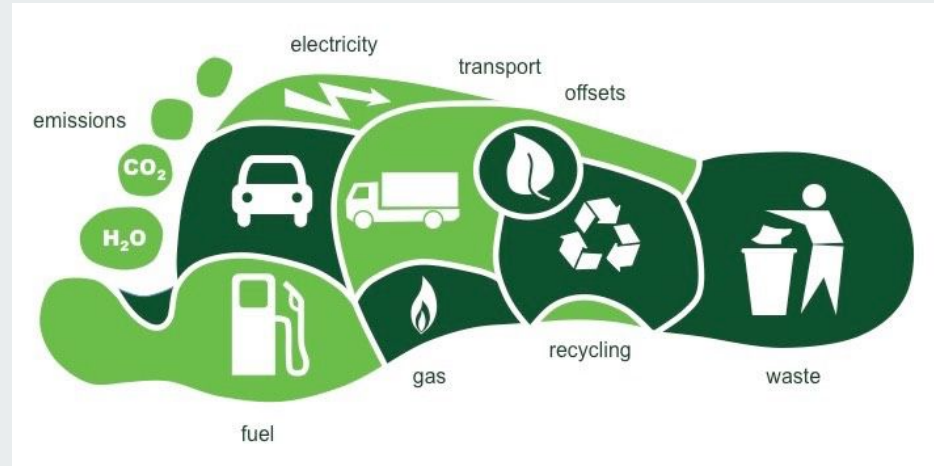


# CARBON FOOTPRINT



**Contemporary Problems in Urban Sustainability**

**Pinar OYMANER**

# Defining the term

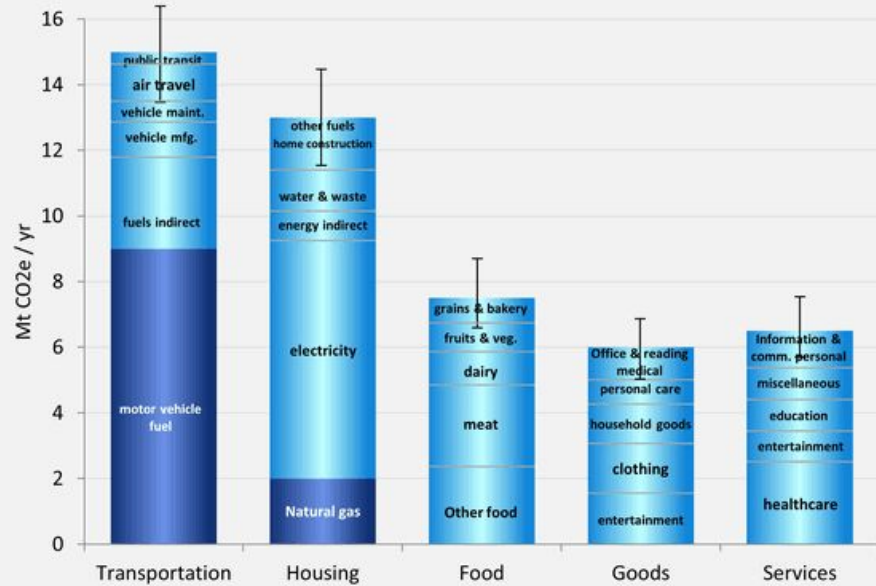
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A carbon footprint is basically the total amount of greenhouse gas emissions that anything -- a person, organization, event or product -- has produced. Greenhouse gases are the gases in the atmosphere that produce the "greenhouse effect" and contribute to global warming and climate change.

main objective: **lifestyle**

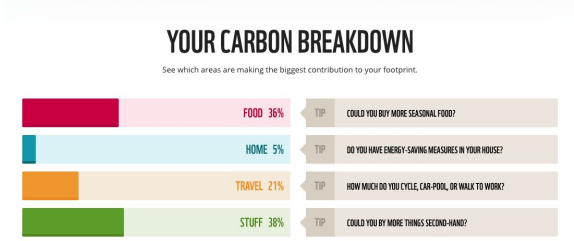


# Distribution of CO<sub>2</sub> emission on various fields

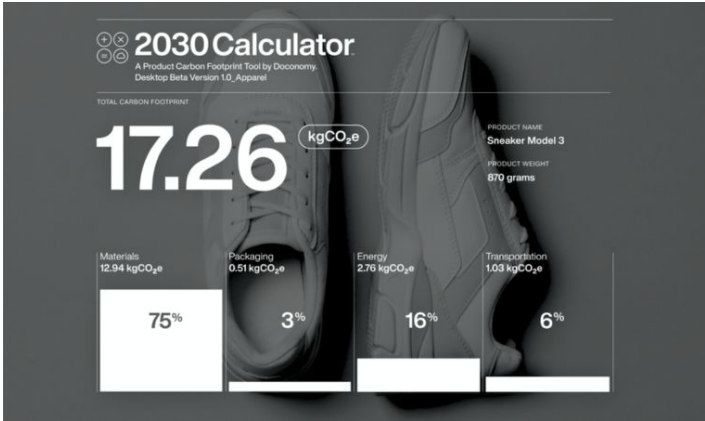


Carbon Footprint of Typical U.S. Household: 48 Tons per Year

# It is possible to calculate an average value of one's specific carbon footprint



+ 3.06 TONNES GOVERNMENT EXPENDITURE PER PERSON



### Carbon footprint

Your hotel creates 202156,1 Kgs of CO<sub>2</sub> per year

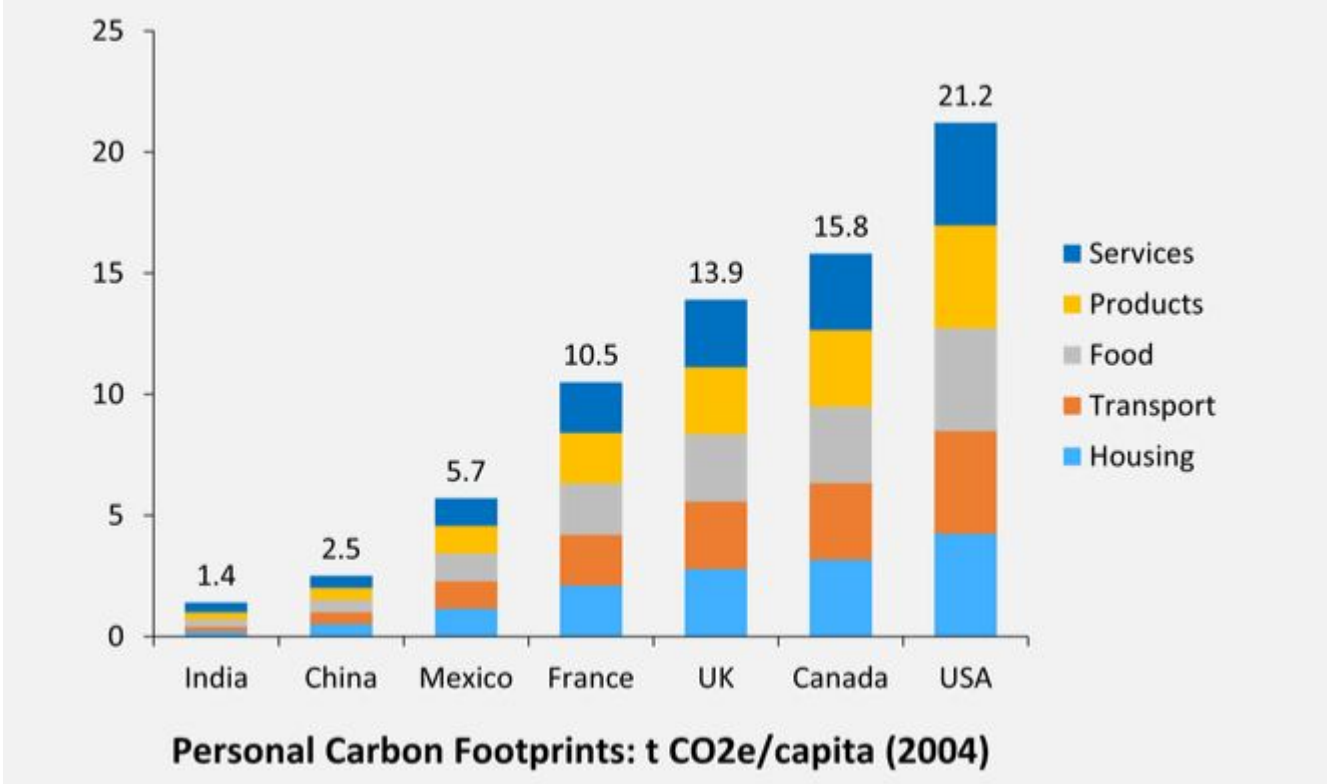


Each of the following activities add 1 kg of CO<sub>2</sub> to your personal carbon footprint:



- Travel by public transportation (train or bus) a distance of 10 to 12 km
- Drive with your car a distance of 6 km (assuming 7.3 litres petrol per 100 km)
- Fly with a plane a distance of 2.2 km
- Operate your computer for 32 hours (60 Watt consumption assumed)
- Production of 5 plastic bags
- Production of 2 plastic bottles
- Production of 1/3 of a cheeseburger

The rates differ according to cultural habits, wealth level, location etc.



# Types of Carbon Footprint

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- The **primary footprint** is the sum of direct emissions of greenhouse gases from the burning of fossil fuels for energy consumption and transportation.

**HUMANS CAN DIRECTLY CONTROL**

- The **secondary footprint** is the sum of indirect emissions of greenhouse gases during the life cycle of products used by an individual or organisation.

**HUMANS HAVE AN INDIRECT CONTROL**



## Primary

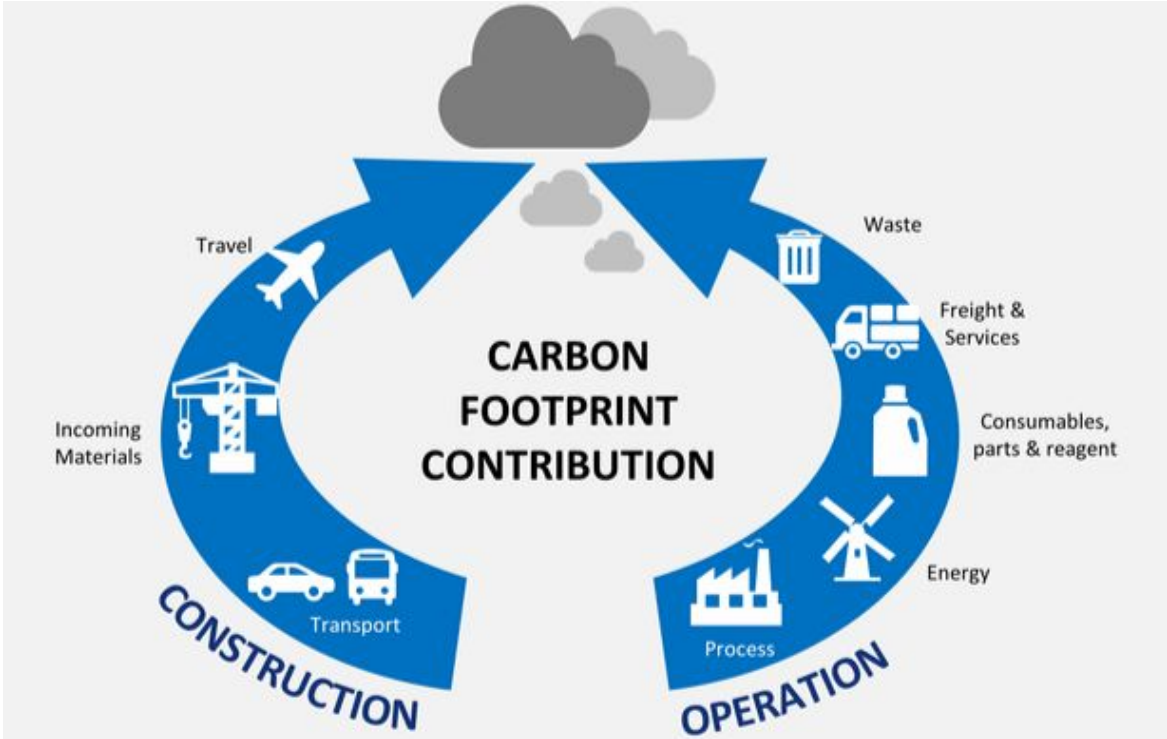
- Home appliances permanently switched on
- Using a car to travel short distances in the city- public&private transport
- Heating appliances- gas, oil, coal
- Arbitrary flights

## Secondary

- Imported food
- Ready meals
- High consumption of red meat
- Clothes and personal preferences
- Drinking bottled water

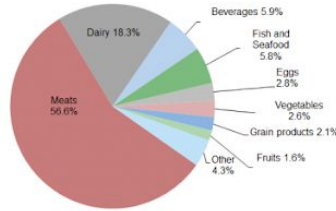


# Understanding the cycle



# What are the most unavoidable routines for people?

- Meat consumption
- Driving
- Personal Care: deodorants, perfumes, cosmetics etc.
- Materials used in packaged goods- from water bottles, junk food packs to cigarette boxes



**Measuring your carbon footprint**

One vehicle driving 750 miles per month (9,000/year) getting 21 miles to the gallon requires 24.75 trees to offset its annual carbon emissions.\*\*

\*\* Information courtesy of carbonity.com

STANDARD GLASS  
0.75 l / 540 g



675

g CO2e/l

LIGHTWEIGHT  
0.75 l / 420 g



525

PLASTIC  
0.75 l



167

ALUMINIUM CAN \*  
0.5 l / 16 g



153

BAG  
1.5 l



96

CARTON  
1 l



85

BOX  
3 l



70

\* Figures are based on data from a different data source.

# Informing the consumers

## Carbon Facts

Product Size 1 Cheeseburger (130g)

### Amount Per Serving

Kilograms CO<sub>2</sub> Equivalent 3.08  
 Kilograms CO<sub>2</sub> 243 Kilograms CH<sub>4</sub> 123

**Total C: Energy Sources 243g**

#### Transportation

Fossil Fuel (Diesel) 120g

Fossil Fuel (Gasoline) 48g

#### Electricity Production

Fossil Fuel (Natural Gas) 75g

Fossil Fuel (Coal) 0g

Other

**Total C: Non-Energy Sources 2840gCO<sub>2</sub>e**

Enteric Fermentation 81.0g (1864gCO<sub>2</sub>e)

Manure 25.8g (606gCO<sub>2</sub>e)

Other 5.2g (120gCO<sub>2</sub>e)

**Carbon/Product Ratio 23.7**

Localism Rating C+

Sustainable Production Rating D+

overall carbon code: **orange**



## Whole Milk

Serving Size 8 fl oz (240mL)

Servings Per Container 2

### Amount Per Serving

**Calories 150** Calories from Fat 70

% Daily Value\*

**Total Fat 8g 12%**

Saturated Fat 5g 25%

**Cholesterol 35mg 12%**

**Sodium 125mg 5%**

**Total Carbohydrate 12g 4%**

Dietary Fiber 0g 0%

Sugars 11g

**CARBON: 1 kg**

Vitamin A 6% • Vitamin C 4%

Calcium 30% • Iron 0% • Vitamin D 25%

\* Percent Daily Values are based on a 2,000 calorie diet. Your daily values may be higher or lower depending on your calorie needs.

		2,000	2,500
Total Fat	Less than	65g	80g
Sat Fat	Less than	20g	25g
Cholesterol	Less than	300mg	300mg
Sodium	Less than	2,400mg	2,400mg
Total Carbohydrate		300g	375g
Dietary Fiber		25g	30g

# 10 easy ways to reduce your carbon footprint:



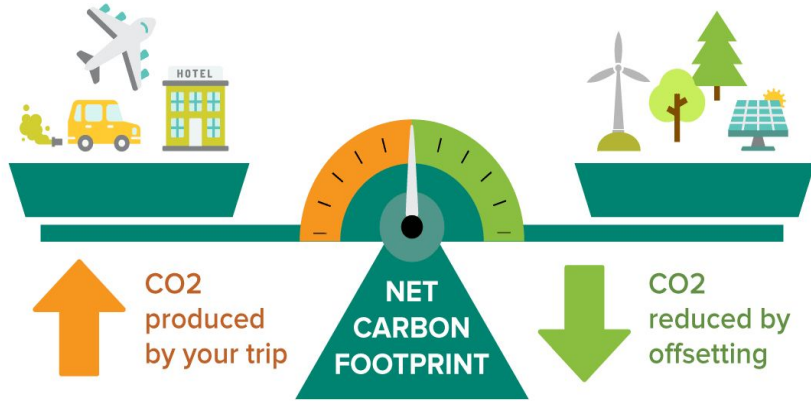


- Reducing CO<sub>2</sub> emissions benefits:
  - The environment
  - The economy
  - Society
    - Practices that benefit all three of these are said to be **sustainable**.

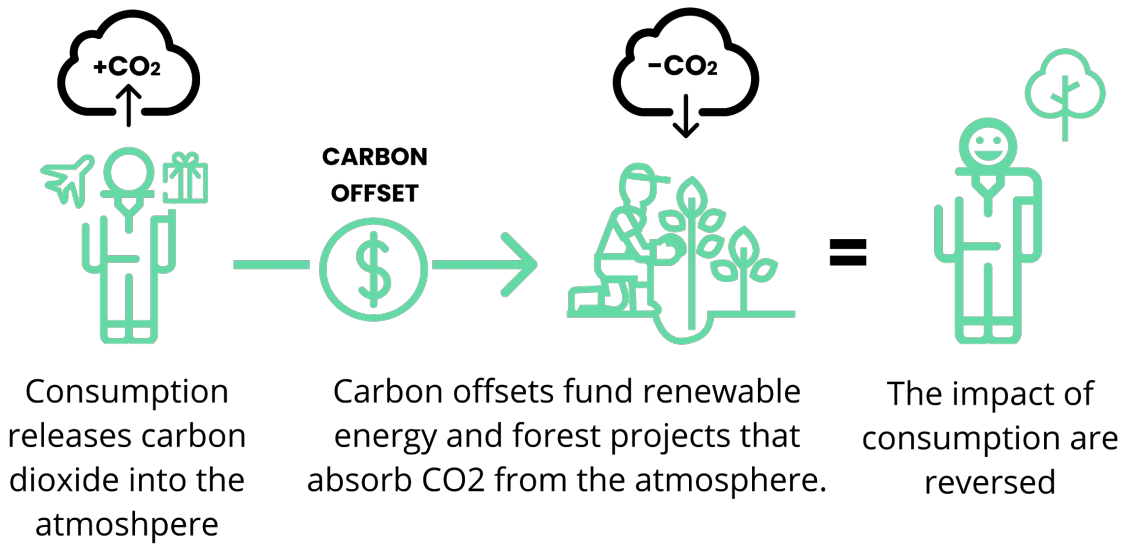


# Worth to note: Carbon Offsetting

CARBON OFFSETS ALLOW YOU TO BALANCE OUT YOUR EMISSIONS



**Definition:** The action or process of compensating for carbon dioxide emissions arising from industrial or other human activity, by participating in schemes designed to make equivalent reductions of carbon dioxide in the atmosphere.



# References

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