



**Q1. Which of these is a non-renewable energy?**



**Coal.**



**Geothermal.**



**Wind.**



**Q2. What does wind directly turn to generate electricity?**



**Generator.**



**Motor.**



**Turbine.**



**Q3. Identify an advantage of wind energy.**



**There is no electricity when there is no wind.**



**No harmful gases are produced.**



**Turbines may be noisy.**



**Q4. What is another term used to mean renewable?**



**Infinite.**



**Finite.**



**Sustainable.**



**Q5. What name is given to the total kinetic energy and potential energy of all the particles of helium gas in a helium balloon?**



**External energy.**



**Internal energy.**



**Movement energy.**



**Q6. Where does the energy come from in geothermal power stations?**



**Fuel.**



**The Sun.**



**The Earth's hot core.**





**Q7. A motor transfers 40% of the input energy usefully. How much of every 100 J does it waste?**

- 60 J.
- 40 J.
- 0 J.



**Q8. In a hairdryer, what energy is not wasted?**

- The energy that heats the water on the hair.
- The energy that dissipates out of the hairdryer.



**Q9. In 2018, what proportion of the UK's electricity was generated by renewable resources?**

- Around a tenth.
- Around a third.
- Around a half.



**Q10. Nuclear energy is created by splitting the atoms of what material?**

- Aluminium.
- Steel.
- Uranium.



**Q11. What do scientists think might be the cause of global warming?**

- Increased levels of carbon in the atmosphere.
- Increased levels of carbon monoxide in the atmosphere.
- Increased levels of carbon dioxide in the atmosphere.



**Q12. Which of these is a positive human interaction with an ecosystem?**

- Releasing waste sewage into rivers.
- Building houses on a nature reserve.
- Replanting trees in the rainforest.





**Q13.** What is the name of the atmospheric process which keeps the Earth warm by absorbing radiation from the Sun?



Global warming.



Greenhouse effect.



Ozone depletion.



**Q14.** Which of the following is a greenhouse gas?



Oxygen.



Nitrogen.



Carbon dioxide.



**Q15.** Which of the following is an effect of global warming?



Flooding of low lying coastal land.



Longer days in summer.



More crops to feed a growing world population.



**Q16.** Which gas produced by the combustion of fossil fuels causes acid rain?



Nitrogen.



Sulfur dioxide.



Ozone.



**Q17.** What is the difference between weather and climate?



Climate refers to a much longer period of time.



Climate refers to the weather over the entire world.



Climate refers to repeating cycles.



**Q18.** What term describes the total amount of carbon dioxide and other greenhouse gases which are emitted over the full lifetime of a product?



Carbon dioxide imprint.



Carbon capture and storage.



Carbon footprint.





**Q19. Which of these is an impact of climate change on the UK?**

- Tropical storms may increase magnitude.
- Extreme weather is more likely.
- Diseases such as malaria may increase.



**Q20. Which ONE of the following human activities releases large quantities of methane?**

- Deforestation.
- Rice farming.
- Burning fossil fuels.
- Air travel.



**Q21. A consequence of rising sea temperatures is:**

- Increasing fish populations.
- Coral bleaching.
- More pollution.
- Fewer tropical storms.



**Q22. Which of the following is a cause of rising sea levels?**

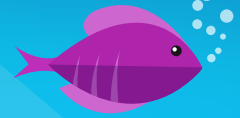
- Increased melting of ice sheets.
- Increased levels of precipitation.
- Decreased levels of precipitation.
- Decreased melting of ice sheets.

**Total score**



# North Sea Link Energy Education Centre

## GCSE Higher Mark Questions



**Q23.**

Coal is a non-renewable energy resource.

**Identify two other non-renewable energy resources. [2 marks]**

(Any two) Nuclear, Oil, Natural Gas.

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**Q24.**

The National Grid ensures that fossil fuel power stations in the UK only produce about 33% of the total electricity they could produce when operating at a maximum output.

**Suggest two reasons why. [2 marks]**

•conserves fuel reserves (Any two)

•spare capacity to compensate for unreliable renewable resources

•provides spare capacity in case of power station emergency shutdown

•to not make unnecessary environmental impact (pollution etc)

Give two points. You should also show that you have given reasons to explain why.

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**Q25.**

The UK produces most of its electricity from fossil fuels.

Many people in the UK leave their televisions in 'stand by' mode when not in use, instead of switching them off. It is better for the environment if people switch off their televisions, instead of leaving them in 'stand by' mode.

**Explain why. [3 marks]**

TVs in standby use electricity [1]. Generating electricity (from fossil fuels) produces CO<sub>2</sub> [1]. CO<sub>2</sub> contributes to global warming [1].

Breaking the answer down into stages can help make sure that enough scientific points have been included.

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