Climate Action
Accelerator

CARBON FOOTPRINTING TOOLKIT

Presentation webinar

11/12/2025 – 1:00 PM

Practical informations

PROGRAMME

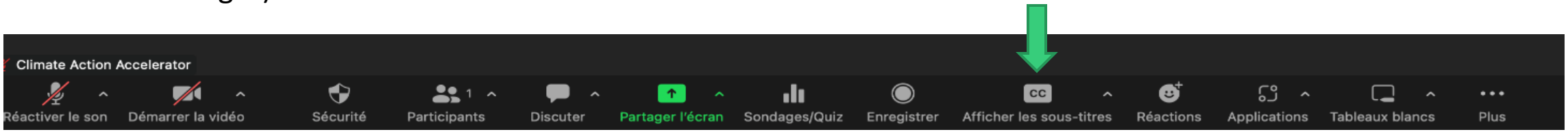
13:00 | Context and background
13:10 | **Objectives and approach of the toolkit**
13:15 | The four stages of a footprint
13:35 | **Knowledge Database**
13:40 | Technical focus and tools
14:00 | Conclusion
14:10 | Questions and answers

- This webinar is **recorded** and will be made available on **replay** on our website and YouTube channel.
- **Your audio and video is off by default.**
- To ask a question, please **write in the Q&A** section. The moderator will read out questions during the Q&A sessions.
- **Translation** to French is available via Zoom.

Translation

How to activate subtitles on Zoom ?

1) Click on « Show captions» or « Afficher les sous-titres » in the bottom bar (small arrow to the right).



2) Select the spoken language and the language you want to translate into.

Who we are

The **Climate Action Accelerator** is a non-profit initiative based in Geneva that aims to mobilise a critical mass of high-social trust organisations around the world to scale up implementation of climate solutions within planetary boundaries, keep global warming well below 2°C and avoid the risk of dangerous drift.

The goal is to help move the aid, health and higher education sectors towards greater resilience and a radical transformation of their practices, pursuing emission reduction targets (-50% by 2030) and a 'net zero' trajectory, in line with the Paris Agreement.

AID

HEALTH

HIGHER EDUCATION & RESEARCH

Our pillars

EMPOWER

Empower organisations to at least halve their emissions by 2030 and prepare for greater resilience through a hub of expertise and resources.

CHAMPION

Transform them into ambassadors of change within their networks, capable of influencing their peers.

COMMUNITY

Build a global community of action, sharing climate solutions as a universal common good, to scale up their deployment.

Partners on board

Today’s speakers

Quentin Roques

Junior Programme and Metrics Support Officer at the Accelerator

Paolo Sévègnes

Carbon Metrics Officer at the Accelerator

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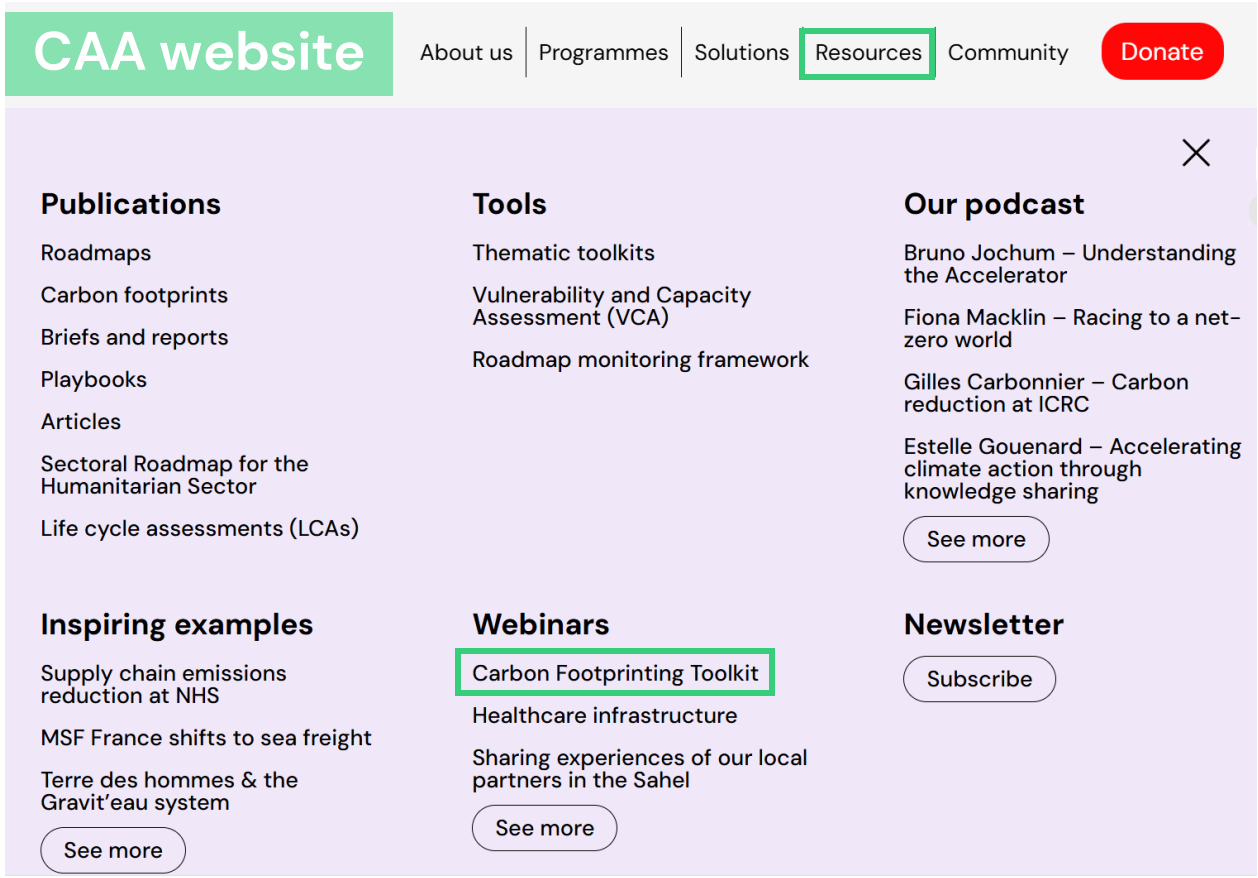
PRESENTATION OF THE TOOLKIT

HOW TO FIND IT?



The toolkit is divided into different parts, as follows:

PRESENTATION OF THE TOOLKIT

WHAT ARE ITS STRATEGIC PHASES?

Our **four years of experience** in carbon footprinting have enabled us to develop this tool and strengthen our methodology.

The toolkit is part of this dynamic as a tool for dissemination and sharing.

Laboratory

Operationalise science-based climate pathways and bridge the knowledge gap

Multiplier

Scale up the number of organisations capable of deploying climate smart pathways

Sectoral amplification

Amplify change towards reaching sectoral tipping points

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Objectives

APPROACH OF THE TOOLKIT

WHAT IS ITS PURPOSE?

WHAT?

Practical tool to help organisations **calculate their carbon footprint**. It compiles the **necessary methods and resources** to follow a structured approach.

WHO?

Non-specialists within organisations.

HOW?

Defining the **calculation scope**, collecting **relevant data**, producing the **carbon footprint report.**

Chronological approach.

Objectives

CARBON FOOTPRINT ASSESSMENT

WHY DOES IT MATTER?

It measures the total greenhouse gas (GHG) emissions linked to an organisation or product, expressed in CO_2e.

It shows the contribution of the assessed activity to global warming.

It follows established standards, norms, and sometimes legal regulations.

It is not an end goal but a tool to understand the emissions and their sources.

Results are estimates, based on available data and averages (e.g. CO_2 per litre of fuel).

There is uncertainty in these calculations, and they need to be interpreted as informed approximations.

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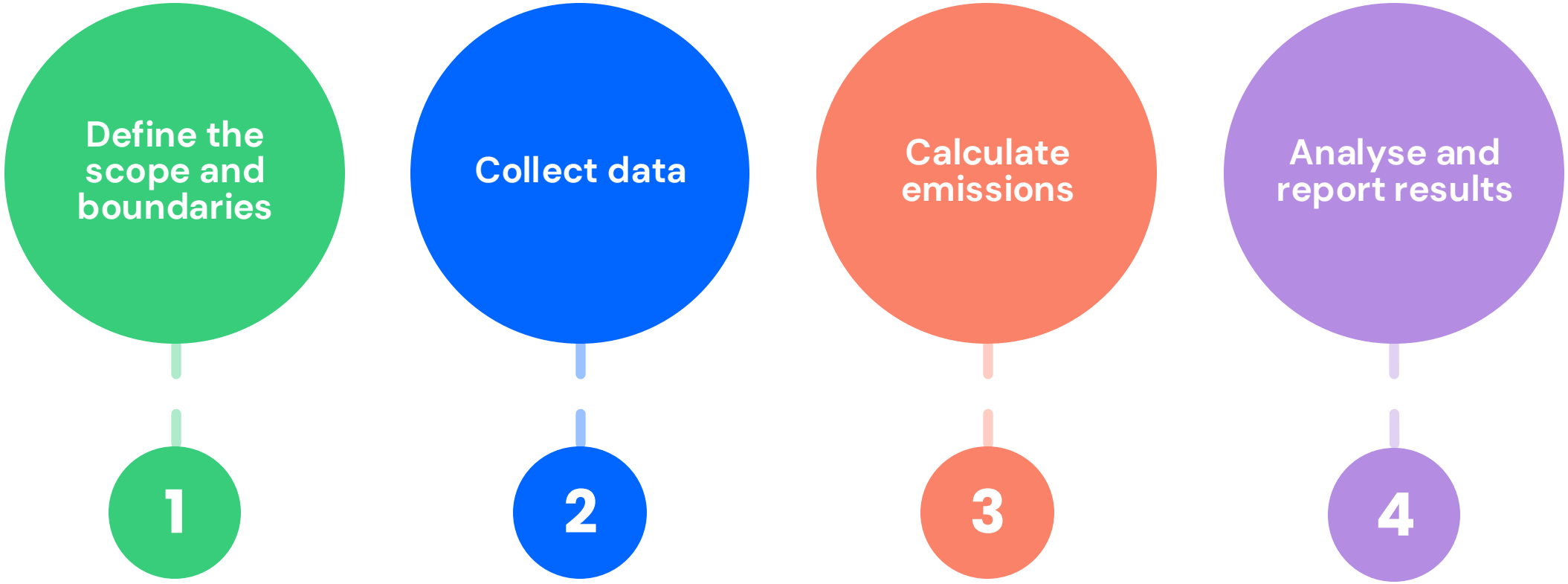
THE FOUR METHODOLOGICAL STAGES

WHAT IS THE PROCESS OF A CARBON FOOTPRINT?



The 4 stages of a footprint

THE FOUR METHODOLOGICAL STAGES

WHAT IS THE PROCESS OF A CARBON FOOTPRINT?

Define the scope and boundaries

1

AIM

Outline the process of defining the carbon footprint (GHG) measurement scope to **ensure clarity on what will be measured**, identify key emission sources and boundaries.

ACTIONS

1. Define organisational boundaries
2. Define operational boundaries
3. Engage relevant internal department

OUTPUTS

- A document outlining existing initiatives per solution area.
- **A value chain map of activities**
- A contact list with key people owning data

DURATION

2 weeks – 1 month

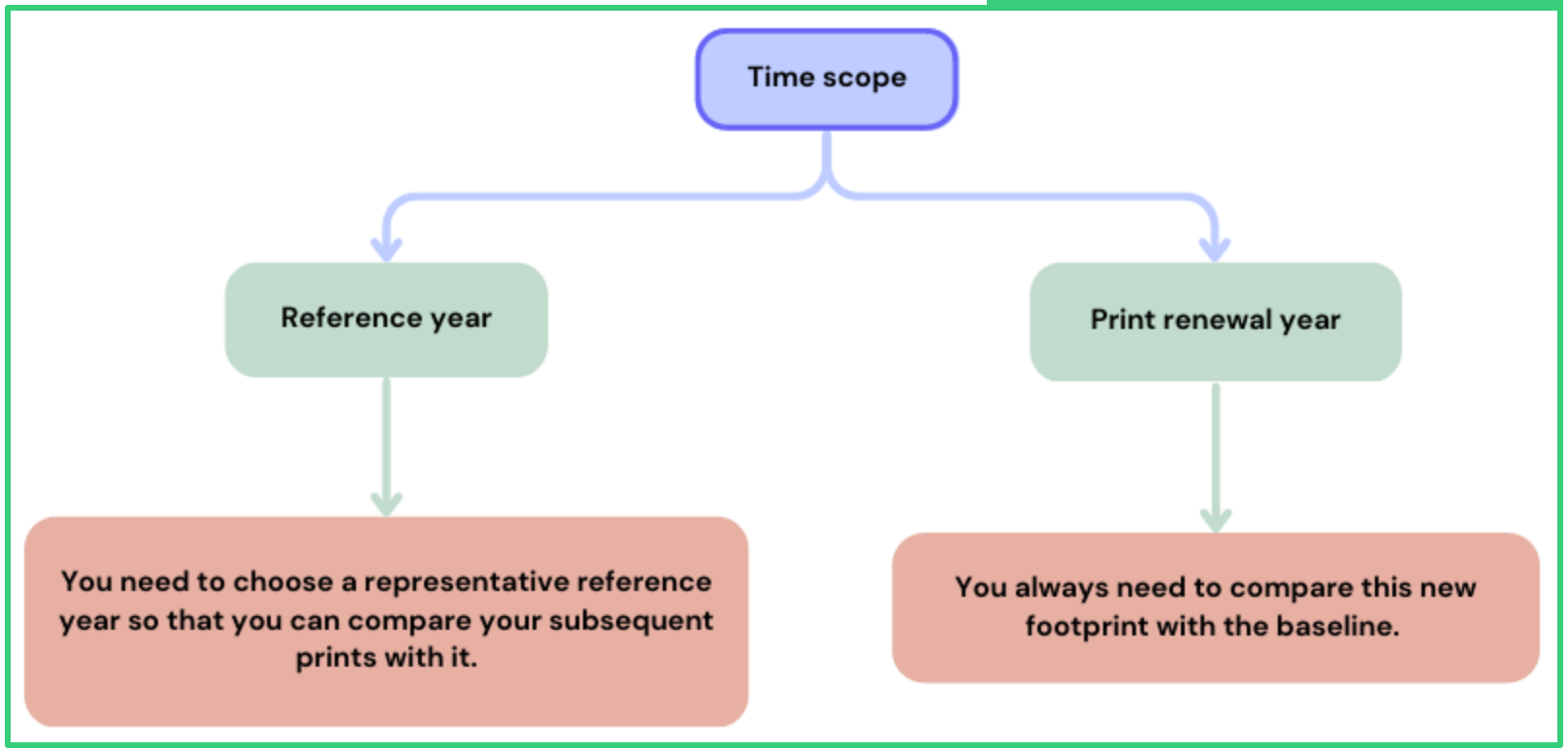
THE FOUR METHODOLOGICAL STAGES

WHAT IS THE PROCESS OF A CARBON FOOTPRINT?

Define the scope and boundaries

1

Perimeter decision tree



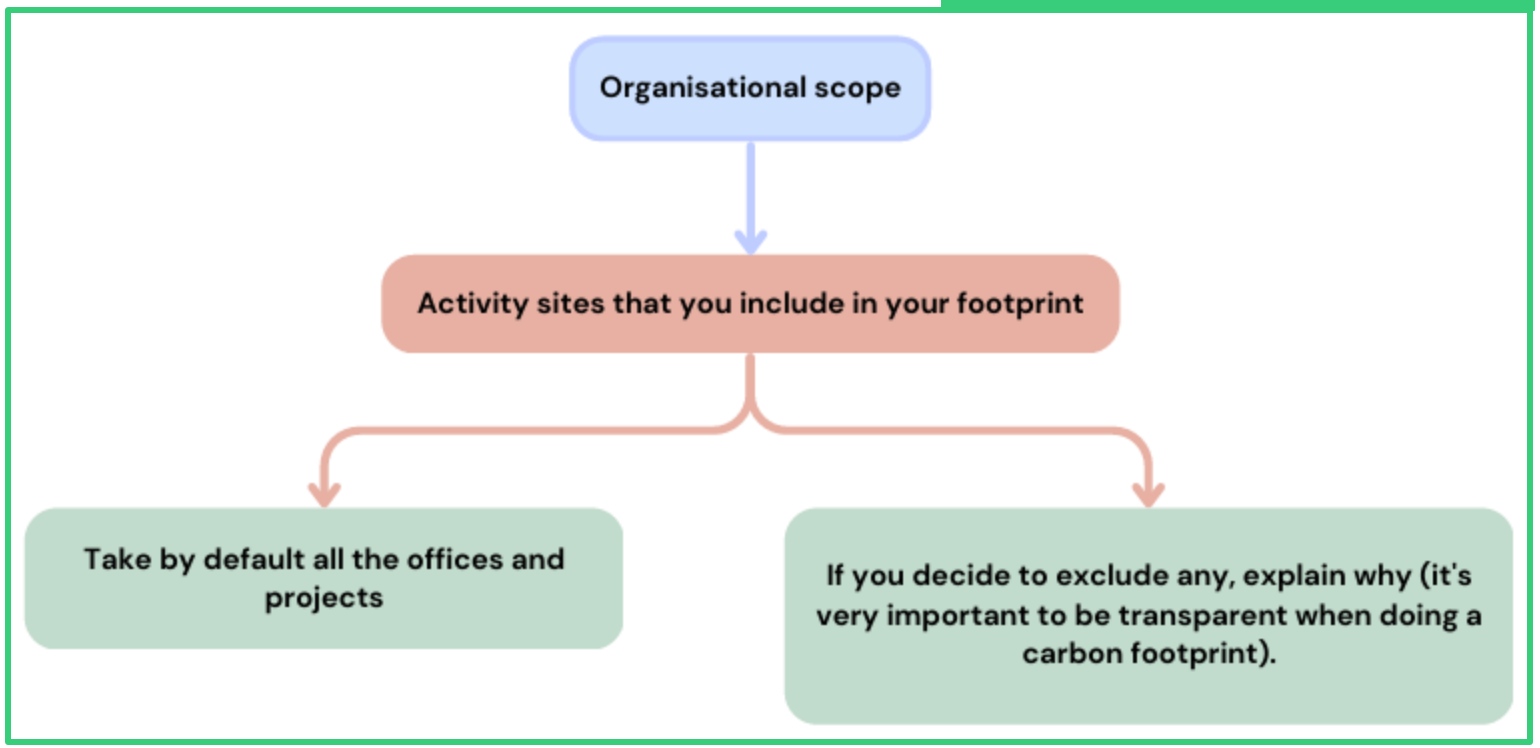
THE FOUR METHODOLOGICAL STAGES

WHAT IS THE PROCESS OF A CARBON FOOTPRINT?

Define the scope and boundaries

1

Perimeter decision tree

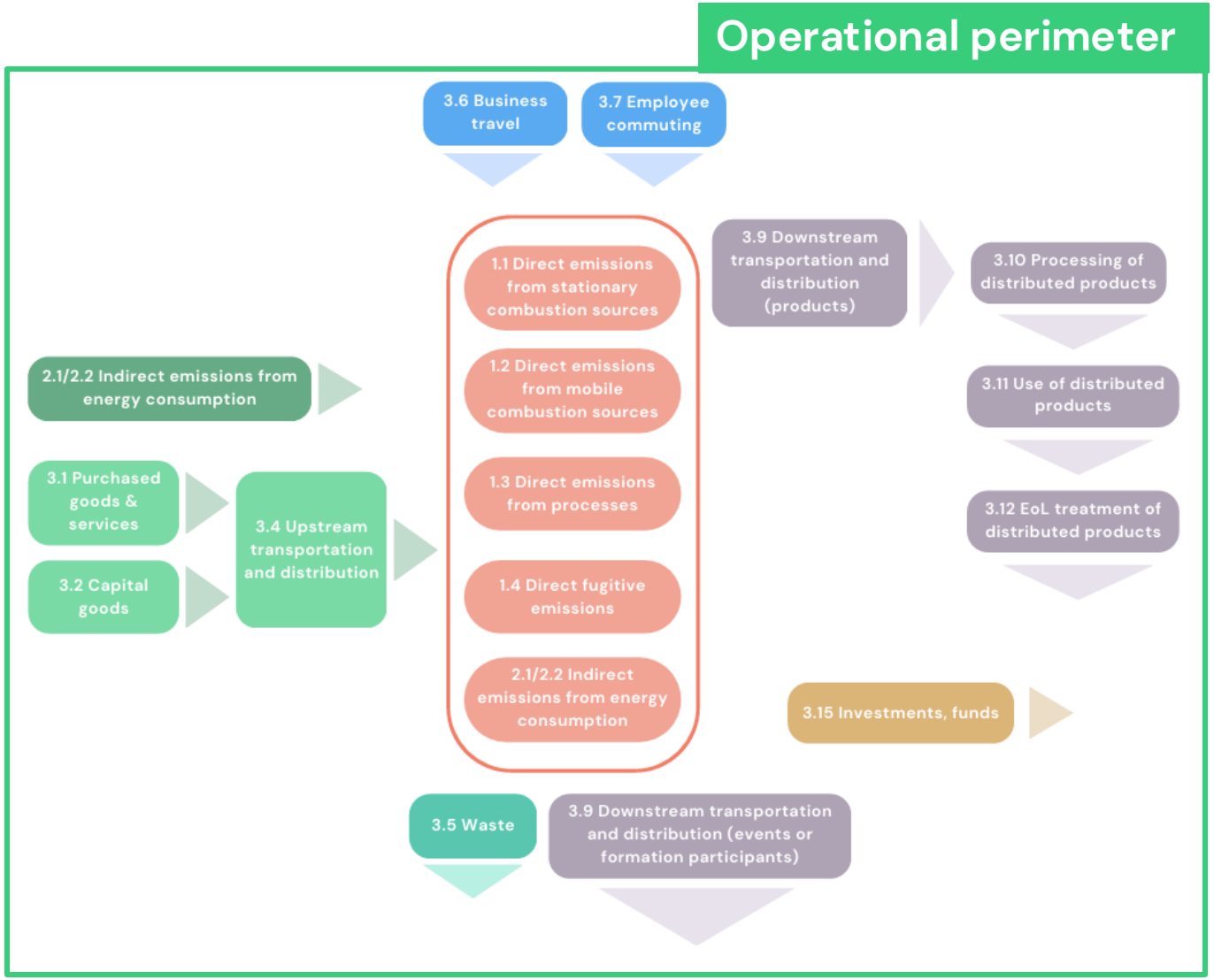


THE FOUR METHODOLOGICAL STAGES

WHAT IS THE PROCESS OF A CARBON FOOTPRINT?

Define the scope and boundaries

1



THE FOUR METHODOLOGICAL STAGES

WHAT IS THE PROCESS OF A CARBON FOOTPRINT?

Collect data

2

AIM

Ensure comprehensive and accurate data collection for GHG emissions measurement, covering all relevant sources within the defined boundaries defined previously.

ACTIONS

1. Identify data requirements
2. Develop data collection framework
3. Collect, validate and verify data

OUTPUTS

- A comprehensive list of data requirements for GHG measurement.
- Templates and tools for data collection.
- A centralized database.

DURATION

2-4 months

THE FOUR METHODOLOGICAL STAGES

WHAT IS THE PROCESS OF A CARBON FOOTPRINT?

Collect data

2

ANNEX 2
GHG CALCULATION SHEETS

The toolkit offers calculation sheets to help select the best data for the category.

Annex 2 is organised by scopes and provides a detailed definition for each category, as well as **data quality notation**.

This notation is common to all categories. It will be further standardised to match the notation of the methodological guidelines.

For example, for fugitive emissions (scope 1), the data is classified into 4 groups of data quality.

1.4 Direct fugitive emissions

Definition: Scope 1 direct fugitive emissions refer to GHG emissions that escape **unintentionally or uncontrollably from containment systems owned or operated by the organisation**. They mainly include refrigerant leaks from **air conditioning and refrigeration systems**, emissions from the maintenance, repair or decommissioning of such equipment, and certain medical gases.

Data sources to be used

★★★★★ : Record of gas leaks by equipment (use and end-of-life)
★★★★☆ : Measurement of gas volumes in equipment
★★☆☆☆ : Equipment power readings
★☆☆☆☆ : Number of refrigeration units

THE FOUR METHODOLOGICAL STAGES

WHAT IS THE PROCESS OF A CARBON FOOTPRINT?

Calculate emissions

3

AIM

Accurately calculate the organisation's GHG emissions footprint using collected data and standardised methodologies.

ACTIONS

1. Organise data processing.
2. Emission factor (EF) selection.
3. Compute emissions.

OUTPUTS

- Excel file with all values matched with EF and calculated CO_2 emissions.
- Documented list of selected EF with sources and assumptions

DURATION

2 weeks – 2 months

THE FOUR METHODOLOGICAL STAGES

WHAT IS THE PROCESS OF A CARBON FOOTPRINT?

Calculate emissions

3

ANNEX 2
GHG CALCULATION SHEETS

The toolkit offers calculation sheets to help select the best data for the category.

Annex 2 is organised by scopes and provides detailed data processing methods depending on the data quality.

For example, for fugitive emissions (scope 1), the data is classified into 4 groups of data quality, and so are the methods.

1.4 Direct fugitive emissions

Data processing

	Case n°1	Case n°2	Case n°3	Case n°4
Description	Leaks are available	The volumes contained are available	Devices electrical powers are available	Number of devices available
Process	1. Separate fugitive gases by type 2. Use the emission factor associated with each gas (kgCO2e/kg)	1. Separate fugitive gases by type 2. Establish average leakage scenarios during use and at end-of-life, depending on the volumes contained in the equipment. 3. See ***Case n°1***	1. Extrapolate electrical power into the volume of gas theoretically contained, depending on the type of equipment. 2. See ***Case n°2***	1. Extrapolate possible devices power ratings 2. See ***Case 3***
Data and calculation uncertainty	★★★★★	★★★★☆	★★☆☆☆	★☆☆☆☆

THE FOUR METHODOLOGICAL STAGES

WHAT IS THE PROCESS OF A CARBON FOOTPRINT?

Then the method below is applied to compute carbon emissions for each activity.

The choice of emission factor is also explained in the toolkit (Annex 2).

Calculate emissions

3

GHG emission calculation

Data on activity	x	Emission factor	=	GHG Emissions	x	Uncertainty (+ / -)
500 km		0,36kg CO2e/km		180 kg of CO2e		

1.4 Direct fugitive emissions

Annexes

Emission factors				Useful data	
Name	Source	Value	Unit	Name	Value
R32	ADEME	677	kgCO2e/kg	Air/Air conditioning gas load	0,25 kg gaz/kWh fridge
R410A	ADEME	1929	kgCO2e/kg	Air/Water cooling gas load	0,3 kg gaz/kWh fridge
R600A	ADEME	3,3	kgCO2e/kg	COP Clim	3 (dimensionless)
					150 W/m²

This part can be time consuming, but tools exist to make it easier, such as the **Humanitarian Carbon Calculator (HCC+).**

The HCC+ is an Excel-based application that is open-access and based on the globally recognized GHG Protocol.

ANNEX 2
GHG CALCULATION SHEETS

THE FOUR METHODOLOGICAL STAGES

WHAT IS THE PROCESS OF A CARBON FOOTPRINT?

Analyse and report results

4

AIM

Effectively report the calculated GHG emissions footprint, interpret the results, and document the methodologies used to ensure transparency and facilitate future assessments.

ACTIONS

1. Methodological documentation.
2. Carbon footprint reporting.
3. Define a review policy.

OUTPUTS

- A finalised GHG emissions report.
- A detailed methodological documentation.
- A documented review policy for revising GHG measurements based on new data or identified errors

DURATION

2 weeks – 2 months

THE FOUR METHODOLOGICAL STAGES

WHAT IS THE PROCESS OF A CARBON FOOTPRINT?

Analyse and report results

4

The toolkit provides templates to write a complete report, with clear explanations and calculations.

Here is the advised report structure.

Example – Report 01 – Travels

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Knowledge database

THE KNOWLEDGE DATABASE

WHAT DOES THE TOOLKIT CENTRALISE?

- It contains links to the **documents and tools** mentioned in the toolkit and any other resources that complement it.

- Some documents are produced by The Climate Action Accelerator (CAA) and some by other humanitarian or carbon actors.

- All are **publicly available**.

The toolkit centralises all the resources necessary to the carbon footprinting

Knowledge database

THE KNOWLEDGE DATABASE

WHAT DOES THE ANNEX 1 OF THE TOOLKIT CONTAIN?

E-LEARNING PROGRAM

GHG Protocol e-learning program

Institut de Formation Carbone (IFC)

Carbon Action

...

ISO 14064-1:2018 Greenhouse Gas and Measuring Carbon Footprint

ISO 14064-2:2019 Greenhouse Gas Projects & Reducing Environmental Impacts

ISO 1464-3:2019 Validation and Verification of GHG Inventories and GHG Projects

BILAN® CARBONE 2025

Bilan Carbone® - Maîtrise de la méthode en salle

Parcours de la formation Bilan Carbone® Maîtrise avec session en salle.

Cette offre de formation est éligible à MON COMPTE FORMATION

Piloter la stratégie climat d'une organisation en mobilisant la méthode Bilan Carbone®

Parcours de formation à la méthode Bilan Carbone® dans le cadre du CPF 2025

E-Learning Opportunities

The Greenhouse Gas Protocol offers a variety of online learning opportunities aimed at helping both seasoned professionals and newcomers gain a strong understanding of the world's most widely used GHG accounting standards and guidance.

GHG Protocol online courses are in an e-learning format and do not have any live instructors. E-learning offers multiple benefits, including flexibility, accessibility and self-paced learning. Learners will have 365 days from the day they enroll to finish the course.

Please review the available GHG Protocol courses to determine which offering best meets your needs.

For any GHG Protocol e-learning inquiries, contact GHG Protocol e-Learning team.

Knowledge database

THE KNOWLEDGE DATABASE

WHAT DOES THE ANNEX 1 OF THE TOOLKIT CONTAIN?

STANDARDS & PROTOCOLS

GHG Protocol

International standard ISO 14064

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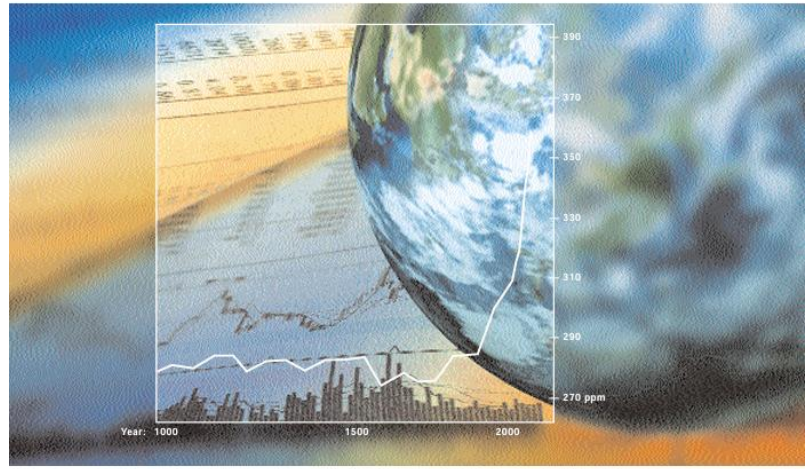
The Greenhouse Gas Protocol



A Corporate Accounting and Reporting Standard

ISO Search

Read sample

ISO 14064-1:2018

Greenhouse gases

Part 1: Specification with guidance at the organization level for quantification and reporting of greenhouse gas emissions and removals

Méthode
pour la réalisation des bilans d'émissions de gaz à effet de serre

conformément à l'article L. 229-25
du code de l'environnement

MINISTÈRE DE LA TRANSITION ÉCOLOGIQUE
Liberté
Égalité
Fraternité

www.ecologie.gouv.fr

ADEME
AGENCE DE LA TRANSITION ÉCOLOGIQUE

Knowledge database

THE KNOWLEDGE DATABASE

WHAT DOES THE ANNEX 1 OF THE TOOLKIT CONTAIN?

EMISSION FACTORS

Base Empreinte (ADEME)

DEFRA (UK, 2024)

...

BASE Empreinte®

ASSISTANCE PUBLIQUE HÔPITAUX DE PARIS

BASE DE DONNEES CALCULS EMPREINTE CARBONE AP-HP : Médicaments

DATE : 28/04/2025

Libellé médicament	kgCO2e/unité	Source	Incertitude	Quantité	Unité	Forme galénique	Référen
Adcetris 50 mg - poudre injection flacon - 3400958397189	0,46	APHP	31%	50	mg	Flacon	10390
Ambisome 50 mg - poudre pour dispersion pour injection fv 15 ml - 3400956240821	0,19	APHP	46%	15	ml	Flacon	10090
Amoxicilline / acide clavulanique SDZ 2g / 200 mg - poudre pour solution injectable - 3400937764684	1,15	APHP	52%	2	mg	Flacon	10240
Aranesp 300 mg / 0,6 ml - solution injection seringue secur - 3400939593586	2,42	APHP	91%	0,6	ml	Seringue	10384

Example of calculating emissions from air travel

Company L reports its emissions from flights over the course of a year. To do so it requests a report from its dedicated travel agent, which reports the distances travelled for domestic, short-haul and lc class).

A subsidiary of company L does not use the same travel agent. Instead, it uses its expenses system to note the flight type, distance and class of travel each time an employee flies.

The company then multiplies the distance (km) travelled in each class for each category of journey by the appropriate conversion factor. Company L uses the factor set that includes indirect effects of n class is unknown, the company uses the 'average passenger' factor.

				With RF				
Activity	Haul	Class	Unit	kg CO_2e	kg CO_2e of CO_2 per unit	kg CO_2e of CH_4 per unit	kg CO_2e of N_2O per unit	kg CO_2e
Flights	Domestic, to/from UK	Average passenger	passenger.km	0,27257	0,27101	0,00022	0,00134	0,16098
	Short-haul, to/from UK	Average passenger	passenger.km	0,18592	0,18499	0,00001	0,00092	0,10974
		Economy class	passenger.km	0,18287	0,18196	0,00001	0,00090	0,10794
		Business class	passenger.km	0,27430	0,27294	0,00001	0,00135	0,16191
	Long-haul, to/from UK	Average passenger	passenger.km	0,26128	0,25998	0,00001	0,00129	0,15423
		Economy class	passenger.km	0,20011	0,19911	0,00001	0,00099	0,11812
		Premium economy class	passenger.km	0,32015	0,31857	0,00001	0,00157	0,18897
		Business class	passenger.km	0,58028	0,57741	0,00002	0,00285	0,34252
		First class	passenger.km	0,80040	0,79643	0,00003	0,00394	0,47246
	International, to/from non-UK	Average passenger	passenger.km	0,17580	0,17493	0,00001	0,00086	0,10377
		Economy class	passenger.km	0,13465	0,13397	0,00001	0,00067	0,07948
		Premium economy class	passenger.km	0,21542	0,21435	0,00001	0,00106	0,12716
		Business class	passenger.km	0,39044	0,38850	0,00002	0,00192	0,23047
		First class	passenger.km	0,53854	0,53587	0,00002	0,00265	0,31789

Water supply | Water treatment | Material use | Waste disposal | Business travel- a

Datavizta Accueil Impact des serveurs Impact du Cloud Impacts des terminaux

Impact multicritère des terminaux

Configuration du terminal

Catégorie: Terminaux

Type: laptop

Modèle: laptop-pro

Impact multicritères sur la durée de vie t

Total Annuel

Potentiel de gaz à effet de serre (kgCO2eq) - Total : 488.5

Évalue l'effet sur le réchauffement de la planète

Utilisation : 307.5 Fabrication : 181.0 (Generic data used for impact calculation.)

Epuisement des ressources abiotiques - minérales et métalliq

Total : 0.008658

Évalue le potentiel d'épuisement des ressources minérales et métalliques

Utilisation : 0.000058 Fabrication : 0.008600 (Generic data used for impact calcula

There is a lot of different websites and tools available, and the toolkit helps choosing the best fit.

EF databases for specific sectors

AGRIBALYSE® (Food and agriculture)
- **What?** AGRIBALYSE® provides emission fa 200 raw agricultural products through a c Assessment (LCA) methodology. The data but can be use with a translator.
- **Why?** These emission factors can be used distribution.

Boavitza (IT equipment)
- **What?** This database provides an underst of servers, cloud instances and user terms
- **Why?** These emission factors can be used equipment in detail (depending on the mo

EMBER (Energy)
- **What?** This tool provides the annual inten
- **Why?** These emission factors can be used the organisation (GHG emissions from the consumed by the organisation).

Hotel footprints tool (Hotel and meeting)
- **What?** This tool provides the carbon foot anywhere in the world, using real data sup benchmarking index Cornell Hotel Sustain 2024
- **Why?** These emission factors can be used hotels stays (for business travels or partic

INIES (Building and material)
- **What?** This (French) database provides th material.
- **Why?** These emission factors can be used organisation's own office space and buildi

Carebone® EF (Drugs, medical devices)
- **What?** This (French) database from APHP various medicines and medical devices. It
- **Why?** These emission factors can be used medical supplies.

Healthcare LCA (Drugs, medical devices)
- **What?** This database in the form of a repo various medicines and medical devices.
- **Why?** These emission factors can be used medical items.

Knowledge database

THE KNOWLEDGE DATABASE

WHAT DOES THE ANNEX 1 OF THE TOOLKIT CONTAIN?

TOOLS

Humanitarian Carbon Calculator HCC

Data Collection survey templates (CAA)

Flight footprint calculator (CAA)

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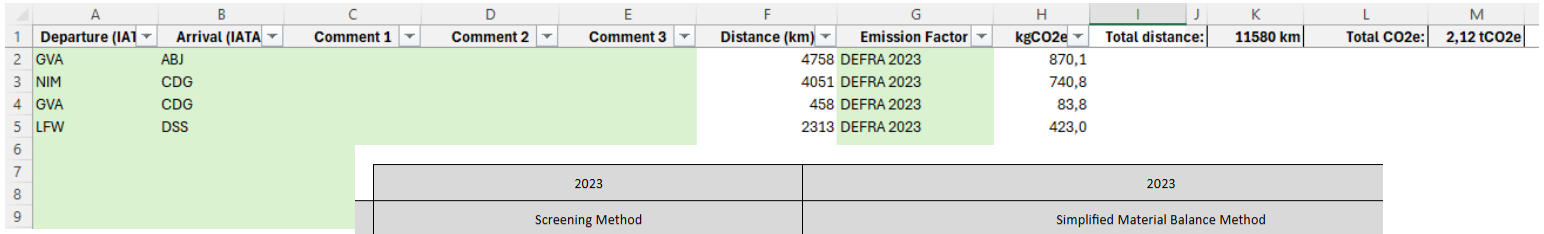
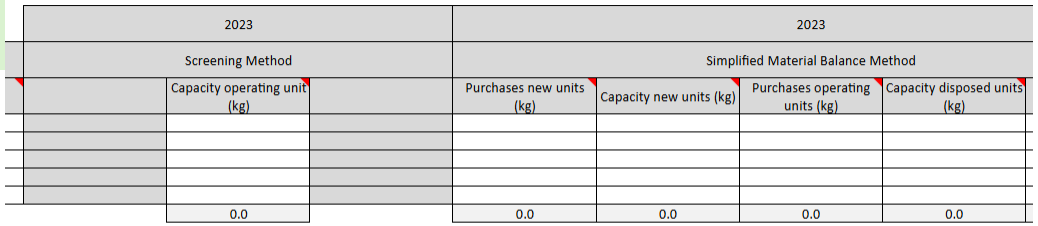
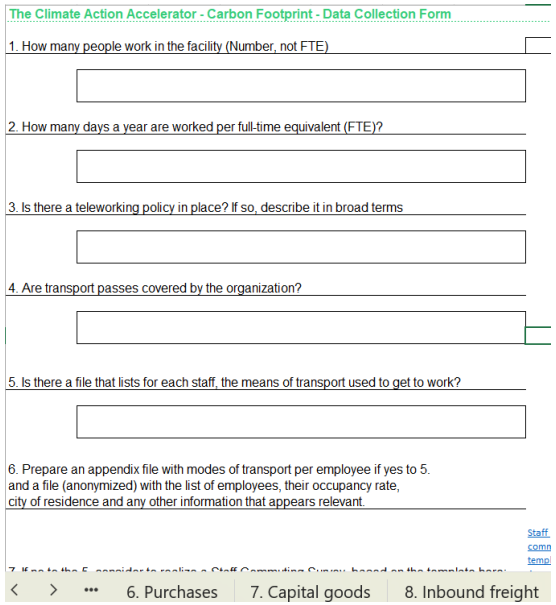


	A	B	C	D	E	F	G	H	I	J	K	L	M
1	Departure (IAT	Arrival (IATA	Comment 1	Comment 2	Comment 3	Distance (km)	Emission Factor	kgCO2e	Total distance:		11580 km	Total CO2e:	2,12 tCO2e
2	GVA	ABJ				4758	DEFRA 2023	870,1					
3	NIM	CDG				4051	DEFRA 2023	740,8					
4	GVA	CDG				458	DEFRA 2023	83,8					
5	LFW	DSS				2313	DEFRA 2023	423,0					
6													
7													
8													
9													



	2023			2023			
	Screening Method			Simplified Material Balance Method			
		Capacity operating unit (kg)		Purchases new units (kg)	Capacity new units (kg)	Purchases operating units (kg)	Capacity disposed units (kg)
		0.0		0.0	0.0	0.0	0.0

Purchased electricity | Fugitive emissions | Material supply | Waste and water | Business travel | Employe



The Climate Action Accelerator - Carbon Footprint - Data Collection Form

1. How many people work in the facility (Number, not FTE)

2. How many days a year are worked per full-time equivalent (FTE)?

3. Is there a teleworking policy in place? If so, describe it in broad terms

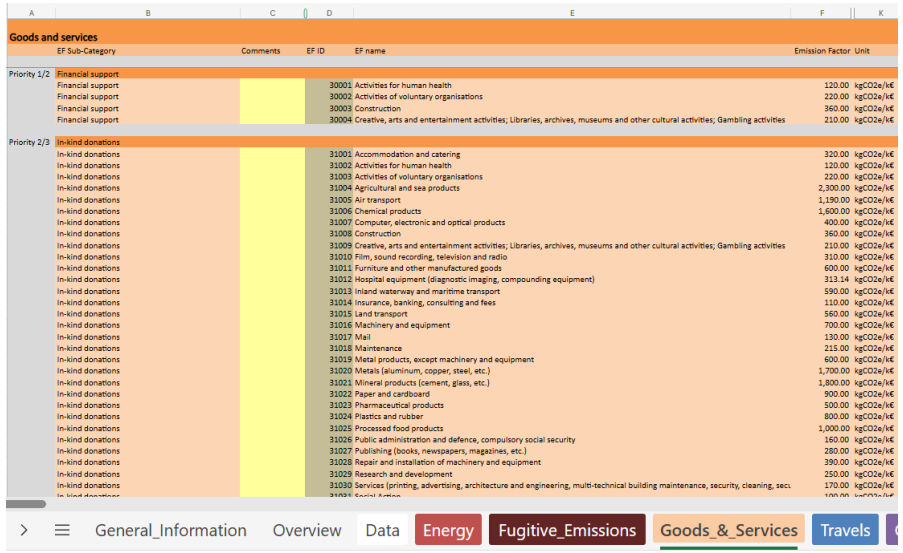
4. Are transport passes covered by the organization?

5. Is there a file that lists for each staff, the means of transport used to get to work?

6. Prepare an appendix file with modes of transport per employee if yes to 5. and a file (anonymized) with the list of employees, their occupancy rate, city of residence and any other information that appears relevant.

Staff comm templ

6. Purchases | 7. Capital goods | 8. Inbound freight



Goods and services

	EF Sub-Category	Comments	EF ID	EF name	Emission Factor	Unit
Priority 1/2	Financial support					
	Financial support		30001	Activities for human health	120.00	kgCO2e/k€
	Financial support		30002	Activities of voluntary organisations	220.00	kgCO2e/k€
	Financial support		30003	Construction	360.00	kgCO2e/k€
	Financial support		30004	Creative, arts and entertainment activities; Libraries, archives, museums and other cultural activities; Gambling activities	210.00	kgCO2e/k€
Priority 2/3	In-kind donations					
	In-kind donations		31001	Accommodation and catering	320.00	kgCO2e/k€
	In-kind donations		31002	Activities for human health	120.00	kgCO2e/k€
	In-kind donations		31003	Activities of voluntary organisations	220.00	kgCO2e/k€
	In-kind donations		31004	Agricultural and sea products	2,300.00	kgCO2e/k€
	In-kind donations		31005	Air transport	1,190.00	kgCO2e/k€
	In-kind donations		31006	Chemical products	1,600.00	kgCO2e/k€
	In-kind donations		31007	Computer, electronic and optical products	400.00	kgCO2e/k€
	In-kind donations		31008	Construction	360.00	kgCO2e/k€
	In-kind donations		31009	Creative, arts and entertainment activities; Libraries, archives, museums and other cultural activities; Gambling activities	210.00	kgCO2e/k€
	In-kind donations		31010	Film, sound recording, television and radio	310.00	kgCO2e/k€
	In-kind donations		31011	Furniture and other manufactured goods	600.00	kgCO2e/k€
	In-kind donations		31012	Hospital equipment (diagnostic imaging, compounding equipment)	313.14	kgCO2e/k€
	In-kind donations		31013	Inland waterway and maritime transport	590.00	kgCO2e/k€
	In-kind donations		31014	Insurance, banking, consulting and fees	110.00	kgCO2e/k€
	In-kind donations		31015	Land transport	560.00	kgCO2e/k€
	In-kind donations		31016	Machinery and equipment	700.00	kgCO2e/k€
	In-kind donations		31017	Mail	130.00	kgCO2e/k€
	In-kind donations		31018	Maintenance	215.00	kgCO2e/k€
	In-kind donations		31019	Metal products, except machinery and equipment	600.00	kgCO2e/k€
	In-kind donations		31020	Metals (aluminum, copper, steel, etc.)	1,700.00	kgCO2e/k€
	In-kind donations		31021	Mineral products (cement, glass, etc.)	1,800.00	kgCO2e/k€
	In-kind donations		31022	Paper and cardboard	900.00	kgCO2e/k€
	In-kind donations		31023	Pharmaceutical products	500.00	kgCO2e/k€
	In-kind donations		31024	Plastics and rubber	800.00	kgCO2e/k€
	In-kind donations		31025	Processed food products	1,000.00	kgCO2e/k€
	In-kind donations		31026	Public administration and defence, compulsory social security	160.00	kgCO2e/k€
	In-kind donations		31027	Publishing (books, newspapers, magazines, etc.)	280.00	kgCO2e/k€
	In-kind donations		31028	Repair and installation of machinery and equipment	390.00	kgCO2e/k€
	In-kind donations		31029	Research and development	250.00	kgCO2e/k€
	In-kind donations		31030	Services (printing, advertising, architecture and engineering, multi-technical building maintenance, security, cleaning, secu	170.00	kgCO2e/k€

General_Information | Overview | Data | Energy | Fugitive_Emissions | Goods_&_Services | Travels

Knowledge database

THE KNOWLEDGE DATABASE

WHAT DOES THE ANNEX 1 OF THE TOOLKIT CONTAIN?

OTHER RESOURCES

HCC methodological guide

Carbon footprint computing tips (CAA)

...

Carbon footprint computing tips

[Note on uncertainty management (CAA)]
- **What?** This is a popularisation of the [IPCC methodological framework for computing the uncertainty], for associating the data and emission factors uncertainty in a carbon footprint.
- **Why?** This method can be followed for any carbon footprint.

[Note on currencies and inflation (CAA)]
- **What?** This note explains the process to adapt or convert financial emission factors, enabling users to remove bias when estimating emissions associated with expenditures.
- **Why?** Given that emission factors are not published annually and do not encompass all markets, it can be challenging – or even nearly impossible – to locate a financial emission factor that aligns with the correct currency and year.

Solutions to reduce carbon emissions

[Toolkits (Climate Action Accelerator)]
- **What?** The Climate Action Accelerator toolkits are designed to provide environmental coordinators and decision-makers with hands-on advice, often in the form of a step-by-step process, along with a suite of practical tools.
- **Various subject covered:**
  - Travel
  - Procurement
  - Solarisation
  - Fleet
  - Good office practices

Reporting

[What is a carbon footprint methodology? (CAA, 2024)]
- **What?** This is a presentation of the key steps to elaborate a carbon footprint.
- **Why?** This is a good medium to present the methodology that led to the carbon footprint result to management, steering committee, or to decision makers.

[What is a carbon baseline report? (CAA, 2024)]
- **What?** This is a walkthrough example of a baseline carbon footprint report. It contains the methodology, the results by scopes, the results by activity, a summary and recommendations.
- **Why?** This is a general medium to present the methodology and the requirement of an organisation's the carbon footprint report to management, steering committee, or to decision makers.

[Example of a Carbon Emissions Report (NRC, 2022)]
- **What?** This is an example of a carbon emissions report for an organisation in the humanitarian sector. Appendix A on page 16 details the methodology used for data collection and processing (data available, assumptions made, recommendations for improving data collection), the use of emission factors and the method of computing emissions.
- **Why?** It is a very good example of the methodology to be followed for the drafting of a carbon emissions report and the methodology for computing it.

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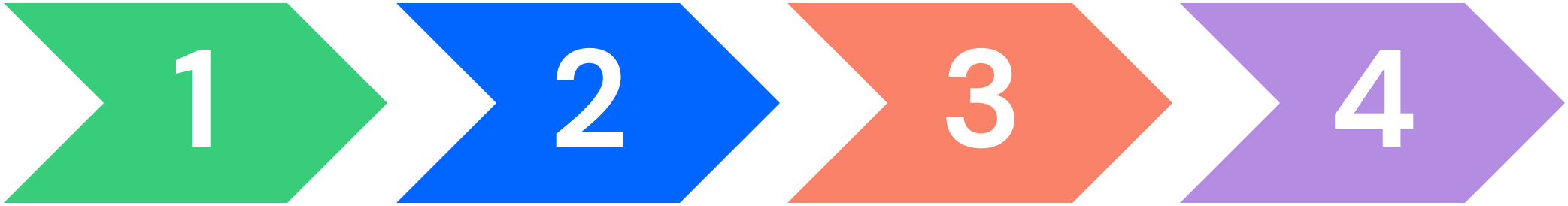
CASE STUDY #1

HOW TO CALCULATE THE GHG EMISSIONS FROM BUSINESS TRAVELS?

CASE STUDY

An NGO wants to calculate the GHG emissions of their business travels.



SET BOUNDARIES

Define the organisational, the operational and the temporal boundaries.

DATA COLLECTION

Identify data requirements,

Collect, validate and verify data.

FOOTPRINT CALCULATION

Organise data processing.

Select emission factors.

Compute emissions.

REPORTING

Write a methodological report.

Write a carbon footprint report.

Define a review policy.

CASE STUDY #1

HOW TO CALCULATE THE GHG EMISSIONS FROM BUSINESS TRAVELS?

1

SET BOUNDARIES

Define the organisational, the operational and the temporal boundaries.

Organisational boundary

The NGO has its **headquarters in Geneva**, and 3 field offices in **Peru, Mali and Bangladesh**.

Since the HQ manages the bookings of all travels, the calculations will focus only on the HQ.

Operational boundary

According to the GHG protocol, business travels are part of the **Scope 3, category 6**.

Temporal boundary

The calculations will be made using the last data available for **year 2024**.

CASE STUDY #1

HOW TO CALCULATE THE GHG EMISSIONS FROM BUSINESS TRAVELS?

2

DATA COLLECTION

Identify data requirements,

Collect, validate and verify data.

The origin, destination and routing use the international IATA codes for airports and train stations.

The travel agency provided an Excel file containing all the NGO's air travel data for 2024.

Invoice No	Origin	Destination	Routing	Class
1	GVA	RUH	GVA.RUH.DAC	Premium Economy
1	RUH	DAC	GVA.RUH.DAC	Premium Economy
2	GVA	CMN	GVA.CMN.BKO.ALG.GVA	Economy
2	CMN	BKO	GVA.CMN.BKO.ALG.GVA	Economy
2	BKO	CMN	GVA.CMN.BKO.ALG.GVA	Economy
2	CMN	GVA	GVA.CMN.BKO.ALG.GVA	Economy
3	CDG	LIM	CDG.LIM	Business

CASE STUDY #1

HOW TO CALCULATE THE GHG EMISSIONS FROM BUSINESS TRAVELS?

3

FOOTPRINT CALCULATION

Organise data processing.

Select emission factors.

Compute emissions

Data sources to be used

★★★★★ : Record of transportation: tickets purchased (plane, train, bus, boat, cab) and car journeys.
★★☆☆☆ : Record of transport expenses
☆☆☆☆☆ : No data available

Data processing

	Case n°1	Case n°2	Case n°3
Description	Detailed transport statements	Transport expenses are available	No data available
Process	1. Separate trips by mode of transport. 2. If possible, separate trips by class, train type or car model. 3. Use the emission factor associated with each mode of transport according to class and/or train/car model (kgCO2e/pers/km).	1. Separate trips by mode of transport. 2. Estimate the number of km using financial data and cost/km estimates for each means of transport (see average price table in appendix). For cars : • If reimbursement of mileage expenses (€/km), calculate the km covered. • In the case of fuel costs, calculate the number of km travelled based on the average price of fuel. 3. Use the average emission factor associated with each mode of transport (kgCO2e/pers/km).	1. List meetings and assignments requiring travel. 2. Estimate the number of participants, their means of transport and the average number of km travelled by each. 3. Use the average emission factor associated with each mode of transport (kgCO2e/pers/km).
Data and calculation uncertainty	★★★★★	★★☆☆☆	☆☆☆☆☆

CASE STUDY #1

HOW TO CALCULATE THE GHG EMISSIONS FROM BUSINESS TRAVELS?

3

FOOTPRINT CALCULATION

Organise data processing.

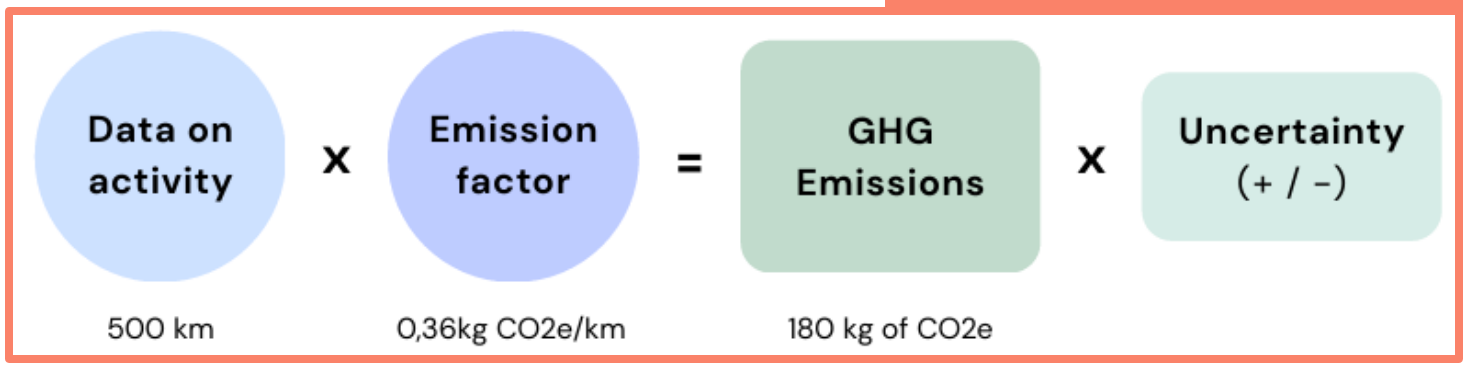
Select emission factors.

Compute emissions

We need to document our methodology so that our next footprint is comparable:

- Check the agency travel distance for each flight using another online tool (ex Air Miles Calculator)
- Sort by type of flight (long or short haul) and by ticket class (economy or business)
- Match the EF from the table in the previous slide
- Calculate CO_2e using the following formula

GHG emission calculation

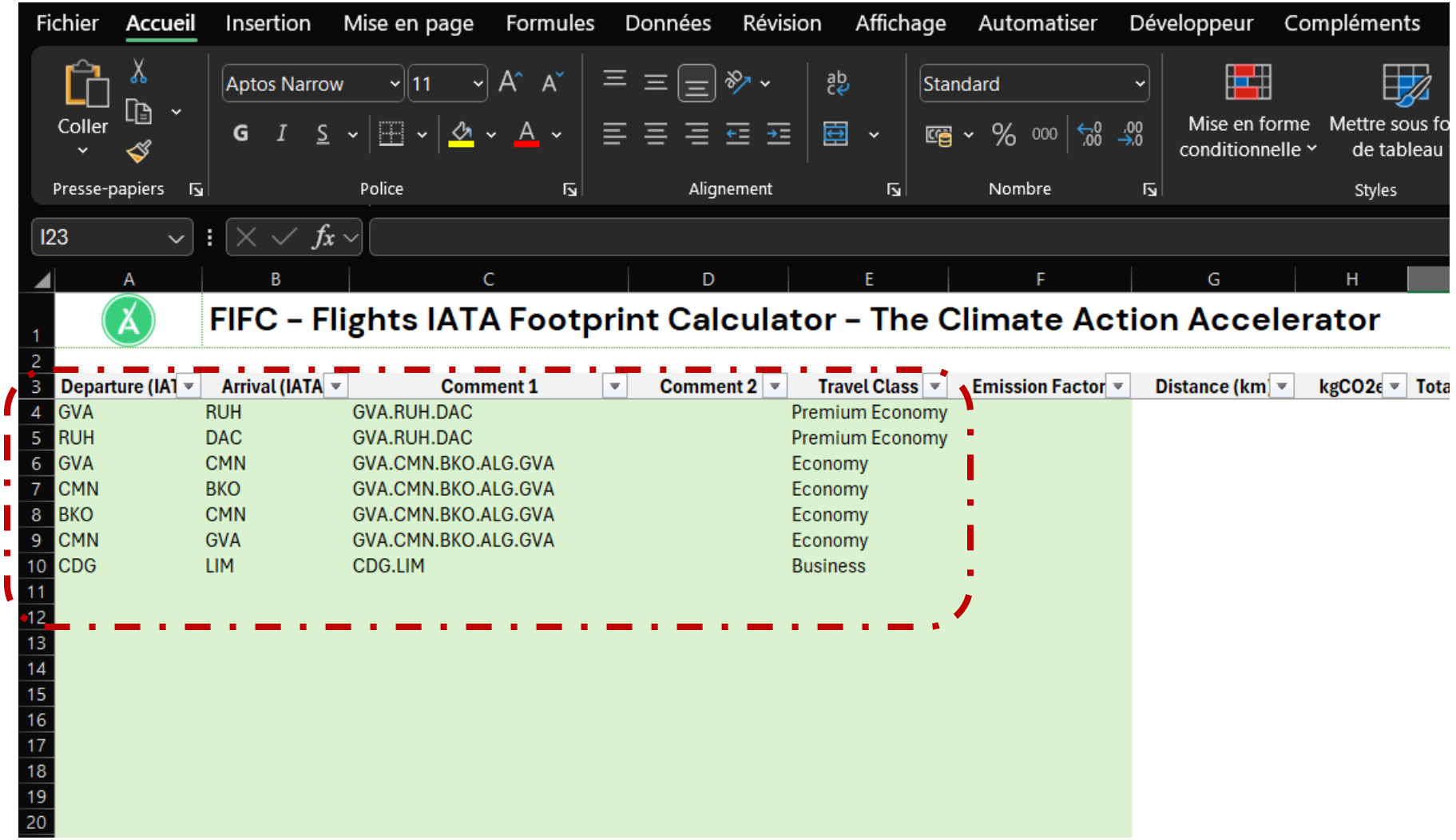


…or you can use a specific tool !

Link to the tool

PRACTICAL TOOL DEMONSTRATION #1

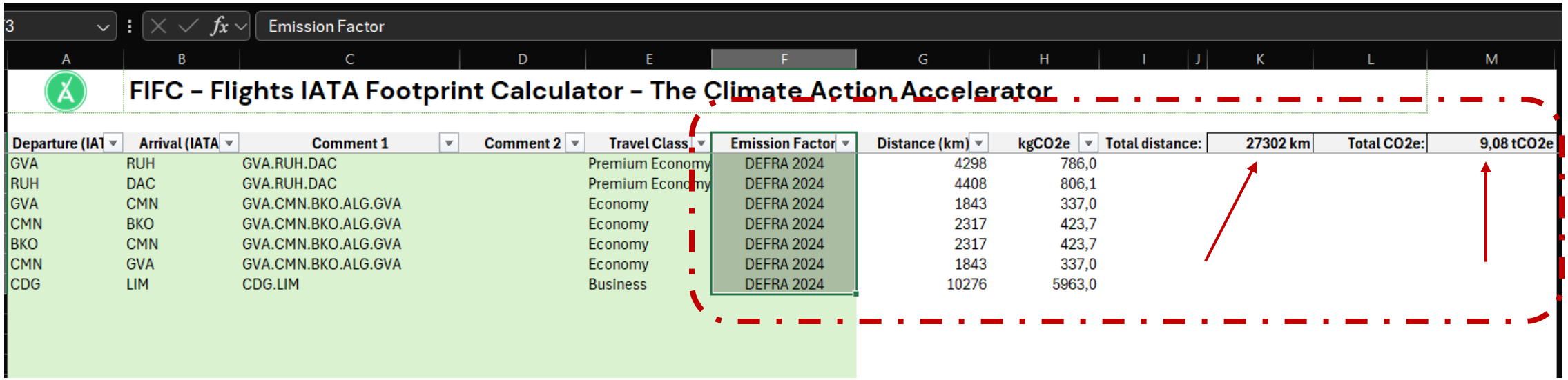
HOW TO USE THE FLIGHT CALCULATOR?



Departure (IAT	Arrival (IATA	Comment 1	Comment 2	Travel Class	Emission Factor	Distance (km	kgCO2e	Tota
GVA	RUH	GVA.RUH.DAC		Premium Economy				
RUH	DAC	GVA.RUH.DAC		Premium Economy				
GVA	CMN	GVA.CMN.BKO.ALG.GVA		Economy				
CMN	BKO	GVA.CMN.BKO.ALG.GVA		Economy				
BKO	CMN	GVA.CMN.BKO.ALG.GVA		Economy				
CMN	GVA	GVA.CMN.BKO.ALG.GVA		Economy				
CDG	LIM	CDG.LIM		Business				

PRACTICAL TOOL DEMONSTRATION #1

HOW TO USE THE FLIGHT CALCULATOR?



FIFC – Flights IATA Footprint Calculator - The Climate Action Accelerator

Departure (IAT	Arrival (IATA	Comment 1	Comment 2	Travel Class	Emission Factor	Distance (km)	kgCO2e	Total distance:	27302 km	Total CO2e:	9,08 tCO2e
GVA	RUH	GVA.RUH.DAC		Premium Economy	DEFRA 2024	4298	786,0				
RUH	DAC	GVA.RUH.DAC		Premium Economy	DEFRA 2024	4408	806,1				
GVA	CMN	GVA.CMN.BKO.ALG.GVA		Economy	DEFRA 2024	1843	337,0				
CMN	BKO	GVA.CMN.BKO.ALG.GVA		Economy	DEFRA 2024	2317	423,7				
BKO	CMN	GVA.CMN.BKO.ALG.GVA		Economy	DEFRA 2024	2317	423,7				
CMN	GVA	GVA.CMN.BKO.ALG.GVA		Economy	DEFRA 2024	1843	337,0				
CDG	LIM	CDG.LIM		Business	DEFRA 2024	10276	5963,0				

Here, we see that the total amount of GHG emissions for business air travel is **9 tCO_2e** for a total of 27 300 km travelled.

CASE STUDY #1

HOW TO CALCULATE THE GHG EMISSIONS FROM BUSINESS TRAVELS?

3

FOOTPRINT CALCULATION

Organise data processing.

Select emission factors.

Compute emissions

It is important to understand how the calculations are made and to keep track of the method used.

The emission factors used are from the 2024 DEFRA database.

Type	Class (DEFRA)	Emission factor ($kgCO_2e/km$)
Air short haul < 3 700 km	Average passenger	0,18592
	Economy	0,18287
	Business	0,27430
Air long haul > 3 700 km	Average passenger	0,26128
	Economy	0,20011
	Premium Economy	0,32015
	Business	0,58028
	First class	0,8004

CASE STUDY #1

HOW TO CALCULATE THE GHG EMISSIONS FROM BUSINESS TRAVELS?

4

REPORTING

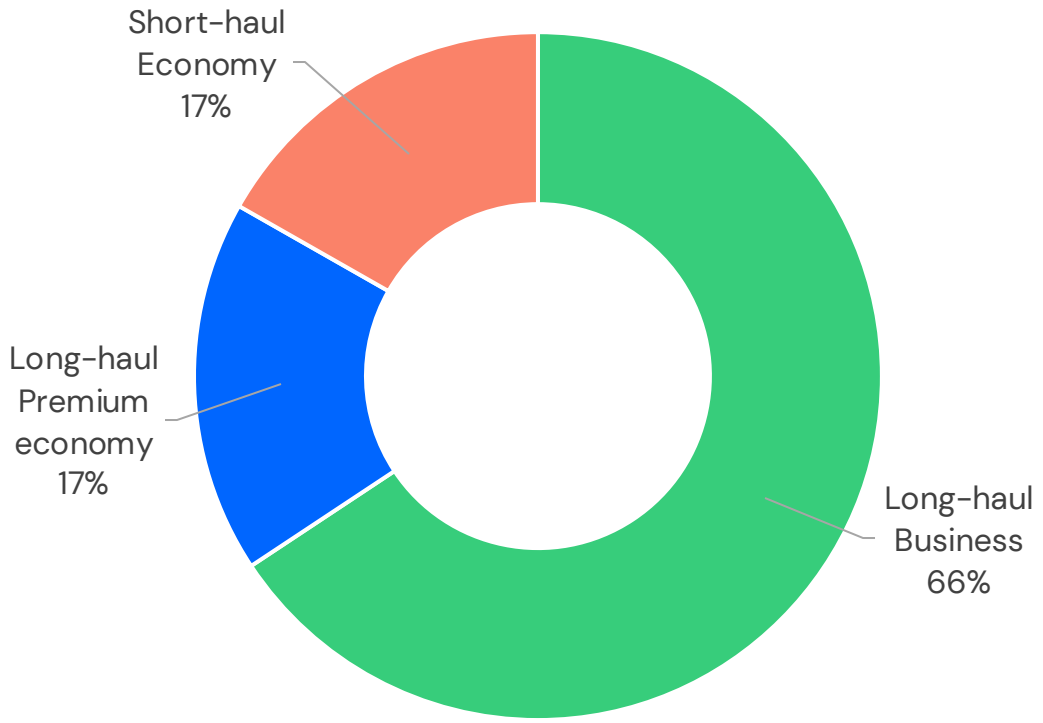
Write a methodological report.

Write a carbon footprint report.

Define a review policy.

		Business	Economy	Premium Economy
Air travel	Short-haul	-	1 522	-
	Long-haul	5 963	-	1 592

Table and graph of the GHG emissions in $kgCO_2e$ for their business travels in 2024.



One long-haul flight in Business class represents 38% of the km travelled in 2024 and 66% of the GHG emissions.

One very efficient change to implement in order to decrease the carbon footprint would be to **fly in economy class**.

All the calculation methodology, the EF used and the data source must appear in this report.

CASE STUDY #1

HOW TO CALCULATE THE GHG EMISSIONS FROM BUSINESS TRAVELS?

4

REPORTING

Write a methodological report.

Write a carbon footprint report.

Define a review policy.

FIFC – Flights IATA Footprint Calculator – The Climate Action Acc

Method		kilometers by distance and class				
DEFRA	ADEME	Economy	Premium Economy	Business	First	Total
Short <3700	0-500	0	0	0	0	**0**
	500-1000	0	0	0	0	**0**
	1000-2000	3686	0	0	0	**3686**
	2000-5000	4634	0	0	0	**4634**
Long >3700		0	8706	0	0	**8706**
	>5000	0	0	10276	0	**10276**
Total		**8320**	**8706**	**10276**	**0**	**27302**

Method		kgCO2e by distance and class				
DEFRA	ADEME	Economy	Premium Economy	Business	First	Total
Short <3700	0-500	0	0	0	0	**0**
	500-1000	0	0	0	0	**0**
	1000-2000	674	0	0	0	**674**
	2000-5000	847	0	0	0	**847**
Long >3700		0	1592	0	0	**1592**
	>5000	0	0	5963	0	**5963**
Total		**1521**	**1592**	**5963**	**0**	**9077**

CASE STUDY #2

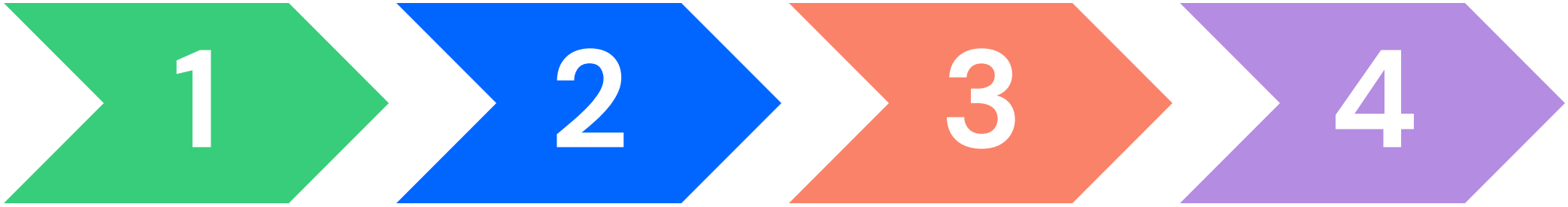
HOW TO CALCULATE THE GHG EMISSIONS FROM COOLING SYSTEMS?

CASE STUDY

The NGO wants to calculate the GHG emissions of their cooling systems.

Fugitive emissions are **greenhouse gases** that **escape unintentionally** from an organization's equipment or systems, rather than being released on purpose.

They mainly come from **leaks in air conditioning or refrigeration systems** and from **medical gases** during use, maintenance, or disposal of such equipment.



SET BOUNDARIES

Define the organisational, the operational and the temporal boundaries.

DATA COLLECTION

Identify data requirements,

Collect, validate and verify data.

FOOTPRINT CALCULATION

Organise data processing.

Select emission factors.

Compute emissions.

REPORTING

Write a methodological report.

Write a carbon footprint report.

Define a review policy.

CASE STUDY #2

HOW TO CALCULATE THE GHG EMISSIONS FROM COOLING SYSTEMS?

1

SET BOUNDARIES

Define the organisational, the operational and the temporal boundaries.

Organisational boundary

The NGO has its **headquarters in Geneva**, and 3 field offices in **Peru, Mali and Bangladesh**.

Operational boundary

According to the GHG protocol, cooling systems are part of the **Scope 1**.

Temporal boundary

The calculations will be made using the last data available for **year 2024**.

CASE STUDY #2

HOW TO CALCULATE THE GHG EMISSIONS FROM COOLING SYSTEMS?

2

DATA COLLECTION

Identify data requirements,

Collect, validate and verify data.

The HQ office in Geneva has **2 AC that each leaked 0,3 kg of R134a gas** in 2024.

There is no general registry of cooling systems in the NGO. They had to send a survey to the field offices.

Office	Quantity	Type of gas	Gas volume	Power
Mali	3	R32	0,5 kg	
Bangladesh	1	R32		16 000 BTU
Bangladesh	1	R404a		12 000 BTU

For the Peru office, the NGO **could not get any data** concerning the cooling system.

The only information available is that the **size of the office is 75 m²**, in an old building.

CASE STUDY #2

HOW TO CALCULATE THE GHG EMISSIONS FROM COOLING SYSTEMS?

3

FOOTPRINT CALCULATION

Organise data processing.

Select emission factors.

Compute emissions

This part can be tricky.

The CAA developed a specific tool to compute GHG emissions from electrical devices.

Link to the tool

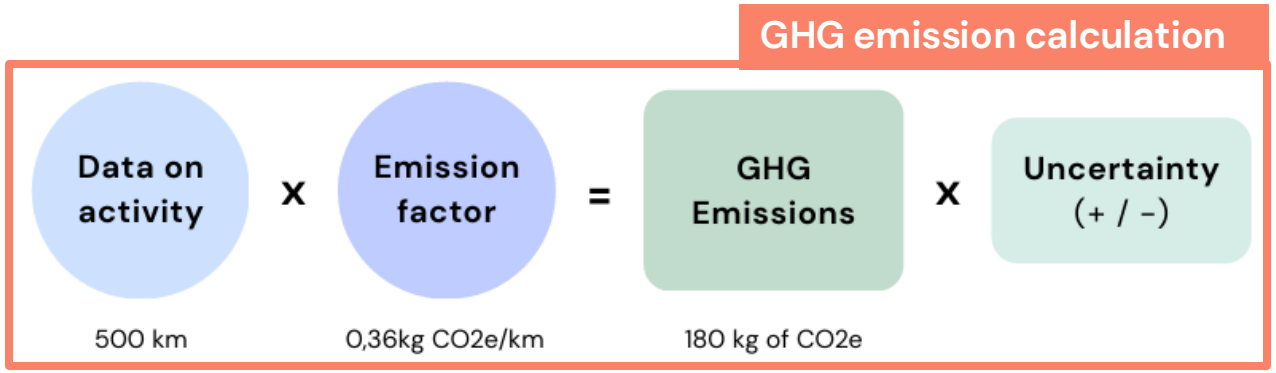
Data sources to be used

★★★★★ : Record of gas leaks by equipment (use and end-of-life)
★★★★☆ : Measurement of gas volumes in equipment
★★☆☆☆ : Equipment power readings
★☆☆☆☆ : Number of refrigeration units

Data processing

	Case n°1	Case n°2	Case n°3	Case n°4
Description	Leaks are available	The volumes contained are available	Devices electrical powers are available	Number of devices available

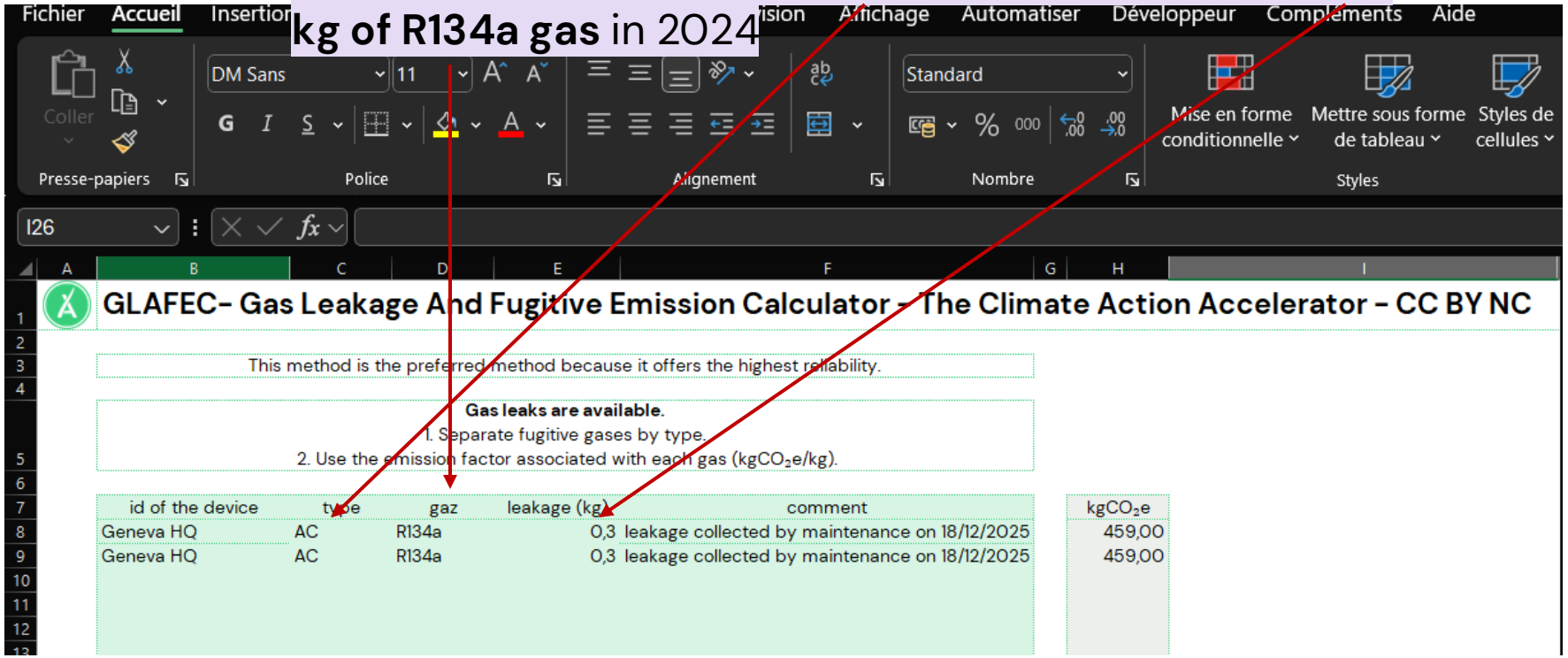
GHG emission calculation



PRACTICAL TOOL DEMONSTRATION #2

HOW TO USE THE GLAFEC?

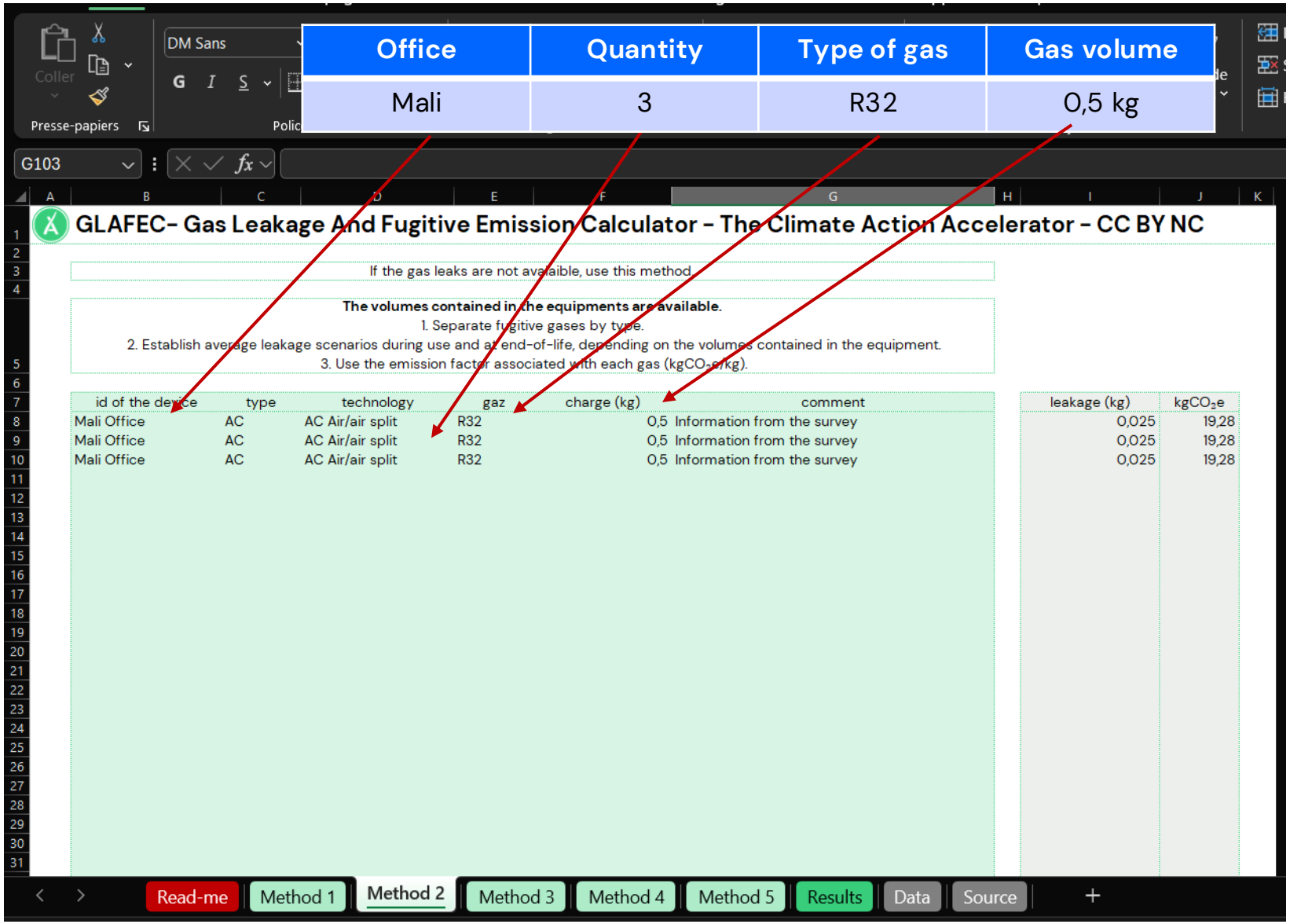
The HQ office in Geneva has **2 AC that each leaked 0,3 kg of R134a gas** in 2024



PRACTICAL TOOL DEMONSTRATION #2

HOW TO USE THE GLAFEC?

Office	Quantity	Type of gas	Gas volume
Mali	3	R32	0,5 kg



PRACTICAL TOOL DEMONSTRATION #2

HOW TO USE THE GLAFEC?

Office	Quantity	Type of gas	Power
Bangladesh	1	R32	16 000 BTU
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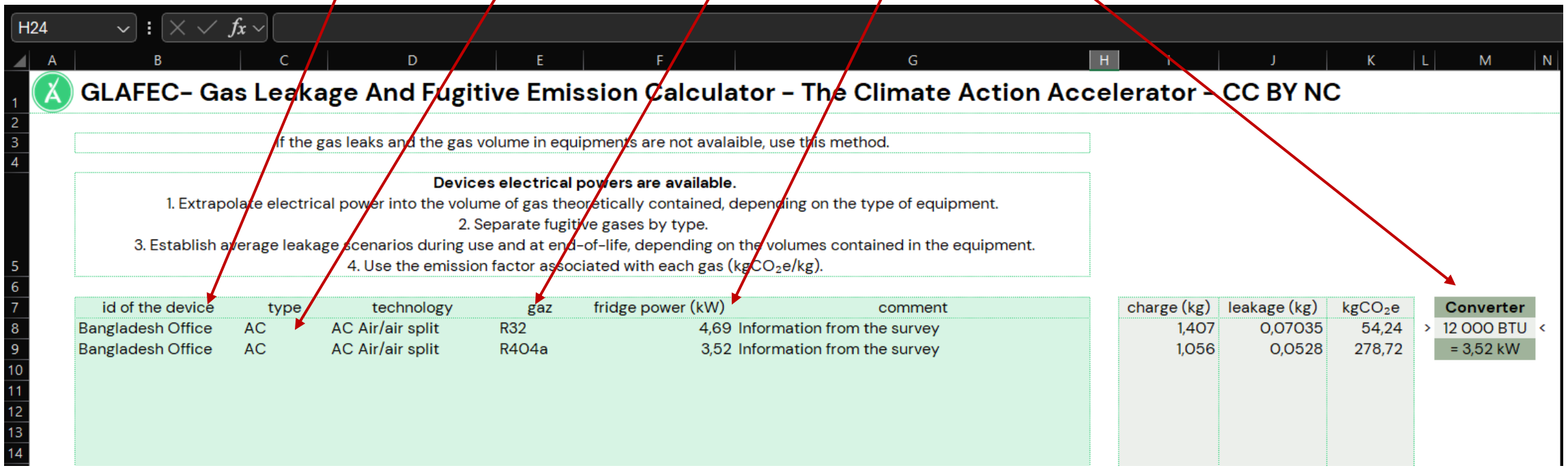


H24

GLAFEC- Gas Leakage And Fugitive Emission Calculator - The Climate Action Accelerator - CC BY NC

If the gas leaks and the gas volume in equipments are not avalaible, use this method.

Devices electrical powers are available.

1. Extrapolate electrical power into the volume of gas theoretically contained, depending on the type of equipment.
2. Separate fugitive gases by type.
3. Establish average leakage scenarios during use and at end-of-life, depending on the volumes contained in the equipment.
4. Use the emission factor associated with each gas ($kgCO_2e/kg$).

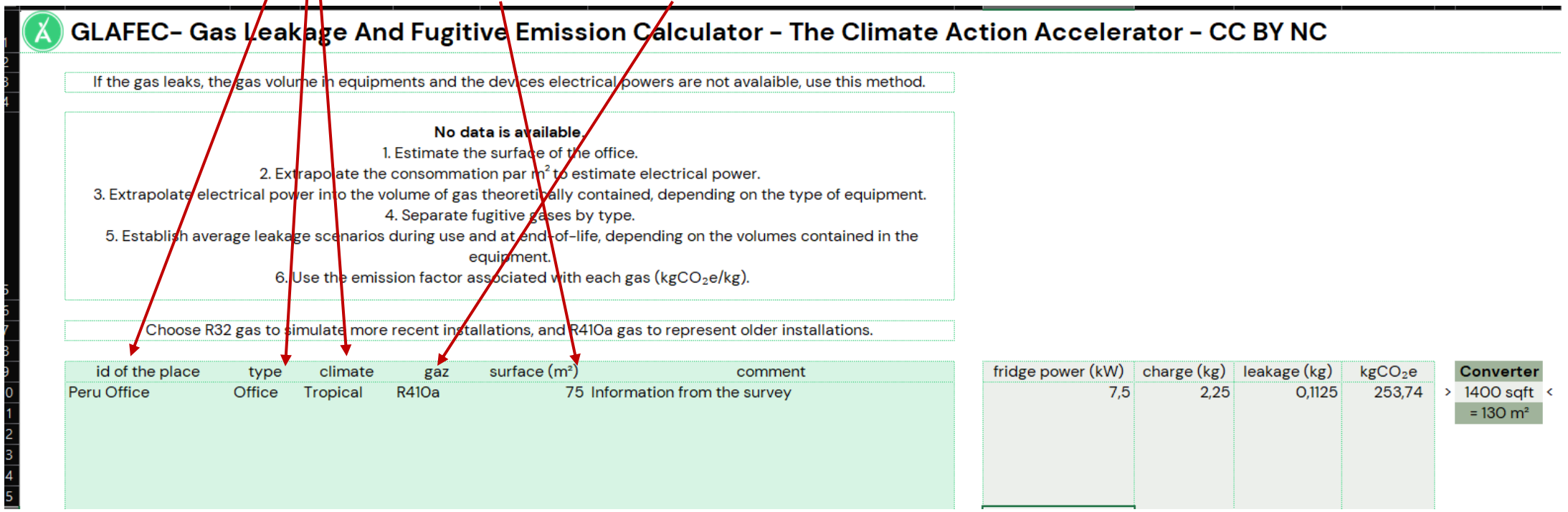
id of the device	type	technology	gaz	fridge power (kW)	comment	charge (kg)	leakage (kg)	$kgCO_2e$	Converter
Bangladesh Office	AC	AC Air/air split	R32	4,69	Information from the survey	1,407	0,07035	54,24	> 12 000 BTU <
Bangladesh Office	AC	AC Air/air split	R404a	3,52	Information from the survey	1,056	0,0528	278,72	= 3,52 kW

PRACTICAL TOOL DEMONSTRATION #2

HOW TO USE THE GLAFEC?

For the Peru office, the NGO **could not get any data** concerning the cooling system.

The only information available is that the **size of the office is 75 m²**, in an old building.



GLAFEC- Gas Leakage And Fugitive Emission Calculator – The Climate Action Accelerator – CC BY NC

If the gas leaks, the gas volume in equipments and the devices electrical powers are not avalaible, use this method.

No data is available.

1. Estimate the surface of the office.
2. Extrapolate the consommation par m^2 to estimate electrical power.
3. Extrapolate electrical power into the volume of gas theoretically contained, depending on the type of equipment.
4. Separate fugitive gases by type.
5. Establish average leakage scenarios during use and at end-of-life, depending on the volumes contained in the equipment.
6. Use the emission factor associated with each gas ($kgCO_2e/kg$).

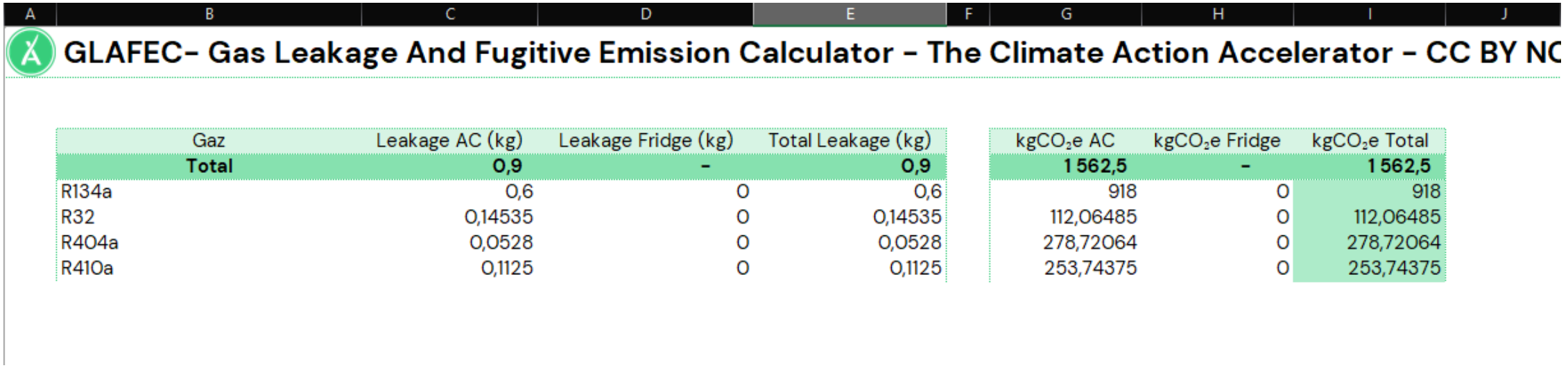
Choose R32 gas to simulate more recent installations, and R410a gas to represent older installations.

id of the place	type	climate	gaz	surface (m²)	comment	fridge power (kW)	charge (kg)	leakage (kg)	$kgCO_2e$
Peru Office	Office	Tropical	R410a	75	Information from the survey	7,5	2,25	0,1125	253,74

Converter
1400 sqft
= 130 m²

PRACTICAL TOOL DEMONSTRATION #2

HOW TO USE THE GLAFEC?



GLAFEC- Gas Leakage And Fugitive Emission Calculator - The Climate Action Accelerator - CC BY NC

Gaz	Leakage AC (kg)	Leakage Fridge (kg)	Total Leakage (kg)	$kgCO_2e$ AC	$kgCO_2e$ Fridge	$kgCO_2e$ Total
Total	**0,9**	**-**	**0,9**	**1 562,5**	**-**	**1 562,5**
R134a	0,6	0	0,6	918	0	918
R32	0,14535	0	0,14535	112,06485	0	112,06485
R404a	0,0528	0	0,0528	278,72064	0	278,72064
R410a	0,1125	0	0,1125	253,74375	0	253,74375

CASE STUDY #2

HOW TO CALCULATE THE GHG EMISSIONS FROM COOLING SYSTEMS?

4

REPORTING

Write a methodological report.

Write a carbon footprint report.

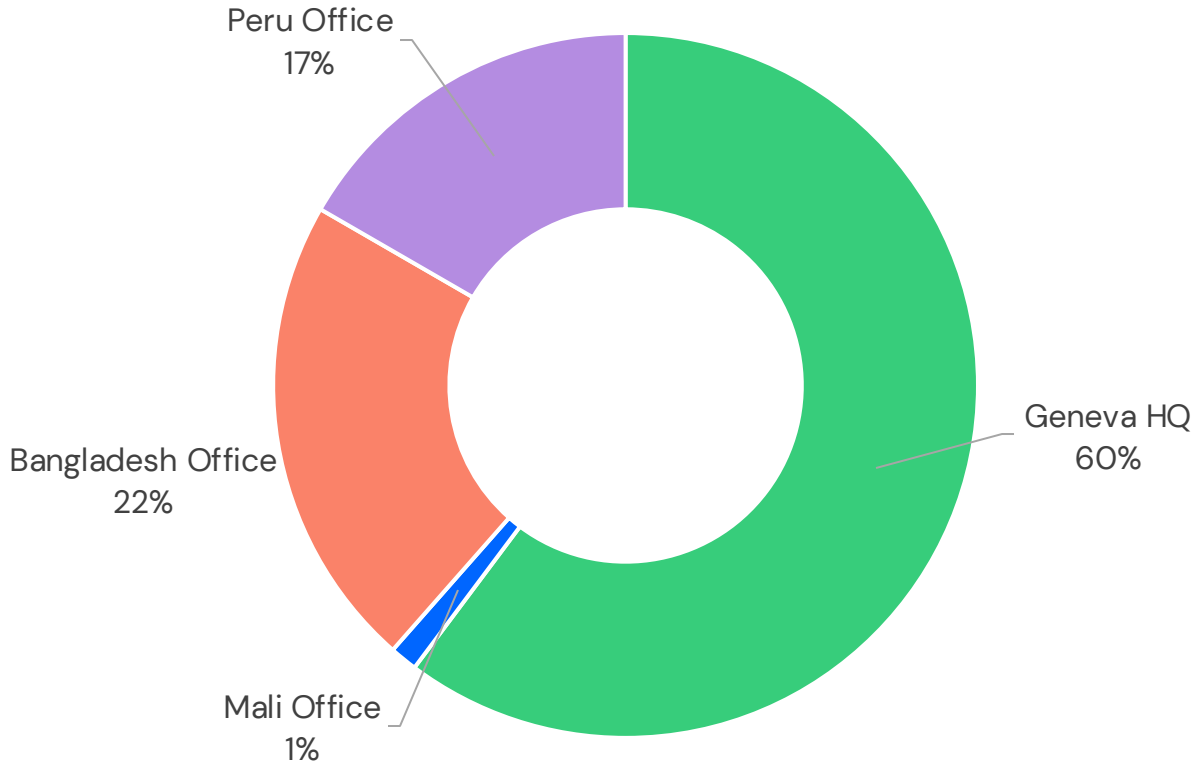
Define a review policy.

The office with the most emissive AC is Geneva.
The office with the most number of AC (3) is also the less emissive.

Those data rely on assumptions and estimations and have a large uncertainty.

Offices	Quantity	$kgCO_2e$
Geneva HQ	2	918
Mali Office	3	19
Bangladesh Office	2	333
Peru Office	-	254

Table and graph of the GHG emissions in $kgCO_2e$ for their cooling systems in 2024.



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CONCLUSION

WHAT ARE THE MAIN POINTS?

The toolkit is **open access**, accessible online and free.

It is a **living document**, intended to evolve with your feedback.

Its objective is to create a **learning community** around these practices.

A new version of the toolkit, with new templates, tools and a standardised data quality notation will be published soon. Stay tuned!

This is a starting point, not an endpoint

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Q&A session

QUESTIONS & ANSWERS

Please feel free to ask your questions now!

UPCOMING EVENTS

WHAT ARE THE NEXT WEBINARS AND PROGRAMMES?

- **General Methodological Guide for Humanitarian Sector**
- **Humanitarian Carbon Calculator (HCC)**
- **Cash Emission Calculation**

A series of webinars concerning those subjects will take place throughout 2026. Stay tuned!

- **Our Accelerator Programme for Aid Organisations (see next slides)**

Our Accelerator Programme for Aid Organisations

Achieve your climate goals without compromising essential services

- 2-year collective cycles
- Blended learning, collaborative online platform
- Includes methodology, mentoring and quality review

Programme Components

- **A clear pathway**: Footprint → Roadmap → Implementation
- **Practical learning** through modules & workshops
- **A rich online platform** full of tools, templates & real examples
- **Expert guidance** every step of the way
- **Quality checks** for stronger deliverables
- **Collective intelligence** through peer exchange
- **Open, adaptable tools** to drive real change

Contact: alexa.leblanc@climateactionaccelerator.org

E-mail	metricscontact@climateactionaccelerator.org
LinkedIn	https://www.linkedin.com/company/theclimateactionaccelerator/
Website	www.climateactionaccelerator.org

Climate Action
Accelerator