

## Key Words:

Energy, Energy Efficiency, Renewable Energy, Non-Renewable Energy, Clean, Affordable, Electricity, Fossil Fuels, Greenhouse Gases, Infrastructure, Solar Energy, Wind Energy, Hydropower, Nuclear, Traditional Biomass, Energy Consumption, Subsidies, Taxes

## **Aims and outcomes:**

- To recall different energy types, their source and their pros and cons.
- To understand trends in energy production and consumption over time.
- To recognise disparity in energy access and recall who is most likely to have/not to have access to energy.
- To understand and recall solutions to ensure access to affordable and clean energy.

## **Curriculum links:**

- **Physics:** 'Pupils should be taught about... Energy... fuels and energy resources...'
- **English:** 'learn the conventions of different types of writing (for example, the greeting in letters, a diary written in the first person or the use of presentational devices such as numbering and headings in instructions) ...'
- **Geography:** 'interpret a range of sources of geographical information, including maps...'

## Lesson Plan 1: Where does energy come from?

Key question	Activity	Timing
<b>Where does energy come from?</b>	<ul style="list-style-type: none"> <li>Read students the introduction section of the 'Affordable and Clean Energy' page.</li> </ul>	3 min
	<ul style="list-style-type: none"> <li>Split the class into 4 groups.</li> </ul>	2 min
	<ul style="list-style-type: none"> <li>Assign each group an energy type. These are 'Fossil fuels', 'Solar, wind and hydropower', 'Nuclear', and 'Traditional biomass'.</li> </ul>	3 min
	<ul style="list-style-type: none"> <li>Give each group an A3 sheet of paper and some coloured felt pens. Ask students to use the relevant section on the SuperKind website to make a poster on their assigned energy type, including how the energy is produced, and what its pros and cons are. Signpost students to the 'Make a Poster' toolkit on the SuperKind website.</li> </ul>	15 min
	<ul style="list-style-type: none"> <li>Ask each group to present their ideas to the class. After each presentation, invite the class to ask the group questions.</li> </ul>	20 min
	<ul style="list-style-type: none"> <li>Assess knowledge using Worksheet 1 ('Different types of energy').</li> </ul>	10 min
	<ul style="list-style-type: none"> <li>Display the 'Graph of global energy consumption by energy type' on the interactive whiteboard. Explain how the key on the map works.</li> </ul>	5 min
	<ul style="list-style-type: none"> <li>Assess the class's understanding by pointing at a few different countries and ask students by asking some questions for students to answer and show individually on whiteboards. Questions could include: 'What was the most used energy type in the 1800s?', 'What were the three most used energy types in 2019?', 'List an energy type that was hardly used at all until the 1950s'.</li> </ul>	5 min

### Resources and materials:

- SuperKind website – 'Clean and Affordable Energy, 'The Problem'
- SuperKind website – 'Make a Poster'
- Interactive whiteboard, computers, tablets, or printouts to display website
- Show-me dry erase whiteboards and pens
- A3 sheets of paper
- Pens, pencils, highlighters, felt pens
- Worksheet 1

## Lesson Plan 2: Who has access to electricity?

Key question	Activity	Timing
<b>Who has access to electricity?</b>	<ul style="list-style-type: none"><li>• Read students the 'Who Has Access to Electricity' section and show them the video.</li></ul>	<i>10 min</i>
	<ul style="list-style-type: none"><li>• Assess knowledge by asking students to raise their hand if they have the answer to who is most likely not to have access to electricity. Nominate a couple students to share their answers with the class.</li></ul>	<i>5 min</i>
	<ul style="list-style-type: none"><li>• Ask students what not having access to electricity might be like? What do they use electricity for in their everyday life?</li></ul>	<i>5 min</i>
	<ul style="list-style-type: none"><li>• Show students the map of electricity access around the world. Explain how the key on the map works, describing what each color corresponds to.</li></ul>	<i>5 min</i>
	<ul style="list-style-type: none"><li>• Assess understanding by pointing at a few different countries and ask students to call out what % of that country are in extreme poverty.</li></ul>	<i>5 min</i>

### Resources and materials:

- SuperKind website – 'Clean and Affordable Energy', 'The Problem'
- Interactive whiteboard, computers, tablets, or printouts to display website

## Lesson Plan 3: What can we do to promote access to affordable and clean energy?

Key question	Activity	Timing
<b>What can we do to promote access to affordable and clean energy?</b>	<ul style="list-style-type: none"><li>Tell the class that you are going to make posters to raise awareness about how to reduce energy consumption. Students could include messages to turn off appliances, lights, and anything running on electrical power when not in use.</li></ul>	10 min
	<ul style="list-style-type: none"><li>Sign-post students to the 'Make a Poster' toolkit on the SuperKind website for poster-making tips.</li></ul>	5 min
	<ul style="list-style-type: none"><li>Walk around the class offering guidance and support while students make their posters.</li></ul>	25 min
	<ul style="list-style-type: none"><li>At the end of the class, collect all the posters and pin them on a wall in the class or corridor.</li></ul>	5 min

### Resources and materials:

- SuperKind website – 'Clean and Affordable Energy, 'The Problem'
- SuperKind website – 'Make a Poster'
- Interactive whiteboard, computers, tablets, or printouts to display website

# Affordable and Clean Energy: Lesson Plan Resources

**Worksheet 1** – Different types of energy