Modifying Energy (Use) Buying Habits — Module Overview

Ag Service Provider (ASP) Training Description

1. Learning Objectives - Participants in the educator training session will understand how energy is used on the farm as well the various ways it may be priced. This includes the ability to:
   i. Explain how energy is typically used, especially the larger energy consuming devices.
   ii. Describe the various fuels; liquid, solid, gas, and electric.
   iii. Identify major uses of energy on most farms. Collect equipment data.
   iv. Explain some methods for establishing energy use for the benefit of cost comparisons.
   v. Explain some of the trends in energy pricing; annual cycle and longer term trending.
   vi. Identify and describe strategies to shift energy use to lower cost energy sources.
   vii. Be ready to visit a farm and assess equipment and applications that may be candidates for a change in energy source.

2. Presentation Outline
   i. 05 min - Introduction – Introduce self, purpose of presentation; give brief overview of types of energy to be considered.
   ii. 05 min – Outline major energy applications on the farm and what they typically are. Purchase options available for the various energy sources. Be sure to discuss the natural gas units, i.e., sales by volume (CCF, MCF) and sales by energy content (therms).
   iii. 10 min – Discuss effects of buying larger amounts of fuel at once. Wood pellets by the ton, perhaps a larger oil or propane tank. Describe the process of comparing energy costs on a per unit basis, i.e., $ per Btu. Discuss the Energy Selector energy cost reference device, including assumptions of fuel energy content.
   iv. 10 min – Describe the simple payback concept and apply it to the wood pellet discussion in the presentation.

3. Activity – ASPs will be asked to estimate to estimate cost savings available due to a fuel switch, based on estimates of energy use.
   d. Calculation tool – ASPs may use the included spread sheet to estimate savings potential due to changing to other energy sources.

Supporting Documents
- Presentation Script – Modifying Energy Buying Habits —Presentation Outline
- Presentation File – Modifying Energy Buying Habits—ASP Presentation
- ASP Activity Sheet – Energy price per unit.xlsx
- Calculation Tool – Fuel-value-calculator.xls

2. Additional Reading for ASP – Read the information sheet from EIA addressing the measures for natural gas sales (included). Also, familiarize yourself with the use of the Penn State Energy Selector (included).
1. Presentation Objectives – Farmers who participate in the farmer presentation will learn how to compare energy costs on a $ per Btu basis and to evaluate what potential there may be to change fuels in order to reduce energy costs and which farm operations may be candidates for energy cost review. This includes the ability to:
   i. Explain how energy is typically used, especially the larger energy consuming devices.
   ii. Describe the various fuels; liquid, solid, gas, and electric.
   iii. Identify major uses of energy on most farms.
   iv. Explain some methods for establishing energy use for the benefit of cost comparisons. (Electric bills, other energy bills whether truck delivered or piped.)
   v. Understand the use of the Energy Selector. Use a spreadsheet to estimate cost per Btu for various energy sources. Understand the simple payback calculation.
   vi. Explain some of the trends in energy pricing; annual cycle and longer term trending.
   vii. Identify and describe some strategies to shift energy use to lower cost energy sources.

Supporting Documents

- **Presentation Script** – Modifying Energy Buying Habits — Farmer Presentation Outline
- **Slide File for Farmer Training** – Modifying Energy Buying Habits — Farmer Presentation.pptx, 33 slides
- **Fact Sheet for Farmer Training** - Penn State ENERGY Selector (included).
- **Case Study for Farmer Training** — Class room example MMBTU calc.xlsx

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