

# The Poultry Post

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## SOLAR ENERGY FOR POULTRY HOUSES

The sun has produced energy for billions of years. Solar energy is the sun's rays (solar radiation) that reach the earth. Solar energy can be converted into other forms of energy, such as heat and electricity.

Solar energy can be converted to **thermal (or heat) energy** and used to:

- Heat water – for use in homes, buildings, or swimming pools.
- Heat spaces – inside greenhouses, homes, and other buildings.

Solar energy can be converted to electricity in two ways:

- **Photovoltaic** (PV devices) or “solar cells” – change sunlight directly into electricity. PV systems are often used in remote locations that are not connected to the electric grid. They are also used to power watches, calculators, and lighted road signs.

- **Solar Power Plants** - indirectly generate electricity when the heat from solar thermal collectors is used to heat a fluid which produces steam that is used to power a generator. Of the 15 known solar electric generating units operating in the United States at the end of 2006, 10 are in California, and 5 in Arizona.

Now that the poultry industry is facing record high fuel costs, cheaper alternative fuel sources are being explored. It takes a lot of electricity to turn the fans and run lighting in a poultry house. New studies are being piloted using solar panels to generate electricity to help with this energy volume.



*Solar cells, like these, will be used to cut electricity costs associated with raising day-old chicks to maturity.*





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## NEW RESEARCH

Now in Dover, DE solar panels are being used to power a poultry house and charge batteries that will supply energy at night and on cloudy days. Excess electricity will be sold back to the power company in this particular part of the country.

Power generated by the solar panels will be direct current, and inverters will be used to convert the power into direct use or for sale back to the power grid.

The battery system was designed to run a average size poultry house for eight hours. Back up generators were still installed in case of major power failure.

Research is preliminary but analyst suggest that theses systems will pay for themselves in as little as four years.

Some states are offering rebates and tax

credits which will offset the initial cost. Louisiana offers a Solar Energy System Exemption on property tax, a tax credit up to \$12,500 per installed system, and also allows net metering on all utilities. For more information on tax credits and federal grants contact :

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