

Compete Energy Solutions For Today's Agriculture

People, Technology, Management



USDA Sponsored Energy Efficiency Programs



Energy and Water Conservation Energy Recapture Technologies (Bio-Fuels – Water Runoff – Waste Heat) **Renewable Energy Applications Energy Efficiency Processes**





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Agricultural Energy Management, Headquarters

 Expected energy cost savings An agricultural energy Payback estimates management conservation activity plan for farm or ranch TSPs can recommend and plan headquarters is a site-specific energy conservation practices evaluation to help a producer such as: address on-farm energy conservation and efficiency issues Energy conservation and

and opportunities. efficiency improvements Pipelines NRCS Technical Service Providers Pumping plants (TSPs) prepare these plans using

Irrigation water management

 Evaluations of current annual energy usage Evaluations of primary

inputs such as:

For more information, please visit www.nrcs.usda.gov and search for "Technical Service Providers."

Assessments of cost-

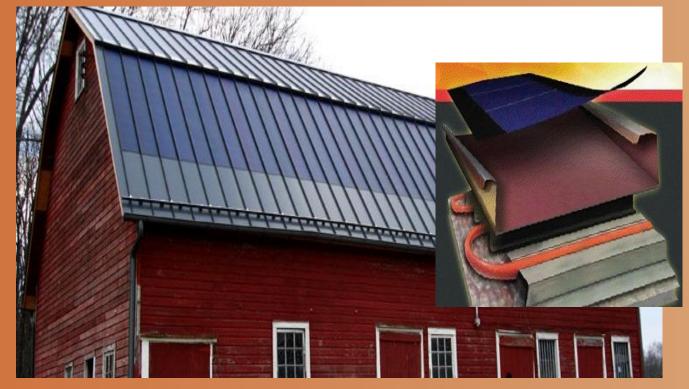
savings

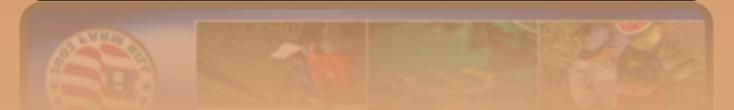
effective alternatives and

resulting estimated energy

agricultural energy users, such as lighting, ventilation, pumping, heating, and cooling

Helping People Help the Land





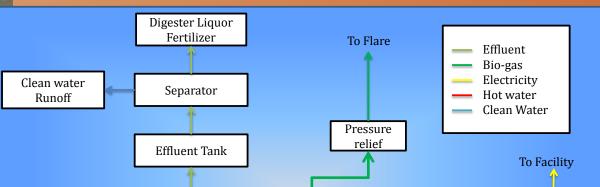
Cogeneration of Energy and Purification of water as a by product of agricultural production.





Electricity from Rice Field Irrigation Runoff Water Momura Micro Hydropower Project

Biogas Combined Heat and Power Cycle



Combined Solar PV and Thermal Systems generate power, provide hot water for ag production and reduce building thermal loads.



Solar Energy Powers Water Purification System making clear water for humans, livestock, and irrigation.

For Information on NRCS Programs Contact: Keven Cochran NRCS Field Office-Jonesboro (870) 972-4671 ext.3 Kevin.Cochran@ar.usda.gov



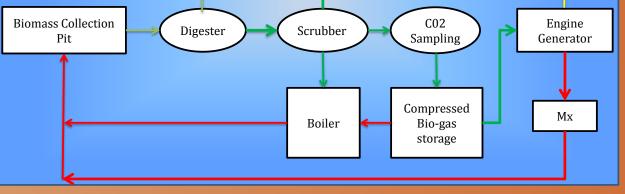
Combined Heat and Power Unit



Low cost high production scrubber systems, clean Bio-Gas to pipeline grade methane for sale to commercial distribution companies.



Anaerobic lagoon and 25kW Bio-Gas **Generator at the Cal Poly Dairy**







Conservation practices recommended in the plan can Management, Landscape include:

An agricultural energy Cover crop management conservation activity Sprinkler irrigation systems plan for working lands in the Irrigation water management landscape of farms and ranches is Mulching a site-specific evaluation to help a Pipelines landowner address on-farm energy Residue management problems and opportunities. practices NRCS Technical Service Providers Windbreaks/Shelterbelts (TSPs) prepare these plans using inputs such as: For more information, please visit www.nrcs.usda.gov and search for "Technical Service Providers." Evaluation of current energy audits Evaluation of primary agricultural energy use for tillage, planting, harvesting, www.nrcs.usda.gov and other practices USDA is an equal opportunity Estimate of expected energy provider and employer. savings Helping People Help the Land

Agricultural Energy

For Information on Energy Audits and Plans Contact: Dr. Bob Straitt, CEM, CDSM Chief Scientist, MAREH (870) 206-0160 dr.bob@mareh.org

Farm Based Community Wind Generation power Ag production and community power grid. **The Minnesota Project**