

## Future of low carbon energy

### Lesson Plan

#### Lesson1: Low carbon energy – is it all about renewable energy?

<b>Aim</b>	To investigate the availability, viability and energy security of renewable energy sources in the UK
<b>Objectives</b>	<ul style="list-style-type: none"> <li>To challenge misconceptions about renewable energy sources</li> <li>To assess feasibility and effectiveness of renewable energy sources</li> <li>To consider the possibility, impact and consequences of renewables replacing all other energy sources</li> </ul>
<b>Starter 10 mins</b>	<p><b>Fact or Fiction?</b></p> <p>Students need to be divided into three groups. Three groups are given a renewable resource: biofuels, solar energy or wind energy. Each group has the remainder of the starter time to write down as many ‘facts’ and points about their designated energy source as they can.</p>
<p><b>Main Part one – 20 mins</b></p> <p><b>Part two – 20mins</b></p>	<p><b>Part one</b></p> <p>Students are then given resources about their energy source. Their task is to find out whether their ideas from the starter activity are ‘fact or fiction’ and then put together further information on their energy source. They need to investigate the following: a definition, advantages, disadvantages, impacts and whether their source is a viable option for the UK.</p> <p><b>Part two</b></p> <p>Jigsaw activity. Once the groups have carried out their research, one member from each group nominates a ‘teacher’ who goes to a different group and teaches them about the energy source they have research. They should start with ‘fact not fiction’ and then define the energy source, give advantages, disadvantages and impacts before discussing whether it is a viable option of the UK. The receiving group members take notes on what they are being taught. After 10 minutes, the teacher moves on to the remaining group, so they will have ‘taught’ every group in the class. At the end of the exercise, every group should have been taught about each of the different energy sources.</p>
<b>Plenary 10 mins</b>	<p>Students watch a media clip of <b>Malcolm Wicks</b>, Minister for energy (13.57-14.21 mins ) and then consider the following question:</p> <p><i>Can we live off renewables alone?</i></p> <p>Students can use any of the information from the lesson to enter the debate. Opinions can be encouraged from individuals or from groups but all students should be prompted to use evidence gained from the lesson.</p>

### Resources

(This lesson works best with students having access to IT so they can gather their own resources – these are just a suggestion) If there is no IT access the activities can be set up in the previous lesson with homework set for students to research their energy source and bring their research to the lesson with them)

[Malcolm Wicks video clip](#)

**Biofuels group**

Online “[60 second guide to biofuels](#)”

[Biomass energy 'could be harmful'](#) News article BBC

**Solar energy group**

Online “[60 second guide to solar energy](#)”

[Budget 2009: Darling gives renewables a £5bn shot in the arm](#) Guardian

**Wind energy group**

Online “[60 second guide to wind energy](#)”

[Future of low carbon energy: In the News](#)

[Budget 2009: Darling gives renewables a £5bn shot in the arm](#) Guardian

**Resources for both groups**

[Are renewables a viable alternative to nuclear power?](#) Channel4 News

[UK Renewable Energy Strategy: Viable and Deliverable?](#)