NRCS Natural Resources Conservation Service

CSP Energy Enhancement

Energy Assessment Worksheet

Baseline Agricultural Energy Use Assessment Worksheet[1/]

Farm or Ranch Identification:

Energy Source	Current Use (10^3 Btu)[2/]	Planned Use (10^3 Btu)	Net saving (%)
Electricity			
Natural Gas			
Propane (excluding vehicle use)			
Diesel (excluding vehicle use)			
Other			

Planned Energy Use Reduction Strategies

Items to consider	HP/Watts	Hrs used	Proposed Reduction Strategy (describe briefly where applicable)
Lights			
Fans			
Engines			
Irrigation pumps			
Vacuum pumps			
Hot water			
Heating/cooling systems			
Drying systems			
Refrigeration			
Other (specify)			

[1/] Baseline assessment excludes farmstead energy use and vehicle use

[2/] 1 KWh = 3.41 x 10^3 Btu 1Gallon propane = 91 x 10^3 Btu

Client Signature Date

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1Therm natural gas = 102.6 x 10^3 Btu 1 Gallon diesel = 139 x 10^3 Btu

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Example Activities to Increase Energy Efficiency On Farms or Ranches

a. Irrigation Improvements

Size pump correctly for system
Switch line sizes to match pump size
Type of Pump, i.e., centrifuge, piston, etc.
Fuel type
Gravity flow where possible

b. Grain drying

Install sensors to optimize overdrying and utilize only energy needed
Utilize unheated air
Newer gas dryers are more energy efficient than older models
Heat pumps
Note: Over heating can decrease grain quality. Solar and Wind energy powered dryers are on the leading edge in the science of grain drying.

c. Animal housing and Processing

Coupling heating/cooling and refrigeration systems
Use of variable speed vacuum pumps – Noise factor in dairies
Energy efficient lighting
High Volume/Low speed fans
Insulation
Insulated watering devices
Energy efficient heating systems

d. Other farm buildings excluding the homestead

Install florescent lighting
Upgrade heating and cooling systems

e. Greenhouses

Energy efficient lighting
High volume/low speed fans
Switch to solar – solar heat sinks

f. Animal Waste Distribution

Optimizing - sizing motors to piping system to system needs