

Farm Energy: Opportunities & Challenges

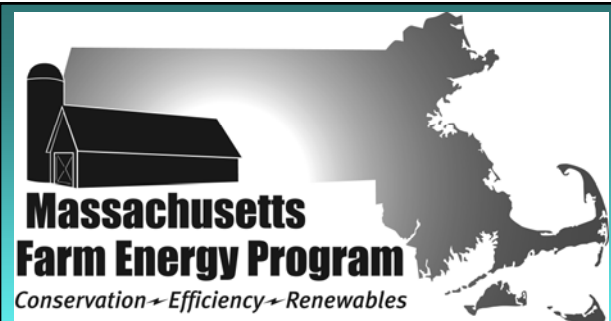
Farm Technology Review Commission
Public Meeting # 3
MRET Campus
Westborough, MA
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Presentation

- Existing Technical Assistance/Grants/Rebates
- Existing Other non-Grant/Rebate Incentives
- Other States' Efforts
- Learning Lessons and Challenges Ahead

Existing Technical
Assistance/Grants/Rebates



Overview of the Massachusetts Farm
Energy Program (MFEP)



Objectives of the program

- increase on-farm energy **conservation & efficiency**
- promote **renewable energy** strategies for on-farm energy generation
- reduce ag **greenhouse gas emissions**
- improve **farm viability**

The MFEP

2008 pilot to establish a statewide farm energy program

\$250,000 MDAR + \$150,000 NRCS + \$100,000+ in-kind

- **clearinghouse** for farm energy assistance
- **energy audits** and **renewable energy assessments**
- **financial incentives** for implementation of audit & renewable energy recommendations
- **leverage** other funding programs
- develop best management practices for farm energy systems

MFEP Technical Assistance

- Massachusetts Farm Discount Program
- MA-DAR Energy Related Grants (AEEP, etc.)
- MRET programs
- Public utility conservation programs
- USDA-Rural Energy for America Program (RD)
- USDA-Environmental Quality Incentives Program (NRCS)
- USDA-Biomass Crop Assistance Program
- ARRA (MA-DOER)
- RECS/RETCS/AECB
- Business Investment Tax Credit

<http://www.berkshirepioneerrod.org/mfep/existing.php>

MFEP Technical Assistance

- Webpage & Phone
<http://www.berkshireregionerod.org/mfep/index.php> Phone 413.256.1607
- Information Sheet with links
"What you can do to start saving money and prepare for the Mass Farm Energy Program – at no cost to you!"
<http://www.berkshireregionerod.org/mfep/index.php>
- Questionnaire for capturing energy use & project plans, follow-up via phone & email TA
<http://www.berkshireregionerod.org/mfep/forms/questionnaire.php>
- MFEP Audits & Incentives Application
http://www.berkshireregionerod.org/mfep/forms/application_req.php
- Grant writing services for USDA-REAP
http://www.berkshireregionerod.org/mfep/forms/grant_writing_req.php

MFEP Audits & Incentives

- **Referral to public utility** for free electric assessment
- **MFEP Audit of other fuels**, consultations, RE assessments: MFEP pays 75%, Farmer 25%
- **"Targeted" scope of work & price negotiated** with MFEP consultants
- **MFEP Incentives** based on energy savings & simple payback of 8 years or less
 - \$0.15 per kWh
 - \$2.50 per therm gas
 - \$2.75 per gallon propane
 - \$3.00 per gallon fuel oil
 - \$250 per cord wood

WMECO & MFEP Incentives & AEEP + EQIP & MRET



Existing Other non-Grant/Rebate Incentives

Net Metering

- 3 Classes
 - Class 1 -0-60kW
 - Class 2 – 60-1000 kW
 - Class 3 – 1000-2000 kW
- 4 Types
 - Solar
 - Wind
 - Agricultural – includes all Class 1 Renewables
 - Neighborhood

Net Metering

- Credits
 - Based on Class Type, includes kWh charges not kW, but close to retail value versus wholesale value
 - On-going
 - Can nominate buyers of excess credits, need to served by your distribution company and in the same load zone

RECS/AECS/SRECS

RPS/RECs/SRECs - APS/AECs

- Environmental attributes of a renewable energy or alternative energy technology
- Value basis dependent on supply and demand and MA Renewable Energy Portfolio Standards (RPS) and Alternative Energy Portfolio Standards (APS) on an annual basis.
- RPS/APS require electricity providers to provide a certain percentage of their electricity generated with renewable and alternative energy technology attributes.
- MA RPS has 2 Classes:
 - Class I – Renewables installed after December 31, 1997
 - Class II – Renewables installed before December 31, 1997
- MA APS are specified alternative energy technologies installed after January 1, 2008
- SRECs – Solar Carve Out for PV, effective Jan 1, 2010 for PV installations after Jan1, 2008 & with no ARRA or prior MRET Comm Solar funding

Tax Related

Tax Credits/Deductions

- <http://www.dsireusa.org/>
- State:
 - Property Tax Exemption – 20 years except hydro pays 5%
 - Corporate Excise Tax Deduction – 100% of system cost from net income for state excise tax purposes.
 - Sales Tax Exemption? – work with your accountant.
 - MGL - CHAPTER 64H. TAX ON RETAIL SALES OF CERTAIN TANGIBLE PERSONAL PROPERTY
 - IMPOSITION AND RATE OF TAX
 - Chapter 64H: Section 6. Exemptions
 - Section 6. The following sales and the gross receipts there from shall be exempt from the tax imposed by this chapter:–
 - (f) Sales of materials, tools and fuel, or any substitute therefor, which become an ingredient or component part of tangible personal property to be sold or which are consumed and used directly and exclusively in agricultural production;

Tax Credits/Deductions

- Federal:
- Investment Tax Credit (ITC)
 - basis is the value of the property installed.
 - Percentage credit based on type of technology.
- PTC (Production Tax Credit) –
 - Basis is the value of annual kWh production, approx 2.1 cents/kWh today.
 - Must be all be sold to non-interest entity or fed directly into the grid – cannot use any production on-site.
- Grant Program
 - A grant created by ARRA to be used in lieu of ITC/PTC if desired.
- <http://www.ustreas.gov/recovery/docs/Application.pdf>
- <http://www.ustreas.gov/recovery/docs/guidance.pdf>
- <http://www.ustreas.gov/recovery/docs/energy-terms-and-conditions.pdf>

Tax Credits/Deductions

- Modified Accelerated Cost-Recovery System (MACRS) + Bonus Depreciation (2008-2009)
- Under the federal Modified Accelerated Cost-Recovery System (MACRS), businesses may recover investments in certain property through depreciation deductions. The MACRS establishes a set of class lives for various types of property, ranging from three to 50 years, over which the property may be depreciated. A number of renewable energy technologies are classified as five-year property (26 USC § 168(e)(3)(B)(vi)) under the MACRS, which refers to 26 USC § 48(a)(3)(A), often known as the energy investment tax credit or ITC to define eligible property. Such property currently includes:
 - a variety of solar electric and solar thermal technologies
 - fuel cells and microturbines
 - geothermal electric
 - direct-use geothermal and geothermal heat pumps
 - small wind (100 kW or less)
 - combined heat and power (CHP).

Other Legislation

- The Acts of 2008 – revolving loan fund
- Farm Energy Discount
- Chapter 40A, Section 3, Zoning Exemptions
- Chapter 61 Tax Reductions/Exemptions – utility bills, qualified equipment, transportation fuels including off-the road

Other States' Efforts

- New England
- New York
- Other Parts of the Country

New England

- Vermont: Clean Energy Development Fund (CEDF) – statewide all sectors;
- Department of Agriculture – has a Special Account devoted to Feasibility Studies exploring AD, PV, Wind etc.; otherwise rely on CEDF
- Other Programs:
 - Cow Power -Central Vt Public Service, Green Mtn Power; wheel with Vt Elec Coop.
 - Net Metering
 - Brand New: Feed-In Tariffs – Block RFRs

New England

- Maine – State Run - Efficiency Maine – surcharge on utility bills
- CT – Ct Clean Energy Fund - surcharge
- NH – newly developed state Energy Plan
- RI – Economic Development/State EE

Other States

- New York – NYSERDA – AD Program, \$20 million RFP – SBC on ratepayers bills.
- Maryland – MARBIDCO – Maryland Agricultural and Resource-Based Industry Development Corporation, quasi-state, funded by General Funds (taxes): primary mission of MARBIDCO is to assist Maryland's farm, forestry, seafood and recreation-based businesses to achieve profitability and sustainability by providing targeted services that help retain existing Ag/RBI production and commerce, promote rural entrepreneurship, and nurture emerging industries. Predominantly loan program assistance.
- Wisconsin – Focus on Energy; statewide EE & RE funded by ratepayers; does have a category specific to Agriculture.
- Multiple States (CA, TX, AL) have pilot utility programs specific to agriculture offering either audits and/or rebate incentives

Lessons Learned/Challenges

- Diversity: Additional revenue stream(s) needed for farm survival - EE & RE can help provide savings and diversification - delicate balance between ensuring the farm remains & RE revenue generator
- Needed: Construction financing \$s & long term \$s
- Choices: Limited finances : Day-to-day vs new equipment choices
- Access to programs – longer working hours, limited staff comparable to other businesses
- Small Scale Needs: a majority number of small scale farms without same profit margins as larger scale hence not as equity lucrative but this important sub-sector needs technical and financial assistance
- Smaller Scale Needs: A number of farms relatively lower utility bills vs other businesses, get lower priority for EE programs.
- Infrastructure Development: to accommodate net metering, SRECs, RECs, and fuel purchasing opportunities – cooperatives, data base of potential nominees, etc.
- New Construction Assistance: EE design/Zero net energy wants/desires

Lessons Learned/Challenges

- Need for new Permits and regulations for new technologies such as AD, biomass other than wood