Yard waste woody debris as direct-combustion fuel

HB 5334 / SB 725
House Energy and Technology Committee
November 3, 2009

Gary Melow, Director, Michigan Biomass

Allowing landfills with methane capture systems to accept yard clippings as prescribed in HB 5334 has the potential to reduce or divert woody biomass needed for energy production today.

Genesee Power Station in Flint is one of six wood-fired power plants in the Lower Peninsula where wood, the state's principal biomass resources – is in short supply. Genesee is unique amongst Michigan's wood plants in that it relies *entirely* on urban sources of waste wood. HB 5334 could impact nearly half of its fuel stream by allowing it to go to landfills where it won't produce energy for years.

Currently, about half of the plant's fuel comes from right-of-way and power line maintenance, industrial sources, such as recycled crates and pallets, and a handful of commercial-scale landscape services. The other half – about 100,000 tons annually – is greenwood from yard maintenance, land clearing, municipalities, storm clean-up and urban forest management. Under HB 5334 that material could end up in landfills.

Genesee Power Station employs 46 people and injects nearly $14 million a year into local economies. For 15 years it has gleaned this material from the waste stream at nine locations: Saginaw, Genesee, Macomb, Wayne, Jackson and Ingham counties, and as far west as Mecosta, Kent and Ottawa counties. Much of the material these yards collect would fall under the definition of *yard clippings* and could end up in landfills.

Direct combustion-to-electricity systems have greater overall benefit than landfill gas energy on a number of fronts:

DIRECT COMBUSTION	LANDFILL TO METHANE
Captures 100% of the energy value of woody debris	Captures 50% to 70% of the energy value: 30% to 50% of the methane escapes to the environment
Converts woody debris into renewable energy immediately	Landfill decomposition takes years to turn woody debris into methane
Reduces total volume by more than 95%	Reduces total volume by 50% to 70%[1]
Byproduct (ash) has beneficial uses: • Soil amendment • Landfill alternative daily cover • Sludge stabilization	Fugitive methane that could be considered a byproduct of landfill gas power generation has no beneficial use and contributes to global warming.
Reduces greenhouse gas emissions[2]	Creates greenhouse gases

[1] *Testimony to the House Energy and Technology Committee,* Granger, Oct. 20, 2009
[2] The Pacific Institute, *Bioenergy and Greenhouse Gases,* Gregory Morris, PhD: Natural decomposition of woody biomass on the forest floor produces carbon dioxide and methane. Direct combustion of woody biomass prevents the development of methane, thereby having a "net positive" impact on greenhouse gas emissions. http://biomasspowerassociation.org/docs/PRI%20-%20Bioenergy_and_Greenhouse_Gases.pdf

Woody debris does not belong in landfills. It's already going to renewable energy production and demand will only grow with new projects: Central Michigan University, Wolverine Power, Detroit Edison, Lansing Board of Water and Light and Mancelona Renewable Resources). Woody biomass that HB 5334 would divert to landfills needs to produce renewable energy today and realize the jobs and environmental benefits that go with it.

Thank you.