

Geothermal Energy Quiz Answer Key PDF

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Which type of geothermal power plant uses steam directly from a geothermal reservoir to turn turbines?

- A. Binary cycle
- B. Flash steam
- C. Dry steam ✓**
- D. Combined cycle

Which of the following is NOT a direct use application of geothermal energy?

- A. Heating buildings
- B. Drying crops
- C. Generating wind power ✓**
- D. Growing plants in greenhouses

What is the main environmental concern associated with geothermal energy?

- A. Air pollution
- B. Water contamination ✓**
- C. Deforestation
- D. Noise pollution

What is the primary use of geothermal heat pumps?

- A. Generating electricity
- B. Heating and cooling buildings ✓**
- C. Powering vehicles
- D. Water desalination

What is geothermal energy primarily derived from?

- A. Solar radiation
- B. Wind currents
- C. Earth's internal heat ✓**
- D. Ocean tides

Which of the following technologies are used in geothermal energy systems? (Select all that apply)

- A. Heat pumps ✓**
- B. Solar panels
- C. TurbinES ✓**
- D. Drilling rigs ✓**

What are potential environmental impacts of geothermal energy? (Select all that apply)

- A. Induced seismicity ✓**
- B. Land subsidence ✓**
- C. High carbon emissions
- D. Water contamination ✓**

Describe the process of generating electricity using a flash steam power plant.

The process involves extracting hot water from geothermal reservoirs, reducing its pressure to produce steam, which then drives a turbine to generate electricity.

Which countries are known for significant geothermal energy production? (Select all that apply)

- A. United States ✓**
- B. Iceland ✓**
- C. Brazil
- D. Philippines ✓**

Evaluate the potential for geothermal energy expansion in non-volcanic regions.

The potential for geothermal energy expansion in non-volcanic regions is promising, particularly through enhanced geothermal systems and shallow geothermal applications.

What are some advantages of geothermal energy? (Select all that apply)

- A. Renewable ✓**
- B. High emissions
- C. Sustainable ✓**
- D. Location-independent

Discuss the role of geothermal heat pumps in residential heating and cooling.

Geothermal heat pumps work by transferring heat to or from the ground, using the earth's consistent temperature as a heat source in winter and a heat sink in summer, making them an effective and sustainable option for residential heating and cooling.

Which of the following regions is most likely to have geothermal resources?

- A. Desert areas
- B. Coastal plains
- C. Tectonically active regions ✓**
- D. Polar ice caps

How does geothermal energy contribute to reducing greenhouse gas emissions?

Geothermal energy contributes to reducing greenhouse gas emissions by harnesses heat from the Earth, which can be used for electricity generation and direct heating, thereby decreasing reliance on fossil fuels.

Which of the following are types of geothermal power plants? (Select all that apply)

- A. Dry steam ✓**
- B. Flash steam ✓**
- C. Binary cycle ✓**
- D. Hydroelectric

Which country is the largest producer of geothermal energy?

- A. Philippines
- B. United States ✓**

- C. Iceland
- D. Japan

What factors contribute to the economic impact of geothermal energy? (Select all that apply)

- A. High operational costs
- B. Energy security ✓**
- C. Cost-effective in the long term ✓**
- D. Limited resource availability

What is a major disadvantage of geothermal energy?

- A. High carbon emissions
- B. Non-renewable
- C. Location-specific ✓**
- D. High operational costs

What are the challenges associated with the development of Enhanced Geothermal Systems (EGS)?

Key challenges associated with EGS include high capital investment, the complexity of reservoir creation and management, environmental concerns such as induced seismicity, and the necessity for ongoing technological advancements.

Explain how geothermal energy is considered a renewable resource.

Geothermal energy is renewable because it utilizes the Earth's internal heat, which is constantly replenished and can be harnessed sustainably.