

ENERGY

Resource Concerns

Equipment and Facilities

Soil

Water

Air

Plants

Animals

Energy

Inefficient Use

Equipment and
Facilities

Field Operations

Inefficient Energy Use - Equipment and Facilities

The inefficient use of energy increases costs and dependence on non-renewable energy sources.

What is it?

Inefficient energy use occurs whenever facilities, equipment, or machinery operate more hours than needed to meet production goals. It may also occur when facilities, equipment, or machinery become worn out, outdated, or are poorly controlled or maintained.

Why is it important?

High energy prices have put considerable pressure on the U.S. economy. High input costs and the inability to set prices leave the agricultural sector with limited options to be economically viable. Reducing energy use helps our nation to be energy independent and reduces costs, helping producers stay competitive in the marketplace.

What can be done about it?

There are two ways to reduce energy related production costs: 1) increase energy efficiency of the operation and 2) increase use of energy sources produced on the farm. For increased energy efficiency, NRCS Energy Estimator and Assessment tools gauge potential energy savings for a wide variety of efficiency upgrades. If these tools show energy saving opportunities, or if there are concerns about energy use and cost, NRCS staff will likely recommend an energy audit. During an energy audit, energy experts evaluate the farming operation and recommend changes to improve energy use. Common recommendations include changes to lighting, ventilation, heating and cooling of livestock facilities, drying/curing, milk cooling, irrigation pumping, and manure handling. An energy analyst evaluates the age and condition of facilities, equipment, and machinery, and how they are operated and maintained. For on-farm renewable energy, the Energy tools provide a similar gauge of renewable energy resources. NRCS staff can help identify ways, for example, to better use solar and wind resources, take advantage of geothermal or micro-hydropower potential, and use waste for bio-energy to leverage increased efficiency efforts.

Equipment and Facilities at a Glance

Problems / Indicators - Unacceptably high energy costs	
Causes	Solutions
<ul style="list-style-type: none"> • Unvented, propane-fired heated systems • Throttling valves to control water flow • Using incandescent or T12 lights • Inefficient motors and farm equipment 	<ul style="list-style-type: none"> • Convert to radiant heating • Add variable frequency drive pump • Upgrade inefficient pump and/or motor • Upgrade to T8, LED, or CFL lighting • Renewable energy sources • Low pressure irrigation systems