



WebQuest
Introductory Level -
Fossil Fuels



Challenge-based Learning in Primary Schools for Climate Change Awareness

WebQuest Title:

Fossil Fools

WebQuest Level:

Introductory Level

INTRODUCTION

Just as your body needs food to get energy, many activities that people do need energy in order to be done (e.g., to run a factory or to use a car).

People very often use fossil fuels such as **coal**, **oil**, and **gas**, which are harmful to the environment. As fossil fuels burn, they release carbon dioxide (CO₂) in the air. Carbon dioxide is an unhealthy gas both for people (e.g., causing health problems) and for the environment (e.g., increasing global warming).



Photo by [Patrick Hendry](#) on [Unsplash](#)

In the picture you can see a factory that releases carbon dioxide into the atmosphere. What **do you think when you see this picture?**

Another important fact is that these fossil fuels will eventually be depleted and no longer available. **Can you think of any other solution?**



TASKS

As environmental experts, your mission today is to look for and find different solutions to prevent people from using fossil fuels.

You will work in groups of 3-4 students. Each group is responsible for presenting **an action plan to explain your idea**.

As soon as you gather all the information you need, present your action plan to your classmates in your school.

Let's get started!

PROCESS

Step 1: We say NO to fuels... and YES to...

Fossil fuels are one of the reasons why our environment is being destroyed and polluted.

Are there different solutions to produce energy?

Yes, the use of **Renewable Energy Sources!**

Renewable Energy Sources produce energy, but they do not harm the environment because nature creates them. For example, wind, sun, and water can produce energy without having to dig or burn anything that will destroy the environment.

Click [here](#) to read more information about Renewable Energy Sources. Discuss where each form of energy comes from:

- Solar energy
- Wind energy
- Hydroelectric energy or energy generated from water
- Geothermal energy
- Biomass

What are some of the **advantages (positive)** and **disadvantages (negative)** of Renewable Energy Sources?

Advantages	Disadvantages
They will never run out.	But they have less power than the energy produced by fossil fuels.
They do not pollute the environment.	But storage costs are more expensive.
Save money in homes and businesses.	But they may not be available all year round (e.g., the sun is weaker in winter).



What is your opinion on Renewable Energy Sources? Discuss with your group and keep in mind the positive and negative aspects.

Step 2: Explore more options

Most countries may still use fossil fuels for different activities, but there are several examples that show that we are slowly starting to change our habits and prefer **environmentally friendly energy sources**.

Discover some examples below:

Solar Energy

- Countries using solar energy: <https://volton.gr/oi-10-xores-me-tin-ypsiloteri-paragogh-iliakis-energeias/>
- Photovoltaic systems in 405 schools in Cyprus: [Announcement](#)

The picture shows photovoltaic systems on the roofs of houses. Photovoltaic absorb the sun's rays so that they can generate electricity.



Photo by [Jeremy Bezanger](#) on [Unsplash](#)

Wind Energy

- Wind turbines and the 1st Wind Park in Cyprus (2011): https://www.youtube.com/watch?v=-FWohctQKKM&ab_channel=theopemptou
- Sweden wants to become the first country to produce energy only through wind.

Hydroelectric energy or energy generated from water

- How a hydroelectric factory works: https://www.youtube.com/watch?v=dV2TmAOKfuo&ab_channel=FalconmediaTV
- In Greece there are small hydroelectric factories close to lakes (e.g. Lake Kastrakiou)

Geothermal energy

- Iceland - The homeland of geothermal energy: https://www.youtube.com/watch?v=Krk1OnyotCc&ab_channel=For91DaysTravelBlog

Biomass



- It is the energy produced from materials such as wood and other forest products like hay, waste fruit and food and animal waste, which can be used as fuel.

Step 3: Think...What can you change?

Although several countries are trying to use Renewable Energy Sources instead of fossil fuels, there is still a long way to go...

Read the text to understand how you use fossil fuels in your daily life. **What are the 8 categories?**

<https://www.orykta.gr/orykta-stin-kathimerini-zoi>.

After reading the article, come up with an **action plan** with your group on what you can change in your daily life to reduce the use of fossil fuels.

Each group will use an action plan found here:

<https://jamboard.google.com/d/1oXzmvumszivdaeX706W0EG9A8OOLDHXOosG2zfhCHjE/edit?usp=sharing>

Step 4: Presentation

It is time to present the action plan to your classmates. Each group will present their action plan via the projector to the whole class.

It is important to explain how you worked until you reach the final decision!

EVALUATION

Your teacher will help you to reflect:

- What have you learned from today's lesson?
- What can we replace fossil fuels with?
- How can you make habits more environmentally friendly?
- What else could you do to make more people aware?

CONCLUSION

You have successfully reached the end of the WebQuest!

In today's lesson you had the opportunity to learn about Renewable Energy Sources and the ways in which you can reduce the use of fossil fuels in your daily life.

For change to happen it requires patience and perseverance from everyone!





GRETA

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