

Worksheet: Geothermal Power



Question Video

Q1: Which of the following statements correctly describe the advantages of geothermal power?

- a. Geothermal power is a renewable energy source.
- b. Geothermal power stations are very cheap to build.
- c. Geothermal power stations can be built anywhere.
- d. Geothermal power stations produce very few pollutants that are damaging to the environment.
- e. Geothermal power stations produce alternating current; therefore, they are easy to connect up to the electricity grid.

A a, c, e

B e, b, d

C a, b, c

D b, a, e

E a, d, e

Q2: In Iceland, a large proportion of the nation's electricity supply is produced through geothermal power. The five major geothermal power stations in Iceland produce approximately 26% of Iceland's electricity supply. Which of the following reasons correctly explains why many locations in Iceland are suitable for geothermal power stations?

- A Geothermal power stations are more efficient if the average temperature of the surrounding environment is lower. Average temperatures in Iceland are lower than many other countries; thus, geothermal power stations are more efficient in Iceland.
- B Iceland is remote. Thus, transporting coal or natural gas to the island is more expensive than building geothermal power stations.
- C Geothermal power stations are very cheap to build.
- D Iceland is an island. As such, there is easy access to water from the ocean. Geothermal power plants require a lot of water to convert into steam to drive turbines.
- E Iceland is located on a rift between continental plates. As such, there is a high concentration of volcanic activity in Iceland. This makes the rock beneath the surface very hot, and this energy can be used to heat steam to drive turbines.

Q3: Which of the following statements correctly describe the disadvantages of geothermal power?

- a. Geothermal power stations can only be built in certain locations.
- b. Geothermal power stations produce large quantities of sulfur dioxide, which is damaging to the environment.
- c. Geothermal power stations are only efficient enough to be economically viable in cold climates.
- d. Geothermal power stations produce large quantities of carbon dioxide, which contributes to climate change.
- e. Geothermal power stations are expensive to build relative to the amount of power they produce.

A d, e

B c, d

C b, c

D a, e

E a, d

Q4: Hellisheiði Power Station is a geothermal power station in Hengill, Iceland. The power station has an installed capacity of 303 MW. How much energy does the power station produce each year? Give your answer in gigawatt-hours to 2 significant figures. Use a value of 365 for the number of days in a year.

A 2,560 GWh

B 303 GWh

C 2,700 GWh

D 980 GWh

E 460 GWh