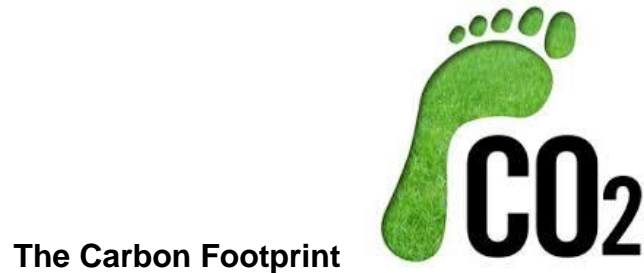


The following teaching activity was created by the team of teachers and students from Colegiul Tehnic Ana Aslan Cluj-Napoca/Romania:



What is the Carbon Footprint?

The Carbon Footprint is a resource accounting tool that measures how much biologically productive land and sea is used by a given population or activity, and compares this to how much land and sea is available. Productive land and sea areas support human demands for food, fiber, timber, energy, and space for infrastructure. These areas also absorb the waste products from the human economy. The Carbon Footprint measures the sum of these areas, wherever they physically occur on the planet

How your Carbon Footprint is calculated?

When determining the size of your Carbon Footprint, we examine the volume of greenhouse gas emissions produced by an activity. The backend takes into account all greenhouse gas (GHG) emissions generated by such activities. Greenhouse gases include those occurring in nature such as carbon dioxide (CO_2), methane (CH_4) and nitrous oxide (N_2O) or synthetic ones such as hydrofluorocarbons (HFCs), perfluorocarbons (PFCs) and sulfur hexafluoride (SF_6).

Carbon Footprints can be calculated for individual people, groups of people (such as a nation), and activities (such as manufacturing a product).

The Carbon Footprint of a person is calculated by considering all of the biological materials consumed, and all of the biological wastes generated, by that person in a given year. All of these materials and wastes are then individually translated into an equivalent number of global hectares.

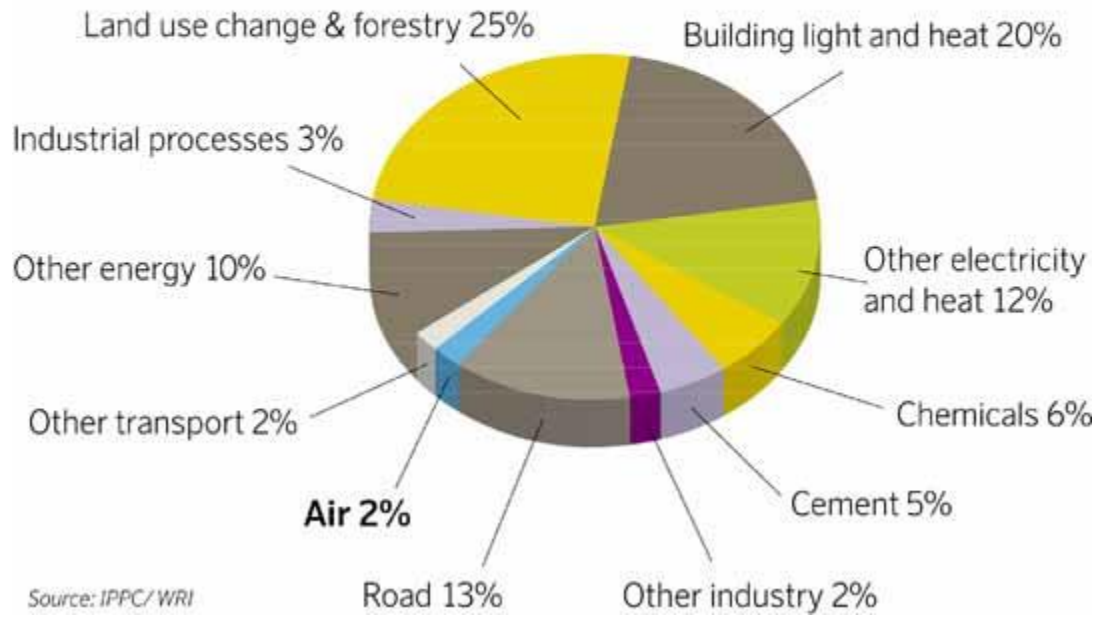
To accomplish this, an amount of material consumed by that person (tons per year) is divided by the yield of the specific land or sea area (annual tons per hectare) from which it was harvested, or where its waste material was absorbed. The number of hectares that result from this calculation are then converted to global hectares using yield and equivalence factors. The sum of the global hectares needed to support the resource consumption and waste generation of the person gives that person's total carbon footprint.

Unit of measure for calculating your Carbon Footprint (tCO₂e)

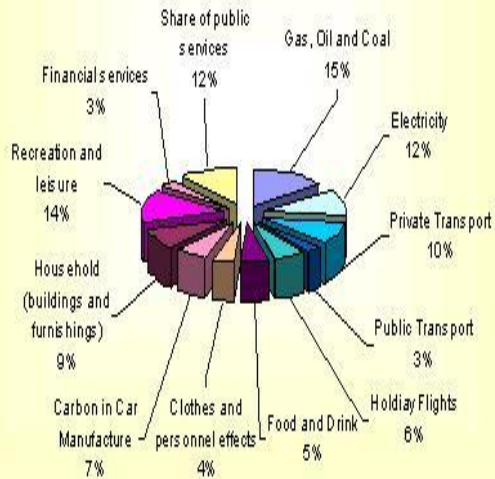
Due to the volume of carbon dioxide emissions, it is considered the most significant of the greenhouse gases mentioned above. The size of your carbon footprint is expressed as metric tonnes of CO₂ equivalent (tCO₂e). When assessing the size of your carbon footprint, other kinds of greenhouse gas emissions are also converted into CO₂ equivalent, therefore their unit of measure will be tCO₂e, too. To determine the full size of your carbon footprint, tCO₂e values for these GHGs must be added up.

The Carbon Footprint is used widely as a management and communication tool by governments, businesses, educational institutions, and non-governmental organizations.

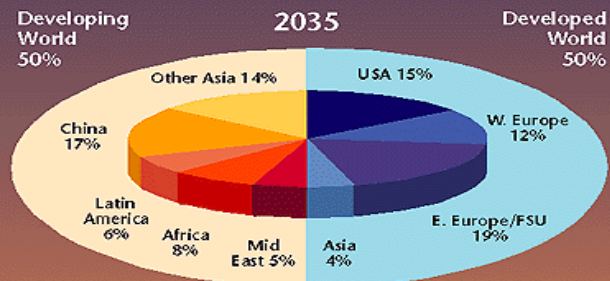
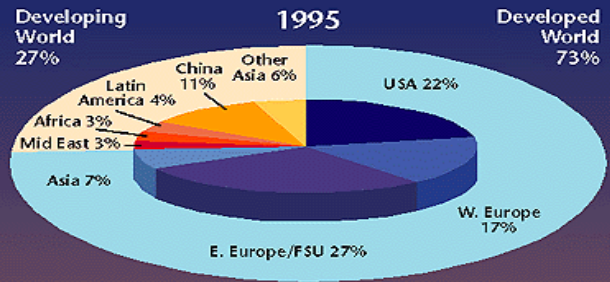
Global CO₂ Emissions



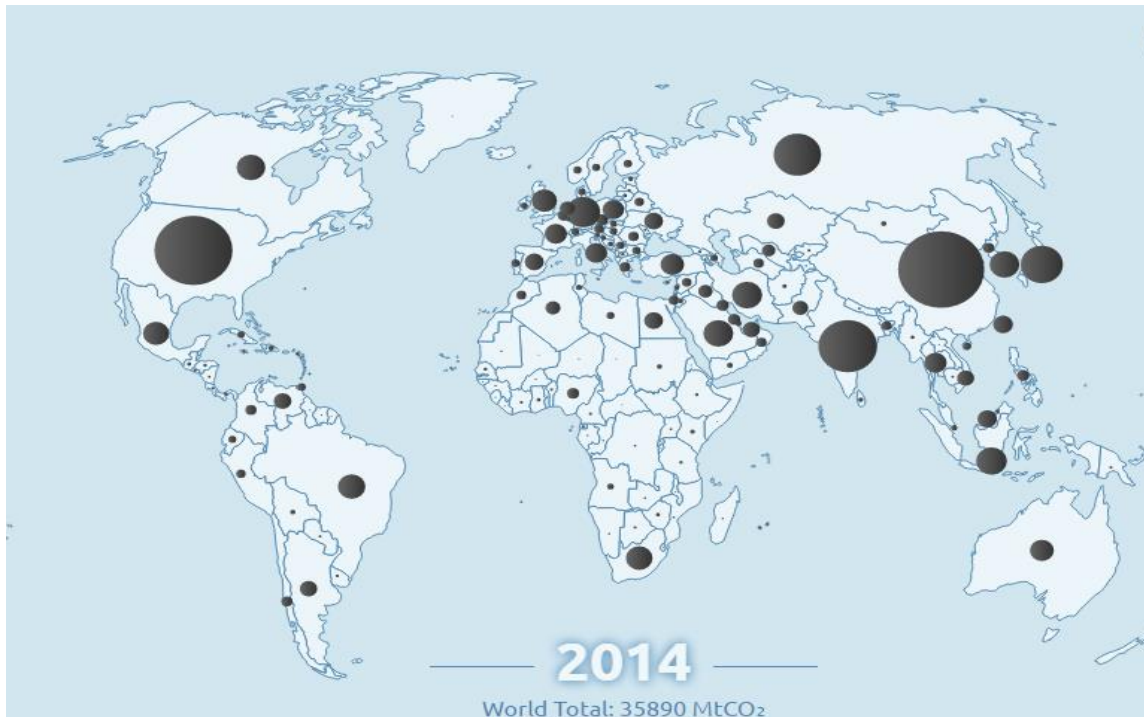
Breakdown of a typical person's Carbon Footprint



Total World Emissions



1995 total emissions is 6.46 billion tons CO₂; in 2035 total emissions is estimated to be 11.71 billion tons CO₂



<http://www.globalcarbonatlas.org/?q=en/emissions>



<http://inhabitat.com/infographic-tips-to-lower-your-carbon-footprint/>

Tasks:

1. Calculate your carbon footprint using the online Carbon Footprint calculator
<http://www.earthday.org/take-action/footprint-calculator/#ecofootprint>
(Select your location on the map)
2. Calculate the average of your class Carbon Footprint.
3. Compare your Carbon Footprint with your country Carbon Footprint.
4. Take 2- 3 changes in order to reduce your Carbon Footprint.
5. Repeat the calculation of your Carbon Footprint after 1- 2 months.

THE INTERNATIONAL EARTHDAY IS ON 22 APRIL



Let`s plant a tree to help a Planet.

Why?

1. Trees help combat climate change.

They absorb excess and harmful CO₂ from our atmosphere. In fact, in a single year, an acre of mature trees absorbs the same amount of CO₂ produced by driving the average car 26,000 miles.

2. Trees help us breathe clean air.

Trees absorb odors and pollutant gases (nitrogen oxides, ammonia, sulfur dioxide and ozone) and filter particulates out of the air by trapping them on their leaves and bark.

3. Trees help communities.

Trees help communities achieve long-term economic and environmental sustainability and provide food, energy and income.

- See more at: <http://www.earthday.org/earth-day/earth-day-theme/#sthash.QsIktYXV.dpuf>



Bibliography:

1. <http://www.earthday.org/take-action/footprint-calculator/#ecofootprint>
2. <http://www.carbonsolutionsglobal.com/offsetting/certified-carbon-footprint-calculator>
3. <http://www.nature.org/greenliving/carboncalculator/>