



Fossil fuels, energy and global carbon emissions

Education in Chemistry

Sustainability in chemistry 2021

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

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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.

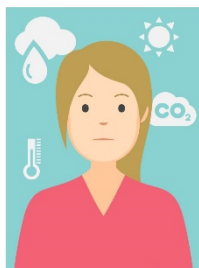
What do you think?

In this activity you will act as a policy maker who needs to decide if the burning of fossil fuels should be banned globally.

Like all policy makers you have advisers to help you decide. Read through their opinions below before debating the pros and cons of banning the burning of fossil fuels with your classmates.

When you are ready, write down what your policy for the use of fossil fuels will be. Should there be a global ban? Make sure you fully justify your decision.

Advisory panel



Atmospheric scientist

'There is a clear link between increasing levels of carbon dioxide in the atmosphere and a rise in the Earth's average temperature. Global warming is having a large impact on the world's climates with more extreme weather events. These changes will have the most impact on the poorest countries. We must act now by banning the burning of fossil fuels.'



Economic adviser

'The global economy relies on the transport of goods around the world by ships, planes and trucks, all powered by fossil fuels. The infrastructure needed for electric, or hydrogen powered vehicles to replace fossil fuels isn't currently ready. There are no viable alternatives.'



Energy company CEO

'The simple fact is that no renewable energy source is currently capable of giving a reliable alternative energy supply. Natural gas should be considered as an acceptable alternative until new renewable technologies are developed.'



Financial adviser

'It's quite simple, the polluter pays. Taxes on fossil fuel use must be increased. The money raised can then be reinvested into carbon capture and renewable technologies.'



International aid worker

'Without electricity women and girls have to spend hours fetching water, clinics cannot store vaccines, many school children cannot do homework at night. Finding a cheap and sustainable source of energy is essential for communities to develop and grow. We should be investing in affordable, sustainable technologies such as wind turbines to provide energy for all but until this is available the burning of fossil fuels must continue.'



Medical adviser

'Burning fossil fuels creates local air pollution. One kind, particulate matter with a diameter of 2.5 micrometres or less ($PM_{2.5}$), is so small it can enter the bloodstream. There is an extensive body of evidence that long-term exposure to PM increases mortality and morbidity from cardiovascular and respiratory diseases. Outdoor air pollution has also been classified by the International Agency for Research on Cancer (IARC) as carcinogenic to humans and causing lung cancer.'



Scientific impact analyst

'Many countries have turned to biofuels as an alternative to fossil fuels for transport purposes, but beware. In countries where farmers have been incentivised to start growing crops for fuel instead of food, food prices have been driven up and land use has changed. The change in farming land use is actually causing more carbon emissions than biofuels are able to abate because farmers are cutting down forests to grow biofuel crops.'

To find out more about the role chemists play in solving global issues visit [Fixing the future | RSC Education](#)