

Teaching Outline

Electrical Energy Savings in Agriculture

Topic Objective: Upon completion of this lesson the student will be able to:

1. Identify strategies for improving energy efficiency
2. Identify three ways to reduce energy costs on the farm
3. Conduct an energy audit utilizing applications developed by an energy provider

Topic Presentation: Introduction

- In the past few years, interest in energy efficiency and conservation has skyrocketed due to unstable fuel prices and the desire to move toward renewable and sustainable energy sources. At the same time, technologies to help identify potential efficiency improvements and savings have improved significantly.
- Conserving energy and improving energy efficiency is not only good for the environment, but also for the pocketbook. According to the USDA, fifteen percent of agricultural production costs are energy related. The quickest, cheapest, and cleanest way to lower these costs is by improving energy efficiency.
- Many farms have captured energy savings by using high-efficiency motors, updating cooling and heating equipment, installing more efficient lighting and fans, and installing or adding insulation or other temperature management tools and devices.
- Given the many choices and options facing consumers as they investigate possible energy savings, some utility companies have developed programs specifically designed to help their customers identify the costs and benefits of adopting specific energy-saving strategies. Pacific Gas and Electric (PG&E) is a major energy provider in California, and they have developed an energy audit program that can be very valuable in identifying potential savings.
- In partnership with the California FFA Foundation, PG&E is encouraging Ag Education programs and FFA students within their service areas to conduct Ag Energy audits to help agricultural producers identify potential energy savings that can help producers increase their efficiency and farm profits. By utilizing the following program, FFA members in California not only help their local producers improve their energy efficiency, but also assist FFA secure additional resources for FFA activities and conferences at both the regional and state level.

In order to utilize the Energy Audit program to analyze potential producer savings, some important basic information will be needed:

- A copy of the producers' energy bill, or any document which identifies their current PG&E Ag account number. Only PG&E customers with an AG - #A/B accounts qualify for an Ag Audit.
- Phone number or meter number for the customer will be needed to begin the audit process, and will be entered to set up the audit activity. It is important to know that this process will not result in any sales calls nor will it obligate the customer to actually purchase or install any of the potential savings identified as a result of the audit. This audit is designed to inform the customer of a wide range of potential consumer choices, and leaves it up to the consumer to pursue those options.

Conducting an Energy Audit

Note: Please complete all steps with a PG&E billed account owner.

This is both a learning exercise and a chance for you to teach your family and friends about energy efficiency!

1. Create MyEnergy Account:

- a. <http://www.pge.com>
- b. In "Log In to My Energy" box, enter username/pw, or select "New User? Register here".



- c. If need to register for My Energy:
 - i. Need the following information for verification:
 1. PG&E Account Number (on bill)
 2. Phone number OR Meter number (on bill)
 - ii. Accept Terms and Conditions

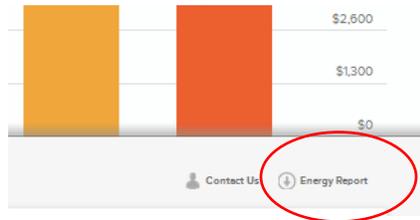
2. Access Business Energy Checkup Tool:

- a. From "Overview" tab, select "Start Checkup" in Energy Checkup box



- b. If a Pop-up Screen appears saying "Which Account is this For?", click "Next" under My Business Accounts
- c. On "Welcome" screen, select "Agriculture" as industry type

3. Complete an Energy Checkup:
 - a. Select "Business Profile" tab located at the top of the screen
 - b. Review questions under "Building" and "Agriculture" categories
 - c. Tour the facility to find the answers to the "Building" and "Agriculture" profile questions – make sure to select "Save Answers" to save
 - d. Select "Ways to Save" Tab
 - e. Review recommendations with the account owner
 - f. Add at least 2 recommendations to the Energy Plan by clicking "Add to Plan"
4. Print Energy Report and Bring to Class
 - a. Select Energy Plan page
 - b. Click Energy Report to generate your report



- c. Print Energy Plan
- d. Turn in Energy Plan to your teacher and discuss what you found.

For every 500 Agriculture audits generated by using the above tool between now and December 31, 2014, PG&E will donate \$25,000 to the state and regional FFA organization, up to a maximum of \$75,000 for 1,500 completed audits. If more than 1,500 audits are conducted, PG&E will contribute \$5,000 for every 200 audits, up to a maximum of \$50,000.