

Teachers' notes

Most scientists agree that climate change is already happening. This section is about how we respond to that reality. On so doing, it is clear that humans need both to adapt to it, and to attempt to reduce its effect.

Climate change is an uncertain subject. Therefore, how we respond to it is based on how we read that uncertainty. What we know about it is developing and changing all the time, and that too affects our ideas about effective action.

Such action may involve both long and short term solutions. For example, even if we cut out all global Carbon dioxide emissions today, it is highly probable that what is already in the atmosphere will continue to have an effect for tens of years to come.

We have found that it is best to be open and honest about these things with young learners. They need to be made aware of the uncertainties, and arrive at their own informed working ideas about what can be done.

In order to empower learners, we have sought to avoid blame and negativity, and to focus instead on positive solutions. Nonetheless, learners need to be aware that although little personal steps are helpful, they are not the whole picture: it is perfectly proper to expect others [such as politicians] to do things on our behalf.

Responding to climate change

The first part of this section supports a basic understanding of existing responses to climate change at local, national and international scales.

There is a wealth of information about such responses and links are given to some key sources. In this, we have endeavoured to offer a reasonable balance between different perspectives: we therefore recommend that learners look at a variety of links as they develop their background knowledge.

> [Responses to Climate Change](#)

Design activity

Creative and innovative design in response to climate change is an important and growing agenda – and may incorporate elements of both adaptation and mitigation. It offers purposeful, positive and productive possibilities for action and imagination. This balances the risk that a response to climate change [eg by not wasting energy] can become a list of “thou shalt not”s.

Learners are asked to take an everyday object and:

- either design/re-design it in order to reduce the effects of climate change;
- or design/invent a new product that may have an impact on carbon emissions.

We offer some real-life examples [which should inspire them rather than merely be imitated] and a downloadable proforma for their design. The design itself could be executed using a drawing program, or pencil and paper. Design could be an individual or group task. We suggest that learners’ designs are saved in [or scanned into] their personal folders, and used as part of a final presentation. > [Design activity](#)

The energy question

In this activity, learners consider the pros and cons of two controversial schemes regarding large-scale energy production. In both instances, these are low carbon options which have other significant environmental and social implications. The activity is aimed at older or more advanced learners, who are invited to explore some of the difficulties involved in decision making at this scale.

The examples are:

- the Three Gorges Dam across the River Yangzi in China [which has already been completed];
- the debate about building new nuclear power stations in the UK [which is going on at the time of writing].

Learners are given some background information, before going on to a drag-and-drop activity where they sort statements into their positive or negative implications for each place. They are then invited to compare the two. > [The Energy Question](#)