

National Energy Literacy Survey

Assessment Questionnaire

BLOCK 1: Behaviors

PLEASE READ CAREFULLY:

This survey will ask you a variety of questions as it relates to (1) your knowledge of energy concepts, (2) your personal opinions regarding energy consumption, and (3) the personal choices you make regarding energy.

1. Please take a moment to think about your typical energy usage habits, how often do you do each of the following?

		Never 1	Rarely 2	Occasionally 3	Often 4	Always 5
1	Unplug electronic devices that are not being used	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2	Actively search for products that are more energy efficient	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3	Turn off all lights before leaving a room	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4	Encourage friends or family to be more energy efficient	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5	Consciously participate in carpooling	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6	Consciously choose to travel without a car (e.g., walk, bike, public transport, etc.)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

2. If you had a question about energy (e.g., trends, policy, efficiency, conservation, etc.), where would you be most likely to turn to find information?

Select all that apply

<input type="checkbox"/>	A high school instructor
<input type="checkbox"/>	Textbooks
<input type="checkbox"/>	Friends or classmates
<input type="checkbox"/>	Family
<input type="checkbox"/>	Search engines (e.g. Google search)
<input type="checkbox"/>	Scholarly research database
<input type="checkbox"/>	Online or print encyclopedias (e.g. Wikipedia)
<input type="checkbox"/>	Social media feed; non-professional profiles (e.g. friends, family, etc.)
<input type="checkbox"/>	Social media; professional profiles (e.g. industry, non-profit, or subject expert)
<input type="checkbox"/>	Blogs or forums
<input type="checkbox"/>	Government websites (e.g. Department of Energy)
<input type="checkbox"/>	Industry websites (e.g., utility, gas, renewables, etc.)

<input type="checkbox"/>	Non-profit agencies
<input type="checkbox"/>	Other, please specify:

3. Given your day-to-day habits, topics of conversation, and general attitude toward energy, which two of the following topic areas do you believe you are most likely to proactively gather information over the next 6 months?

Select two

<input type="checkbox"/>	Energy efficiency
<input type="checkbox"/>	Environmental impacts of energy actions
<input type="checkbox"/>	Economic impacts of energy actions
<input type="checkbox"/>	Role of foreign affairs in energy decisions
<input type="checkbox"/>	Energy trends
<input type="checkbox"/>	Energy resources
<input type="checkbox"/>	Energy safety
<input type="checkbox"/>	Other, please specify:
<input type="checkbox"/>	I'm unlikely to gather any information on energy

4. When it comes to the topic of energy please indicate the extent to which you trust the information provided by each of the following information sources.

		Strongly distrust 1	2	3	4	Strongly trust 5
1	A high school instructor	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2	Textbooks	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3	Friends or classmates	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4	Family	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5	Search engines (e.g. Google search)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6	Scholarly research database	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7	Online or print encyclopedias (e.g. Wikipedia)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
8	Social media feed; non-professional profiles (e.g. friends, family, etc.)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
9	Social media; professional profiles (e.g. industry, non-profit, or subject expert)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
10	Blogs or forums	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
11	Government websites (e.g. Department of Energy)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
12	Industry websites (e.g., utility, gas, renewables, etc.)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
13	Non-profit agencies	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
14	Other, please specify:	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

BLOCK 2: Energy Literacy Concepts

Note: Question options highlighted **yellow** indicate the correct answer.

[Section 1: Basic Energy Concepts Questions]

The next several questions relate to general energy concepts.

5. Energy is best defined as:

- | | |
|-----------------------|-----------------------------------|
| <input type="radio"/> | The flow of electricity |
| <input type="radio"/> | The rate at which work is done |
| <input type="radio"/> | The ability to do work |
| <input type="radio"/> | Work output divided by work input |
| <input type="radio"/> | Fossil fuels |

6. The original energy source for almost all living things on Earth is:

- | | |
|-----------------------|----------------|
| <input type="radio"/> | The sun |
| <input type="radio"/> | Water |
| <input type="radio"/> | Oxygen |
| <input type="radio"/> | Plants |
| <input type="radio"/> | Soil |

7. Electricity bills charge consumers by the ____, the unit of measure for an amount of electricity.

- | | |
|-----------------------|-----------------------------|
| <input type="radio"/> | Watts (W) |
| <input type="radio"/> | Kilowatt-hours (kWh) |
| <input type="radio"/> | British Thermal Units (BTU) |
| <input type="radio"/> | Volts (V) |
| <input type="radio"/> | Horsepower (HP) |

8. If an electrical generating plant is 30% efficient, that means that...

- | | |
|-----------------------|---|
| <input type="radio"/> | \$30 of profit is made for every \$100 invested |
| <input type="radio"/> | \$100 of profit is made for every \$30 invested |
| <input type="radio"/> | 30 units of energy are lost as heat for every 100 units of energy put in |
| <input type="radio"/> | 30 units of electrical energy are produced for every 100 units of energy put in |
| <input type="radio"/> | 100 units of electrical energy are produced for every 30 units of energy put in |

9. Complete the chain of energy transformations for a battery-powered flashlight:

_____ energy → electrical energy → radiant (light) energy

- | | |
|-----------------------|------------|
| <input type="radio"/> | Chemical |
| <input type="radio"/> | Mechanical |
| <input type="radio"/> | Elastic |
| <input type="radio"/> | Biomass |
| <input type="radio"/> | Heat |

10. A light bulb converts...

- | | |
|-----------------------|--|
| <input type="radio"/> | Electrical energy to radiant energy |
| <input type="radio"/> | Chemical energy to radiant energy |
| <input type="radio"/> | Electrical energy to radiant and thermal energy |
| <input type="radio"/> | Chemical energy to radiant and thermal energy |
| <input type="radio"/> | Chemical and electrical energy to radiant and thermal energy |

[Section 2: Sources and Types of Energy Questions]

The next several questions relate to sources and types of energy.

11. Most power plants being built in the U.S. today are designed to use which fuel?

- | | |
|-----------------------|-------------|
| <input type="radio"/> | Coal |
| <input type="radio"/> | Uranium |
| <input type="radio"/> | Petroleum |
| <input type="radio"/> | Natural gas |
| <input type="radio"/> | Hydropower |

12. In the past five years, both production and consumption of which resource has decreased in the U.S.?

- | | |
|-----------------------|-------------|
| <input type="radio"/> | Petroleum |
| <input type="radio"/> | Coal |
| <input type="radio"/> | Natural gas |
| <input type="radio"/> | Wind |
| <input type="radio"/> | Solar |

13. Which of the following resources creates the fewest emissions when used to generate electricity?

- | | |
|-----------------------|-------------|
| <input type="radio"/> | Natural Gas |
| <input type="radio"/> | Coal |
| <input type="radio"/> | Wood |
| <input type="radio"/> | Oil |

14. The term renewable energy means that a resource...

- | | |
|-----------------------|--|
| <input type="radio"/> | Is free and easy to use |
| <input type="radio"/> | Is very efficient to use |
| <input type="radio"/> | Does not produce greenhouse gases |
| <input type="radio"/> | Can be converted directly to electricity |
| <input type="radio"/> | Is a non-nuclear, non-fossil fuel |

15. Which of the following is a renewable energy resource?

- | | |
|-----------------------|------------------|
| <input type="radio"/> | Solar |
| <input type="radio"/> | Biomass |
| <input type="radio"/> | Geothermal |
| <input type="radio"/> | Hydropower |
| <input type="radio"/> | All of the above |

16. Which three resources provided 86% of the electricity generated in the U.S. in 2015?

- | | |
|-----------------------|-----------------------------|
| <input type="radio"/> | Coal, Natural Gas, Nuclear |
| <input type="radio"/> | Natural Gas, Nuclear, Solar |
| <input type="radio"/> | Natural Gas, Wind, Solar |
| <input type="radio"/> | Coal, Natural Gas, Wind |
| <input type="radio"/> | Coal, Nuclear, Hydropower |

17. As a roller coaster descends a hill, what happens to its energy?

- | | |
|-----------------------|---|
| <input type="radio"/> | Both its potential and kinetic energy increase |
| <input type="radio"/> | Its potential energy increases while kinetic energy decreases |
| <input type="radio"/> | Its potential energy decreases while kinetic energy increases |
| <input type="radio"/> | Both its potential and kinetic energy decrease |
| <input type="radio"/> | Both its potential and kinetic energy stay the same |

[Section 3: Energy Use Questions]

The next several questions relate to energy use.

18. Which of the following uses the most energy in the average American home annually?

- | | |
|-----------------------|----------------------------|
| <input type="radio"/> | Refrigerators and freezers |
| <input type="radio"/> | Lighting |
| <input type="radio"/> | Heating and cooling rooms |
| <input type="radio"/> | Heating water |
| <input type="radio"/> | Electronics |

19. What percentage of the U.S. overall energy consumption is used for transportation?

- | | |
|----------------------------------|---------------|
| <input type="radio"/> | 10-15 percent |
| <input checked="" type="radio"/> | 25-30 percent |
| <input type="radio"/> | 40-45 percent |
| <input type="radio"/> | 55-60 percent |
| <input type="radio"/> | 70-75 percent |

20. Per capita energy usage in the United States since 2003 has:

- | | |
|----------------------------------|-----------------------|
| <input checked="" type="radio"/> | Decreased |
| <input type="radio"/> | Stayed about the same |
| <input type="radio"/> | Increased |

21. In the past ten years, petroleum imports into the U.S. have:

- | | |
|----------------------------------|-----------|
| <input type="radio"/> | Increased |
| <input checked="" type="radio"/> | Decreased |

22. Prior to a digging project, underground utility lines should be identified. What number should you call to ensure this is done correctly?

- | | |
|----------------------------------|----------------------------------|
| <input type="radio"/> | The local utility company |
| <input checked="" type="radio"/> | 811 |
| <input type="radio"/> | 911 |
| <input type="radio"/> | The local fire station |
| <input type="radio"/> | The local city or county offices |

23. Which of the following are all insulators of electricity and help ensure electrical safety?

<input type="radio"/>	Paper, Glass, Rubber
<input type="radio"/>	Copper, Plastic, Glass
<input type="radio"/>	Glass, Human Body, Plastic
<input type="radio"/>	Teflon, Rubber, Water
<input type="radio"/>	Aluminum, Plastic, Rubber

[Section 4: Energy Efficiency and Conservation Questions]

The next several questions relate to energy efficiency and conservation.

24. Which of the following is <u>not</u> a potential advantage of using a smart meter?	
<input type="radio"/>	Smart meters provide consumers with precise details of their electricity consumption patterns
<input type="radio"/>	Smart meters can help consumers identify ways to use energy more efficiently
<input type="radio"/>	Smart meters can help consumers manage their electrical use remotely
<input type="radio"/>	Smart meters can help the electrical utility better manage the supply of electricity
<input type="radio"/>	Smart meters can help consumers save energy without any behavioral actions taking place

25. Which of the following does NOT promote energy savings?	
<input type="radio"/>	Using a space heater
<input type="radio"/>	Using a high-efficiency shower head
<input type="radio"/>	Keeping your furnace filter clean
<input type="radio"/>	Using LEDs

26. Which is an example of a behavior that would <u>not</u> help to use energy more efficiently?	
<input type="radio"/>	Lower the temperature set point on your water heater
<input type="radio"/>	Take a shorter shower
<input type="radio"/>	Drive 70 mph instead of 55 mph on the freeway
<input type="radio"/>	Run full loads in the dishwasher
<input type="radio"/>	Utilize public transportation when available

27. Conserving water also conserves energy.

- | | |
|----------------------------------|-------|
| <input checked="" type="radio"/> | True |
| <input type="radio"/> | False |

[Section 5: Tradeoffs and Implications Questions]

This last section relates to energy tradeoffs and implications.

28. Which of the following are possible economic impacts of increased energy production:

- | | |
|----------------------------------|--------------------------------------|
| <input type="radio"/> | Job creation |
| <input type="radio"/> | Increased tax revenues |
| <input type="radio"/> | Royalty payments for property owners |
| <input checked="" type="radio"/> | All of the above |
| <input type="radio"/> | None of the above |

29. Nuclear reactors do not produce air pollution or carbon dioxide while operating:

- | | |
|----------------------------------|-------|
| <input checked="" type="radio"/> | True |
| <input type="radio"/> | False |

30. The technique of hydraulic fracturing to produce natural gas and oil, commonly known as “fracking,” has helped to lower consumer energy prices.

- | | |
|----------------------------------|-------|
| <input checked="" type="radio"/> | True |
| <input type="radio"/> | False |

31. Electric vehicles use electricity generated only from renewable energy sources.

<input type="radio"/>	True
<input type="radio"/>	False

BLOCK 3: Attitudes

This last portion of the survey will ask questions that are focused on your attitudes and opinions related to energy.

32. Please indicate the degree to which you agree or disagree with the following statements about energy.

		Completely Disagree 1	2	3	Neutral 4	5	6	Completely Agree 7
1	Energy efficiency and conservation just isn't that important to me	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2	I'm too busy to be concerned with my energy usage	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3	It would be too much of an inconvenience to my lifestyle to reduce my energy usage	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4	When home, I take actions to conserve energy	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5	There is very little I can do personally to conserve energy in my home	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6	My efforts to conserve energy will have a positive impact on the environment	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
		Completely Disagree 1	2	3	Neutral 4	5	6	Completely Agree 7
7	I am not willing to conserve energy at home if that comes at any cost to my comfort	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

8	Energy conservation and efficiency are very common topics of conversation among my family and friends	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
9	Energy efficiency is vital to our national economy	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
10	I have a moral obligation to reduce my energy usage	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
11	I am willing to compromise with those whose views on energy are very different from mine	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
12	Reducing my energy consumption will have a strong, positive impact on my personal finances	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
		Completely Disagree 1	2	3	Neutral 4	5	6	Completely Agree 7
13	We need to develop more ways of producing renewable energy, even if that means energy will cost more	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
14	The government has a strong role to play in our nation's energy efficiency and conservation policies	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
15	Climate change is a vital issue that must be addressed	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
16	I frequently stay up-to-date on local and national energy issues	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
17	I believe I have a voice in helping to impact energy policies	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
18	Clean energy is more important than reliable and affordable energy	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
		Completely Disagree 1	2	3	Neutral 4	5	6	Completely Agree 7
19	Affordable energy is more important than clean and reliable energy	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
20	As a country, we need to invest more money and effort into becoming energy independent as soon as possible	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
21	Becoming an energy independent country is vital to our economic success and national security	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

22	The United States should be focused on leveraging all energy sources (oil, gas, coal, and renewables)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
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33. Fast-forward ten years from now, how do you think our nation will change in each of the following areas?

		Significantly decrease	Decrease	Same as today	Increase	Significantly increase
1	Use of oil as an energy source	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2	Use of gas as an energy source	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3	Use of coal as an energy source	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4	Production of nuclear energy	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5	Consumption of renewable energy sources (e.g., wind, solar, etc.)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6	Technology advancements in energy efficiency and conservation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7	Consumer energy awareness	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
8	Government actions to address climate change	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
9	Energy demand	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
10	Energy self-sufficiency (e.g. rooftop solar panels, individual wind turbine, geothermal, etc.)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
11	At-home electricity storage	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
12	Energy consumption costs	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>