

# Biomass: A Source of Renewable Energy in Madison County

**Biomass**, as a source of renewable energy, could be a significant contributor to the energy portfolio of Madison County. Residues from agricultural crops and sustainably managed forests, as well as dedicated energy crops are forms of biomass that are well-suited to the climate and industries of Central New York. As numerous biomass-fed facilities in the Central New York region attest to, biomass is a budding regional market (Figure 1).

**The Madison County Land Inventory** assesses the potential use of marginal farm land and underutilized residential land in the county for biomass production using dedicated energy crops. There are several types of energy crops suitable for Madison County's climate. Willow, a short rotation woody crop (SWRC,) can be harvested every couple of years without needing to replant (Figure 2). Not only is willow a fairly hardy plant that can thrive in less than ideal conditions, such as on marginal land, but there is also a significant amount of research on willow production in the Central New York region from Dr. Tim Volk and his colleagues at SUNY ESF. For these reasons the land inventory focuses on potential willow production in Madison County.

To assess potential **willow production** the physical and political characteristics of the land are evaluated. Some of the physical characteristics needed for growing willow include: less than 15% slope, soil that is not too wet or too dry and at least 18" of topsoil. The political characteristics suitable for growing willow include: parcels larger than 10 acres and parcels classified as agricultural (excluding dairy & other high-value crops), residential or vacant.

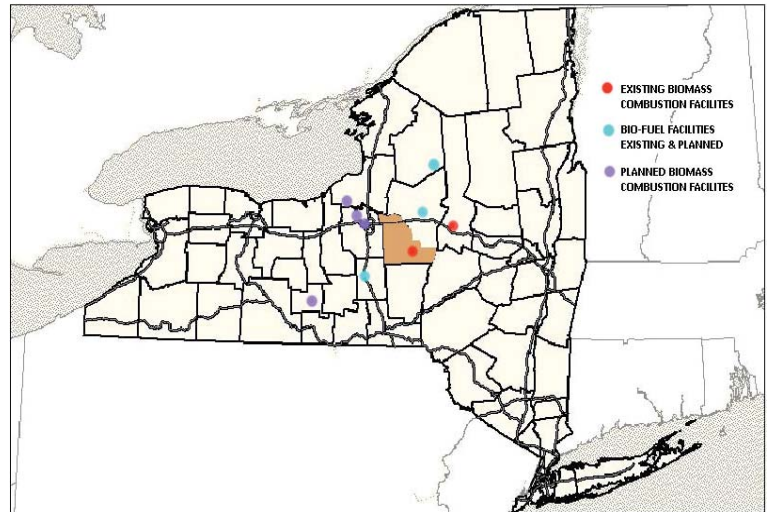


Figure 1: Existing and Planned Biomass & Bio-fuel Facilities near Madison County



Figure 2: Willow Plantation, an example of a SRWC

## The physical and political characteristics are used in three scenarios to determine potential yields:

- Scenario 1: Potential willow production on suitable parcels of marginal agricultural land
- Scenario 2: Potential willow production on suitable parcels of marginal agricultural, residential or vacant land
- Scenario 3: Potential willow production on available parcels with a minimum of 10 acres of suitable land