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.
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?
John Bovay
UConn Agricultural & Resource Economics,
john.bovay@uconn.edu or 860-486-2740 – are.uconn.edu

Joyce Meader
UConn Extension,
joyce.meader@uconn.edu or 860-774-9600 – extension.uconn.edu

Amanda Fargo-Johnson
Connecticut Farm Energy
ctfarmenergy@aol.com or 860-345-3977 – ctfarmenergy.org

USDA is an equal opportunity provider, employer and lender.
UConn is an equal opportunity employer and program provider.

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