

**Part A - Sustainability**

**1. What is the best definition of high-performance buildings? High performance buildings:**

- are efficient, healthy, and environmentally responsible.
- provide a low-energy building no matter the cost.
- use efficient materials sourced from all over the world.
- improve the health of the occupants but not the workers.

**2. Most people incorrectly believe that high-performance buildings cost more to design and build than conventional buildings. However, what could actually add significant first costs to a green project?**

- Installing solar panels
- Taking advantage of daylight
- Designing the envelope to have south facing windows
- Providing information about the building's mechanical systems to the building's operators

**3. Current market trends show the construction industry moving towards:**

- high-performance buildings
- high-rise buildings
- traditionally constructed buildings
- buildings with less mechanical ventilation

**4. What is the best definition of a green job?**

- A career in the roofing industry.
- A career in development of environmental policy.
- A career with an architecture firm that focuses on retrofitting buildings.
- A career-track job that helps enhance or preserve environmental quality.

**5. Jobs in the energy efficiency industry include:**

- Installation of smart lighting
- Insulating walls and ceilings
- Sealing duct leaks in HVAC systems
- All of the above

**6. Of the millions of people working in clean energy in the U.S., the vast majority of jobs are in which industry?**

- Renewable energy generation
- Energy efficiency
- Clean distribution
- Electric vehicles

### 7. What are greenhouse gases?

- Gases such as CO<sub>2</sub> and methane in the atmosphere that trap the sun's heat.
- O<sub>3</sub>, which makes up the ozone layer.
- Gases in the atmosphere such as nitrogen, that allow heat to escape.
- Gases, which are created by sunlight hitting the ocean, keep the planet warm.

### 8. Weather is the everyday state of the atmosphere, and climate is the average weather pattern of one place over a period of time.

- True
- False

### 9. Climate change refers to:

- The increase in Earth's temperature over millions of years.
- The increased use of hydrofluorocarbons causing a hole in the ozone layer.
- The increase in greenhouse gases in Earth's atmosphere.
- Long-term changes in Earth's climate system resulting in new weather patterns.

### 10. What is an environmental benefit of constructing a high-performance building?

- More locally sourced materials mean fewer emissions from transportation.
- An increase in availability of office space, increasing the density of the area.
- Better air quality surrounding the building due to off-site solar energy.
- More impervious surfaces so rainwater can't infiltrate the ground and cause flooding.

### 11. How does burning fossil fuels contribute to climate change?

- Fossil fuels are a source of clean energy that does not contribute to air pollution.
- Burning fossil fuels releases water vapor and makes the planet warmer.
- Fossil fuels do not contribute to climate change, only air pollution.
- Burning fossil fuels releases CO<sub>2</sub> and makes the planet warmer.

### 12. Why do scientists believe we should limit CO<sub>2</sub> emissions?

- Acid rain is still a problem.
- To limit the worst effects of climate change.
- The ozone layer is still shrinking.
- To spur the economy by developing new sources of renewable energy.

### 13. If levels of greenhouse gases in the atmosphere continue to increase, temperatures on Earth will:

- Stay the same
- Decrease
- Increase
- Cause the Earth to turn into a ball of ice

**14. What is the Acid Rain Program?**

- A program focused on monitoring atmospheric gases that result in acid rain.
- A cap-and-trade program created to reduce the occurrence of acid rain.
- A program dedicated to the human health effects of acid rain incidents.
- A program focused on regulating clean-up for areas affected by acid rain.

**15. Why is the Montreal Protocol significant?**

- It brought nations together to phase out harmful chemicals affecting the ozone layer.
- It was the first example of an international energy code to reduce fossil fuel usage.
- It set aside funds to help with future environmental disasters across North America.
- It was the precursor to the modern-day Environmental Protection Agency (EPA).

Part A – Sustainability continued

16. Which of the following best defines mitigation?

- Making green building standards more widespread
- Creating more energy efficient buildings
- Reducing the cost of construction
- Designing buildings to be resilient

17. Which of the following is an example of adaptation?

- Constructing and operating buildings to be resilient to heavy storms.
- Improving codes and policies that result in less energy waste.
- Alleviating the effects of climate change by designing net zero buildings.
- Designing energy efficient buildings.

18. Buildings are responsible for approximately \_\_\_\_% of the energy used in the U.S.

- 22%
- 35%
- 40%
- 45%

19. What is considered "clean" energy?

- Energy sources that do not emit greenhouse gases.
- Energy sources that emit greenhouse gases.
- Energy generated from coal.
- Energy generated from natural gas.