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Alternative Farming Systems Information Center of the National Agricultural Library  
Agricultural Research Service, U.S. Department of Agriculture

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# **What Alternative Energy Options are Available for Farms?**

## **Compiled by:**

Alternative Farming Systems Information Center  
National Agricultural Library  
Agricultural Research Service, U.S. Department of Agriculture

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## **Publications from the U.S. Department of Energy (DOE)**

The National Renewable Energy Laboratory states that many renewable energy technologies are available for use on farms or ranches. Agribusiness opportunities in renewable energy include growing crops for production of biofuels or bioproducts, and leasing land to utility companies for the operation of wind turbines.

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Technologies that are commercially available today for farms and ranches include:

- Biofuels
- Biopower
- Bioproducts
- Geothermal heat pumps
- Geothermal direct use
- Hydroelectric power
- Passive solar heating
- Photovoltaic (solar cell) systems
- Solar hot water systems
- Wind energy

### **1. Office of Energy Efficiency and Renewable Energy (EERE)**

EERE maintains a gateway to “hundreds of Web sites and thousands of online documents on energy efficiency and renewable energy,” at their Energy Information Portal, <http://energy.gov/eere/office-energy-efficiency-renewable-energy>. Many of these factsheets and resource guides are of interest to farmers who wish to explore alternative energy production and utilization. To search the EERE Web site, go to <http://energy.gov/eere/office-energy-efficiency-renewable-energy>. Search for terms such as: farmer, farming, rancher, or rural. Free online documents include:

- ***Anaerobic Digesters for Farms and Ranches.***  
[http://www.eere.energy.gov/consumer/your\\_workplace/farms\\_ranches/index.cfm/mytopic=30002](http://www.eere.energy.gov/consumer/your_workplace/farms_ranches/index.cfm/mytopic=30002)
- ***Biofuels and Agriculture: A Factsheet for Farmers.***  
<http://www.eere.energy.gov/biomass/pdfs/farmerfactsheet.pdf>
- ***Direct Use of Geothermal Energy.***  
<http://www.eere.energy.gov/geothermal/directuse.html>
- ***Large Wind/Wind Farms.***  
[http://www.windpoweringamerica.gov/agricultural/large\\_wind.asp](http://www.windpoweringamerica.gov/agricultural/large_wind.asp)
- ***Microhydropower Systems.***  
<http://energy.gov/energysaver/articles/microhydropower-systems>
- ***Small Wind for Homeowners, Ranchers, and Small Businesses.***  
[http://www.windpoweringamerica.gov/small\\_wind.asp](http://www.windpoweringamerica.gov/small_wind.asp)
- ***Solar Energy Applications for Farms and Ranches.***  
[http://www.eere.energy.gov/consumer/your\\_workplace/farms\\_ranches/index.cfm/mytopic=30006](http://www.eere.energy.gov/consumer/your_workplace/farms_ranches/index.cfm/mytopic=30006)

If you are unable to find the information you require via EERE's Web site, *Ask an Energy Expert* is a free, public service of DOE's Office of Energy Efficiency and Renewable Energy:

*Ask an Energy Expert* online service, request form at: <http://energy.gov/about-us/contact-us>  
If you have difficulty submitting this form, you can contact staff at 1-800-EERE-INF (1-877-337-3463).

## 2. National Renewable Energy Laboratory (NREL)

The National Renewable Energy Laboratory (NREL) addresses energy issues that are environmentally and economically sustainable. NREL is a national laboratory of the U.S. Department of Energy, Office of Energy Efficiency and Renewable Energy.

NREL (<http://www.nrel.gov/>) offers many publications, including the *Renewable Energy for Farmers or Ranchers* series. Publications in this series, available online at [http://www.nrel.gov/learning/farmers\\_ranchers.html](http://www.nrel.gov/learning/farmers_ranchers.html) address what the farmer or rancher needs to know about energy efficiency and renewable energy. Topics covered include: biofuels, biopower, geothermal heat pumps, hydroelectric power, passive solar heating and daylighting, photovoltaic (solar cell) systems, solar hot water, wind energy. Many of these resources include links for introductory or basic information on the topic.

- ***Biofuels for Farmers and Ranchers.***  
[http://www.nrel.gov/learning/fr\\_biofuels.html](http://www.nrel.gov/learning/fr_biofuels.html)
- ***Bioproducts for Farmers and Ranchers.***  
[http://www.nrel.gov/learning/fr\\_bioproducts.html](http://www.nrel.gov/learning/fr_bioproducts.html)
- ***Fuel from Farms: A Guide to Small-Scale Ethanol Production.***  
<http://devafdc.nrel.gov/pdfs/0663.pdf>
- ***Geothermal Direct Use for Farmers and Ranchers.***  
[http://www.nrel.gov/learning/fr\\_geo\\_direct\\_use.html](http://www.nrel.gov/learning/fr_geo_direct_use.html)
- ***Hydropower for Farmers and Ranchers.***  
[http://www.nrel.gov/learning/fr\\_hydropower.html](http://www.nrel.gov/learning/fr_hydropower.html)

- ***Passive Solar Heating and Daylighting for Farmers and Ranchers.***  
[http://www.nrel.gov/learning/fr\\_passive\\_solar\\_heating.html](http://www.nrel.gov/learning/fr_passive_solar_heating.html)
- ***Photovoltaics (solar cell) for Farmers and Ranchers.***  
[http://www.nrel.gov/learning/fr\\_photovoltaics.html](http://www.nrel.gov/learning/fr_photovoltaics.html)
- ***Solar Hot Water for Farmers and Ranchers.***  
[http://www.nrel.gov/learning/fr\\_solar\\_hot\\_water.html](http://www.nrel.gov/learning/fr_solar_hot_water.html)
- ***Wind Energy for Farmers and Ranchers.***  
[http://www.nrel.gov/learning/fr\\_wind.html](http://www.nrel.gov/learning/fr_wind.html)

This list was compiled at the *Alternative Farming Systems Information Center (AFSIC)*, National Agricultural Library, U.S. Department of Agriculture, September 2003, revised December 2005, as a service to customers interested in pursuing various energy production options. For more information about AFSIC:

*Alternative Farming Systems Information Center (AFSIC)*  
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E-mail: [afsic@ars.usda.gov](mailto:afsic@ars.usda.gov)  
Web site: <http://afsic.nal.usda.gov>

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*The Alternative Farming Systems Information Center, [afsic@nal.usda.gov](mailto:afsic@nal.usda.gov)*  
Web Policies and Important Links, <https://www.nal.usda.gov/web-policies-and-important-links>

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