



Arts
Lettres
Langues

2D

Travaux dirigés

Food carbon footprint: the impact of transport

Document pour les étudiant·e·s

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Introduction

The 2016 Paris Agreements determined that the goal of the 194 states who signed this legally-binding treaty was to hold “the increase in the global average temperature to well below 2°C above pre-industrial levels” and pursue efforts “to limit the temperature increase to 1.5°C above pre-industrial levels”. Reducing CO₂ emissions linked to the agricultural sector in France is thus a key stake, both for the economy and public policies. In 2023, agriculture in France was responsible for the emission of 76Mt of CO₂ equivalent. The national objective is to reduce this number to 43Mt by 2050 ([SNBC 3](#)). Eating locally is often presented as an obvious and central solution shaping a lot of economic and public policies on the French territory. In this class you will learn more about the carbon footprint of French citizens, the role food plays in this, and the specific impact the transport of food has.

Activity 1

You’re going to watch a video in order to better understand what CO₂ equivalent means and answer some questions. First, read the questions, then you will watch the video twice.

[Watch the video: What Are CO₂ Equivalencies? Stroud International](#)

Question 1

What is the warming potential of one ton of:

- Methane
- Nitrous oxide

Question 2

In one sentence, define what a CO₂ equivalent is in your own words.

Question 3

In your opinion, why do we use CO₂ equivalents?

Activity 2

Question 1

If we take into account the greenhouse gas emissions generated by all the activities (eating, transportation, heating and cooling homes, buying clothes, public services etc.) of a human being, the global carbon footprint per person is of 6 tons of CO₂ equivalent emitted in one year. According to you, what is the average carbon footprint per person in France?

Question 2

In groups of 2-3, rank the different poles of emissions taken into account in the carbon footprint of a French citizen (i.e. food, household etc.), in decreasing order and try to guess how many tons of CO₂ equivalent each represents approximately. Just focus on giving the numbers for the five categories, not the individual activities (i.e. drinks, fish etc.). Remember, the total is 10 tons.

- 1- Sub-sectors ranking:
- 2- Sub-sectors ranking:
- 3- Sub-sectors ranking:
- 4- Sub-sectors ranking:

5- Sub-sectors ranking:

Question 3

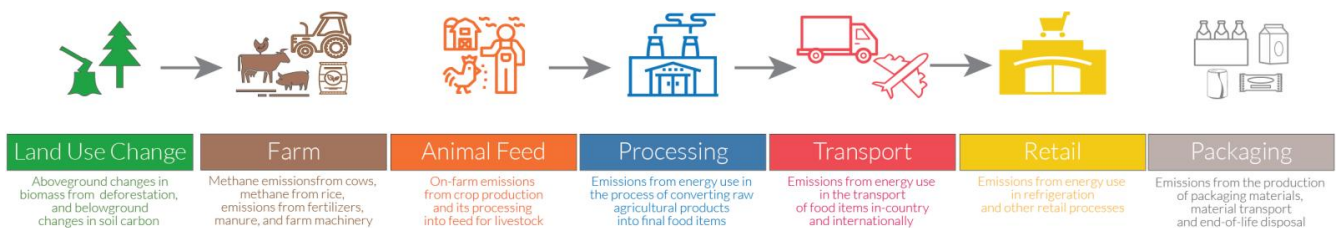
Then, rank the sub-sectors in decreasing order of emissions (e.g., for the 'Food' sector : drinks < fish < fruits and vegetables...) to illustrate how much they contribute, according to you, to the average carbon footprint in France.

Details (in alphabetical order):

- **Food:** drinks, fish, fruits and vegetables, meat, milk and eggs, others
- **Household:** construction, electricity, gas/heating oil, waste/water
- **Personal Expenditure:** banking/insurance, clothing, electronics, health/education, house, leisure, others
- **Public administration:** administration/defense, education, healthcare, infrastructure, others, sports/culture
- **Transport:** driving, flying, others

Activity 3

Below are the 7 steps of the agriculture supply chain which are taken into account to calculate the carbon footprint of a food product:



Source : Food: greenhouse gas emissions across the supply chain, Our World in Data [CC-BY]

Task 1: Rank these different foods according to what you think their total carbon footprint is. In each case we consider that the end-consumer is located in France. You don't need to provide any number, just rank the foods.

- Bananas from Brazil
- Local beef meat
- Chinese rice
- Chocolate (the cocoa is from Ivory Coast)

Task 2: For each food, choose the three most emitting steps of the supply chain (e.g. land use change, farm, animal). You don't have to provide numbers, just choose the three which are the most impactful according to you.

- 1- Three most emitting steps:
- 2- Three most emitting steps:
- 3- Three most emitting steps:
- 4- Three most emitting steps:

Activity 4

1. Calculate your Foodprint

Individually, complete the [Foodprint Calculator](#) and look at the environmental impact of your current diet.

[Go to the Foodprint Calculator](#)

When you are finished, discuss with a partner:

- What surprised you?
- Which parts of your diet seem to have the biggest impact?
- Is there anything you expected to have a bigger or smaller impact?

2. What could you change?

In groups of 2–3, discuss realistic changes you could make to reduce the carbon footprint of your diet.

For example, think about:

- The types of food you eat
- How often you eat certain foods
- Where and when you buy food
- Food waste
- How you plan and prepare meals.

Choose three changes that you personally think would be possible.

For each change, discuss:

- What could I do?
- Why would this reduce my carbon footprint?
- What might stop me or make it difficult?
- How could I overcome this barrier?

3. Share and compare

Compare your ideas with the other members of your group.

Discuss:

- Which changes would be easiest to make?
- Which would be the most difficult?
- Which could have the biggest impact?
- What are the main barriers: cost, habits, taste, time, availability, social life, knowledge...?
- Which changes depend mainly on individual choices?

- Which changes would require support from shops, restaurants, universities, farmers or local government?

As a group, agree on:

- a) One change most people could make:
- b) One important barrier:
- c) One action that could help people overcome this barrier:

Activity 5

Instructions: Based on these results and everything seen so far, you are now going to imagine, in groups of 2-3, that you are consultants commissioned by a local administration to advise the city hall on measures to recommend regarding how food is produced, transported, what is produced, how etc... The national objective is to reduce the emissions of the French agriculture sector of 45% by 2050 (source: [SNBC 3](#)), so your goal is to think about measures which could help in this regard.

Objective: Prepare a 5 minute speech to present and justify your ideas. Each presentation will be followed by propositions from the others to improve some of the measures presented.

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