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INTRODUCTION TO ENVIRONMENTAL FOOTPRINTS

What are “footprints?”



What do they measure?

How to interpret them?

“Environmental footprints are indicators that use specific units to represent our impact on the environment”

CARBON | WATER | ECOLOGICAL

CARBON FOOTPRINT

(probably the most famous)

CARBON FOOTPRINT measures:

The amount of carbon dioxide (**CO₂**) emissions that are produced by an individual, activity, process, product, service or country.

INTRODUCTION TO FOOTPRINTS | CARBON FOOTPRINT

- **Food carbon footprint** – how much CO₂ is emitted to grow, process and distribute food?
- **Travel carbon footprint** - how much CO₂ is emitted during a trip?
Which transport systems have lower emissions?
- **Product carbon footprint** – how much CO₂ is emitted to produce a product?
- **Kg or tonnes of CO₂**
- **CO₂e (CO₂ equivalent)** (other *greenhouse gases*)

**The carbon footprint is
responsible for more than 50% of
the global ecological footprint!**



WATER FOOTPRINT

WATER FOOTPRINT measures:

The amount of water used directly or indirectly by an individual, activity, process, product, service or country.

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- **Food water footprint** – how much is used and/or polluted to produce food?
- **Product water footprint** – how much water is used and/or polluted to produce a product?
- **Nations water footprint** – How much water is consumed or polluted by a nation?

INTRODUCTION TO FOOTPRINTS | WATER FOOTPRINT



GREEN

Rainwater



BLUE

Groundwater
&
surface water



GREY

Pollution

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Global average
water footprint

**132 litre per cup of
125 ml**

96% green,
1% blue
3% grey



Global average
water footprint

1259 litre per pizza

76% green,
14% blue
10% grey



Global average
water footprint

15 415 litre/kg

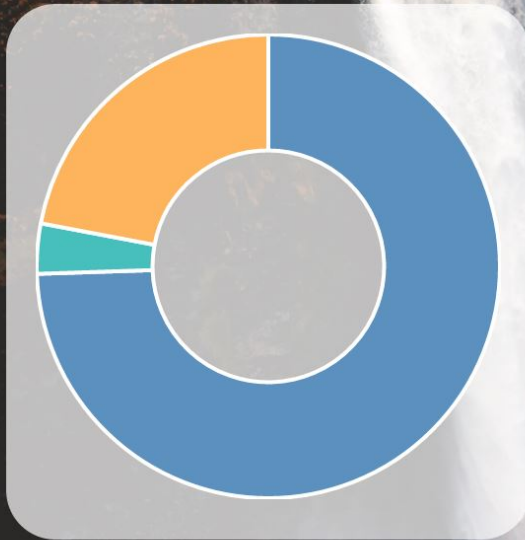
94% green,
4% blue
3% grey



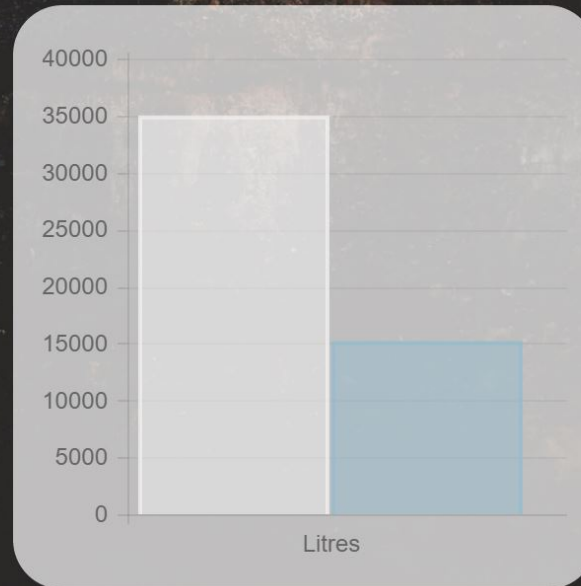
WATER FOOTPRINT CALCULATOR

The impact of
your different
choices

Your water footprint is **15,203**
litres per week.



In blue the impact of the food you eat, in green of the beverage and in orange of the domestic use of water.



In blue your results and in grey
european average.

<http://aquapath-project.eu/calculator/country.html>

ECOLOGICAL FOOTPRINT

In a simple way:

- **Measures all natural resources that are needed by an individual, population or activity.**

Considers:

- Resources consumed
- Resources to absorb waste

INTRODUCTION TO FOOTPRINTS





- **Global hectares (gha)**

(global hectare with the Earth's average biological productivity)

Global ecological footprint per capita (2010)

2.6 gha

INTRODUCTION TO FOOTPRINTS

Year	Planet equivalents
1961	
1985	
2003	
2014	

If the world's population had the same lifestyle of an average USA citizen, we would need 3.9 planets!

INTRODUCTION TO FOOTPRINTS

2010

- **Global ecological footprint per capita: 2.6 gha**
- **Biocapacity world average per capita: 1.7 gha**
- **Deficit in 91 of 152 countries!**

Only possible due to the Earth's reserves

INTRODUCTION TO FOOTPRINTS

Human activities are using more resources than the natural rate of ecosystems to provide and absorb.



SUMMARY

- Footprints are sustainability indicators.
- Simple results, but complex calculations!
- Applied to **individuals**, activities, process, products, services, countries, regionally or even globally.
- Useful to communicate and to raise awareness!

GROUP EXERCISE!!!

INTRODUCTION TO FOOTPRINTS

1. What is your ECOLOGICAL FOOTPRINT?

Calculate and write your answer !

<http://www.footprintnetwork.org/en/index.php/gfn/page/calculators>

2. What is your WATER FOOTPRINT?

Calculate and write your answer!

<http://aquapath-project.eu/calculator/calculator.html>

3. What is your CARBON FOOTPRINT?

Calculate and write your answer !

<http://footprint.wwf.org.uk/>