



Fossil fuels, energy and global carbon emissions – teacher notes

Education in Chemistry

Sustainability in chemistry 2021

Goal 7: ensure access to affordable, reliable, sustainable and modern energy for all.

rsc.li/3zdHdX8

Use this activity to connect students' learning about energy and the carbon cycle to the UN's sustainable development goals and help them understand chemistry's role in solving global issues

Discussion activity

'Fossil fuels are a major contributor to global carbon emissions. There must be a global ban on the burning of fossil fuels to supply energy.'

In this activity learners will act as policy makers who need to decide if the burning of fossil fuels should be banned globally. They are introduced to a range of viewpoints from their team of international advisers before debating the pros and cons of banning the burning of fossil fuels. Learners are then asked to write down what their policy for the use of fossil fuels will be and justify their decision.

The resource is designed for 14–16-year-olds, but would also work for 11–14-year-olds with support. It should lead to a lively debate.

Before beginning the debate, ensure students have a firm understanding of the chemistry behind climate change using the ideas and tips in the *Education in Chemistry* article '[How to teach the carbon cycle](#)'.

The presentation includes viewpoints from an international advisory team. The student sheet (also available as an editable version) has the same information in a handout format. The advisory panel members are:

- atmospheric scientist
- economic adviser
- energy company CEO
- financial adviser
- international aid worker
- medical adviser
- scientific impact analyst

You can set up this activity in different ways depending on time available and how much support your learners need. Some of the activities, eg reading through the viewpoints or writing up their own policy, could be set as homework tasks.

Suggested steps

1. Introduce the topic.
2. Split learners into groups and assign each group a viewpoint: **for** or **against** a global ban on fossil fuels.
3. Learners read through the viewpoints in the resource and find evidence to support their argument.
4. Others in the group could work out what the counterarguments may be and prepare for questions.
5. Individuals or groups present the viewpoint they have been asked to support with evidence (set a time limit for each group and another for follow-up questions).
6. Follow the debate with a class vote or discussion.
7. Ask learners to write down their own policy, making sure they justify their decision.