



**House
Legislative
Analysis
Section**

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**TAX ABATEMENT FOR BIODIESEL
FUEL MANUFACTURERS/
BIOMASS ELECTRIC PLANTS**

**House Bill 4010 as enrolled
Public Act 5 of 2003
Second Analysis (4-22-03)**

**Sponsor: Rep. Gene DeRossett
Committee: Agriculture and Resource
Management**

THE APPARENT PROBLEM:

During recent debates regarding the availability and practicality of alternative energy sources, most of the discussion centered on the development of fuel cell technology. Indeed, the recent NextEnergy package during the previous legislative session created a series of tax credits, exemptions, and deductions for businesses that engage in the research, development, and manufacture of certain "alternative energy technologies". Lost in the midst of the debate regarding the NextEnergy bills was the emergence of biodiesel fuel - a value-added agricultural processed fuel that can be made from virtually any oil or animal fat - and other "bioenergies" as viable energy sources and alternatives to the more common petroleum-based diesel fuel used in motor vehicles and other fossil fuels.

Given the recent enactment of the NextEnergy proposal, many believe that incentives should also be provided to those businesses engaged in the production of biodiesel fuel or the use of bioenergy, as a means of encouraging the production and consumption of these alternative energy sources. Legislation has been introduced that would extend certain property tax abatements under Public Act 198 of 1974 to those businesses.

THE CONTENT OF THE BILL:

Under the Plant Rehabilitation and Industrial Development Act - commonly known as P.A. 198 - local governmental units may provide new, renovated, or expanded industrial facilities with property tax abatements for up to 12 years. To be eligible for the tax abatement, businesses must engage in certain activities. House Bill 4010 would extend the tax abatement to those businesses that are engaged in the creation or synthesis of biodiesel fuel. In addition, under the act, the tax abatement is available until December 31, 2007 for electric

generating plants not owned by a local unit of government. The bill would add that these plants could include, though would not be limited to, electric generating plants fueled by biomass.

Under P.A. 198, renovated facilities are taxed at the same local property tax rate, though the taxes are based on the taxable value of the facility (excluding land and inventory) during the immediately preceding tax year (meaning, prior to the renovation). For new facilities, the tax rate is the sum of half of all other taxes other than the State Education Tax and the State Education Tax, based on the current taxable value of the new facility.

MCL 207.552

BACKGROUND INFORMATION:

- As defined in a 1999 presidential executive order (No. 13134), "biomass" means any organic matter that is available on a renewable or recurring basis (excluding old-growth timber), including dedicated energy crops and trees, agricultural food and feed crop residues, aquatic plants, wood and wood residues, animal wastes, and other waste material. Biomass can be converted into various forms of energy (including electricity; liquid, solid, and gaseous fuels; and heat) through combustion, gasification, fermentation, and anaerobic digestion. Biodiesel fuel would be one example of these so-called "bioenergies".

According to the American Bioenergy Association, biomass currently provides about four percent of the energy in the U.S., and "could easily supply 20 percent". In an August 2002 report, the Michigan Biomass Energy Program (MBEP) noted that agricultural and forestry crops (types of biomass) were major energy sources until the discovery of oil

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in 1859. Since that time, oil and other fossil fuels, which are less expensive and provide a higher energy content than biomass energy, constitute approximately 85 percent of the U.S. energy demand. However, as the MBEP notes, fossil fuels are not renewable (though the time when those fuels will be depleted is often debated), which is expected to result in increased prices of those fuels. Biomass energy, on the other hand, is renewable with production costs expected to decrease along with advancements in technology in the conversion process.

According to the Center for Renewable Energy and Sustainable Technology (CREST) there are, however, three major barriers to the expanded use of bioenergy. First, as biomass becomes a more viable energy source, it would be required to be available in a steady supply. This would essentially lead to the development of a new industry to harvest, transport, and prepare biomass into a useable form. Biomass, then, must be available in sufficient amounts throughout the year. However, biomass resources are not solely used as a source of energy, meaning that the energy market is forced to compete with other markets for biomass resources. Second, the lack of familiarity among suppliers, consumers, and those within the energy industry regarding biomass, the technologies employed to convert biomass, and the possible uses of bioenergy greatly hinders the use and development of bioenergy. Finally, there still exist several technological impediments that must be overcome before biomass becomes a viable alternative energy source.

- According to the National Biodiesel Board, biodiesel fuel is chemically similar to petroleum-based diesel and can be in used existing diesel fuel engines without any modification. Biodiesel can be used as a pure fuel (B100) or as a blend with petroleum-based diesel fuel, the most common being a 20 percent blend (B20). Though biodiesel can be manufactured from virtually any oil or animal fat, including used grease from restaurants, in the U.S. it is primarily produced from soybean oil. To be a usable commodity, soybeans must be processed to separate the meal from the oil. Approximately 85 percent of the oil is used for traditional edible oils, while the remaining 15 percent could be used for the production of biodiesel. According to committee testimony, it takes approximately 1.5 bushels of soybeans to produce one gallon of biodiesel fuel.

In assessing the viability of biodiesel as a fuel source, several questions come to mind. First, there are questions regarding its environmental impact. Proponents say that compared to conventional

petroleum-based diesel, biodiesel is considerably more “environmentally friendly”. Biodiesel is a cleaner burning fuel. Pure biodiesel (B100) contains no sulfur and is entirely biodegradable. As such, it meets EPA sulfur reduction requirements. A B20 blend, obviously, burns cleaner with fewer toxic emissions than petroleum-based diesel. The use of biodiesel in a conventional diesel engine results in substantial reductions in unburned hydrocarbons, carbon monoxide, and particulate matter compared to the emissions of petroleum-based diesel fuel. For this reason, several school districts and municipalities have opted to use biodiesel fuel in their bus fleets.

The apparent environmental benefits notwithstanding, there still exists a great concern among consumers about the performance of biodiesel fuel, which contributes to the reluctance to use the fuel. First, biodiesel can generally be used in existing diesel engines with little or no modification. However, the fuel may cause deposits from the petroleum-based diesel fuel that has accumulated on the walls of the fuel tank and pipes to release, thus clogging the filters. Demonstrations have also shown that biodiesel is comparable to petroleum-based diesel in terms of fuel economy, horsepower, torque, and haulage.

One of the common concerns with biodiesel, and conventional diesel for that matter, is its cold-flow properties. Cold weather (three to five degrees Fahrenheit) may cloud and even gel both conventional petroleum-based diesel and biodiesel. Higher percentages of biodiesel will generally see an increase in its cold flow properties. A B20 biodiesel blend would gel faster than conventional diesel, and a B100 biodiesel fuel will gel faster than a B20 blend. In general, studies have shown that biodiesel blends of less than B20 have virtually identical cold flow properties as petroleum-based diesel. There are, however, several precautions that may be employed to slow the cold flow properties, including the use of fuel additives, and fuel heaters, and even storing the vehicle inside a building, all of which are common practices with petroleum-based diesel.

One of the other concerns regarding biodiesel is its lubricity. Diesel fuel operates as an excellent lubricant, protecting the engine, fuel injection pumps, and other parts from normal wear and tear. Lubricity of diesel fuel is more a function of the various components of the fuel, such as sulfur, and not so much of its viscosity (thickness). In recent years, there have been several laws and regulations that have mandated lower levels of the components that act as a lubricant in the fuel, particularly sulfur. [In

2006, the permitted sulfur content of diesel fuel is set to drop from 500 ppm to 15 ppm.] The reduction is not due to the lubricity of the components, but rather is due to their apparent emissions and environmental impacts. The National Biodiesel Board reports that, “[t]he addition by biodiesel, even in small quantities, has been shown to provide increases in fuel lubricity...” According to committee testimony, 2 percent biodiesel (B2) increases lubricity by approximately 65 percent.

- In October 2002, the Energy Office within the Department of Consumer and Industry Services began soliciting grant proposals for the Biodiesel Incentive Program, the purpose of which is to encourage public and private K-12 schools, institutions of higher education, and municipalities to demonstrate the uses and benefits of biodiesel fuel. The program will help defray the generally slight cost difference of purchasing biodiesel fuel for school buses and municipal fleet vehicles with a gross vehicle weight of 14,000 pounds. On February 7, 2003, the Energy Office awarded \$54,000 in grants to the City of Ann Arbor, the Ann Arbor Public Schools, Fowlerville Community Schools, Manchester Community Schools, St. Johns Public Schools, and Zeeland Public Schools to demonstrate the use and benefits of biodiesel fuel. The projects will include an educational campaign to increase public awareness regarding viability of operating school buses and municipal fleets on biodiesel fuel.

In addition, the Energy Office also houses the Michigan Biomass Energy Project (MBEP), which seeks to encourage the increased production and use of energy from biomass resources through program reports, partnerships, technical assistance, and educational programs. The MBEP also provides funding for a variety of programs, including biofuels/bioenergy education, biofuels infrastructure, and biomass technology development/demonstrations. Recent funding recipients include Michigan State University, Kettering University, Central Michigan University, Michigan Allied Poultry Industries, and the City of Grand Rapids.

- As part of the NextEnergy package during the previous legislative session, Public Act 531 of 2002 (enrolled Senate Bill 1322) amended the Single Business Tax Act to provide a tax credit for those businesses engaged in the manufacture of certain “renewable fuels”, including biodiesel. Specifically, Public Act 531 established a nonrefundable credit for qualified business activities, which would, in general, be equal to a taxpayer’s increase in tax liability in the

current tax year over the tax liability in 2001 attributable to research, development, and manufacture of renewable fuels, among others.

- According to committee testimony, approximately one-third of the states have laws that provide incentives to manufacture biodiesel. During the current session of Congress, legislation has called for a one-cent reduction in the diesel fuel excise tax for each percentage of biodiesel blended with petroleum diesel, up to 20 percent (S. 355); removal of the 50 percent limit on alternative fuel credits earned with biodiesel under the Energy Policy Act of 1992 (S. 356/H.R. 316); and the establishment of a national standard that would more than double the use of renewable fuels, including biodiesel, over the next 10 years

In addition, several states have either enacted or introduced legislation mandating the use of biodiesel fuel in their motor vehicle fleet, when applicable. Last session, the Minnesota legislature passed Chapter 244 of the session laws of 2002 (S.F. 1495) that required, with certain exceptions, that all diesel fuel sold or offered for sale in the state for use in internal combustion engines contain at least two percent biodiesel fuel. In addition, any distributor that made capital expenditures to adapt or add equipment to blend biodiesel fuel may be eligible for a partial reimbursement for those expenditures if the mandate is repealed within eight years of the effective date. If the mandate is repealed within two years, the manufacturer will be reimbursed up to 80 percent of the expenditures. For each year thereafter, the total amount to be reimbursed declines by 10 percent (thereby permitting a 20 reimbursement rate in the eighth year).

FISCAL IMPLICATIONS:

The House Fiscal Agency reports that currently there are no firms in Michigan that produce biodiesel fuel. Due to the fact that the number of firms that might engage in this activity in the future is not known, it is not possible to accurately determine the potential fiscal impact. (Fiscal Analysis dated 2-18-03 of the bill as introduced)

In a preliminary estimate, the Senate Fiscal Agency reports that the bill would reduce state and local revenue by an unknown amount. (4-2-03)

ARGUMENTS:**For:**

Biodiesel, unlike certain other alternative energy sources, is available for large scale consumption now. There exists a large body of evidence that indicates that biodiesel fuel is environmentally friendly and a practical alternative not only to petroleum-based diesel, but other energy sources as well. Biodiesel fuels greatly reduce toxic emissions of an internal combustion engine, even when blended. This property alone merits the use of biodiesel fuel in the bus fleets of municipalities and school districts, as the state's most vulnerable residents (children and the elderly) are most often the passengers on these vehicles. Further, biodiesel fuels are comparable in terms of price, cold flow properties, and fuel economy compared to petroleum-based diesel fuel. As such, steps should be taken to encourage the production of biodiesel fuel in Michigan. To that end, the SBT credit added with the enactment of Public Act 531 of 2002 and the P.A. 198 tax credit that would be provided by this bill provide potential manufacturers with the proper incentives to manufacture biodiesel fuel in Michigan, and make the state a true national leader in the development of alternative energy resources.

For:

Encouraging the manufacture of biodiesel fuel in Michigan would be a great asset to the state's soybean industry. While biodiesel may be made from a variety of oils, including used oils from restaurants, soybean oil continues to be the most common source. Today, Michigan is a national leader in soybean production with over 2.2 million acres of soybeans planted annually. The bill, then, is a vital tool to ensure the long-term viability of the Michigan soybean industry by expanding the uses of the agricultural commodity.

For:

One of the chief concerns with the use of biodiesel is its price compared to petroleum-based diesel. This is certainly reasonable given the recent spike in oil prices. As it stands now, much of the increase in biodiesel prices stems from production costs. Generally speaking, a one percent blend (B1) increases the price of fuel by 1 cent per gallon (meaning a B20 blend would be about 20 cents per gallon more expensive than conventional petroleum-based diesel). However, the increased production of biodiesel fuel that could result from this bill should reduce the price of the fuel, as there would be a

greater supply, possibly eliminating the biggest obstacle to the widespread use of biodiesel fuel.

Against:

It is not entirely clear why this bill is necessary. In order to qualify for the tax credit under P.A. 198, the property must be considered to be "industrial property", as defined in the act. [Note: the bill would add that industrial property also includes property, the primary purpose of which is the creation or synthesis of biodiesel fuels, and electric generating plants fueled by biomass, hence the reason why the tax credit is extended to those businesses engaged in the creation or synthesis of biodiesel fuel, or those types of electric plants.] However, among other requirements, industrial property includes property, the purpose of which is the processing of goods and materials by physical or chemical change. The manufacture of biodiesel fuels could very well be considered as the "processing of goods and materials by physical or chemical change", thus eliminating the need for the bill. Further, the act states that, until December 31, 2007, industrial property includes an electric generating plant that is not owned by a local government. Nothing in the act seems to indicate that electric generating plants fueled by biomass are not eligible for the tax abatement.

Response:

As there are no biodiesel manufacturing plants currently operating in Michigan, it remains difficult to ascertain whether those plants would indeed be covered under existing law. As such, the bill clarifies the language of the act by explicitly stating that industrial property includes property used primarily for the manufacture of biodiesel fuels. Furthermore, the definition of industrial property includes several other specific examples such as property used primarily for the operation of a hydro-electric dam by a private company other than a public utility, as well as a federal reserve bank.

With regard to biomass-fueled electric generating plants, the bill simply clarifies that such plants are, indeed, eligible for the P.A. 198 tax abatement. To the extent that the bill provides tax abatements to those businesses not otherwise receiving such benefits, the bill would greatly benefit several forestry-related businesses, as it is believed that that vast majority of biomass-fueled electric generating plants in the state are part of the operations of timber producers who use those plants for their own private business.

Against:

During the course of the Agriculture and Resource Management Committee meeting, there was some concern with the fiscal impact the bill would have on the state budget. It was argued that, given the tenuous budget situation, every bill should face greater fiscal scrutiny. However, as previous fiscal analyses indicate, there remains a great deal of uncertainty regarding the bill. As such, absent any concrete fiscal information, it would be best to not pass the bill at this time.

Response:

The bill does not, in and of itself, reduce anyone's taxes. An abatement under P.A. 198 is granted at the discretion of a local unit of government. The point of such abatements is to stimulate investment that otherwise would not occur. To the extent that they succeed in this, it can be argued that they provide long-term fiscal benefits.

Analyst: M. Wolf

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