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Activity

Quiz: UK energy security

This short quiz could be used as a brief introductory activity to begin discussion about UK energy security. It partners the ‘Energy dilemmas and sustainability: a UK case study’ article in GEOGRAPHY REVIEW Vol. 39, No. 1. It is designed to help students understand the range of energy sources, both domestic and foreign, that the UK uses. The correct answers are given below, along with some additional information.

1 The correct answer is B, 5. They are at Hartlepool, Heysham 1 and 2, Sizewell B and Torness. Only Sizewell B is expected to continue to generate electricity after 2030. There are three new reactors either being built or planned (Hinkley Point C, Bradwell B and Sizewell C) and 14 shut-down reactors. Typically, nuclear generates about 15% of UK electricity.

See www.tinyurl.com/y2nac626 for more.

2 The correct answer is C, 9. These high-voltage transmission links supply about 10% of UK electricity demand with a capacity of over 10 gigawatts (GW). They connect to Norway, Ireland, France, Belgium, the Netherlands and Denmark.

3 The correct answer is A, Norway. UK-origin North Sea gas supplies about one-third of our gas needs. Around 70% of imported gas comes from Norway.

4 The correct answer is D, it's the world's largest offshore wind farm. Hornsea 2 has a generating capacity of 1.4 GW making it the largest offshore wind farm in the world. Hornsea 3 should take the record when it is completed in 2027 with a capacity of 2.9 GW.

See www.gridwatch.templar.co.uk for live generation data about the UK National Grid.

5 The correct answer is C, solar panels (solar PV/photovoltaic). UK solar capacity has expanded dramatically in the last decade. In April 2025 solar hit a new 30-minute record of 13 GW of electricity generation. Generation in winter is usually around 20% of generation in summer.

6 The correct answer is C, Scotland. Scotland has large onshore (9 GW in 2025) and offshore (2 GW in 2025) wind capacity and around 85% of the UK's total hydroelectric capacity. It has occasionally generated more than 100% of its electricity demand from renewable sources.

7 The correct answer is B, a biomass power station. It gradually transitioned from coal to biomass between 2010 and 2021. It burns wood pellets and other biomass fuel, much of which is imported. Drax is the world's largest biomass power station and can supply 5% of the UK's electricity. It's also the UK's largest single source of CO₂ emissions.

8 The correct answer is D, Norway and the USA. In the past Russia was a significant source of imports, but this has changed since the onset of the Russia–Ukraine war.

See DUKES for energy import/export data: www.tinyurl.com/y7du9jmp

9 The correct answer is C, EDF Energy. The UK's 5 operating nuclear power stations are owned by the French company Électricité de France (EDF), which is owned by the French government. EDF bought the power stations in 2009.

10 The correct answer is B, solar. Interconnectors are not a domestic source and the UK no longer uses coal to generate electricity. Solar was supplying 32% of UK electricity at 11 a.m. in the morning on the 8 July 2025. Roughly 20% of electricity was being imported via interconnectors from Europe.