

ERASMUS +

- Technology as solution
for a climate change

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CARBON FOOTPRINT

Our carbon footprint is the sum of emissions of CO₂, which were induced by our activities in a given time frame. Usually a carbon footprint is calculated for the time period of a year.

Carbon Dioxide is one of the most abundant greenhouse gases in Earth's atmosphere that can absorb and emit infrared radiation. So, our carbon footprint is a very powerful tool to understand the impact of personal behavior on global warming.

the carbon footprint



But there are different types of carbon footprint:

Primary carbon footprint

- This is measure of how much carbon dioxide is given out directly by energy consumption, so you are in control of this type of carbon footprint.

Secondary carbon footprint

- This is measure of carbon dioxide is given out that **is not under your control** by products we consume.



PRIMARY CARBON FOOTPRINT	SECONDARY CARBON FOOTPRINT
Home appliances permanently switched on	Imported food
Flying to work	Ready meals
Using a car to drive into town for 2 minutes	Eating quantities of red meat
Using a tumble drier	Drinking bottled/filtered water only



The carbon footprint of Greek households

- As far as our country is concerned, every inhabitant "produces" daily 1.3 kg of garbage, of which 500 gr. they are food!!!

Study cases:

- 1kg CO₂ is emitted into the atmosphere to produce 1 hamburger



- The carbon footprint of lamb is at least 3 times that of pork, 6 times larger than that of chicken



> 3




> 6



**40 times larger than plant products
such as lentils**

Why is this happening?


- The slightly **increasing** trend of the carbon footprint of Greek households estimated for the period **1995–2008** should be attributed to high economic growth and improvements in the standard of living especially after 2005.


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- The dramatic reduction of the carbon footprint calculated after 2008 should be attributed to the shrinking household incomes in view of the economic recession in Greece.
 - The extensive use of natural gas in new fossil fuel power plants resulted in reducing the carbon footprint of the sector by 38% during the period 2000-2020.


Energy greek footprint

- Unfortunately, Greece is the seventh country in the world and third in the EU-27 when it comes to lignite production. Although it is cheap to mine, the lignite produced in Greece is of a poor quality, making the cost of energy production very high.



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- First, not all EU member states had the same goals. In other countries, with developed industry, the goal was set for large reductions. Greece, which was further backward in development, was initially committed to curbing emissions growth, ie to increase it by less than 25% by the middle of the first decade of the 21st century. Then the reduction should start.

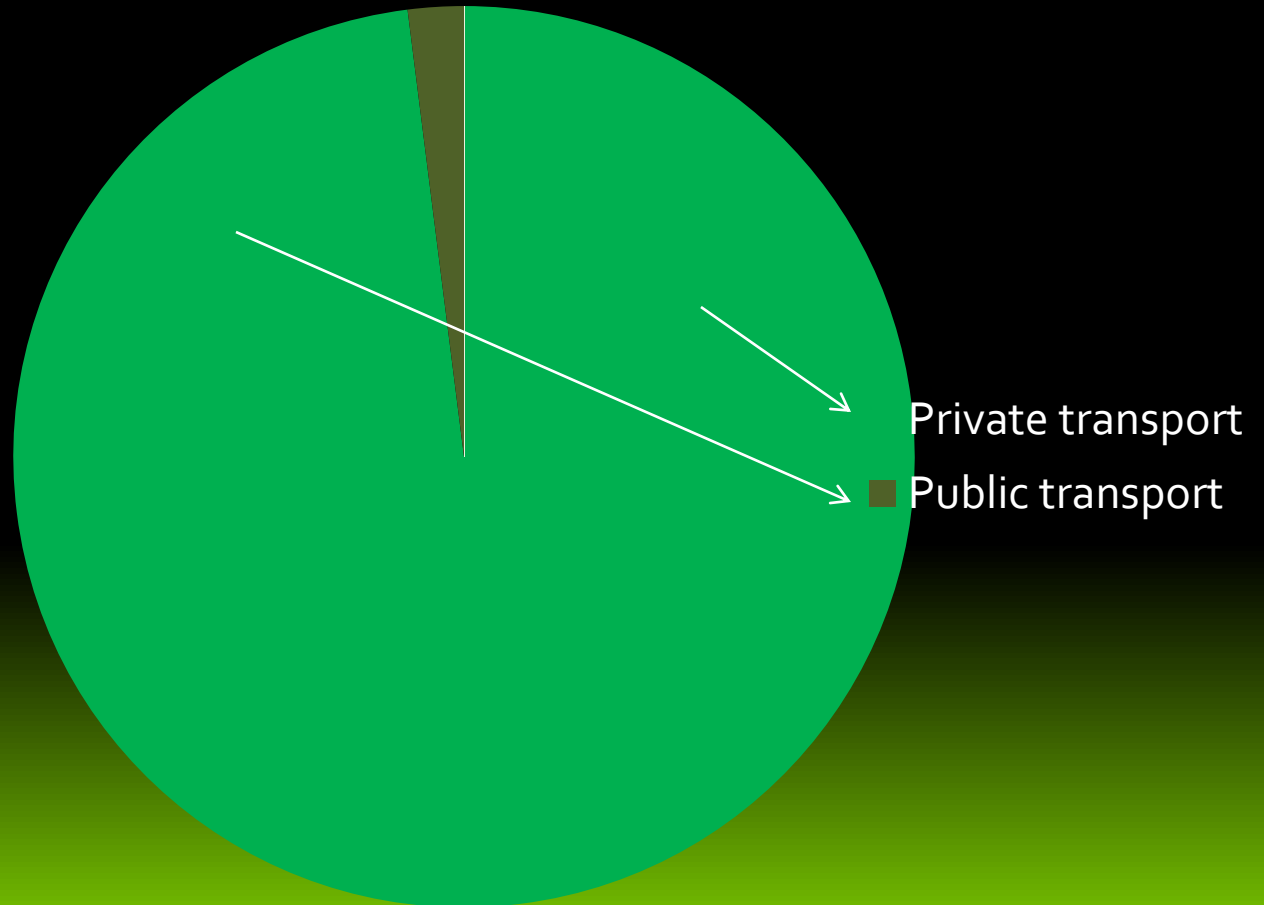
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- Since 2016 many factories were closing, while energy consumption was mainly reduced, as many households could not heat their homes. This was a tragic situation. At the same time, emissions were reduced mainly in electricity generation, through the serious development of renewable energy sources, but also natural gas.

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- During the Covid-19 period emissions were reduced in all 27 EU member to slow the spread of the virus. **Greece recorded the largest decrease (-18.7%).**

Transport

- According to the calculations, the total energy consumption through the fuel consumption of the transport sector in the municipality of Rodopi was estimated at 122,518 tons of CO₂. The largest percentage comes from private and commercial transport 97% while 0.8 and 1.5 respectively due to municipal and public transport.

Transport footprint




Main effects

- A. Climate change
- Scientists relate the appearance of sea snot to **global warming**. The heating of the atmosphere under the greenhouse phenomenon increases the temperature of the oceans and the seas, making them more appropriate for certain microorganisms that thrive in warmer waters, while they also create an environment uninhabitable for other animals and plants.

- According to a report by the Poseidon System, the marine heat wave in the second half of June 2021 increased the average daily temperature of the Aegean Sea to 28 degrees Celsius, which causes a slimy foam that appears more and more on the Greek coasts.




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- B. Depletion Resources
 - The more those with large carbon footprints use resources, the more greenhouse gases increase and spur further climate change. This fact has a social impact on Greek society. Greek power companies have to buy gas emissions allowances very expensively and the Greek people have to pay very expensive electricity.

Solutions

- A. Greece has pledged to shut down all lignite-fired power plants by 2028.
- B. The Greek government approved a set of four projects from renewable energy sources. The projects relate to **solar photovoltaic parks** and station and also to **wind power investments**.



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- C. The Greek government encourages individuals to receive subsidies of up to 85% of the investment or 50,000 euros per household, to upgrade the insulation of buildings and make them energy independent.

How to reduce our footprints:

- Nutrition
- We consume seasonal and local foods.
- We reduce the consumption of meat.
- ***LOVE FOOD, HATE WASTE***

Do You Know What A Carbon Footprint Reduction label is?

- Carbon Reduction Label reassures consumers that the company using it in labeling and advertising of its products has calculated the total carbon dioxide emissions at each stage of the cycle their lives, and most importantly, is committed to truly reducing the Carbon Footprint within the next 2 years.

Residence Energy

- We can insulate our house, use it fans instead of air conditioner, ventilate the house early in the morning or in the evening. During the day we lower the awnings and we close the curtains.
- We use natural gas for heating and not oil.

Trash


- We consume less and
- We recycle more





Transport

- We use less the car and the plane and more the public transport and the bicycle.
- We walk more.
- ***GREEN YOYR MOVE***

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- Let's reduce our consumption and be careful what we consume.
 - Let 's turn waste into a resource and put it into practice:
 - *Reduction*
 - *Reuse*
 - *Recycle*

Think and act green

- Future is in OUR hands





Thank you for your attention

References

- **Makris, C., Galiatsatou, P., Tolika, K., Anagnostopoulou, C., Kombiadou, K. et Prinos, P.** Climate change effects on the marine. *Characteristics of the Aegean and Ionian Seas*
- **Markakia , M., Belegri-Robolia , A. , Sarafidis Y. et Mirasgedis, S.** The carbon footprint of Greek households (1995–2012)

References

- Ελαφρός, Γ. (2019). Η Ελλάδα και οι προκλήσεις της κλιματικής αλλαγής
- Carbon emissions from energy dropped 10% in the EU last year
- <https://www.ekathimerini.com/economy/1160695/carbon-emissions-from-energy-dropped-10-in-the-eu-last-year/>
- **Global warming: Sea snot appears on Aegean Sea beaches in Chalkidiki, Greece**
- <https://globalvoices.org/2021/09/21/global-warming-sea-snot-appears-on-aegean-sea-beaches-in-chalkidiki-greece/>