



**225 CMR 16.00**

# **Renewable Thermal Technologies in the APS**

**Biofuels Subgroup Meeting**

**December 1, 2014**

**Boston, MA**

# DOER Renewable Thermal Business Investment Financing Program

**Cape Cod Biofuels,  
Sandwich**

Increase advanced  
biodiesel production  
through facility expansion  
and upgrades

**\$280,000**

**Northeast Biodiesel,  
Greenfield**

Complete biodiesel plant,  
expand waste vegetable oil  
collection and biodiesel  
distribution

**\$540,000**

*DOER, May 30, 2014, <http://www.mass.gov/eea/pr-2014/industry-grants.html>*

# Advanced biofuels market - Questions

- Production capacity in MA
  - Impact of MassDEP organic waste ban
  - MA Advanced Biofuels Task Force (2008) estimated between 100 and 380 million gallons could be produced by 2025
- Blending location
- Sales of advanced biofuels
  - Bio-heat?
  - Suppliers serving multiple states
  - Warranty issues

# Specifications for biofuels for inclusion in the APS (per the Statute)

DOER has to establish for biomass, biogas and liquid biofuel technologies (with MassDEP):

- **Air emission performance standards** for PM2.5 and CO;
- A requirement of **50% reduction in life-cycle GHG emissions**;
- Requirements for **thermal storage** or other means to minimize deterioration of efficiency or emissions due to boiler cycling, if feasible;
- Fuel conversion **efficiency performance standards**;
- Requirements that fuel shall be provided by means of **sustainable forestry practices** (with DCR).

# Lifecycle GHG emissions

- Biofuels need to be “advanced” biofuels
  - 50% lifetime GHG savings per unit of delivered energy, in comparison to the petroleum distillate fuel displaced

*An Act Relative to Clean Energy Biofuels, M.G.L. 94, § 295G1/2 2008*
  - Currently only organic waste derived biodiesel
    - DOER considers other feedstocks case-by-case

# Mechanics of APS Qualification

- No upfront minting
- Only for energy **generation** with advanced biofuel
  - Takes into account conversion efficiency
  - Share of advanced biofuel needs to be significant
    - Tracked with Renewable Identification Number
- Options for APS qualification
  - Qualify the **user**
    - Information about oil furnace/boiler
    - Demonstrates purchase of advanced biofuel
  - Qualify the fuel **supplier/distributor**
    - Demonstrate blend of advanced biofuel (terminal?)
    - Information about sales in MA
      - Average efficiency of furnaces/boilers