

2022 - 2023 Energy Education Workshop Pre/ Post Assessment - Efficiency

Your answers in this assessment are used to shape NEED curriculum and training.

Please answer to the best of your ability. **Completely fill in the circle** next to your selected answer.

Location: _____ Date: _____

- (A) Pre
(B) Post

Answer Selection: Correct = ● Incorrect = ✕ ✓ ⊖

Is this your first NEED workshop?

- (A) Yes
(B) No

1. Which sector of the economy consumes the most energy?

- (A) transportation
(B) industry
(C) residential/commercial
(D) electric power

2. Most of the energy consumed in the U.S. is stored in which form of energy?

- (A) kinetic
(B) thermal
(C) chemical
(D) mechanical

3. In which form do all energy flows begin?

- (A) electrical
(B) chemical
(C) radiant
(D) nuclear

4. Which of the following is not a primary source of energy?

- (A) petroleum
(B) natural gas
(C) electricity
(D) all of the above

5. Which energy source is used to generate the largest percentage of **electricity** in the U.S.?

- (A) hydropower
(B) petroleum
(C) coal
(D) natural gas

6. What is the national average cost of a residential kWh of electricity?

- (A) 8 – 10 cents
(B) 12 – 14 cents
(C) 15 – 17 cents
(D) 18 – 20 cents

7. When considering **total energy** consumption (including transportation, industry, and electricity), which of the **renewable** energy sources provides the U.S. with the greatest amount of energy?

- (A) biomass
(B) hydropower
(C) wind
(D) solar

8. When considering **total energy** consumption (including transportation, industry, and electricity), which of the **nonrenewable** energy sources provides us with the greatest amount of energy?

- (A) petroleum
(B) natural gas
(C) coal
(D) nuclear

9. **Nonrenewable** sources of energy make up what percentage of U.S. **energy** consumption?

- (A) less than 60%
(B) 60 – 70%
(C) 70 – 80%
(D) 80 – 90%

10. What are the top five sources of energy used in the United States?

- (A) uranium, wind, natural gas, hydropower, biomass
(B) petroleum, natural gas, coal, uranium, biomass
(C) coal, petroleum, uranium, hydropower, solar
(D) solar, coal, petroleum, geothermal, natural gas

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11. What do coal, natural gas, nuclear, and some solar power plants have in common?

- (A) all utilize cooling towers
- (B) all burn a fuel to drive the turbine generator
- (C) all emit CO₂
- (D) all use thermal energy to drive the turbine generator

12. Which country provides the largest portion of imported oil to the U.S.?

- (A) Egypt
- (B) Saudi Arabia
- (C) Venezuela
- (D) Canada

13. Which **renewable** energy source generates the largest percentage of **electricity** in the U.S.?

- (A) wind
- (B) solar
- (C) hydropower
- (D) biomass

14. Which of the following is **not** a greenhouse gas?

- (A) H₂O (water vapor)
- (B) CO₂ (carbon dioxide)
- (C) CH₄ (methane)
- (D) N₂ (nitrogen)

15. When considering most thermal power plants, how efficient is the system, or, roughly how much energy will reach the consumer as electricity?

- (A) one-third (1/3)
- (B) one-fourth (1/4)
- (C) one-half (1/2)
- (D) three-fourths (3/4)

16. *Opinion:* I will take energy into consideration when I make my daily decisions.

- (A) always
- (B) most of the time
- (D) some of the time
- (E) never

17. Which are the top 3 users of energy in the average U.S. home?

- (A) space heating, water heating, space cooling
- (B) lighting, computers & electronics, water heating
- (C) computers & electronics, cooking, space heating
- (D) space cooling, lighting, water heating

18. What is life-cycle cost?

- (A) Sticker price of an energy efficient appliance
- (B) The environmental impact of an item
- (C) Cost of using an appliance over your life
- (D) Cost of purchasing, operating and maintaining a device over its life

19. An example of energy efficiency would be

- (A) turning off the lights when you exit a room
- (B) installing a LED to replace an old bulb
- (C) combining multiple car trips into one
- (D) turning down the temperature on the water heater

20. Which of the following features does **not** describe why CFL and LED bulbs are a smarter energy choice?

- (A) lower life cycle cost
- (B) longer bulb life
- (C) more heat output
- (D) higher lumen to KW output

21. The building envelope of a home or building does **not** include:

- (A) insulation
- (B) windows
- (C) roofs
- (D) lighting

22. *Opinion:* How knowledgeable do you feel about energy when making decisions about your purchase and use of the following?

	Very Knowledgeable	Average	Not Very Knowledgeable
Lighting	(A)	(B)	(C)
Appliances	(A)	(B)	(C)
Electronics	(A)	(B)	(C)
Utility Bills	(A)	(B)	(C)

