

## **Basics of Energy Management Quiz**

**The Basics of Energy Management Quiz is presented on the following pages. Your energy manager will provide instructions on what to do with the completed quiz.**

**The answer key will be made available to the energy manager by contacting the KEEPS Coordinator at the Kentucky Pollution Prevention Center at (502) 852-0965.**

# Basics of Energy Management Quiz

Name: \_\_\_\_\_ Date: \_\_\_\_\_

Title: \_\_\_\_\_

School/Organization: \_\_\_\_\_

Phone: \_\_\_\_\_ E-mail: \_\_\_\_\_

## **Part I: Energy Basics**

*Select one or more correct answer(s) from the list of terms at the top of the section.*

ELF	kWh	EER	ECI	dth
COP	EUI	kW	AFUE	CCF
efficacy	HSPF	MMBtu	SEER	hp

1. Select 2 terms that may be seen on an electric bill \_\_\_\_\_
2. Select 3 terms that may be seen on a natural gas bill \_\_\_\_\_
3. Select 2 terms which refer to energy efficiency \_\_\_\_\_
4. Select 3 terms which refer to cooling efficiency \_\_\_\_\_
5. Select 1 term which has the units Btu/ft<sup>2</sup>/yr \_\_\_\_\_
6. Select 3 terms which are indexes \_\_\_\_\_
7. Select 2 terms which refer to power, not energy \_\_\_\_\_
8. Select 1 term which could have units of kW/ton \_\_\_\_\_

## **Part II: Energy Management**

*Select the correct answer from the list directly below each question.*

9. \_\_\_\_ Energy costs may only be 2% of the entire school budget, but typically make 16% of controllable costs. Controllable costs refer to:
  - a) Only the maintenance budget
  - b) All costs that are not fixed contractual
  - c) Building energy systems

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10. \_\_\_ The cost of energy for Kentucky schools in 2004 was slightly more than \$120 million. If energy unit costs rose an average of 20% and all other things were to say the same, what would be the increase we would see for 2005?
- a) \$240,000
  - b) \$2.4 million
  - c) \$24 million
11. \_\_\_ The three components that comprise administrative commitment to energy management are: 1.) appoint an energy manager; 2.) establish an energy team; and 3.) institute an energy policy.
- a) True
  - b) False
12. \_\_\_ A typical annual energy usage per square foot of conditioned space for a school in Kentucky is:
- a) Between 4,000 and 6,000 Btu
  - b) Between 40,000 and 60,000 Btu
  - c) Between 400,000 and 600,000 Btu

### **Part III: Energy Management Opportunities**

*Select the correct answers from the following list of energy management opportunities (EMOs).*

- |   |  |
|---|--|
| A) boiler and chiller maintenance                                 | H) periodic inspection of accounts to look for billing opportunities       |
| B) scheduling   | I) replacing chillers and boilers  |
| C) night and weekend temperature setbacks                         | J) periodic inspections of economizers                                     |
| D) replacing existing motors                                      | K) setting temperatures in buildings outside of accepted comfort standards |
| E) adding to existing insulation in the roof line                 | L) installing a reflective roof  |
| F) reducing outside air to ventilation to to below building codes | M) replacing missing or damaged insulation                                 |
| G) replacing door seals and window glazing                        | N) installing a building energy system                                     |
|   | O) modifying the HVAC  |

13. \_\_\_\_\_ Some energy management opportunities are considered to be low/no-cost (paybacks of one year or less). Which of the EMOs above would fall into this category? (Hint: there are 7)
14. \_\_\_\_\_ Some energy management opportunities require significant capital investment. Which of the EMOs above fall into this category? (Hint: there are 5)
15. \_\_\_\_\_ Some energy management opportunities are a bad idea. Which of the EMOs above fall into this category? (Hint: there are 3)
16. \_\_\_\_\_ Baseline energy usage is a part of energy accounting and is defined as:
- a) Entering bills into a spreadsheet
  - b) Creating a reference point to compare to after energy management activities
  - c) Setting a standard or a goal to aspire to across a district or at a building level
  - d) Periodic reporting of energy information to building occupants and school administrators