

Climate change: Ade on the frontline

Renewable energy in Tasmania

Video summary	Before watching	While watching
Ade Adepitan visits a wind farm in Tasmania that will help the island to reach a major milestone: producing all of its electricity from renewable sources. Tasmania is exposed to the elements so its climate makes it perfect for generating renewable energy. Wind power is simple, but effective. The wind turns the blades of a turbine around a rotor which spins a generator, making electricity. The kinetic energy of the spinning blades is converted into electrical energy. Download/print a transcript of the video.	The film develops students' understanding of energy sources and renewable energy, focusing on what wind power can achieve. Wind turbines have attracted some controversy and can divide opinion so it may be useful to find out existing preconceptions and misconceptions about them first. Has anyone got a wind turbine near where they live? What do you think about them? What do students know about them? You could separate out responses into fact and opinion. If there are any misconceptions in the responses, you could indicate this but not say what they are at this point. Returning to what students have said at the outset may be more effective after watching the film. Introduce key terms such as: Renewable energy: energy from a source that won't run out - for example wind, solar, hydroelectric and tidal energy. Kinetic energy: the energy possessed by a moving object. Wind farm: a location where there are multiple wind turbines.	With this short film, it may be useful to pose the opening question about existing knowledge and opinions first. Then watch the entire film through without a break, asking students to report afterwards. This would be a good point for challenging misconceptions and identifying useful and purposeful enquiry questions with students: • What do we now know about wind power? • Is everyone confident identifying renewable and non-renewable sources of energy, for example? • Do we know why this is a good place for wind turbines and what factors generally make a place attractive for turbine installation? • What are the pros and cons of renewable energy from wind power? Does this vary from place to place? Why?
After watching		
Establish locational context. Use maps and globes to establish where the island of Tasmania is. Research and add data showing location of renewable power plants. You could research and use weather and climate data to note the direction and power of prevailing winds around Tasmania and use this as part of a case study report. Identify how this place is using its natural resources sustainably and who benefits. This example is of 48 turbines powering more than 60,000 homes. To get an idea of this students might map their local area to show a similar number of homes. How have places in other parts of the world used their natural resources in sustainable ways to harness energy sustainably? This might be in the UK or could be part of a regional comparison at KS3, for example comparing a location within Africa and Asia. Examine the pros and cons of a local sustainable energy project. Where are the best places for wind / tidal and geothermal energy in the UK and why?		

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After watching (continued)

This short film is suitable for teaching KS3 and KS4 students. It can be used alongside the other Ade Adepitan films about climate change or watched on its own. All the films build on students' understanding of climate change issues and enable them to make global connections.

This film supports the KS3 geography curriculum by investigating our changing climate and how human and physical processes interact to influence and change landscapes and environments.

At KS4, the film supports understanding about managing resources in sustainable ways and the importance of conserving natural resources for future generations (CCEA). The film supports students' understanding of energy sources and how different countries have the potential to exploit different amounts and types of energy. It could also support work developing case studies thinking about sustainable resource management (Edexcel).

This clip could be used to support the delivery of geography to KS3 and KS4 students. Specifically, this topic appears in OCR, Edexcel, AQA, WJEC KS4/GCSE in England and Wales, CCEA GCSE in Northern Ireland and SQA National 4/5 in Scotland.

Where next?	Links
Research the largest wind farm in the world - the Gansu Wind Farm in China. Why is wind power important in China? How many homes and businesses are powered by wind energy? How does it compare to the wind farms in Tasmania? What are the advantages and disadvantages of building wind farms?	Wind energy: https://www.bbc.co.uk/bitesize/articles/zsdbym Generating electricity: https://www.bbc.co.uk/bitesize/guides/z3qd7p3/revision/2 Renewable energy: https://www.bbc.co.uk/bitesize/articles/zgkvdnb Managing the impacts of climate change: https://www.bbc.co.uk/bitesize/guides/zx234j6/revision/4