

# On-Farm Renewable Energy and Energy Efficiency Considerations



Renewable energy has a lower environmental impact than energy generated by burning fossil fuels. Connecticut has a goal to secure 27% of its electricity from renewable sources by 2020.

If you are considering improving energy efficiency or generating renewable energy on your farm, you should first address your current equipment performance. The best cost savings comes from energy efficiency: the cheapest power is power not used. A farm energy audit can help determine if equipment upgrades will save energy and money through greater energy efficiency.

Investing in energy efficiency or converting to renewable sources can be costly. However, there are several funding sources, loans and grants for energy efficiency and renewable energy projects available to CT farms. Producers can receive help to work through audits, feasibility studies, loans, income tax deductions, depreciation benefits, and the sale of renewable energy credits to determine if the investment is financially feasible.

The Connecticut Farm Energy Program (CFEP) serves as a resource for information about funding, incentives and financing on-farm energy projects. CFEP provides technical assistance to eligible Connecticut producers in applying for USDA Rural Development Rural Energy for America Program (REAP) grants. REAP is a federal program to foster economic development and growth through grants and guaranteed loans.

## Things to consider before an energy project:

- Value of the electricity generated or saved: estimate future energy prices and energy load levels
- Available local, state or federal grants
- Utility incentives and rebates
- Renewable Energy Credit (REC) value
- Net metering versus virtual net metering for renewable energy projects
- Federal investment tax credit (ITC) – solar and wind only, 30% of the equipment and installation costs
- Income tax deductions from depreciation: Accelerated first year 50% depreciation option. Five-year MACRS depreciation deduction of balance

## Permits and Inspections

Make sure to get proper state and local approval before you sign a check to purchase or sign a contract.

Your electrical distribution provider will require a National Electric Code inspection before allowing your system to sell electricity back to the grid.

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CT Farm Energy Program  
[www.CTFarmEnergy.org](http://www.CTFarmEnergy.org)

## Examples of Connecticut On-Farm Energy Projects:

### Ace Begonias, Bethany – Energy-Efficient Lighting

Total project cost: \$64,565

Net cost after incentives: \$30,586

Incentives:

USDA REAP Grant: \$16,141

Energize CT/Eversource Grant: \$17,838

Project life: 14 years

Average energy savings: 39,640 kWh/year

### Full Bloom Apiaries, Franklin – Solar Panels

Total project cost: \$40,544

Net cost after incentives: \$21,711

Incentives:

Federal Tax Credit: 30% of cost

USDA REAP Grant: \$9,529

ZREC credit (first 15 years): \$1,400 per year

Project life: 25 years

Average energy savings: 14,400 kWh/year

### Full Bloom Apiaries, Franklin – Energy-Efficiency Project

Total project cost: \$13,400

Net cost after incentives: \$10,050

Incentive:

USDA REAP Grant: \$3,350

Project life: 25 years

Average energy savings: 8,700 kWh/year

### Oakridge Farms, Ellington – Solar Panels

Total project cost: \$770,245

Net cost after incentives: \$404,379

Incentives:

Federal Tax Credit: 30% of cost

USDA REAP Grant: \$192,561

ZREC credit (first 15 years): \$20,881 per year

Project life: 25 years

Average energy savings: 293,899 kWh/year

### Paley's Farm Market, Sharon – Solar Panels

Total project cost: \$164,000

Net cost after incentives: \$86,100

Incentives:

Federal Tax Credit: 30% of cost

USDA REAP Grant: \$41,000

ZREC credit (first 15 years): \$7,599 per year

Project life: 25 years

Average energy savings: 41,172 kWh/year



## Questions?

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Watch videos on all four farms at  
<http://s.uconn.edu/farmenergy>

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