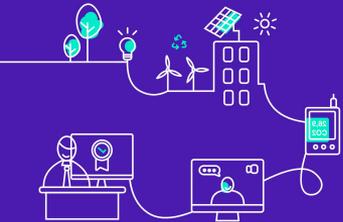




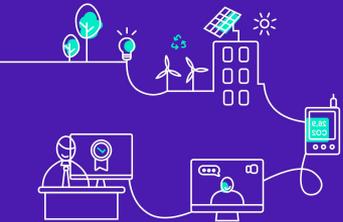
52 Entertainment 2021 Carbon Footprint



QUIZ : Question 1

What would be the average temperature on Earth without the greenhouse effect?

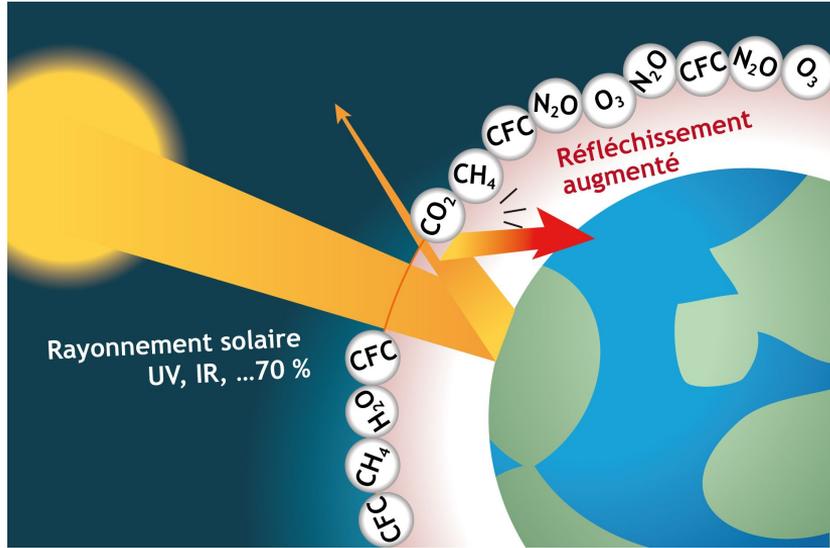
- **-18 degrees**
- 0 degree
- 15 degrees



QUIZ - CLIMATE CHANGE

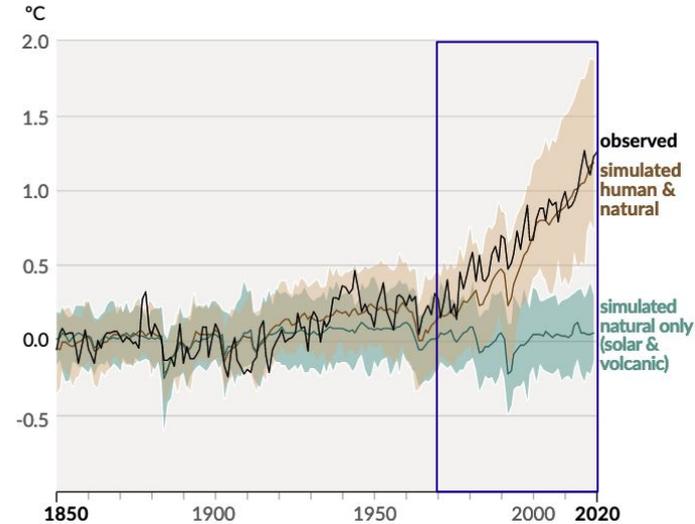
ZOOM : additional greenhouse effect and temperature rise

Additional greenhouse effect



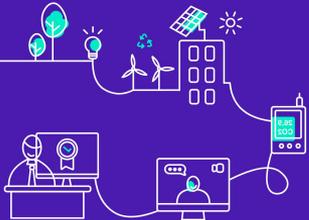
Source : [Fresque du climat](#), based on the IPCC reports

Global surface temperature change (annual average) by human and natural factors and only natural factors (observed and simulated data).

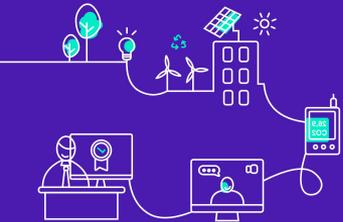
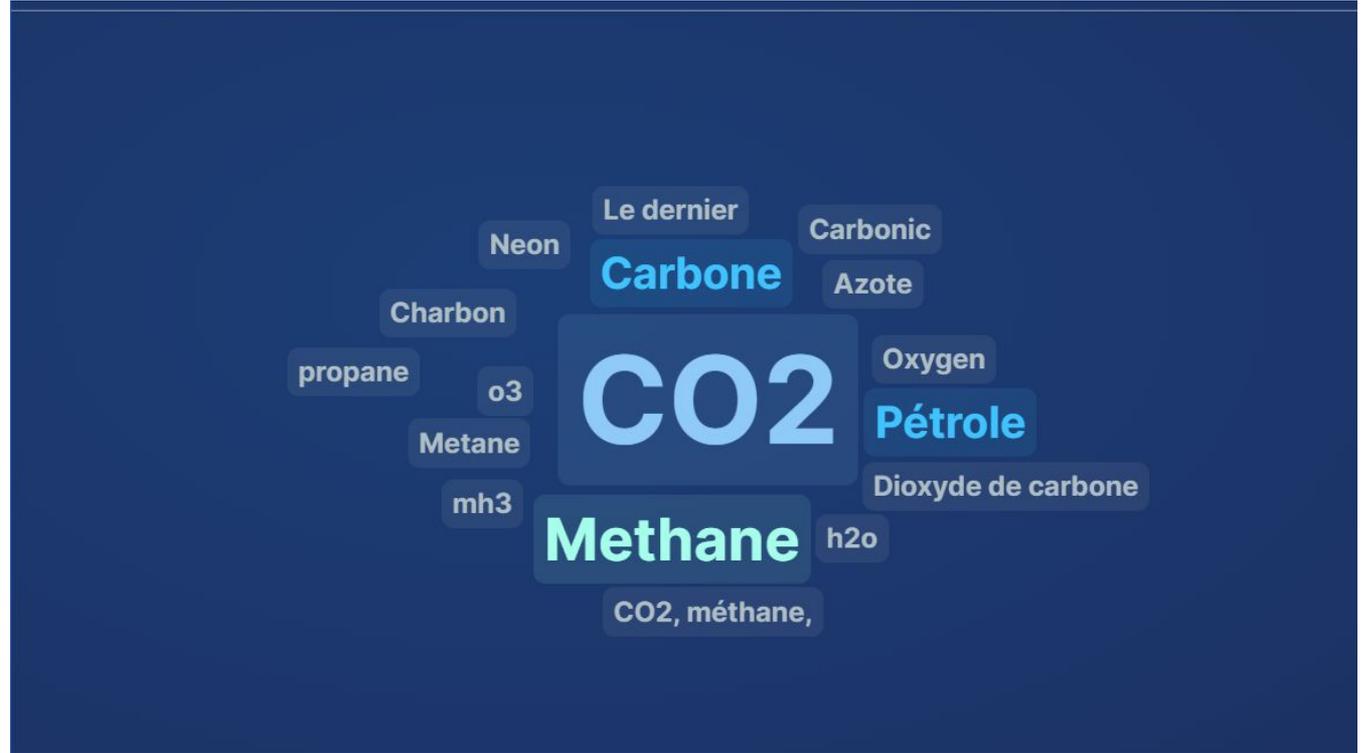


Source : Sixth Assessment Report (IPCC)

Global warming is caused by human activities and affects all regions of the world.



What are the main Greenhouse Gases ?



ZOOM : Breakdown of world direct GHG emission

CH₄ Ruminants, Rice fields, gas leaks, landfills
(24%)

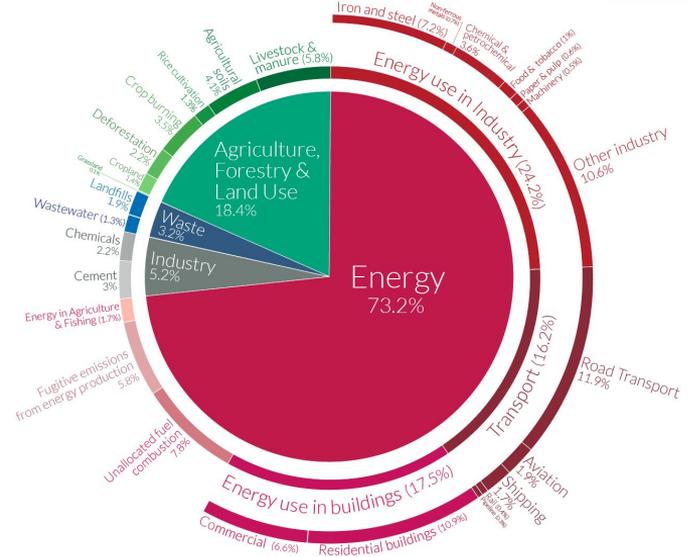
N₂O (5%)

Spreading of fertilizers

Halogen Gases (2%)

Cold chain

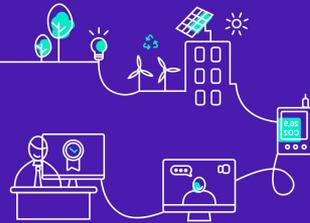
Global greenhouse gas emissions by sector Our World in Data
This is shown for the year 2016 – global greenhouse gas emissions were 49.4 billion tonnes CO₂eq.



CO₂ (69%)

Power plants, transportation, deforestation, industrial processes

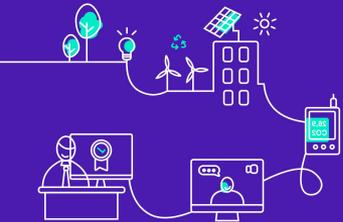
OurWorldInData.org – Research and data to make progress against the world's largest problems.
Source: Climate Watch, the World Resources Institute (2020). Licensed under CC-BY by the author Hannah Ritchie (2020).



QUIZ : Question 2

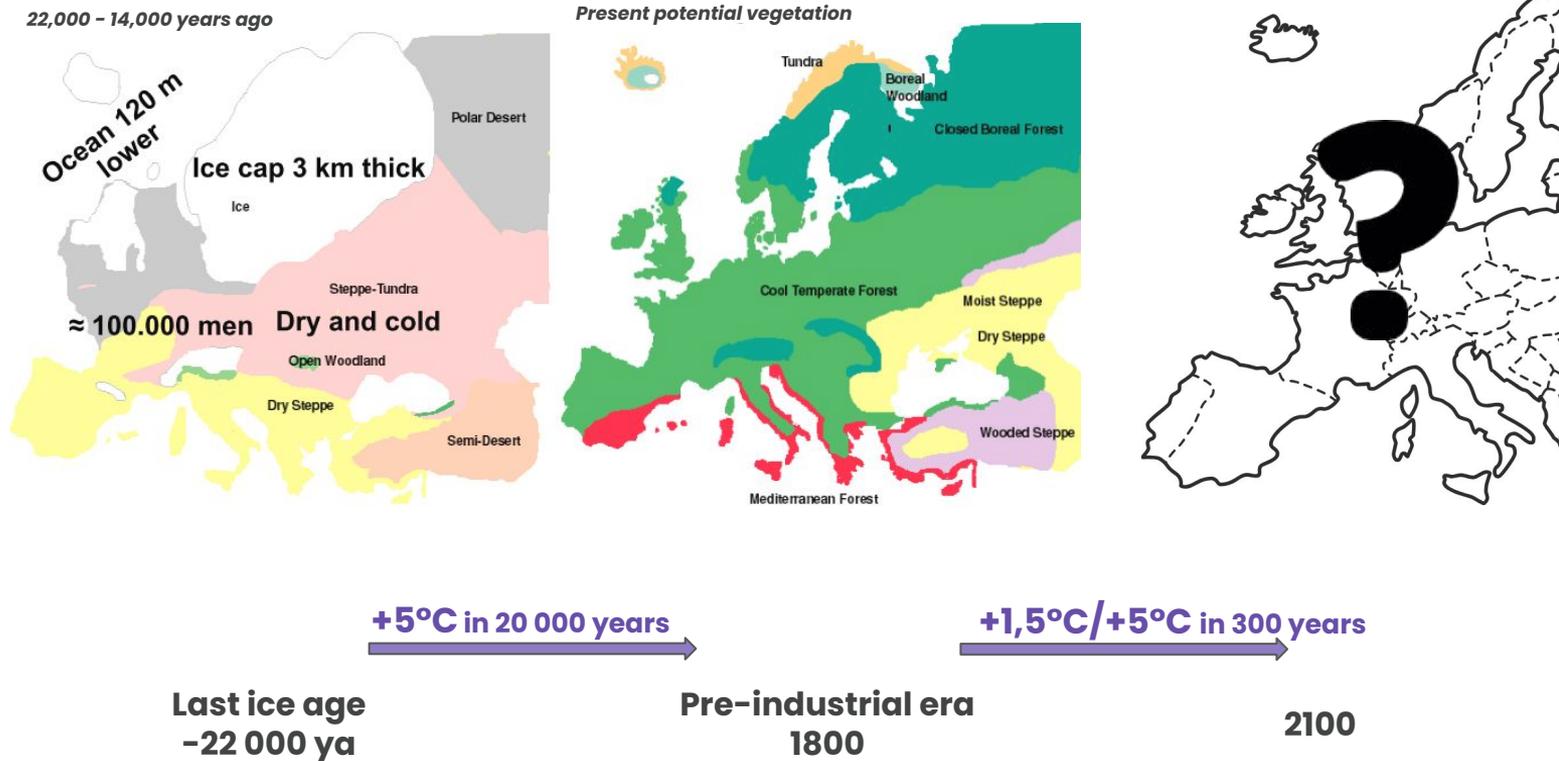
The earth has already experienced significant temperature variations, how much faster is the human-induced warming compared to natural cycles?

- 2 times faster
- Just under 10 times faster
- **100 times faster**

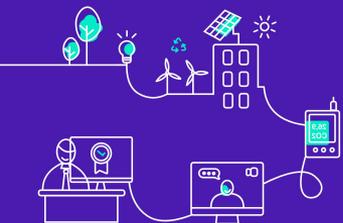


QUIZ - CLIMATE CHANGE

ZOOM : The last ice age



Source : Quaternary Environments Network

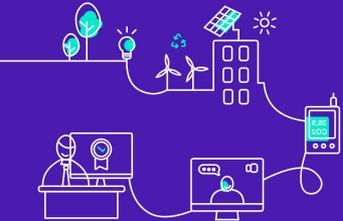


QUIZ : Question 3

True or False? France (and Europe) is relatively unaffected by climate change

→ True

→ **False**

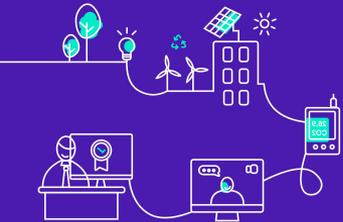


QUIZZ : Question 4

Last question! Global warming: is it already too late to act?

→ Yes

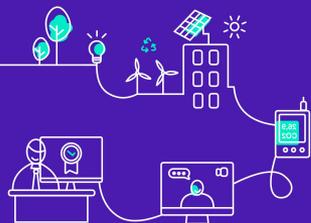
→ No 🦵



QUIZ – CLIMATE CHANGE

For more
information :

- > Sami's [blog](#)
- > J.M. Jancovici's [videos](#)
- > IPCC [Summary for Policymakers](#)



Climate change : why should we stay below 2 degrees?



		+1.5°C	+2°C	+3°C
Number of days/year with T° max > 30°C 	France : Mediterranean :	+4d +8d	+6d +10d	+13d +18d
Number of nights /year with T° max > 20°C 	France : Mediterranean :	+3d +17d	+6d +24d	+14d +38d
Population at risk of water shortage 	Central Europe : South of Europe and Mediterranean :	+17M +14M	+41M +14M	- -
Forest fires in the Mediterranean 		+41%	+62%	+97%
Overmortality due to heat 		+0,8%	+1,5%	5,7% (for +4°C)
Duration of heat wave (Caribbean) 		+7 à 11d	+9 à 22d	+17 à 39d

Source : [Article](#) Bon Pote

HOW TO ACT?



According to the IPCC, **every tenth of a degree counts!**

In order to avoid the worst consequences of global warming, we must act:



Deliberately: change the *Business As Usual* paradigm to limit global warming to a sustainable level.



Quickly: halve emissions by 2030 and be carbon neutral by 2050 to limit global warming to 1.5°C.



Pragmatically: everyone must "do their part". It starts by measuring their emissions and then select the most effective reduction actions.

Sami will guide you through your low-carbon transition ... starting with the measurement of your emissions!

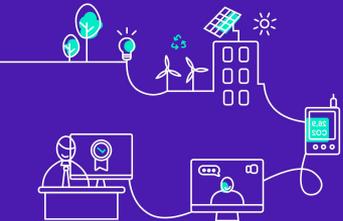
Measuring



Developing your
low-carbon strategy



Setting up an action
plan



CARBON FOOTPRINT

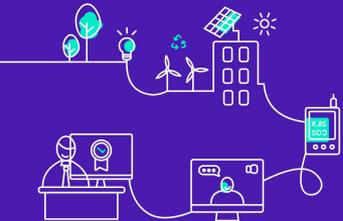
GENERAL REMINDERS



Carbon accounting method created in France in 2004 by ADEME.

Objective: to measure all the emissions physically necessary for a company's activity (we can talk about physical dependence on carbon), including its upstream activities (supply, freight, etc.), production and downstream activities (distribution, use of products sold, etc.).

Activity data (unit)	×	Emission Factor (kg CO ₂ eq/unit)	=	Emissions (kg CO ₂ eq)
 10 kWh of electricity <i>(a dryer that runs 24 hours in France)</i>	×	0,06 kg CO ₂ eq/kWh	=	0,6 kg 
 100 kms travelled by car	×	0,15 kg CO ₂ eq/km	=	15 kg 
 1000€ of computer products purchased	×	400 kg CO ₂ eq/€HT	=	400 kg 





CARBON FOOTPRINT

THE SCOPES

Supply

Upstream Freight

Production

Downstream Freight

Waste management

Scope 3 – Upstream activities

- 8. Upstream of energy
- 11. Upstream leasing assets
- 9. Purchase of products and services
- 10. Depreciation
- 12. Inbound freight
- 13. Business trips
- 16. Transportation of visitors and clients
- 22. Commuting to work

Scope 1 – direct emissions

- 1 & 2. Fixed and mobile combustion sources
- 3. Non-energy processes
- 4. Fugitives
- 5. Biomass (soils and forests)

Scope 2 – Indirect emissions

- 6. Electricity consumption
- 7. Consum. of steam, heat, cold

Scope 3 – Downstream activities

- 12. Downstream transport of goods
- 19. End of life of products sold
- 11. Waste
- 18. Use of the products sold
- 21. Downstream leasing
- 20. Downstream franchise

CARBON FOOTPRINT

HOW TO PROCEED?

Data collected



Accounting Record File :

calculation of emissions related to **purchases of services** and **fixed assets**.

Account 6 only.



Employee Survey :

calculation of emissions related to **travel**, **telecommuting** and **catering**.



Data collector :

Calculation of emissions related to **premises** (surface, energy...) and **digital**.



Offices



Owned SaaS ?



Fleet of vehicles



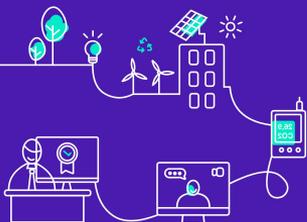
QUIZ: Question 6

What do you think is the order of magnitude of 52 Entertainment's carbon footprint in 2021?

- 500 t CO₂e ≈ 50 people
- 1,000 tCO₂e ≈ 100 people
- **2,000 tCO₂e ≈ 200 people**
- 4,000 tCO₂e ≈ 400 people

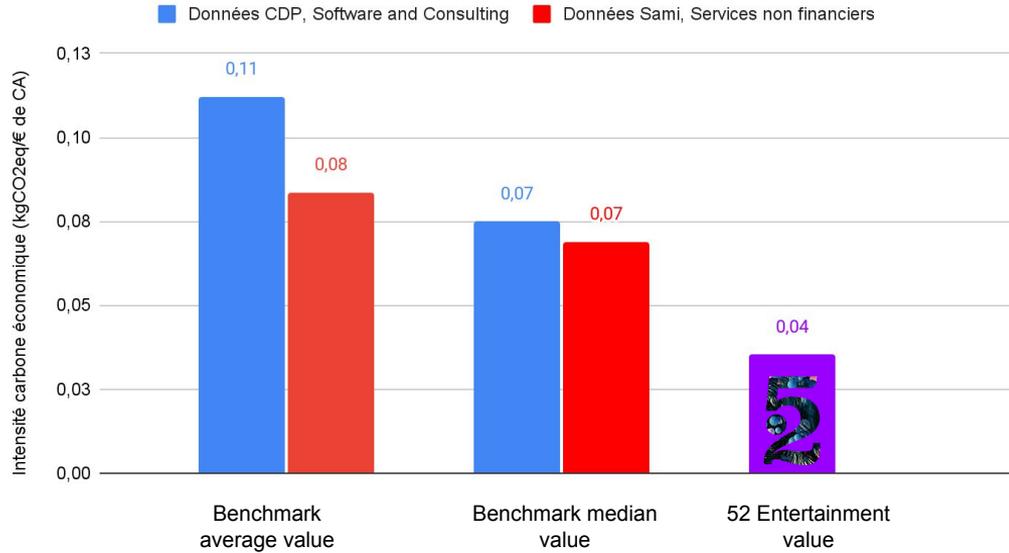


1 person, in France ≈ 10 tCO₂e /year



CARBON FOOTPRINT RESULTS

Benchmark: economic carbon intensity



Definition:

*Economic carbon intensity =
Total emissions kg CO₂e / total €
of turnover*

Comparison data:

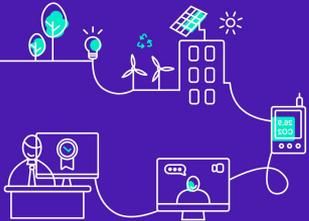
- > Sami, non-financial services sector
- > CDP (Carbon Disclosure Project), Software & Consulting sector

52 Entertainment ECONOMIC CARBON INTENSITY IS ...



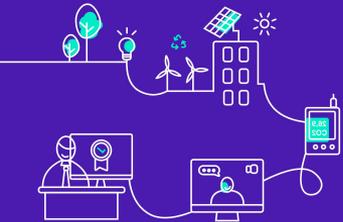
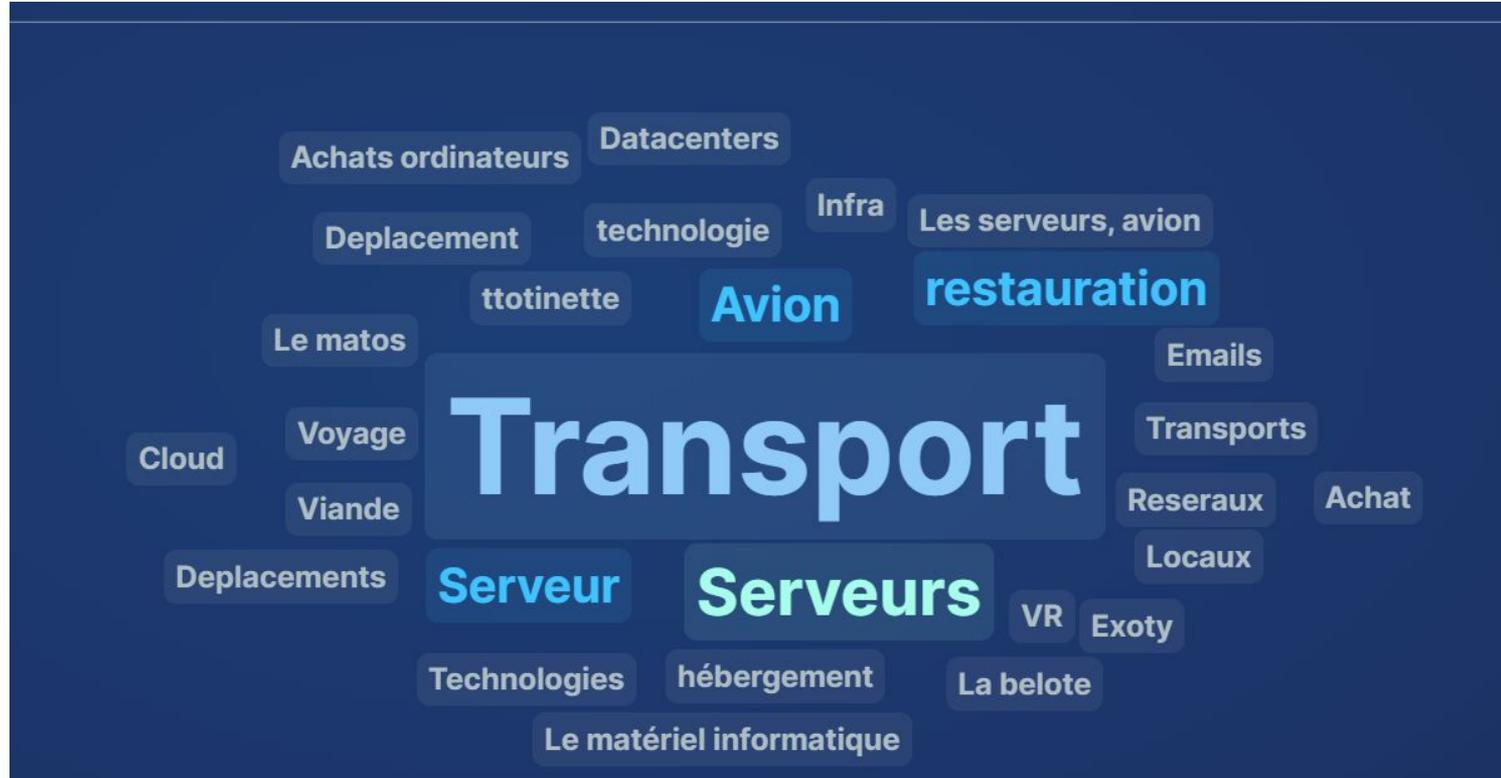
0,04

kg CO₂e /
€ of turnover



CARBON FOOTPRINT RESULTS

What are the main Greenhouse Gases emission sources for 52 Entertainment in 2021 ?



QUIZZ : Question 7

Replace the following emissions items in order of importance at 52 Entertainment in 2021:



Digital = external uses (emissions linked to the use of the games developed) + internal uses (hardware and software used internally)



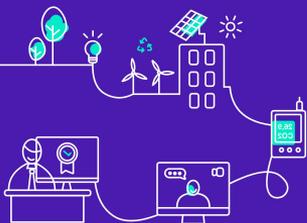
Premises = construction of the premises (amortized over their lifetime) + their operation in 2021 (electricity, gas, waste)



Travel = travel to and from work + professional travel



Services = professional leagues fees, marketing and support services (banks, insurance)



CARBON FOOTPRINT RESULTS

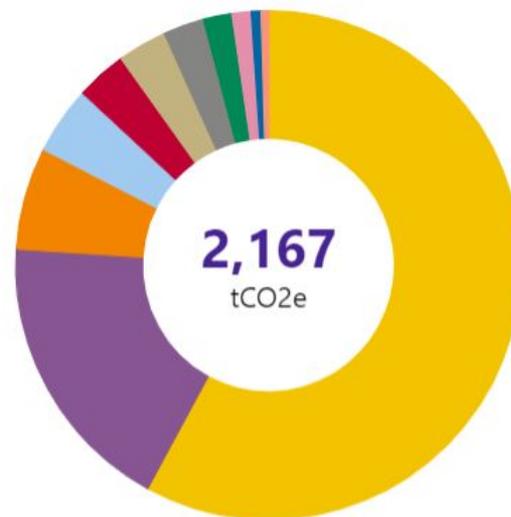
BILAN CARBONE 2021 – 52 Entertainment : Total carbon footprint (tCO2e)

i What is the perimeter ?

> Reference year : 2021

> Scope : 1, 2 and 3

> Exclusion ? None



● Purchase of services **57.9%**

● Input **4.3%**

● Trips **2.6%**

● Vehicle **0.6%**

● IT **18.1%**

● Meals and accommodation **3.2%**

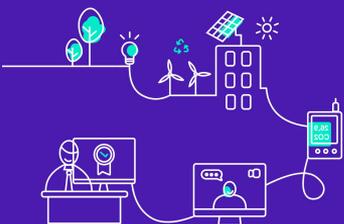
● Equipment **1.8%**

● Remote work **0.5%**

● Freight **6.5%**

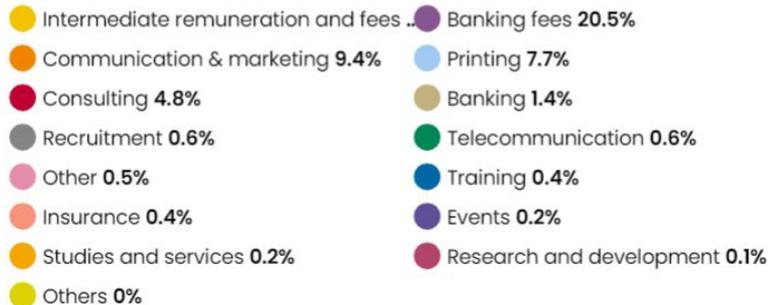
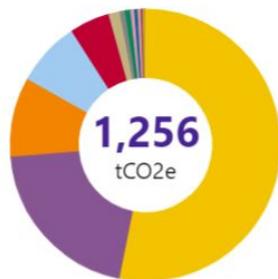
● Premises **3.2%**

● Small supply purchase **1.2%**



CARBON FOOTPRINT RESULTS

Services purchases emissions (58% of total footprint)



SAMI CATEGORY	ACTIVITY DATA
Banking	154 k€
Telecommunication	47 k€
Communication & marketing	697 k€
Insurance	43 k€
Intermediate remuneration and fees	5992 k€
Recruitment	50 k€
Other	38 k€
Training	42 k€
Studies and services	14 k€
Events	17 k€
Consulting	547 k€
Banking fees	2342 k€
Printing	345 k€
Others	0.15 k€
Research and development	3.1 k€



What is the methodology?

This item is fully analysed thanks to accounting data that you have provided in the FEC.

The ADEME's carbon base references monetary ratios giving an emission factor per € spent for each category of purchase.

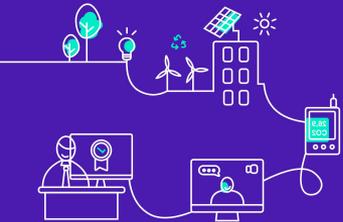
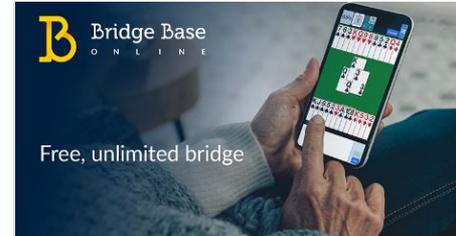


QUIZZ : Question 8

Two teams compete on BBO, one in the USA, the other in France. Do they have the same carbon footprint?

→ **Yes**

→ **No**



CARBON FOOTPRINT RESULTS

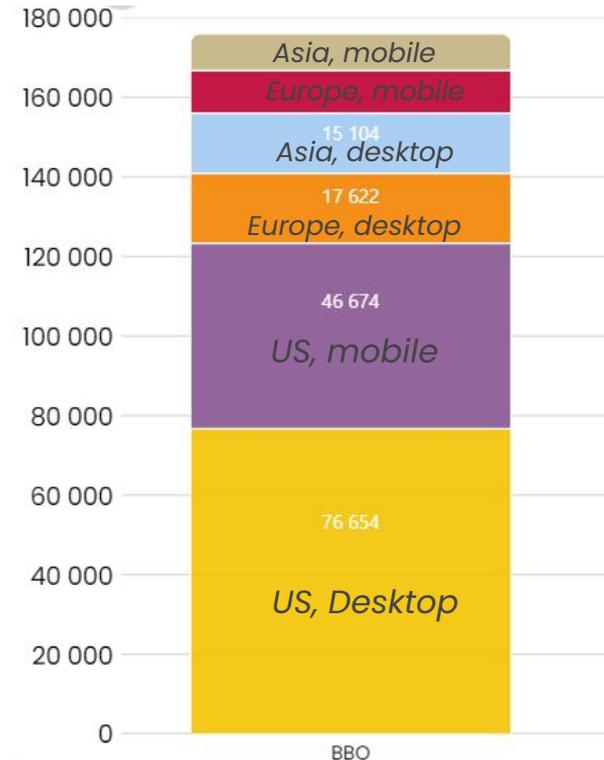


What is the methodology?

This item is fully analyzed thanks to the usage statistics of the games produced by 52 entertainment.

We associate the total annual usage time with the average consumption of a device (computer or smartphone), then we multiply this consumption by the carbon intensity of the electricity mix of the country of use.

Emissions from the use of BBO



Total :
178 tCO2e

In terms of carbon intensity:
1 hour of play in the US = 7.5 hours of play in France

CARBON FOOTPRINT RESULTS

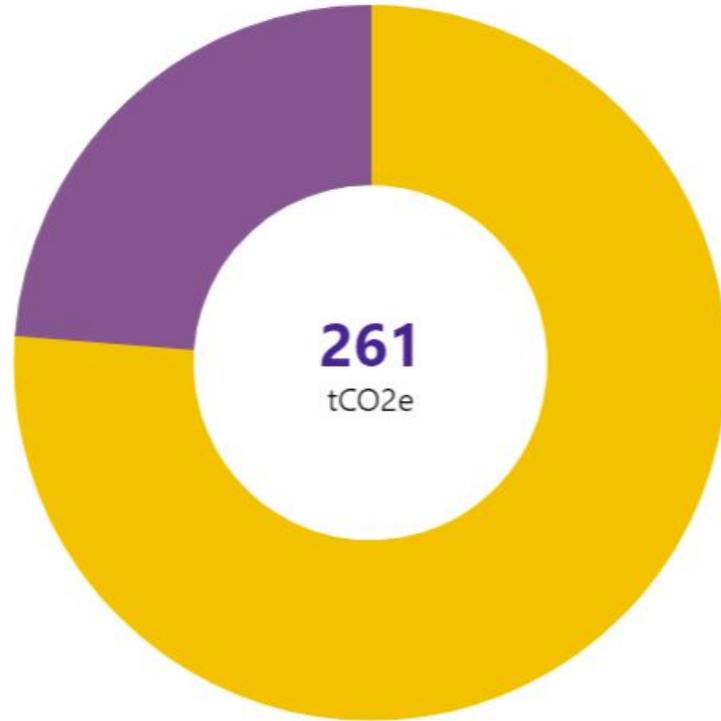


What is the methodology?

For data centers, we used two methods:

- > The Cloud Jewels method, which gives an average electricity consumption per vCPUh, and per To.h stored according to the storage mode (HDD or SSD). This consumption is then associated with the mix of the country concerned
- > The carbon footprint calculation provided directly by AWS.

Emissions from game use (12% of total)



Terminal usage 76.2%

Data centers 23.8%

What can we do to reduce the footprint of game use?

Digital eco-design



A photograph of a white bowl filled with a fresh salad, including green lettuce, cherry tomatoes, and pieces of cooked chicken. The bowl is placed on a wooden desk. In the background, a laptop is open, and a keyboard is visible. The scene is brightly lit, suggesting an office or workspace environment.

CATERING



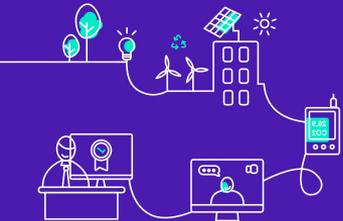
QUIZZ : Question 9

How many vegetarian steak fries do you think it would take to have the same footprint as a beef-based steak fry?

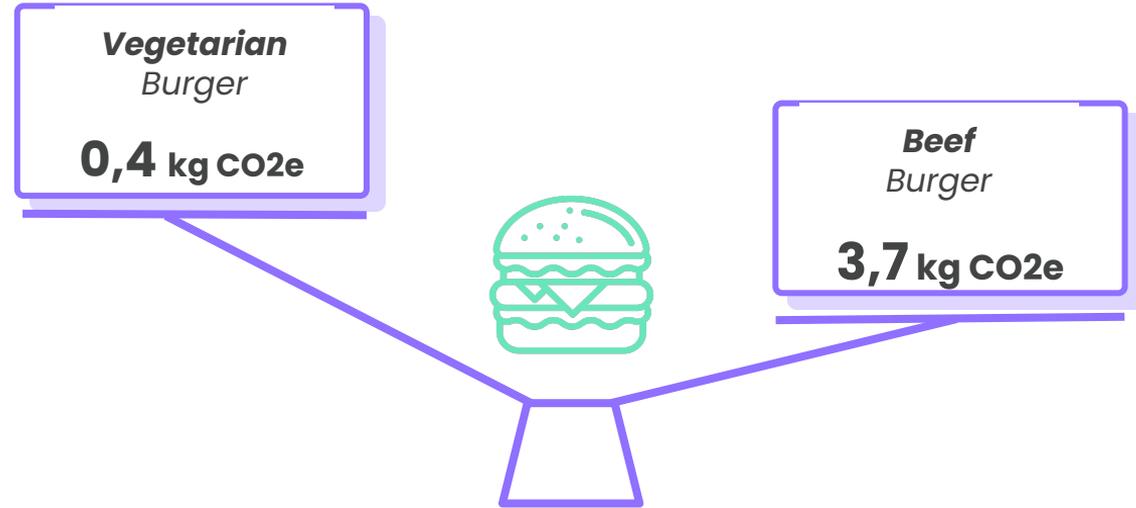
→ **2,5**

→ **5**

→ **9**



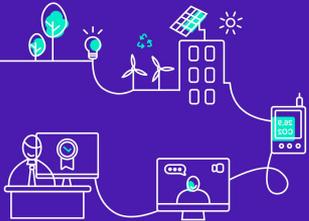
CARBON FOOTPRINT RESULTS



So a veggie burger is 90% less CO2 than a meat-based burger! 🌱

Vegetarian burger =

- 46% less energy
- 200 times less water consumption
- 10 times less impact on land use

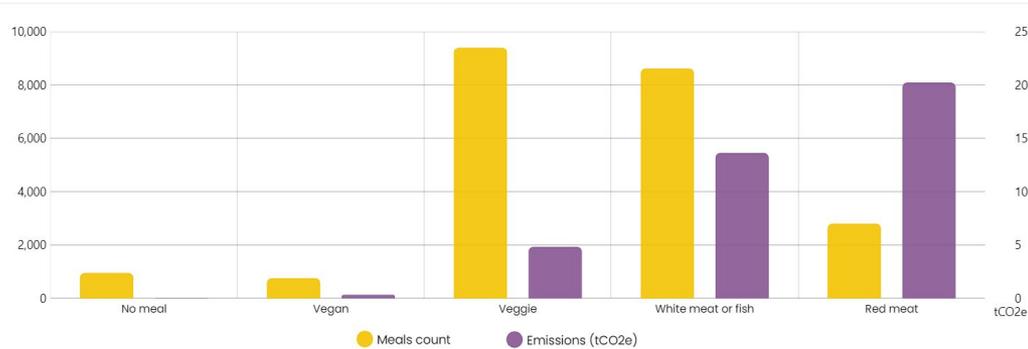


CARBON FOOTPRINT RESULTS

What is the methodology?

The measurement of the carbon footprint of employee meals comes from the analysis of the employee questionnaire: for each type of meal, more or less meaty, each type of preparation, and each type of snack consumed, an emission factor (EF) is applied to evaluate its carbon content.

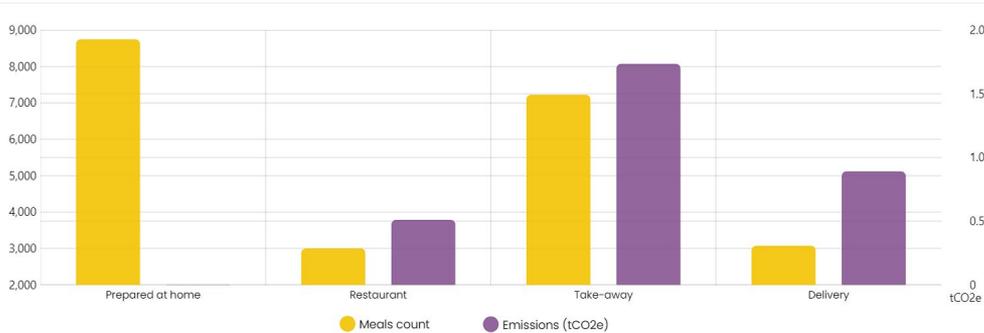
Meals - Diets



Meal content = 72% of footprint

Red meat = 13% of meals eaten and 48% of footprint!

Meals - Preparation modes



Preparation method = 6% of the footprint

CARBON FOOTPRINT RESULTS

*Drinks & snacks =
22% of the footprint*



What is the methodology?

The measurement of the carbon footprint of employee meals comes from the analysis of the employee questionnaire: for each type of meal, more or less meaty, each type of preparation, and each type of snack consumed, an emission factor (EF) is applied to evaluate its carbon content.



4.2 tCO₂e

44155 cups of coffee



983 kgCO₂e

1354 juices



1774 kgCO₂e

3759 processed snacks



943 kgCO₂e

13446 unprocessed snacks



1753 kgCO₂e

5312 sodas



636 kgCO₂e

1767 hot chocolates



1655 kgCO₂e

8277 bottled water



203 kgCO₂e

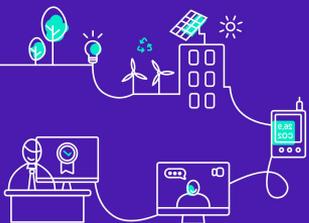
16526 cups of tea

IT



What action has the greater impact on carbon footprint reduction ?

- **Refurbished hardware:** 5 times less emissions than new hardware : 85 kg CO₂e avoided
- **Keeping your computer one year longer:** 27 kg CO₂e avoided
- **Watching videos in low resolution:** 10 times less emissions (4K / SD): 13 kg CO₂e avoided
- **Use wifi instead of 4G:** 6 times less emissions: 12 kg CO₂e avoided
- **Delete all unnecessary emails:** 0.2 g CO₂e/year for storage: 2 kg CO₂e avoided



RESULTS

IT - Internal emissions

 **131 t CO2e**

 **6% of total footprint**

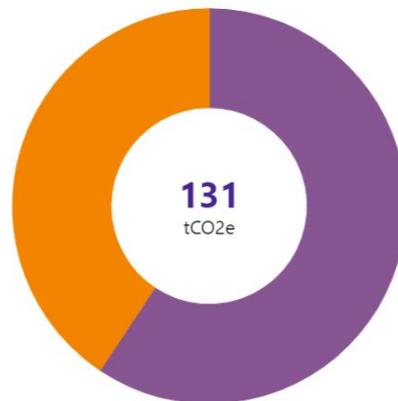


What is the methodology?

This item is fully analyzed thanks to the accounting data that you have provided in the FEC.

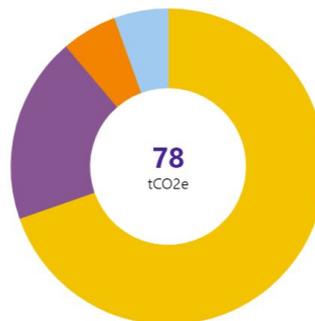
The ADEME's carbon base references monetary ratios giving an emission factor per € spent for each category of purchase.

Total emissions (tCO2e)



● Consultation 0% ● Digital services 59.4%
● Hardware 40.6%

Zoom on digital services (tCO2e)



● Software 69.7% ● Advertising 19.1%
● Maintenance 5.7% ● Others 5.5%

SAMI CATEGORY	ACTIVITY DATA
Software	319 k€
Others	25 k€
Advertising	87 k€
Maintenance	26 k€

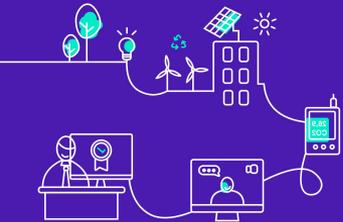
TRIPS



CARBON FOOTPRINT RESULTS

What action has the greater impact on carbon footprint reduction ?

- Avoiding a **Paris–New–York flight**: 2 tCO₂e avoided
- Use **public transport** every day: 2 tCO₂e avoided
- **Carpooling** every day: 1 tCO₂e avoided
- **Telecommuting** 50% of the time: 1 tCO₂e avoided
- Avoiding 10 return trips from Paris to Marseille by **High Speed Train**: 22 kg CO₂e avoided



RESULTS

Commuting

 **37t CO2e**

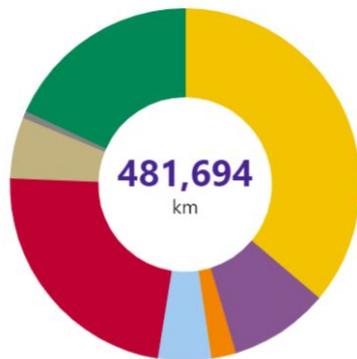
 **2% of your footprint**



What is the methodology?

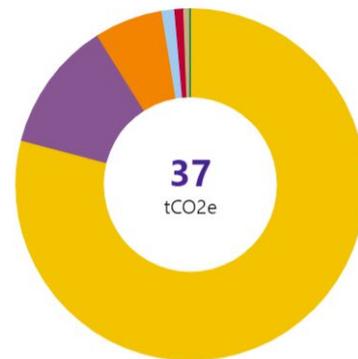
The Base Carbone (ADEME) proposes emission factors per km traveled for each type of transportation. Sami collects travel data through a questionnaire sent to employees.

Travelled kilometers



- Car 174,256 km
- Vehicle for hire 10,881 km
- High-speed train 111,031 km
- Local passenger train 3,052 km
- Motorized two-wheeler 44,328 km
- Urban public transport 23,735 km
- Bicycle 27,125 km
- By foot 87,286 km

Total emissions (tCO2e)



- Car 29.1 tCO2e
- Vehicle for hire 2.3 tCO2e
- High-speed train 0.3 tCO2e
- Local passenger train 0 tCO2e
- Motorized two-wheeler 4.4 tCO2e
- Urban public transport 0.4 tCO2e
- Bicycle 0.2 tCO2e
- By foot 0 tCO2e



18.7% of commuting done by car are less than 10kms



7.4% of commuting are done by bicycle or electric bicycle



Which represents 5.4 tCO2e, or 15% of your commuting

RESULTS

Remote Work

 **10 t CO2e**

 **0.5 % of your footprint**

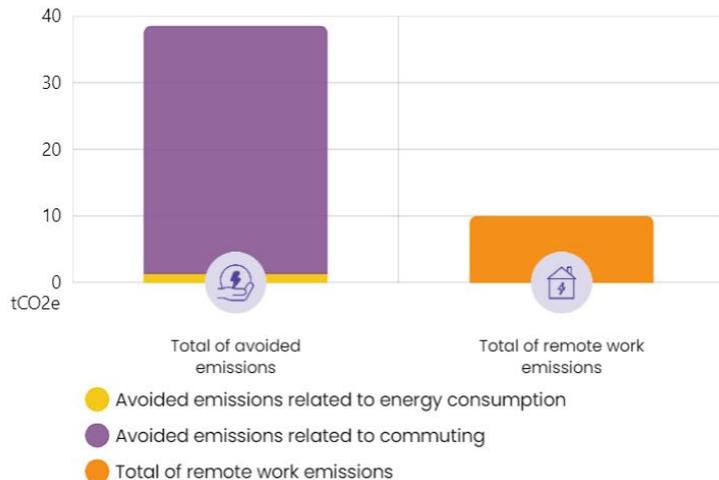


What is the methodology?

Telecommuting avoids emissions related to commuting, but when employees work from home, they use energy that is not accounted for by the company (heating, electricity, consumption of digital equipment, internet, etc.)

We have therefore added an emissions factor that measures this item, depending on the heating method and electricity supplier of each employee.

Total emissions (tCO2e)



	DATA
Total of remote work emissions	9,9 tCO2e
Remote working days	11 201
Average rate of remote work	50%
Avoided emissions related to energy consumption	1,4 tCO2e
Avoided emissions related to commuting	37 tCO2e



RESULTS

Business trips

 **20 t CO2e**

 **1% of your footprint**

What is the methodology?

The Base Carbone (ADEME) proposes emission factors per km travelled for each type of transport.

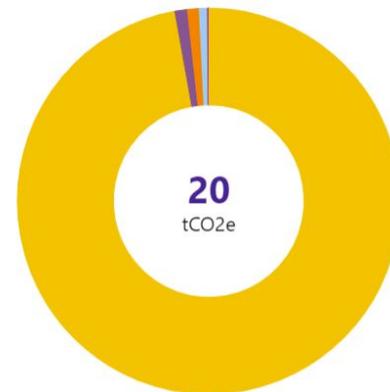
Sami collected the data of the trips thanks to global data of km traveled and of travel expenses.

Travelled kilometers



- Plane **91,923 km**
- High-speed train **72,995 km**
- Local passenger train **1,506 km**
- Car **1,982 km**
- Vehicle for hire **658 km**
- By foot **0.4 km**

Total emissions (tCO2e)



- Plane **19.4 tCO2e**
- High-speed train **0.2 tCO2e**
- Local passenger train **0 tCO2e**
- Car **0.2 tCO2e**
- Vehicle for hire **0.1 tCO2e**
- By foot **0 tCO2e**



On the 169,065 km of your business trips, **18.0%** are flights of less than 1,000 km.



It represents **7.9 tCO2e**, or **39.5%** of the 20 tCO2e of the carbon footprint of all your business trips.

A wide-angle, low-angle shot of a modern office interior. The space is filled with rows of desks, each equipped with multiple computer monitors. Several people are seated at the desks, their backs to the camera, focused on their work. The office is lit by numerous warm, white, spherical pendant lights hanging from a ceiling with exposed red-painted pipes and white beams. Large windows in the background show a dark night sky. The overall atmosphere is professional yet relaxed and collaborative.

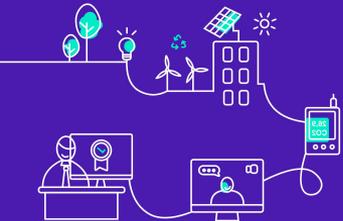
PREMISES



QUIZZ : Question 9

What action has the greater impact on carbon footprint reduction ?

- Switch to a **heat pump** heating system: 2 tCO₂e avoided
- **Setting the heating to 18°C** in winter: 110 kg CO₂e avoided
- **Print** 100% on **both sides** of the paper: 35 kg CO₂e avoided
- **Sort 100% of waste**: 15 kg CO₂e avoided



RESULTS

PREMISES



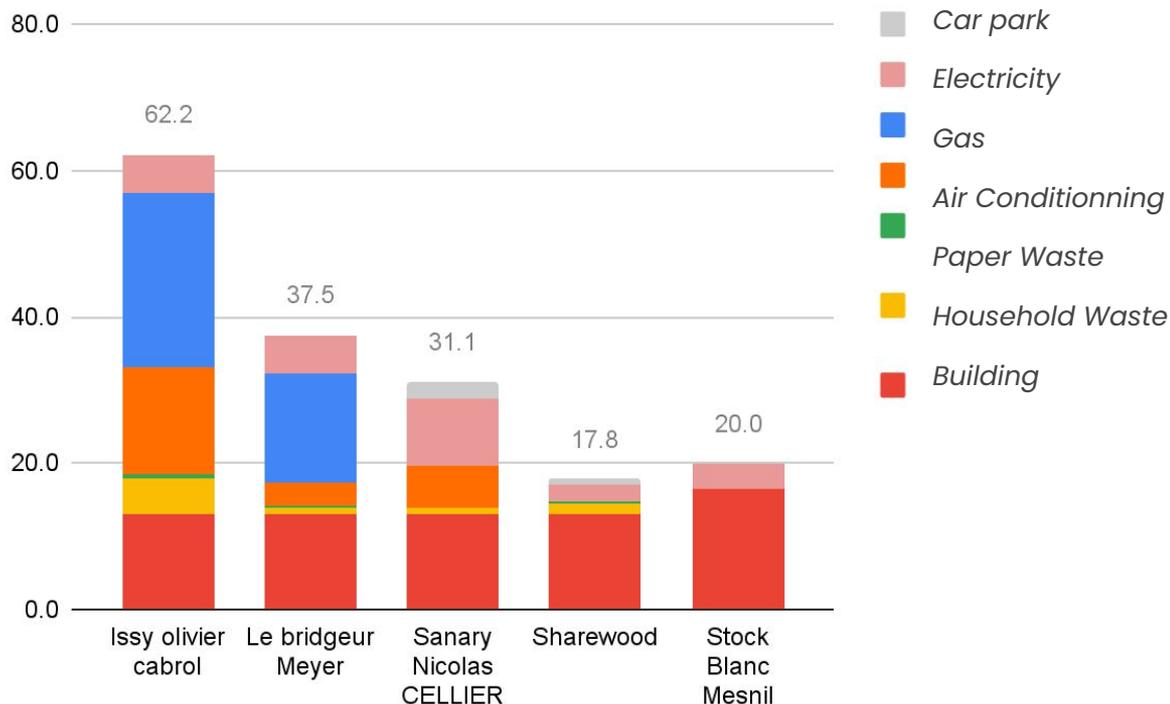
What is the methodology?

To calculate this emission item, we used different sources: electricity bill, maintenance expenses, DPE (energy performance diagnosis), equipment inventory, etc.

Air conditioning emissions correspond to the leakage of refrigerants, which are powerful greenhouse gases.

In cases where the information is difficult to access, we use standard data based on the [rfo study 2021](#), which proposes a standard footprint per square meter for an office building over its entire life cycle, or on studies by Zero Waste France for average waste figures per office worker.

Comparison of the carbon intensities of the different sites (in kg CO₂e/m²)



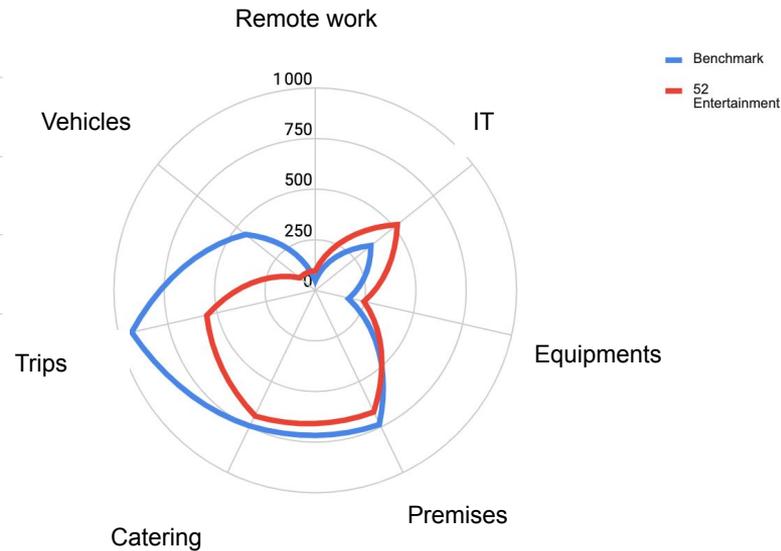
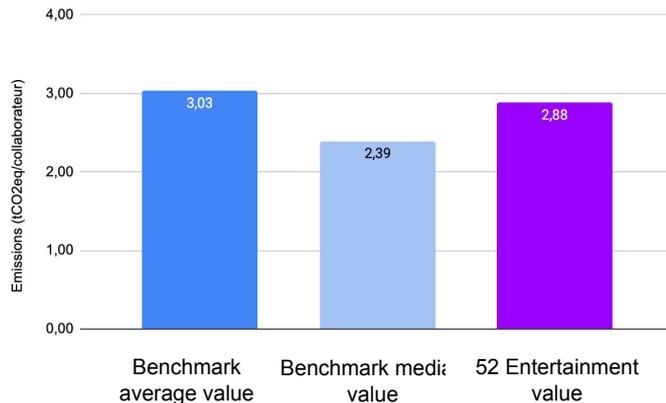


Employee carbon intensity ?

Created by Sami, this benchmark allows us to compare you to our entire customer database.

This intensity is calculated on certain items only: travel, meals, IT products, office and telecommuting. It is then compared to the number of FTEs.

Intensité Headquarter



52 Entertainment EMPLOYEE CARBON INTENSITY IS ...



2,9

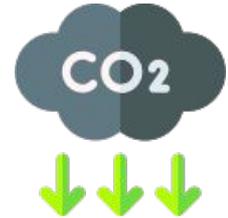
t CO2e / employee

Intensity by emission category in kgCO2e/collaborator

QUIZZ : Question 6

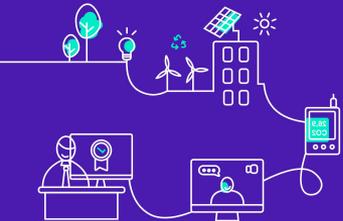
To stay under 2°C of warming, by 2030, each French person must reduce his footprint by :

- 10%
- **50%**
- 75%



To stay under 1.5°C, this reduction must be...?

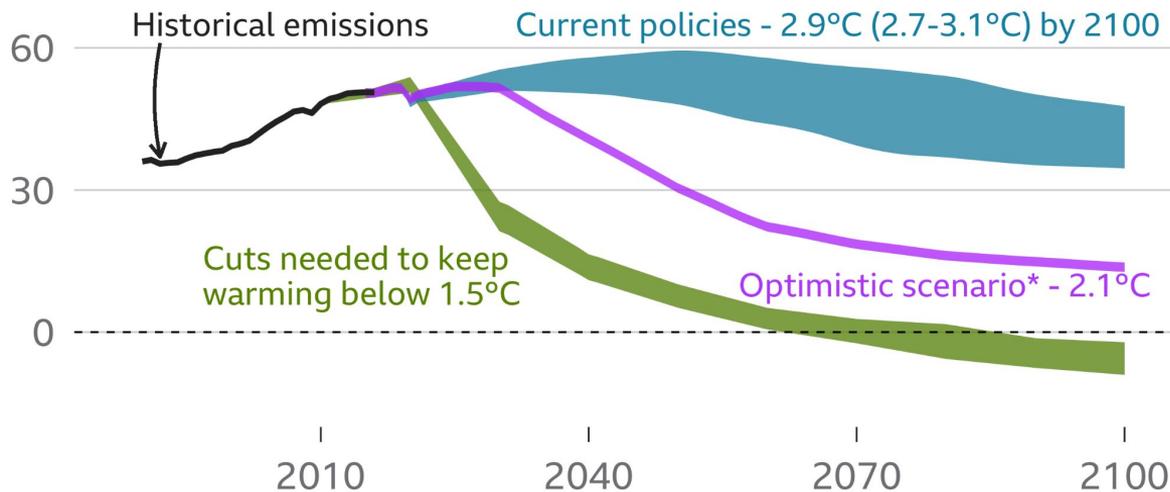
- **90%**



ZOOM : Climate trajectories

Greenhouse gas emissions projections

Gigatonnes of global CO2 equivalent emissions per year

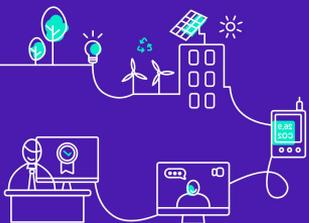


*Based on new long term promises by China, US, EU and others

Source: Climate Action Tracker



Source : [BBC](#)



Pursue the action plan at the individual level:

- *Global level* => build a low carbon offer

Digital eco-design at the center of the offer

- *Individual level* => continue to train on the subject & implement the identified actions

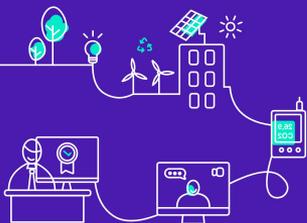
Eco-design training

Climate fresco & digital fresco

- *Continue to learn and act on a daily basis (in english):*

> [Bonpote blog](#)

> The [summary for policymakers](#) of the IPCC reports





 sami
Thank you!

