

All About the Baseline

Energy Revealed
Inquiry & Take Action Activity
Grade Level 7-12



Main Objective

Learners will establish trends in their school's energy use.

Learning Outcomes

By the end of this activity, learners will:

- Identify and estimate energy inputs and outputs for example devices and systems and evaluate the efficiency of energy conversions.
- Describe and discuss the societal and environmental implications of the use of electrical energy.

Length of Activity: 2-3 class periods over the span of two weeks

Step 1+2+3: Determine energy trend, analyze, and predict trend (*1 class period*)

Step 4: Create a campaign/strategy (*1-2 class periods*)

Materials Required

- Pen and paper
- Energy Metering Technology

Activity

Before you begin:

For this activity, it is best if your energy metering technology has been installed for at least 3 months. If this is not available to you, obtain the energy reports from your school, or billing reports from another source.

Step 1: Identifying the Type of Energy Trend

- Have learners work in groups of 3. Each group should discuss and decide on what type of energy trends they are interested in investigating, this is largely dependent on the energy metering technology available to you.
- Write down your predictions about what you think the results will show you.
- Log onto the energy meter technology software.
- Using the software, run reports on energy use. Evaluate trends and changes over a period of three months.

Step 2: Analyzing the Trends

- Now that you have created the report, what do the results show you?
- Are they different than what you predicted? Why or why not? Is there anything that surprises you?

Step 3: Predicting Future Trends

- If you measured the same report in 3 months' time, how would you predict that the results would change? Consider time of year and outside temperature in this prediction.

Step 4: Action Project

- Using your predictions and observations from your inquiry, what energy saving programs/activities could be done to improve your energy use over the next few months?
- How would you measure success? Plan a campaign or strategy to make changes in your school energy use. Monitor and report on the changes and positive outcomes that you have made in the school community.

Extension Activities

1. Based on the analysis, what ways are some ways to lower the reported energy output?
2. Keep the reports from this year's learners on file. Have next year's learners run the same reports. Look at how the energy consumption has or hasn't changed. Discuss any changes in differences.