

Renewable Energy Trivia: Questions, Answers, and Facts Printable Trivia Pack

Renewable Energy trivia explores how humans have long harnessed wind, water, sunlight, and heat from the Earth, from traditional watermills to modern solar panels and offshore wind farms. It offers a lively mix of easy, funny, and more challenging questions that make a fast-changing global topic approachable for casual players and curious learners alike.

HARD RENEWABLE ENERGY TRIVIA

1. What named theoretical ceiling sets the maximum efficiency of a single-junction solar cell under standard assumptions?

Answer: The Shockley-Queisser limit.

2. Under standard assumptions, the best-case efficiency of a single-junction solar cell is bounded by what limit?

Answer: The Shockley-Queisser limit.

3. Perovskite solar cells take their name from sharing what kind of crystal structure with the mineral perovskite?

Answer: A perovskite crystal structure.

4. Which solar panel design can produce electricity from light striking both its front and back surfaces?

Answer: Bifacial solar panels.

5. What type of solar cell is cut from single-crystal silicon ingots?

Answer: Monocrystalline solar cells.

6. Silicon with multiple crystal grains is used to make which kind of solar cell?

Answer: Polycrystalline solar cells.

7. Which wind turbine design can skip the gearbox entirely?

Answer: Direct-drive wind turbines.

8. What generator type is widely used in variable-speed wind turbines?

Answer: A doubly fed induction generator.

9. In wind power terminology, what is the name for the wind speed at which a turbine starts producing usable electricity?

Answer: Cut-in speed.

10. When a turbine finally wakes up and starts making usable electricity, what wind threshold has it crossed?

Answer: Cut-in speed.

11. What term describes the wind speed at which a turbine shuts down to prevent damage?

Answer: Cut-out speed.

12. The common abbreviation PPA stands for what energy-market term?

Answer: Power purchase agreement.

13. In the United States, what are renewable energy certificates commonly called?

Answer: RECs.

14. What four-letter abbreviation is commonly used for levelized cost of energy?

Answer: LCOE.

FUNNY RENEWABLE ENERGY TRIVIA

1. If a modern wind turbine were entering a talent show, how many blades would it most likely bring on stage?

Answer: Most modern wind turbines have three blades.

2. On a really breezy day, the tips of large wind turbine blades can zoom past what speed?

Answer: They can move faster than 200 miles per hour.

3. What system helps a wind turbine politely turn its face into the wind instead of glaring off in the wrong direction?

Answer: A yaw system.

4. What's the name for the solar setup that basically says, "I'm following the Sun now"?

Answer: Solar trackers.

5. Which kind of solar panel setup stays put all day instead of doing a slow Sun-chasing dance?

Answer: Fixed-tilt solar panels.

6. What is the name of the effect where light hits certain materials and voltage says, "Hello there"?

Answer: The photovoltaic effect.

7. If solar cells were picking a popular semiconductor in a yearbook, which material would win most common?

Answer: Silicon.

8. Which scientist gets the naming credit for the Seebeck effect in thermoelectrics?

Answer: Thomas Johann Seebeck.

9. What instrument sounds like it should live on a weather wizard's desk and actually measures wind speed?

Answer: An anemometer.

10. A megawatt is not a tiny watt wearing platform shoes. How many watts is it really?

Answer: One million watts.

11. True or false: a kilowatt-hour is a unit of power.?

Answer: False

12. When engineers are in a hurry, what two-letter shortcut do they often use for photovoltaic?

Answer: PV.

13. Some geothermal plants skip the tea kettle and use what directly from underground reservoirs?

Answer: Steam.

FUN RENEWABLE ENERGY TRIVIA

1. What year did the first modern offshore wind farm, Vindeby in Denmark, open its sea legs?

Answer: 1991

2. Germany passed which law in 2000 that became a major renewable-energy milestone?

Answer: The Renewable Energy Sources Act

3. Who co-founded the Rocky Mountain Institute in 1982?

Answer: Amory Lovins

4. Which energy leader serves as the executive director of the International Energy Agency?

Answer: Fatih Birol

5. If you mailed a postcard to the headquarters of the International Energy Agency, which city would you address?

Answer: Paris, France

6. Who chaired the World Commission on Environment and Development?

Answer: Gro Harlem Brundtland

7. Which German political figure was a prominent advocate for renewable energy?

Answer: Hermann Scheer

8. What solar technology often puts mirrors to work as sunshine wranglers, focusing sunlight into usable heat?

Answer: Concentrated solar power

9. In some solar thermal plants, what is the name of the curved mirror design that sounds a bit like geometry class in the desert?

Answer: A parabolic trough

10. A solar tower plant uses a field of mirrors with what name?

Answer: Heliostats

11. On a wind turbine, the spinning blades connect to what central part?

Answer: The hub

12. What is the tall support structure of a wind turbine called?

Answer: The tower

13. Perched at the top of most wind turbines is a component with a name that sounds delightfully mechanical. What is it?

Answer: The nacelle

RENEWABLE ENERGY FAMILY TRIVIA

1. Who built an early electricity-generating wind turbine in Scotland in 1887?

Answer: James Blyth built an early electricity-generating wind turbine in Scotland in 1887.

2. Which scientist is remembered as a pioneer of solar thermal energy research?

Answer: Maria Telkes is remembered as a pioneer of solar thermal energy research.

3. Who helped develop the lithium-ion battery?

Answer: Akira Yoshino helped develop the lithium-ion battery.

4. What aircraft completed a round-the-world flight powered by solar energy in 2016?

Answer: Solar Impulse completed a round-the-world flight powered by solar energy in 2016.

5. Who became widely known for leading Samsung's clean-energy transition?

Answer: Simon Hermansen became widely known for leading Samsung's clean-energy transition.

6. Which place relies heavily on hydropower in its electricity system: Tasmania or Samsung?

Answer: Tasmania relies heavily on hydropower in its electricity system.

7. True or false: Offshore wind farms are built in bodies of water rather than on land?

Answer: True

8. A solar thermal plant makes electricity by using sunlight to do what?

Answer: It uses sunlight to heat a fluid.

9. Which kind of energy uses the rise and fall of ocean water to produce electricity?

Answer: Tidal power uses the rise and fall of ocean water to produce electricity.

10. Which technology aims to capture power from the motion of ocean surface waves?

Answer: Wave energy aims to capture power from the motion of ocean surface waves.

11. Energy from wood and crop waste is an example of what kind of energy?

Answer: It is biomass energy.

12. What is the name of the machine that rotates to help generate electricity?

Answer: A turbine is the machine that rotates to help generate electricity.

EASY RENEWABLE ENERGY TRIVIA

1. What kind of cells do solar panels use to generate electricity from sunlight?

Answer: Photovoltaic cells

2. Which machines convert moving air into electricity?

Answer: Wind turbines

3. Which renewable energy source uses flowing water to spin turbines?

Answer: Hydropower

4. Energy from heat inside the Earth is called what?

Answer: Geothermal energy

5. What is the original energy source for both solar and wind power?

Answer: The Sun

6. Who is credited with discovering the photovoltaic effect in 1839?

Answer: Edmond Becquerel

7. Which organization introduced a practical silicon solar cell in 1954?

Answer: Bell Labs

8. The Three Gorges Dam stands on which river?

Answer: The Yangtze River

9. Which dam is located on the border of Brazil and Paraguay?

Answer: Itaipu Dam

10. Which country gets most of its electricity from hydropower?

Answer: Paraguay

11. Which desert is a major U.S. region for large solar projects?

Answer: The Mojave Desert

12. Which California pass is known for large wind farms?

Answer: Tehachapi Pass

13. Many major offshore wind farms are found in which sea?

Answer: The North Sea

Source: <https://triviagong.com/themes/renewable-energy>