



BRIEFING

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Commercial Biodiesel Production in Montana

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Several forces have contributed to current widespread interest in biodiesel and bio-energy in Montana, the United States and throughout the world. They include the following factors:

- Energy prices (specifically diesel prices) have increased significantly since 2005
- Concern over the environmental impact of fossil fuels
- Substantial government incentive programs
- Apprehension about increasing U.S. dependence on imported energy sources

Nationally, biodiesel production has increased rapidly since 2002. However, in Montana commercial biodiesel production on a large scale (over 500,000 gallons per year) has not materialized, community scale biodiesel production (50,000 to 500,000 gallons per year) also has not developed (except for one facility) and small scale biodiesel production (less than 50,000 gallons per year) is limited.

Developers of commercial biodiesel operations in Montana must address several issues. The most important issue is whether a sufficient supply of oil (or oilseed) can be obtained to operate a plant producing 5 to 30 million gallons of biodiesel per year. A second issue is the cost of constructing a biodiesel production facility and obtaining financing for

the facility. A third concern is developing a sufficient biodiesel distribution and marketing infrastructure in the state. Developers will have to address other issues including transportation costs, regulations, and consumer education. Each of these issues is evaluated in this briefing paper:

Oil Supply

Obtaining a reliable source of oil is a major issue for the Montana commercial biodiesel industry. In recent years, oilseeds have been grown on fewer than 150,000 acres in Montana. For a significant increase in vegetable oil production to occur, Montana farmers must be financially rewarded for producing oilseed crops. Although Montana has extensive land areas with the agronomic ability to produce oilseed crops, these crops have not been able to compete on an economic basis with more traditional crops (such as wheat, barley and hay). If the relative net returns per acre shift and oilseed production increases then a second issue must be addressed. This issue is that historically Montana oilseed production has been marketed for use as oilseed meal, culinary oils, margarines, bird seed, bio-lubricants and other products. The biodiesel industry will need to compete with these and other alternative uses for Montana vegetable oil. It is unlikely that biodiesel will be able to compete with higher value uses such as

culinary oils, cosmetic oils and other human consumption products. Biodiesel may be able to compete for lower quality, off specification and excess quantities of vegetable oil.

In the 2006 fiscal year, Montana consumed over 450 million gallons of diesel fuel. To replace five percent of this fuel would require approximately 23 million gallons of biodiesel. A 23 million gallon facility supplied with 100% Montana produced canola (with an average yield of 1,100 pounds per acre with 40% oil content and a 100% oil recovery rate) would require annual canola production on almost 400,000 acres. If other lower yielding crops such as sunflower, safflower, or mustard were used the number of acres required would increase.

Biodiesel Production Facility

Design, construction and financing of a biodiesel production facility are also issues that must be addressed before commercial production can become a reality. In the Midwest, numerous firms have been commercially producing biodiesel from soy oil for several years. As a result, many risks associated with proper design specifications have been identified and resolved. However, only a few firms are capable of designing and constructing large scale commercial biodiesel facilities and the demand for new plants is high both domestically and internationally. These factors have lead to higher plant construction costs in recent years.

Access to capital can also be a challenge for potential commercial

biodiesel producers. For small and community scale production facilities, local financing options may be available. At the commercial scale, community financial resources are less likely to be sufficient to provide the financial capital for such a project. Potential commercial producers are then likely to have to seek financial capital from sources outside of the community, which may be more difficult to obtain.

Another challenge to obtaining sufficient capital is that the future of biodiesel subsidies is uncertain. Currently federal government subsidies for biodiesel production exceed \$1.00 per gallon and many states also offer various tax incentive programs to biodiesel producers. Some of these incentives are set to expire within 5 to 10 years and due to the political nature of all government programs, long term guarantees for the continuation of these programs are unavailable. Access to financing for 10, 20 or 30 years would be less difficult if uncertainty about government incentives could be eliminated.

Infrastructure

The current U.S. transportation fuel infrastructure is the result of nearly 100 years of investment and is designed for petroleum products. Introducing a new product into the system will require substantial capital investments by pipeline owners, fuel distributors and retail fuel outlets. These investments are likely to include the installation of additional segregated fuel storage, fuel blending equipment, additional fuel pumps and new pipeline construction. Such

investments will be undertaken only if the financial rewards are sufficient to counter the risks associated with them.

Other contractual issues involve the ability of independently owned retail fuel outlets to sell fuel not produced or distributed by their petroleum fuel supplier. Retail fuel stations are often independently owned and have agreements with national fuel distributors who supply them with gasoline and diesel. These agreements often state that fuel supplied by other fuel distributors either may not be sold at all, or can only be sold in certain circumstances by these retail fuel stations. Few of these national fuel distributors supply biofuels and therefore retail fuel stations may contractually be prohibited from offering biofuels supplied by another distributor. While nationally some progress has been made on this issue, it is unlikely to be resolved in the near term.

Summary

Developers of commercial biodiesel production facilities in Montana will have to address several major issues, not the least of which is the economic viability of oilseed production for Montana's agricultural producers. If oilseed production does not become economically viable, then other concerns about financing, transportation, infrastructure, etc., will be mute. If oilseed production does become economically viable for Montana farmers, then other issues that affect the economic viability of a commercial biodiesel industry in Montana will need to be evaluated.



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