

Support for SB 0864: A Case for Increasing Organic Yard Wastes in Landfills

Granger III & Associates

- Granger commissioned an independent report to study the opportunities for increased landfill gas production from organic waste, specifically yard clippings. (*Examining Increased Renewable Energy Production from Landfill Gas in Michigan* by Public Sector Consultants and NTH Consultants June 2007). The findings demonstrate significant energy production possible from yard waste, prompting the energy policy question of whether an exemption to the existing ban should be considered. Points of proposal:
 - Exemption, not a repeal
 - Resulting in the recycling of yard clippings yielding two possible options; a soil amendment through composting *and* an energy resource through landfill gas recovery technology.
 - Criteria for a landfill to accept yard clippings: operable gas collection system with 70% collection efficiency; where the gas is used for an energy purpose; and recovery and use is reported annually to the State and county waste authority.
- As the call for use of renewable energy through portfolio standards expands the generation of renewable energy to meet the demand is required. Landfill gas projects are considered desirable for electrical energy supply due to their ability to provide power with high availability factors. EPA Administrator Stephen Johnson said, "Landfill gas energy projects play an important role in meeting the environmental and energy challenges of the 21st Century." (Release date: 01/09/2008).

Significance of Michigan's LFG energy potential

- Today = 80 MW or about 51,000 homes
- If all projects were fully developed = 200+ MW or about 127,000 homes
- If yard waste then allowed = 300+ MW or about 200,000 homes (note: 300MW is equivalent to a medium size coal fired power plant)

Landfill gas is a significant renewable energy resource, especially when viewed from a regional perspective. Example: Granger's recently announced partnership with LBWL will provide a majority portion of the energy for their self-imposed renewable portfolio goal of 7%.

Benefits of landfill gas-to-energy projects

- 24/7/365 base load capacity - immediate source with no reserve capacity requirements; hydro and landfill gas, right now, are the only renewable that can off-set conventional energy sources
- 98%+ on-line capability
- Long-term source – landfills produce gas at least 20-30 years post-closure
- (EPA/LMOP 2007). In 2007, benefits for a typical 3-megawatt gas-to-energy facility are approximately equal to any one of the following:
 - Removing emissions equivalent to 25,000 vehicles
 - Planting 36,000 acres of forest

- Offsetting the use of 640 railcars of coal
 - Averting electricity usage of 234,000 light bulbs
 - Powering 1,900 homes
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- Emissions are a factor to the overall policy consideration. According to the U.S. EPA: "...municipal solid waste landfills are the largest human-generated source of methane emissions in the United States. Because methane is both potent and short-lived, reducing methane emissions from MSW landfills is one of the best ways to achieve a near-term beneficial impact in mitigating global climate change." (An addendum study was conducted that demonstrates collection efficiency will determine whether there is an increase in emissions as a result of increased organic composition of the waste stream. Therefore the requirement of a collection efficiency of 70% would adequately protect against additional emissions resulting from the acceptance of yard waste.)