



## WebQuest

Advanced Level -

My Carbon Budget



WebQuest Title:	My Carbon Budget
WebQuest Level:	Advanced Level
<b>INTRODUCTION</b>	
<p>The European Union has signed the <b>European Green Deal</b>, to become the first continent to achieve zero carbon dioxide emissions in the atmosphere by 2050. But what does this mean?</p> <p>Trees take carbon dioxide from the atmosphere and release oxygen for us to breathe. But our trees and forests can no longer meet this need because human activities are polluting the environment at a very rapid rate (e.g., factories, cars, travel).</p> <p>The increase in carbon dioxide has <b>brought drought, heat, heavy rains, and floods</b> to our planet. To deal with climate change, the European Union wants to find ways to reduce carbon dioxide in the atmosphere.</p>	
<b>TASKS</b>	
<p>Through this WebQuest you will learn what "<b>Carbon Neutrality</b>" means and how you can monitor your own carbon emissions.</p> <p>The goal is to raise awareness around the issue of climate change, and to reduce or even remove the carbon dioxide emissions we produce by changing small things in our daily habits.</p> <p>The project will be carried out in groups of 3-4 students. Each group will be asked to explore the concept of "Carbon Neutrality" through a series of activities and assessments of your personal actions.</p> <p>Finally, and with the goal of informing your school community about personal responsibility in reducing and annihilating our carbon footprint, get ready to participate in a debate!</p>	





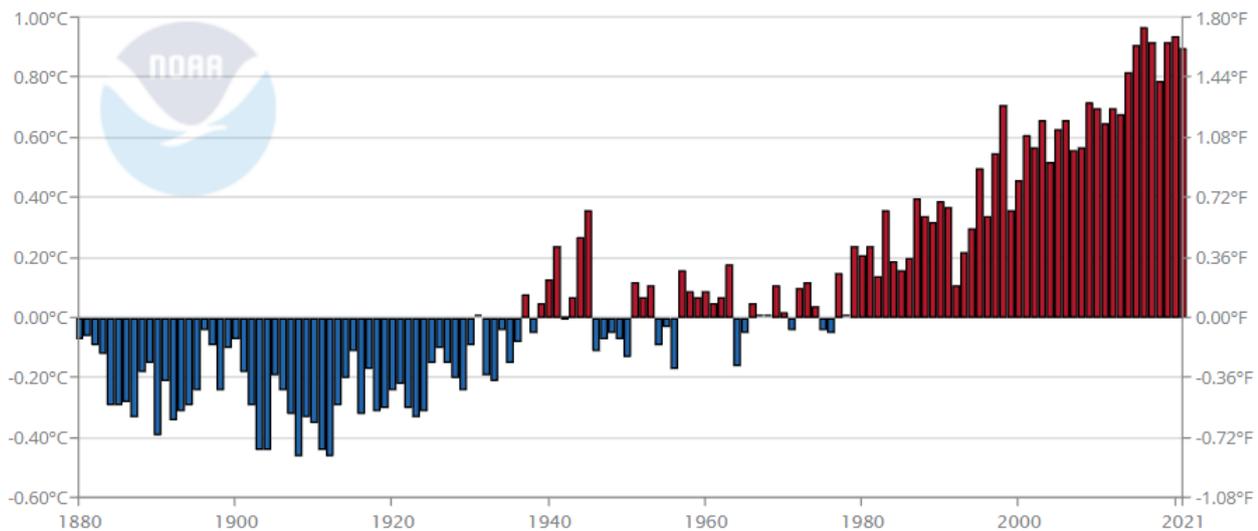
## PROCESS



### Step 1: Time Travel

Have you ever wondered how we reached the point of discussing "Carbon Neutrality", i.e., the need to reduce and especially the need to remove carbon dioxide emissions in the atmosphere?

Have a look at the table below, which shows an increase in the average global temperature through the years due to the increase of carbon dioxide in the atmosphere. **What do you observe?**



Source: <https://www.ncdc.noaa.gov/cag/global/time-series>

### Step 2: Travel into the future

Given the data you have studied above, discuss with your group **how you imagine the future of the planet**, if carbon dioxide continues to increase in the atmosphere at the same rate.

Also, **what could you do to contribute to carbon neutrality?**

Write down your thoughts at the following link:

<https://docs.google.com/document/d/1S1hBP9eHsrnFWBJu87q5s33tR-0mKb4NFXICwjFNYDI/edit?usp=sharing>

### Step 3: My carbon footprint

However, to be able to make a meaningful and effective contribution to zero carbon in the atmosphere, you need to know what your **carbon footprint** is and **how you can reduce it**.

To learn more, read the information below:

What is carbon footprint: <http://gr.dsorganic.com/services/carbon-footprinting-services/carbon-footprint/>



Carbon footprint: [https://www.vianatt.gr/contents\\_gr.asp?id=104](https://www.vianatt.gr/contents_gr.asp?id=104)

The only country with a negative carbon footprint: [Bhutan](#)

#### **Step 4: Calculate my carbon footprint**

To calculate a family's carbon footprint over the last 12 months, we need to measure the carbon dioxide produced by their actions. To do this, use a calculator like this one: <https://www.carbonfootprint.com/calculator.aspx> . Explore the data on the calculator with the help of your teacher.

As you will have noticed, the actions are mainly related to the following:

- Home (e.g., electricity).
- Travel.
- Transport (e.g., car, bus).
- Other expenses (e.g., food, clothes, medicine).

At this stage we will keep things simple! All you need to do is answer the following questionnaire about your daily actions.

Questionnaire (individual): <https://docs.google.com/document/d/1zubby6-ZatYvtFTwQsYXce8NoieGKnKph7o4DnEmz-l/edit?usp=sharing>

Discuss your answers with your group.

**The aim is to look at the choices you make every day and think whether you could do things differently so that your actions are more environmentally friendly!**

#### **Step 5: Debate**

In order to raise awareness on the issue of carbon neutrality, you will organise a debate and you will invite your whole school community (students, teachers, school staff).

**The aim of the debate is to raise awareness among the audience.**

Preparation before the debate:

- The class will be divided into 2 groups, one group will be FOR zero carbon footprint and one group will be AGAINST.
- Each group will write down at least 5-6 arguments.

During the debate:

- The team that starts first is the one FOR zero carbon footprint.
- The team that is AGAINST tries to argue by using logical arguments.
- The debate will last approximately 30 minutes.





- Afterwards, you will give the floor to your audience to share their opinions about the debate.





## EVALUATION

Today's lesson has helped you to understand how important it is to think and evaluate our actions and their impact on the environment.

Make a note about which of your habits you can replace with environmentally friendly actions. You can set a monthly challenge for yourself!

For instance, a challenge you can set for yourself is to reduce plastic bottle use, increase bike use, recycle, reuse items, etc.

You are responsible for tracking and recording your progress.

At the end of the month all students will share their progress with the whole class.

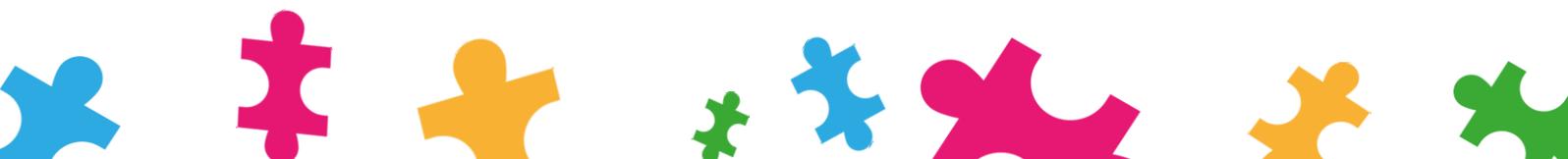
## CONCLUSION

Congratulations! You have reached the end of the WebQuest.

For an environment free of carbon dioxide, we need to understand the personal responsibility of each of us.

Change starts individually. It is the small acts of change that can alter a situation.

***Carbon neutrality refers to the balance that exists between the amount of carbon dioxide emitted into the environment and the amount that is absorbed. Your own habits are what can contribute to this effort.***



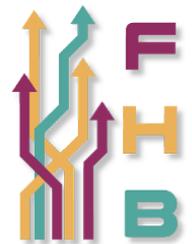


# GRETA

**Challenge-based Learning in Primary Schools for Climate Change Awareness**



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