

SUBJECT: Ethanol biorefinery, Ammonia refinery, Proprietary solar thermal storage system

Introducing: Solar Energy Conversion LLC, Manchester Georgia and Dallas Texas
website: www.solarenergyconversionllc.com

Three mechanical engineers, 160 years of creative engineering design experience.

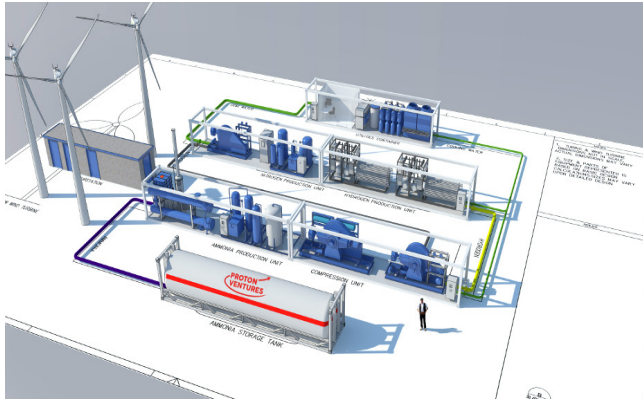


There are 200 biorefineries in the United States. The average biorefinery in the United States produces 70 million gallons of ethanol per year from corn. The largest biorefinery in the United States produces 400 million gallons of ethanol per year from corn.

Solar Energy Conversion LLC can design and build smaller, less expensive ethanol biorefineries sized appropriately for farmer's coops that will produce between 50,000 gallons per year to 2 million gallons per year of ethanol.

See attached PDF file for Archer Daniels Midland combined tilapia, lettuce, cucumber, ethanol system. Dried distillers grain feeds tilapia. Water from the tilapia pond fertilizes the lettuce and cucumbers. CO₂ from the ethanol fermentation tanks accelerate growth of lettuce from seed to full head of lettuce in 30 days. Stillage from the ethanol distillation column is trucked back to the farms as an organic fertilizer for next years corn crop. Farmers coop produced ethanol could then run farm cooperative farm tractors and farm trucks.

Also see attached USDA PDF file for turning cheese whey into ethanol.



Specific Consumption 50 mtpd plant

Electric Power: ~ 10 MWh/t_{NH3}

Treated Water: ~ 1.6 tons/t_{NH3}

Cooling Water*: ~ 85 tons/t_{NH3}

Specific Consumption 300 mtpd plant

Electric Power: ~ 10 MWh/t_{NH3}

Treated Water***: ~ 2.6 tons/t_{NH3}

Cooling Water*: ~ 125 tons/t_{NH3}

Solar Energy Conversion LLC design, fabricate and install small ammonia fertilizer plants

Wind and solar energy power the system. Pressure swing absorption unit extracts nitrogen from the air. Electrolyser extracts hydrogen from water. Casale ammonia reactor uses the Haber Bosch process to generate anhydrous Ammonia fertilizer (NH₃).



Proprietary Solar Energy Conversion LLC solar technology

RP2 trough collectors collect solar thermal energy. Thermal energy is stored in a proprietary reversible chemical reaction, using a metal hydride, for days or months which makes it possible to power 90% of the energy for the ethanol biorefinery for 24/7 operation. Trough collectors are 5 times more efficient at collecting thermal energy than photovoltaic solar panels.

USDA grants available to pay for biorefinery feasibility engineering studies.
 USDA loans are available to finance biorefinery construction projects.

To arrange a more detailed presentation please call:

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