

Woody Biomass in the Massachusetts Alternative Portfolio Standard

The Alternative Energy Portfolio Standard (APS) provides an incentive to Massachusetts homeowners and businesses to install eligible alternative energy systems that lower greenhouse gas emissions and increase energy efficiency across the Commonwealth. The APS is a market based program that requires a portion of the electric load in Massachusetts be met via eligible technologies. Generation Unit owners receive an incentive by selling Alternative Energy Certificates (AECs), which they accrue based on their energy generation, to entities in Massachusetts with a compliance obligation.

Intermediate woody biomass systems are classified as any system with an output capacity ≤ 1.0 MMBtu/hr. Large woody biomass systems are classified as any system with an output capacity > 1.0 MMBtu/hr.

Woody Biomass in the APS

All biomass fuels must be derived from sustainably sources and reported in the Massachusetts Biomass Registry.

Eligible fuels:

- Wood Pellets
- Dried Wood Chips (moisture content $\leq 35\%$)
- Green Chips

What are Alternative Energy Certificates (AEC)?

- AECs represent the environmental attributes of energy generated by a renewable or alternative Generation Unit
- Every AEC represents 3,412,000 British thermal units (or 1 MWh equivalent) of net useful thermal energy
- Typically through an aggregator, system owners can sell AECs generated by their system in to the market to receive a monetary incentive
- AEC prices vary based on market conditions. As of 2017, the estimated price of an AEC is \$20. Future price of AECs is subject to change. For a more in-depth assessment, please find our AEC calculator tool on the DOER APS website.

Key Equipment Eligibility Criteria

All systems must:

- Provide useful thermal energy to a facility in Massachusetts
- Be automatically fed from a covered bulk storage system
- Meet efficiency and emissions standards
- Utilize thermal storage



Calculation of AECs for Woody Biomass Systems

Intermediate woody biomass systems are eligible to receive their AECs based on the weight of the fuel used by the system. In order to receive AECs, Generation Unit owners of intermediate woody biomass systems will need to report their quarterly fuel consumption to Massachusetts Clean Energy Center who will serve as the Independent Verifier. They will determine the useful thermal output by utilizing a formula that accounts for the efficiency of the system, moisture content of wood and electricity used to run the system.

Large woody biomass systems are required to directly meter their useful thermal energy generated. Systems require BTU meters, flow meter and electric meter.

How to Participate in the APS:

1. Have your system installed
2. Work with your installer and/or an aggregator to submit a Statement of Qualification*
3. Once approved, the AECs will be available to be sold into the market. An aggregator typically will sell the AECs for you and will send you a check based on the current market price for AECs

* Using an aggregator greatly simplifies the APS process and may help owners receive better prices for their AECs. Aggregators typically take a percentage of the AEC proceeds. Systems owners that opt to manage the APS process themselves should read the full regulations and guidelines.

Fuel Specifications

To be eligible in the APS program, all woody biomass must be derived from a sustainable source and have at least 30% must come from forest-derived resources. The APS Program defines Sustainable Forest Management from the Society of American Foresters and requires the biomass to be a Clean Wood, as determined by the Massachusetts Department of Environmental Protection. Sources of woody biomass fuel may include forest harvests, sawmill waste, and utility clearings.



Biomass Suppliers List

In order to simplify the fuel eligibility process, the Department has created a list of pre-qualified biomass fuel suppliers who meet the APS program requirements. If a Generation Unit Owner selects a supplier from the list, no further sustainability reporting will be required. Generation Unit Owners that choose to purchase fuel from a supplier not on the Department's Biomass Suppliers List must provide additional reports to verify to the Department that the sustainability requirements were met.

What is an Independent Verifier?

An Independent Verifier or third-party meter reader is required for all woody biomass Generation Units. Massachusetts Clean Energy Center will serve as the Independent Verifier for all intermediate woody biomass systems ($\leq 1\text{MMBtu/hr}$). For large woody biomass systems, the Generation Unit Owner must select an Independent Verifier that has no financial investment in the project. Their primary role in the operation of the system is to verify reported energy production to ensure that the system is not over or under producing. The Independent Verifier is also responsible for uploading all production information to NEPOOL GIS on a quarterly basis to mint the AECs.

Key APS Program Terms

- **Generation Unit:** A qualified facility that converts a fuel or an energy resource into electrical energy, thermal energy, or both
- **Generation Unit Owner:** The person (or entity) who owns a qualified heating system eligible to receive APS incentives
- **Aggregator:** A person or company who handles the process of qualifying Generation Units and manages the buying/selling of certificates on behalf of Generation Unit Owners
- **NEPOOL GIS:** An online tool where AECs are minted and traded

For more information on the process of installing and receiving certificates for renewable thermal generation units contact: Thermal.DOER@State.ma.us or visit

<https://www.mass.gov/guides/aps-renewable-thermal-statement-of-qualification-application>

