



Advanced Energy Bingo Answer Key

1. The public entity that oversees our state's energy utilities is...

Arkansas Public Service Commission (PSC) ensures that public utilities provide safe, adequate and reliable utility services at just and reasonable rates.

2. The energy source that is the cheapest to produce is...

Solar (generally among the lowest-cost new generation sources today)

3. The type of light bulb that uses the least amount of energy is...

The LED (Light Emitting Diode)

4. Weatherization is...

The process of making a building (typically a home) more energy-efficient by sealing it against the elements. The primary goal is to reduce energy consumption (lower heating and cooling bills) while also improving comfort, safety, and durability.

5. A robotic arm saves energy in manufacturing by...

Working faster and more precisely than human labor, reducing production time and energy use per unit.

6. The difference between a BAS and an EMS is...

BAS — Building Automation System: controls and automates building systems such as HVAC, lighting, equipment, and sometimes security/access systems. BAS = "Run the building."

EMS — Energy Management System: monitors and optimizes energy use, often across electricity, HVAC, solar, storage, and other energy systems. EMS = "Manage the energy."

There is a lot of overlap. A BAS can include energy-management functions, and an EMS may receive data from or communicate with a BAS.

7. Two energy efficiency careers are...

HVAC technician, energy auditor, energy engineer, utility analyst, some construction, insulation installer, energy manager, policy analyst

8. Two advantages of solar energy are...

Renewable and abundant, low operating/maintenance cost, minimal environmental impact (reduces greenhouse gas emissions/water pollution/air pollution), energy independence, grid security, resilience if on site, quiet, saves money long-term

9. I've seen a Distributed Energy Resource (DER) in Arkansas at...

Any reasonable location description using any of these technologies: rooftop solar panels, battery storage system, small wind turbine, backup generator, combined heat and power (CHP), electric vehicle batteries that send power back to the grid, smart water heaters or HVAC units that utilities can influence to balance demand.

(Distributed energy refers to small-scale electricity generation and storage systems located close to where the power is used, rather than at large, remote power plants)

10. Two things an Energy Auditor might suggest I do to lower my home energy bill are...

Building envelope (seal air leaks, add window/door weatherstripping, increase attic/wall insulation, use passive solar), HVAC (replace due to age/efficiency, replace filters and service regularly, seal ducts, use programmable thermostat/controls, get heat pump system), lighting (switch to LEDs, install motion sensors/dimmers), appliances/electronics (unplug vampire power, use power strips, choose ENERGY STAR®, sleep settings, run full loads), water heating (replace due to age/efficiency, lower to 120°F, insulate tank and pipes, install low-flow fixtures, tankless water heater), large uses (add solar/batteries, upgrade pool/well pumps, unplug old fridges), occupant behavior (turn off lights/fans in empty rooms, adjust fans/thermostats seasonally, don't block vents, wear right clothing)

11. Someone I know has an energy career called...

Any valid energy-related job (electrician, engineer, lineworker, HVAC tech, etc.)

12. Two renewable energy sources are...

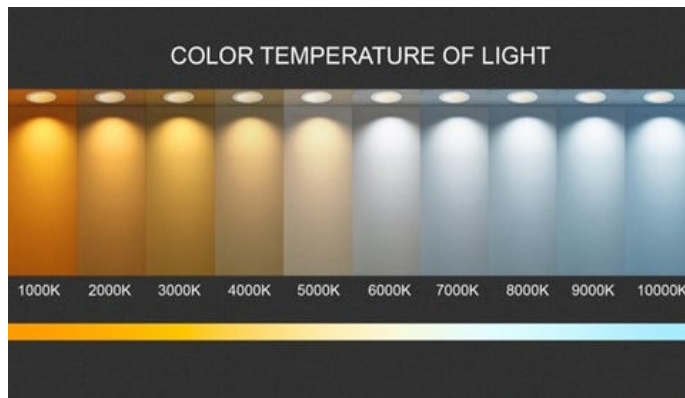
Solar, wind, hydropower/hydroelectric, geothermal, bioenergy/biomass, ocean/tidal/wave energy

13. The "grid" is...

The network of infrastructure designed to deliver electricity from power plants to end-users (homes, businesses, and factories). It is composed of Generation (makes power), Transmission (moves power long distances), and Distribution (delivers power to your home).

14. A higher color temperature LED looks...

Cooler or whiter or more blue



15. The electric utility that serves my home is...

Any correct local answer, like: Entergy Arkansas, SWEPCO, OG&E, Empire, a local municipal utility, or an electric cooperative

16. The top 4 fastest growing careers nationally are all in this industry...

Renewable Energy.

17. A Net-Zero Energy Building means it...

Produces as much energy from renewables as the building uses on a net annual basis

18. The career that protects energy data, systems, and infrastructure is...

Cybersecurity Analyst

19. Vampire power is...

The draw of energy even when an appliance is off or in standby mode. Also called standby power or phantom load.

20. Electric Vehicles reduce climate pollution by...

Using electricity instead of burning gasoline or diesel, which eliminates tailpipe emissions and can reduce total greenhouse-gas emissions over the vehicle's lifetime. The amount of reduction depends partly on how the electricity used to charge them is generated. As the electric grid adds more renewable and low-carbon energy, charging an EV generally becomes less carbon-intensive. Some EVs can potentially send electricity back to the grid, helping store renewable energy and balance electricity demand. Electric motors are more efficient as they convert a larger share of their energy into movement than gasoline engines. They also require less maintenance, less moving parts, and lower operating costs.

21. The difference between grid transmission vs. distribution lines is...

Transmission lines carry high-voltage electricity over long distances to substations, while distribution lines deliver lower-voltage electricity from substations to homes and businesses.

22. I got by without electricity during a power outage by...

Using a backup generator; using solar-powered lights or chargers; cooking inside with gas or outside with propane/wood/charcoal; using candles/flashlights for light; charging my phone with a battery backup/power station/in the car; opening windows for ventilation; staying warm with blankets/wood or gas fireplace; not opening fridge/freezer unless necessary; taking the stairs instead of elevator; using a crank/battery-powered radio; entertaining with cards/board games or reading a book.

23. The advantage of graphene thermal storage charging electrostatically is no...

Thermal runaway is a dangerous, self-heating reaction that can occur in some battery technologies and can lead to fires or explosions. Graphene thermal storage uses electrostatic energy storage rather than the electrochemical processes associated with conventional batteries.

24. Energy Efficiency Means...

Using less energy to do the same job (like using LED bulbs instead of CFL/incandescent)