paper waste * EF paper waste) +
(Quantity card waste* EF card waste) +
(Quantity food waste * EF food waste) +
(Quantity glass waste* EF glass waste) +
(Quantity plastic waste * EF plastic waste) +
(Quantity metal waste * EF metal waste) +
(Quantity other waste * EF other waste) +
(Quantity WEEE * EF WEEE)

Alternative method 1

Data and sources

▶ Data: annual quantity of waste in tonnes, by category:
  - NHIW (without breakdown)
  - Default breakdown of different types of NHIW: % in mass for paper, card, food waste, glass, plastic, metals and other
  - WEEE
▶ Sources :
  - See preferred method
▶ Where to find the data:
  - See preferred method

Points to consider

▶ About the quality of data: See preferred method
▶ About emission factors: See preferred method

Formula

Emissions = Quantity NHIW * [(default % paper waste * EF paper waste) +
(default % cardboard waste * EF cardboard waste) +
(default % food waste * EF food waste) + (default % glass waste * EF glass waste) +
(default % plastic waste * EF plastic waste) + (default % metal waste * EF metal waste) +
(default % other waste * EF other waste)] +
Quantity WEEE * EF WEEE

Alternative method 2

Data and sources

▶ Data: annual quantity of waste in tonnes, by category:
  - FTE
  - Average annual output of NHIW by FTE
  - Average annual output of WEEE by FTE
▶ Sources :
  - Workforce records, average ratios (see annex)
▶ Where to find the data:
  - FTE: Human resources
  - Waste management company
  - CSR department

Points to consider

▶ About the quality of data: See preferred method
▶ About emission factors: See preferred method

Formula

*Tonnes of NHIW = FTE * (average annual WEEE production per FTE)*
*Tonnes of WEEE = FET * (average annual production of WEEE per FTE)*

Scope and category:
Scope 3, category 12, category 17

Relevant activities and nature of emissions
This category covers freight where it is:
- upstream freight (from suppliers to the entity)
- internal freight
- downstream freight (from entity to its customers) paid for by the reporting entity.
Where the freight is transported by vehicles owned by the entity, emissions are included in Category 2.

Specificities of the financial sector
In the financial sector, this category covers:
- Letters, light freight and postage (internal or downstream)
- armoured courier services (internal or downstream)
- transportation of other goods (computer hardware, office supplies, removals etc.) (upstream or internally).
These three categories should be separated out.

Preferred method

Data and sources

▸ Data: tonnes per km of goods transported for:
  - Letters, light freight and postage
  - Armoured courier service
  - Hardware, consumables, equipment purchases (computer furniture)
▸ Sources :
  - Paper: dispatch lists, printing reports
  - Contractors: annual statement, invoice + physical data.
▸ Where to find the data:
  - Armoured courier service
  - Contractor
  - Printer

Points to consider

▸ About the quality of data
  - The volume is usually available but the breakdown by mode of transport and particularly by destination or distribution method is more difficult to get hold of
▸ About emission factors
  - Emission factors for freight depend on the type of vehicle used, its load factor and the empty return rate. The last two pieces of information are not always known and average default values exist.

Formula

*Emissions = Tonnes post * km post * EF post freight*
*Tonnes armoured courier service * km armoured courier service * EF armoured courier service Tonnes raw materials * km raw materials * FE freight raw materials*

Alternative method 1

Data and sources

▶ Data:
  - Postal service invoices
  - Parcel service invoices
  - Armoured courier service invoices
▶ Sources :
  - Accounts
  - Suppliers or contractor reports
▶ Where to find the data:
  - Armoured courier service
  - Contractor
  - Printer

Points to consider

▶ About the quality of data: N/A.
▶ About emission factors
  - Logistics industry players and carriers have been improving their reporting for some years. It should be increasingly easy to gather information for the preferential method. If not, the use of monetary ratios, with high levels of uncertainty is a means of obtaining an initial order of magnitude of emissions.

Formula

Emissions = postal service invoice * EF € postal freight + parcel carrier invoice* EF € pracel freight + armoured courier service bill * EF € armoured courier service

Scope and category:
Scope 3, category14

Relevant activities and nature of emissions
This category covers emissions from leased assets operated by the entity (leasing of vehicle fleet, building, equipment and so on).
In practice, when reporting greenhouse gas emissions, it can be labour-intensive to separate out activity data according to whether assets are owned or leased. In order to prevent any double counting and simplify the data collection process, this category should not be used to report emissions from leased (and controlled) property in other categories in the same way as controlled assets.
For example, energy consumption of leased assets are reported in emission categories 1, 2, 6, 7 and 8.

Scope and category:
Scope 3, category 16

Relevant activities and nature of emissions
This category covers two types of travel:

a. Client travel: travel by clients to their appointments at branches. Travel by users of ATMs and 'regular' customers are not taken into account.

b. Visitor travel: travel for business purposes to headquarters, central sites and offices by visitors who are not employees of the reporting entity.

Specificities of the financial sector
Estimating emissions related to client travel is, for example, a means of setting in motion certain initiatives on daily mobility for clients and to get a sense of long-distance relationships with clients (e-branches etc.).

Client travel to ATMs should not be taken into account. Indeed, these emissions would be difficult to quantify given that there appears to be no way of knowing the means of transport used by customers when travelling to an ATM. Moreover, they do not travel solely for that purpose: in most cases, a client withdraws money from an ATM that is close to his or her route.

Preferred method

Data and sources

a. Client transport

▸ Data:
  - Number of client appointments over the period
  - Average journey distance to travel to the organisation's premises
  - Mode of transport used
▸ Sources :
  - Records of appointments attended by clients.
  - Surveys of clients at their appointments
  - ENTD3 (Enquête Nationale Transports et Déplacements - National Transport and Travel Survey)
  - Number of active clients, geographical location of clients based on their postal address
▸ Where to find the data:
  - Marketing department
  - General resources department
  - Customer services

b. Visitor transport

▸ Data:
  - Number of local visitors
  - Average distance
    - Breakdown of visitors arriving by
    - car
    - public rail transport
    - bus
  - Number of visitors arriving by air travel
    - Average distance

[3] Enquête National Transport et Déplacement ENTD (National transport and Travel Survey):
   http://www.statistiques.developpement-durable.gouv.fr/sources-methodes/enquete-nomenclature/1543/139/enquete-nationale-transports-deplacements-entd-2008.html

▶ Sources :
  - Survey at reception on sites
▶ Where to find the data:
  - Reception on site

Points to consider   41

▶ About the quality of data
  - With regards visitor travel, there is rarely an alternative to a survey at reception on site to collect the relevant information.
▶ About emission factors
  - N/A.

Formula

a. Client transport
  Emissions = km clients by car * EF car + km clients by rail * EF rail +
  km clients by bus * EF bus
b. Visitor transport
  Emissions = number of visitors short distance * average distance short distance * (% visitors by car * EF car +
  % visitors by rail * EF rail +
  % visitors by bus * EF bus) +
  number of visitors by aeroplane * average distance aeroplane * EF aeroplane

Scope and category:
Scope 3, Category 20

Relevant activities and nature of emissions
This category covers all emission categories for the parent entity's franchises. A total inventory of GHGs from downstream franchises should be produced and allocated to this emissions category.

Scope and category:
Scope 3, Category 2

Relevant activities and nature of emissions
This category relates to employee commuting.
Specificities of the financial sector
The wide range of jobs in the finance sector means that it is not possible to describe a typical daily commuter profile. However, as with other sectors, three groups with different characteristics can be identified:
- Sedentary staff at offices, headquarters and back-office staff.
- Sedentary staff in branches (with different working hours)
- More mobile 'roaming' staff, specific activities.

Preferred method

Data and sources

▸ Data:
  - Total employee commuting distances by mode of transport over the reporting period: car, motorcycle, rail and bus
▸ Sources :
  - Company travel plan
  - In-house surveys
  - Enquête Nationale Transports et Déplacements (National Transport and Travel Survey - ENTD)
  - Human resources data records
▸ Where to find the data:
  - For staff: Human Resources
  - For modes of transport: ENTD[4]

Points to consider

▸ About the quality of data
  - The total distance commuted by employees is not usually available. It should be calculated using the sources above.
  - Take care not to count emissions from the travel of employees with a company car twice (car, 2 wheels)
▸ About emission factors
  - N/A.

Formula

Emissions = km clients by car * EF car +
                km clients by rail * EF rail +
                km clients by bus * EF bus

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[4] Enquête National Transport et Déplacement ENTD (National transporty and Travel Survey):
http://www.statistiques.developpement-durable.gouv.fr/sources-methodes/enquete-nomenclature/1543/139/enquete-natio-nale-transports-deplacements-entd-2008.html

Alternative method 1

Data and sources

▶ Data:
  - Workforce
  - Average distance of a one way commute
  - Number of days worked per year
  - Breakdown by mode of transport:
    - % of workforce travelling by car
    - % of workforce travelling by motorcycle
    - % of workforce travelling by public rail
    - % of workforce travelling by bus / tram
▶ Sources :
  - Internal survey
  - List of employees and contributions to public transport costs (this provides information about the rate of public transport use)
▶ Where to find the data:
  - Human Resources

Points to consider

▶ About the quality of data: N/A.
▶ About emission factors: N/A.

Formula

It is worth looking at the branches and central sites separately as commuting habits may vary. However, be sure to take into account all employee travel or, if the data is not accessible, to specify what is included.
Commutes by car (km) =
*(Percentage of workforce commuting by car) * (Workforce) * (Number of days worked per year) * (Average distance of a one-way commute) * 2*
Commutes by motorcycle (km) =
*(Percentage of workforce commuting by motorcycle) * (Workforce) * (Number of days worked per year) * (Average distance of a one-way commute) * 2*
Commutes by rail (km) =
*(Percentage of workforce commuting by rail) * (Workforce) * (Number of days worked per year) * (Average distance of a one-way commute) * 2*
Commutes by bus (km) =
*(Percentage of workforce commuting by bus) * (Workforce) * (Number of days worked per year) * (Average distance of a one-way commute) * 2*

Scope and category:
Scopes 3, Category 21

Relevant activities and nature of emissions
This category covers emissions from assets leased to other entities. This point is not included in emissions from operations.

Scope and category:
Scopes 3, Category 21

The finance sector relies on many data centres for its activities. Emissions related to data centres have several sources:
- Electricity consumption
- Emissions from refrigerants
- Manufacture of building facilities (fixed assets).

Moreover, in order to comply with the breakdown in ISO TR 14069, emissions are broken down differently depending on the control exercised by the entity over these data centres. The table provides a breakdown of these emission categories.

'Internal' data centres are those owned or controlled by the entity. 'External ' data centres are those not owned or controlled by the entity. This is the case, for example, when management of a data centre is outsourced to a contractor.

Type of check	Emission source	Category
Internal	Electricity consumption	7 and 8 (for upstream)
	Emissions from refrigerants	4
	Fixed assets	10
External	Electricity consumption	9
	Emissions from refrigerants	9
	Fixed asset	9

For the purposes of comparison, in addition to the breakdown of emissions above, it should be possible to 'separate' out the emissions from these data centres from other categories.
Indeed, the way data centres are managed differs from one entity to another. If two entities wish to compare themselves to each other and only account for internal data centres when one of them outsources its data centres, this would not make sense.

Communication must be tailored to the target readership and the objective of the exercise. Internal communication should not be neglected as it helps to secure staff buy-in for the process. Indeed, some of them were directly involved in feeding back information for the report. Moreover, it is worth sending the various entities their own report in order to raise awareness about their own environmental impact and empower them to act. Finally, senior management must be kept informed through regular performance indicators.

Communicating the GHG emissions report and environmental strategy to external stakeholders (clients, public authorities, shareholders, rating agencies, non-governmental organisations) is an exercise in pedagogy and transparency through the annual report, the sustainable development report or other specific documents.

Tailor communication to the readership

The results of the greenhouse gas emissions report may be aimed at different groups.

- **Internally:**
  - **Staff:** here the objective is to share the results and raise awareness among members of the organisation as well as to pave the way for an action plan. It is also a way of feeding back to the people who were involved in the process in order to bed it down.
  - **Subsidiaries, divisions or departments that make up the entity:** for the purpose of this 'regulatory' exercise, the breakdown of emissions by group entity is not necessarily required. However, some rating agency questionnaires may request a breakdown. Finally, in monitoring the performance of action plans, communicating the reports of each entity can help to 'empower' teams and monitor their performance. It is about communicating the results of the GHG report according to share: in other words, separating out the 'share' attributable to the various 'sub-sets' of a group.
  - **Management:** specific performance indicators are communicated to provide information on how the environmental strategy is progressing.

- **Externally:**
  - **Clients: whether high-street customers or business clients, they are increasingly aware of the environmental policies of companies. It is important to make the report educational for people who are not necessarily familiar with the 'carbon' issue or the structure of the entity.**
  - **Institutions: to comply with regulatory requirements. In France, for example, under article 75 of the Grenelle 2 law, companies with over 500 employees must produce a GHG report every three years5.**
  - **Shareholders: the annual report is also an opportunity to communicate the group's environmental data.**

Communicating GHG emissions: the basics

Of course how results are presented depends on the target readership but it is important that the content is always clear.
- GHG emissions volumes are presented as a carbon intensity ratio (emissions per person for example).
- Boundaries: organisational and operational
- The reporting period (year, month)
- The ambition and level of objectives met

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[5] entre de ressources sur les bilans gaz à effet de serre (Greenhouse gas report resources centre):
  http://bilans-ges.ademe.fr/cadre-general#Contexte%20national

Communicate the following information to internal stakeholders:

Where communication is aimed at internal stakeholders, it is important to provide more detailed content than that aimed at external stakeholders.

- Results: in addition to the absolute value of emissions, it is important to present the 'ratios' which allow variations to be monitored more easily. These ratios may be tonnes of CO_2e per € of turnover, per employee, per square metre and so on.
- Organisational boundaries: a breakdown of the entities included in the report is recommended, particularly as internal stakeholders are more familiar with the organisational structure of the entity than external ones.
- Operational boundaries: a breakdown of the emission categories included and excluded.
- The reporting period: the period covered, the baseline period, the target period
- The ambition to be achieved as well as progress in terms of results. If implementation has begun, breakdown of progress on the action plan will secure greater buy-in.

It is also worth breaking down the results by subsidiary or geographical area so that stakeholders can see where they fit in and easily get to grips with the results. However, whether it is possible to break down the results will depend on whether source data can be broken down.

Communicating to external stakeholders

Communication to external stakeholders requires a different approach. Nevertheless, the same rules of transparency apply (boundaries, reporting period etc.).

Annex 1: Ratios and average values

The purpose of the values suggested below is to give an order of magnitude. They are average generic values given for information to help the user with their calculations. Where possible, the reporting entity's own values should be used.

Ratios or data	Value	Unit	Source
1. Direct emissions from stationary combustion			
Consumption of natural gas by offices with gas heating	204	kWh PCS/m2/an	Ademe Bilan carbone v7.104
Conversion kWh GCV / kWh NCV natural gas	1,11	n.a.	/
Conversion kWh GCV / kWh NCV oil	1,09	n.a.	/
Fuel heating consumption	25	litre/m2/an	Carbone 4
in offices:	9,86	kWh PCI/litre	/
Energy content of one litre of oil	See 'fuel prices' boxed text		
Average price of kWh NCV of natural gas	See 'fuel prices' boxed text		
Average price of a litre of oil	43	%	CEREN
% of surface areas heated by natural gas	13	%	CEREN
2. Direct emissions from mobile combustion			
Average distance travelled per year per vehicle	20 000	km	Carbone 4
(business use)	0,08	litre/km/an	
Default breakdown of tourist vehicles by type of fuel			
- petrol	38	%	Social enterprise
- diesel	61	%	"
- LPG	1	%	"
3. Direct process-related emissions			
N.A.			
4. Direct fugitive emissions			
Average leakage rate in kg/m2	0,00105	kg/m2/an	Carbone 4
5. Direct emissions and removals from land-use, land-use change and forestry (excluding combustion)			
N.A.			
6. Indirect emissions from electricity consumed			
Average price of electric kWh::	See boxed text: 'price of electricity'		
Specific electricity consumption of offices in kWh/m2/year	89	kWh/m2/an	CEREN
Electricity consumption due to heating offices with electric heating in kWh/m2/year	154	kWh/m2/an	CEREN
7. Indirect emissions from consumed electricity imported through a physical network (steam, heat or cooling)			
Heating consumption specific to the offices kWh/m2/an	154	kWh/m2/an	CEREN
% of surface area heated (other than natural gas, oil or electricity)	2	%	
No default ratios for cold networks		N.A	

Ratios or data	Value	Unit	Source
8. Emissions from energy-related activities not included in direct emissions and energy indirect emissions			
See categories 1,2, 6 and 7.			
9. Products and services purchased (helps in choosing between high and low material EFs)			
Security	Low material service		
Archiving and documentation, communication	High		
Building maintenance, cleaning	Hight material service		
I.T. services and software	Hight material service		
Telecommunications	Hight material service		
Cards and cheques, processing payment	Hight material service		
Entertainment, hotels (excluding	Hight material service		
Litigation	Low material service		
Fees (audit, consultancy, legal etc.)	Low material service		
Reception services	Low material service		
Insurance premiums	Low material service		
ATM and automatic checkout maintenance	Hight material service		
Meals	Hight material service		
Office supplies	Hight material service		
Security equipment	Hight material service		
Branch renovation	Hight material service		
Maintenance	Hight material service		
Training	Low material service		
10. Fixed assets			
Amortisation period:			
- Building	30	years	Carbone 4
- I.T.			
· Office computers (desktop with screen)	3	years	Carbone 4
· Laptops	3	years	Carbone 4
· Screens	3	years	Carbone 4
· Small printers	4	years	Carbone 4
· Large printers/photocopiers/sanner	3	years	Carbone 4
· Smartphone	3	years	Carbone 4
· Mobile phone	4	years	Carbone 4

Ratios ou données	Valeur	Unité	Source
· Direct line:	5	years	Carbone 4
· I.T. serverss	5	years	Carbone 4
· Inverters	5	years	Carbone 4
· Switch	3	years	Carbone 4
· Routeurs	3	years	Carbone 4
· Firewall	3	years	Carbone 4
· ATMs	8	years	Carbone 4
Vehicless	4	years	Carbone 4
Average weight of vehicles	1,2	tonnes	Carbone 4
Highly populated surface area (offices)	11	m2/FTE	Carbone 4
Relatively unpopulated surface area	20	m2/FTE	Carbone 4
Default breakdown of NHIW waste:			
- Paper	75	%	Carbone 4
- Cardboard	1	%	Carbone 4
- Food waste	10	%	Carbone 4
- Glass	1	%	Carbone 4
- Plastic	10	%	Carbone 4
- Metals	2	%	Carbone 4
- Other	1	%	Carbone 4
12. Upstream transport and distribution			
N.A.			
13. Business travel			
Average claim per road kilometre in €/km	0,58	€/km	www.frais-kilometrique.com
14. Actifs loués en amont			
N.A.			
15. Investment			
N.A.			
16. Client and visitor travel			
No default ratio			
17. Downstream transport and distribution			
N.A.			
18. Use stage of the product			
N.A.			
19. End of life of the product			
N.A.			
20. Franchises			
N.A.			
21. Downstream leased assets			
N.A.			
22. Employee travel			
N.A.			
23. Other indirect emissions not included in the other 22 categories			
N.A.			

Average fuel price

Method for converting expenditure on natural gas or fuel (in €) into kWh:
- The energy supplier's average tariff is needed.
- Otherwise, on Pégase, there are statistics for energy prices in France.
  http://www.statistiques.developpement-durable.gouv.fr/donnees-ligne/r/pegase.html
- VAT and other taxes should then be added.

Average I.T. equipment

In order to simplify calculations of fixed I.T. assets, an average EF can be calculated for each position held, according to an average amount of equipment per employee. An example is suggested below.
Let us assume that on average each employee has the following I.T. equipment:
- 1 CPU
- 1 screen
- 1 landline
- 0.1 mobile phones (or 1 mobile phone for 10 people)
- 0.2 printers (or 1 printer for 5 people).

The average EF will be:

EF Average I.T. = 1*EF CPU + 1*EF screen + 1* EF screen + 0.1* EF mobile + 0.2 * EF printer

Adaptation to climate change
Adaptation to climate change refers to the strategies, initiatives and measures taken by individuals or groups (businesses, associations, administrations etc.) to reduce the vulnerability of natural and human systems against the actual or anticipated effects of change.

Anthropogenic emissions
Emissions resulting from human activities. This is used to describe any emissions caused directly or indirectly by human activities: soil erosion, atmospheric pollution etc. From the Greek 'anthropos' (man).

Approximate data
Primary or secondary data related to a similar activity which can be used instead of representative data. These existing data are used directly without adjustment.
Ex : données de consommations énergétiques d'un bâtiment dans les Vosges non corrigées du climat pour d'un bâtiment similaire située dans les Landes.

Assets under management
Assets under management are all assets held at a given time. This could refer to stocks or banking customer loans. As such this refers to money that has been tied up and not yet recovered.

Best in class
In the field of asset management, the Best-in-Class approach is a type of selection involving favouring those businesses with the best rating against certain performance criteria set by the asset manager within a given sector. The Best-in-class approach used extensively by French SRI fund managers, enables them not to separate the sectoral distribution of a fund from that of its baseline index, unlike in the case of ESG thematic approaches or sectoral exclusions.

Bottom-up
Type of methodological approach used to quantify financed GHG emissions. A micro-economic approach which involves incorporating the GHG emissions of customers of a financial institution line-by-line. 'Bottom-up' methodologies are based on emissions data produced by financed companies or projects as part of dedicated environmental reporting.

Choice of allocation
The choice of allocation by sector and geographical zone will result in significant methodological differences.

Climate change mitigation
Mitigation is defined as the human efforts aimed at reducing GHG emissions of various sources or increasing carbon sinks. Mitigation coupled with adaptation contributes to meeting the objective set under Article 2 of the UNFCCC's Convention on Climate Change.

Commitments
Financial organisation commitments by sector and by country or geographical zone (non-public data).

Direct emissions
GHG emissions from sources belonging to or under the control of the organisation and usually referred to in certain frameworks as Scope 1.

Double-counting
Emissions from a single source are counted twice or several times. Double-counting may arise between organisations where at least two organisations report the same GHG emissions or capture. Double-counting may also arise within a single organisation where GHG emissions or capture are taken into account in different emissions categories.

Emission categories
GHG emissions from homogeneous sources or types of source. An emission category may be combined with a sub-category.

Emission category

All GHG emission categories. Three emission categories can be distinguished, direct GHG emissions, indirect GHG emissions from energy and other indirect GHG emissions. These categories are referred to as 'scope' in certain international classifications.

Emission factors

Emission Factor (EF): emission rate of a given GHG for a given source, relative to units of activity.

Emissions from operations

Scope 1, Scope 2 and (partially) Scope 3 emissions. Emissions arising from an organisation's back-office functions. In the case of the financial sector, emissions from investments and the use of products sold are not included.

Extrapolated data

Primary or secondary data related to a similar activity which are adjusted or tailored to a new situation.

Ex : données de consommations énergétiques d'un bâtiment dans les Vosges corrigées du climat pour un bâtiment similaire située dans les Landes.

Financed emissions

Financed emissions are defined as greenhouse gas emissions generated by holding a financial asset. The emissions of a given industrial activity, for example, greenhouse gas emissions produced by the construction of this industrial facility, its maintenance and operations. The financial activity (finance, investment etc.) which made this industrial activity possible may, therefore, in some ways be associated with these emissions, having helped to produce them (without finance, the industrial activity would not have seen the light of day, nor would its GHG emissions.)

GHG (Greenhouse gas)

Greenhouse gas. A gas in the natural or anthropogenic atmosphere that absorbs and emits radiation within the thermal infra-red range emitted by the earth surface, atmosphere and clouds. The six gases included the Kyoto protocol, i.e.:
- Carbon dioxide (CO_2)
- Methane (CH_4)
- Nitrous oxide (N_2O)
- Hydrofluorocarbons (HFC),
- Perfluorinated Hydrocarbons (PFC)
- Sulfur hexafluoride (CF6)
-

GHG sources

Physical unit or process releasing a GHG into the atmosphere (e.g. a thermal engine, thermal boiler, cow etc.)

Greenhouse Effect

The sun's rays that reach the Earth reheat its surface and two thirds of them are absorbed. With reverberation, the remaining third is sent back into space in the form of infra-red rays but is partially trapped by a layer of gas in the lower atmosphere: this sends the heat back toward the Earth and contributes to warming it further. Through this natural phenomenon called the greenhouse effect, the average temperature of the air at the Earth's surface is around + 15°C. Without this natural thermostat, the average temperature would be around 33°C cooler at around – 18°C. In large part they are of natural origin, but the proportion due to human activity, known as 'athropogenic', has been increasing since the beginning of industrial times (1750). The result is global warming.

Gt CO_2

1 gigatonne of carbon (GtC) = 1015 grammes of carbon. It corresponds to 3.667 GtCO2. A unit used by IPCC in particular.

IEA

The International Energy Agency which works to ensure reliable, affordable and clean energy for its 29 member countries and beyond. The main areas of IEA focus are: energy security, economic development, environmental awareness worldwide.

Indirect emissions
GHG emissions from sources arising from the consumption by an organisation of purchased electricity, heat or steam and GHG emissions (usually referred to in certain frameworks as Scope 2 emissions, and any other GHG emissions resulting from the activities of an organisation but from greenhouse gas sources belonging to and/or controlled by other organisations (usually referred to in certain frameworks as Scope 3).

IPCC
Intergovernmental Panel on Climate Change.

'Issue'-based perspective
This approach is based on the rule of specific allocation of global greenhouse gas emissions by macro-sector. This means allocating GHG emissions to sectors according to their capacity for reduction (Rose, 2013, 2014). The 'issue' of an economic agent is the quantity of GHG emissions that this agent is liable to reduce in an economy where heavy restrictions on GHG emissions are introduced (carbon prices, taxes, standards). In this context the internalisation of any additional cost would lead to a reduced demand for high-carbon, in favour of lower carbon, goods. The producer of the high carbon goods should then respond to the change in demand through 'innovation in processes' (efficiency savings throughout the product life). The GHG emissions targeted by these innovative approaches are the producer's 'issue'.

NACE
NACE2: Statistical classification of economic activities in the European Community NACE rev. 2 was the subject of regulation n°1893/2006 published in the Official Journal of the European Union on 30 December 2006. NACE has 615 categories each with a 4 digit code. NAF rev. 2 is the French classification of economic activities and corresponds directly to NACE ref. 2. NAF has 732 subcategories. NAF codes are made up of the NACE digits plus a country-specific letter.

Natural capital
Environmental accounting aimed at high sustainability is based on the principle of keeping natural capital and its elements apart on the grounds that, at least in terms of what is referred to as critical natural capital (CNC), which assures the vital functions of humanity and, more broadly, of biodiversity, this type of capital cannot be substituted by financial capital (non-substitutability assumption).

Operational boundaries
Operational boundaries may be defined as the list of emissions categories chosen for the calculation as deemed to be relevant.

Organisational boundaries
Organisational boundaries can take two forms:
- The 'control' approach involves the reporting organisation counting emissions from the sites over which it has financial or operational control.
- The equity share approach involves counting the emissions from sites in proportion to equity share.

Ppm
Parts per million. Measure of the concentration of GHG emissions. Ratio of the number of gas molecules out of the total number of molecules in dry air.

Primary data
Data observed, taken from information systems and physical samples belonging to or used by the administration or company (or a company in its supply chain).
E.g. actual fossil fuel consumption.

Quick win
This term general refers to actions that can be achieved quickly and easily. They generally require little or no financial investment.

Secondary data

Generic or averaged data from published sources which are representative of the activities of a company or its products or the public administration and the area it covers.

E.g: Average national energy consumptions for a city-based petrol powered car.

Sectoral approach

An approach involving the production of a sectoral guide which sets out the principles for producing a greenhouse gas emissions report for the organisations within a given sector or branch. There is a particular emphasis on defining sources, types of gas, the necessary data and calculation processes for each significant issuing category and/or each category with relevance for the sector in question, in order to optimise GHG emissions reporting. A sectoral guide is drafted with the aim of improving the quality of GHG emissions reporting within the sector, in accordance with the following principles: Relevance, completeness, consistency, accuracy and transparency (ISO 14064-1, GHG Protocol).

Stock picking

A market strategy involving trying to find within a market the shares that will offer the best returns. Stock picking is based on a strategic and financial analysis of companies.

Temporal boundaries

Boundaries that may vary through time according to the changes in the country's boundaries: acquisitions, disposals, mergers etc.

Top-down

Type of methodological approach used to quantify financed GHG emissions. A macro-economic approach which involves attributing global GHG emissions to sources of finance based on their market share by economic sector and geographical zone. Under such an approach an order of magnitude calculation of global financed emissions is produced and emissions are mapped by sector and geographical zone.

Uncertainty

Uncertainty is a parameter, associated with the result of measurement that characterises the range of the values that could be reasonably attributed to the measured quantity. Uncertainty information generally specifies the quantitative estimates or probable range of values and a qualitative description of the possible causes of the range. Uncertainty can usually be differentiated from emissions factors on the one hand and the accuracy/quality of data on the other.

Annex 3: Bibliography

General standards, methods and frameworks for quantifying the greenhouse gas emissions of organisations
- ISO 14064-1, ISO 14069
- The method for GHG emissions reporting, in accordance with article 75 of French law n°2010-788 of 12 July 2010.
- Bilan Carbone®
- GHG Protocol : A Corporate accounting and reporting standard
- GHG Protocol : Corporate Value Chain (Scope 3) accounting and reporting standard
- European Committee for Standardization (CEN) Calculating GHGs in high energy intensity industries.
- Other sectoral guides (institutional or private), Sectoral guide for the level above For example, « Guidance for Measuring & reporting GHG emissions in the Chemical Sector, WBCSD» utilisé comme document de référence pour un sous-secteur de la chimie)

On the issue of uncertainty, the European Commission's environmental footprint method is interesting:
http://ec.europa.eu/environment/eussd/pdf/footprint/OEF%20Guide_final_July%202012_clean%20version.pdf
(from page 45)

'Issue'-based perspective
- Reports by the Finance and Sustainable Development Chair of the Université Paris Dauphine are available here: http://events.chairefdd.org/
- Rose, A. (2014), La comptabilité des émissions de GES par enjeu: un outil d'analyse des impacts du changement climatique sur les activités d'une BFI, doctoral thesis in economic science, Université Paris-Dauphine, presented on 17/09/2014.
- Rose, A., Cochard, E. et Courcier, J. (2013). De la RSE au risque, Pour une approche catabolique de l'empreinte carbone induite des établissements financiers. Analyse financière n°46, January-March 2013, p10-11.

'Scope'-based perspective
- Report: Les émissions de CO2 du circuit économique en France, Fabrice Langlart, Christophe Lesieur, Jean-Louis Pasquier, L'économie Française, Edition 2010.
- Etudes & documents n°27: CO2 et activités économiques de la France, Tendances 1990-2007 et facteurs d'évolution, SOeS CGDD, Août 2010.
- Manual for Air Emissions Accounts Eurostat Office for Official Publications of the European Communities, Luxembourg, 2009.
- Connaissances approfondies de 10 secteurs d'activité prioritaires, ADEME, 2013 .

Product Category rules, type 1 environmental labelling rules according to ISO 14024 (e.g. European eco-label)

Public life-cycle analysis, preferably with critical review and published in academic journals with peer review.

ADeMe guides
- 'Lignes directrices pour le développement d'un guide sectoriel bilan d'émission de gaz à effet de serre' – September
- 2014
- Guide pour la mise en place, la construction, et le suivi des plans d'actions de réduction des émissions de GES, December 2014
- Quantifier l'impact GES d'une action de réduction des émissions, ADEME, 2014
- Réalisation d'un bilan d'émission de Gaz à effet de Serre, Secteur tertiaire non marchand, 2012

Other materials
- IPCC reports, particularly AR5 synthesis report published on 31/10/2014
- Stern reports: The Stern Review on the Economics of Climate Change, 30 October 2006 and The New Climate Economy Report, October 2014.

About ADEME

ADEME, the French Environment and Energy Management Agency, is involved in the implementation of public policies in the fields of the environment, energy and sustainable development. It offers its expertise and advice to businesses, local government, public administrations and the general public. It also helps them to finance projects and conduct research in the following fields: waste management, soil conservation, energy savings and renewable energies, air quality and noise control. ADEME is a public agency under the joint authority of the Ministry for Ecology, Sustainable Development and Energy and the Ministry for Higher Education and Research.

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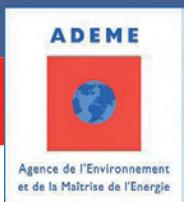
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