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BILL ANALYSIS



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Senate Bill 538 (as enrolled)
Sponsor: Senator Cameron S. Brown
Senate Committee: Agriculture, Forestry and Tourism
House Committee: Agriculture

PUBLIC ACT 254 of 2006

Date Completed: 12-21-06

RATIONALE

The farming industry is facing a number of environmental challenges, driven in part by governmental regulations, the proximity of development for nonagricultural use, the need to improve productivity, and the desire for good environmental stewardship. At the same time, emerging technology is available to develop alternative fuels from "biomass", which typically refers to agricultural crops, residue, and waste, such as food processing byproducts and animal waste. Methane digesters, for example, can capture the methane emitted from the decomposition of manure, which can then be turned into electricity. Other systems, such as biomass gasification, can produce fuel through the thermal processing of agricultural and animal waste. In order to help the agricultural industry take advantage of this technology, it was suggested that loans be made available to eligible farmers for projects that produce energy through the use of agricultural biomass.

Under Part 145, the Department of Environmental Quality (DEQ) must spend money from the Small Business Pollution Prevention Assistance Revolving Loan Fund for loans to small businesses to implement pollution prevention projects. For each loan, the DEQ must disburse the money to a lending institution that has entered into a loan participation agreement with the Department.

The definition of "pollution prevention" includes environmentally sound on-site or off-site reuse or recycling. The bill specifies that this includes, but is not limited to, the use of agricultural biomass by qualified agricultural energy production systems.

To be eligible for a loan from the Fund for a qualified agricultural energy production system, an applicant must be an eligible farmer or agricultural processor, or a for-profit farmer cooperative corporation. The applicant also must be verified under the appropriate system of the Michigan Agriculture Environmental Assurance Program administered by the Michigan Department of Agriculture (described below in **BACKGROUND**). In addition, within a three-year period immediately preceding the date the application was submitted, the applicant must not have been found guilty of a criminal violation under NREPA. Within a one-year period immediately preceding the date of submission, the applicant must not have found responsible for a civil violation under the Act that resulted in a civil fine of \$10,000 or more.

CONTENT

The bill amended Part 145 (Waste Reduction Assistance) of the Natural Resources and Environmental Protection Act (NREPA) to allow loans from the Small Business Pollution Prevention Assistance Revolving Loan Fund for qualified agricultural energy production systems. The bill also increased the maximum amount of a loan from the Fund from \$150,000 to \$200,000.

The bill took effect on July 5, 2006.

The bill defines "eligible farmer or agricultural processor" as a person who processes agricultural products or a person who is engaged as an owner-operator of a farm in the production of agricultural goods as defined in Section 35(1)(h) of the Single Business Tax Act. (Under that section, "production of agricultural goods" means commercial farming, including cultivation of the soil; growing and harvesting of an agricultural, horticultural, or floricultural commodity; dairying; raising of livestock, bees, fish, fur-bearing animals, or poultry; or turf or tree farming.)

The bill defines "agricultural biomass" as residue and water generated on a farm or by farm cooperative members from the production and processing of agricultural products, animal waste, food processing waste, or other materials as approved by the DEQ Director.

The bill defines "qualified agricultural energy production system" as the structures, equipment, and apparatus to be used to produce a gaseous fuel from the noncombustive decomposition of agricultural biomass and the apparatus and equipment used to generate electricity or heat from the gaseous fuel or store the fuel for future generation of electricity or heat. A system may include, but is limited to, a methane digester, biomass gasification technology, or thermal depolymerization technology.

MCL 324.14501 & 324.14513

BACKGROUND

The Michigan Agriculture Environmental Assurance Program (MAEAP) was established in 1998 by a coalition of agricultural producers, commodity groups, State agencies, and conservation and environmental interests. According to its website, "MAEAP is a voluntary, pro-active program designed to reduce producers' legal and environmental risks. It teaches effective land stewardship practices that comply with state and federal regulations and shows producers how to find and prevent agricultural pollution risks on their farms."

The website describes three phases of MAEAP. Phase I, education, is designed to raise awareness of practices that may prevent or reduce on-farm legal and

environmental risks. Phase II, on-farm assessment, focuses on assessing the environmental risks on a farm and developing a farm-specific plan to address identified risks. During this phase, a comprehensive nutrient management plan (CNMP) is written, and a timeline for implementing changes is developed.

Phase III, third-party verification, allows producers to request third-party verification from the Michigan Department of Agriculture (MDA) after they have developed a CNMP and are following their schedule of implemented practices or improvements. To maintain verification, producers must request an MDA visit every three years.

ARGUMENTS

(Please note: The arguments contained in this analysis originate from sources outside the Senate Fiscal Agency. The Senate Fiscal Agency neither supports nor opposes legislation.)

Supporting Argument

The loan program will assist farmers who are interested in building and operating methane digesters and other energy production systems that use agricultural biomass. Methane digesters are concrete tanks or covered lagoons that take advantage of a natural process called anaerobic digestion, in which bacteria feed on manure in an oxygen-free environment. This process produces two products: biogas, which is a mixture of methane and carbon dioxide and may be burned off or used to generate heat or electricity; and compost, which is less odorous and without most of the pathogens found in raw manure.

While the biogas produced by a methane digester may generate enough electricity to cover a farm's electrical needs or be sold to an electric company for a small profit, the primary purpose of digesters is to manage manure odor and pathogens. Because a single dairy cow produces about 120 pounds of wet manure a day, managing it is a significant part of farming. Most farmers apply manure to fertilize their fields, but doing so can result in strong odors that bother neighboring residents. In addition, spreading raw manure can cause pathogens like *E. coli* to be flushed into waterways. A certain amount of methane and ammonia, both greenhouse gases, escapes into the atmosphere when manure is spread. Spreading the compost from a methane

digester nearly eliminates the bacteria and odor found in manure. Using the methane for energy eliminates an additional pollutant.

The liquid and solid byproducts from methane digestion can be used as fertilizer, and the solids can be put to other uses, such as livestock bedding. The quality of the fertilizer also is enhanced, since plants can use the mineralized form of nitrogen more quickly than they use untreated manure. In addition, methane digesters offer economic savings from the production of renewable energy, which also can be sold. Thus, digesters not only reduce pollution but create value-added products.

Methane digesters have been in existence since the 1970s but only one is operational in Michigan (at a dairy farm that received a Federal grant for the digester). This is due in part to the high start-up costs of methane digesters. Depending on the scope of the system and the number of animals, a digester reportedly can cost between \$200,000 and \$2 million. To help eligible farmers bear this expense, the bill allows loans for pollution prevention projects using agricultural biomass. To obtain a loan, a farmer must not have a history of environmental violations, and the farm must be verified under the Michigan Agriculture Environmental Assurance Program.

Response: To ensure that farmers and businesses are in current compliance with environmental laws, the law should disqualify applicants who received a notice of violation from the DEQ and failed to correct it. The bill also should disqualify applicants who violated Federal, as well as State, environmental laws. In some situations, a particular activity or discharge might violate both Federal and State laws; after consulting with the U.S. Environmental Protection Agency (EPA), the DEQ might decide that the EPA is in a better position to enforce the law. Thus, a polluter might be convicted or found responsible in a Federal court for what amounts to a violation of NREPA. The violator, however, still could obtain a loan under the bill.

Supporting Argument

The Small Business Pollution Prevention Loan Program provides low-interest loans to small business owners seeking to reduce or eliminate waste generated, energy used, or hazards to public health associated with waste generated at a business. Half of a

loan comes from the Small Business Pollution Prevention Assistance Revolving Loan Fund, which was capitalized by the Clean Michigan Initiative bond approved by the voters in 1998; the other half is provided by a lending institution through a loan participation arrangement with the DEQ.

The maximum amount of a loan from the Fund originally was \$50,000 but Public Act 334 of 2004 raised the limit to \$150,000, which meant that a business could borrow up to \$300,000 with a bank's matching share. At the same time, Public Act 333 of 2004 increased the maximum number of workers that an eligible business may employ from 100 to 500. These changes have enabled more independent businesses to seek financing for projects that contribute to a healthy environment. The bill continues this progress by increasing the maximum amount of a loan from the Fund to \$200,000. With a financial institution's share, an eligible business may borrow up to \$400,000 under the program for a pollution prevention project.

Opposing Argument

Although medium-sized farms might find methane digesters attractive and need the most economic assistance to obtain them, the cost of the digesters and the volume of waste required make them economically feasible only for the largest livestock producers. The systems are expensive to install and maintain, and most require at least 300 cows or 2,000 swine in order to become cost effective. The operations large enough to use a methane digester are multimillion-dollar concentrated animal feeding operations (CAFOs), which can afford to buy digesters without government subsidies. It is inappropriate to give State loans to encourage CAFO proliferation when these huge farms are in part responsible for putting small and mid-size farms out of business, and when many have contaminated the air, water, and soil with their manure management practices. According to testimony on behalf of the Sierra Club, the CAFO that received a Federal grant for a methane digester had over 50 violations of the Clean Water Act.

Although it has been suggested that small or mid-size farms could combine their manure in order to make a methane digester affordable, doing so would require the

transport of large quantities of animal waste, creating another potential environmental hazard and undermining the benefits of the digester.

Furthermore, while methane digesters might help farms better manage manure, they do not eliminate the farms' manure problems. Compost produced from digesters still contains high levels of phosphorus and nitrogen which, when spread on fields, can seep into groundwater or run off into surface water. Excess nutrients in the water lead to low dissolved oxygen levels in lakes and streams, which can kill fish and destroy the natural habitat. Although methane digesters may reduce some of the methane that contributes to global warming, they can increase the emission of ammonia, another greenhouse gas.

Response: The loans under the bill are not limited to methane digesters, but also may be available for other systems, including biomass gasification and thermal depolymerization.

Legislative Analyst: Suzanne Lowe

FISCAL IMPACT

The bill will have no fiscal impact on the State. It expands the uses of the revolving loan fund and allows larger loan amounts, but it does not make additional funds available.

The bill may result in indirect savings to the State due to the reduction of agricultural biomass disposed of through current waste disposal methods. This could lead to less pollution requiring treatment and a reduced demand for waste disposal sites.

Fiscal Analyst: Debra Hollon

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This analysis was prepared by nonpartisan Senate staff for use by the Senate in its deliberations and does not constitute an official statement of legislative intent.