



from Farm to Fuel

A 'Made In Canada' biodiesel industry requires policy changes.

Clean energy is a key focus of the government's plan to ensure future generations enjoy a cleaner, healthier environment. One proven technology for achieving a healthier environment is the use of biodiesel from canola. Assuming 2% annual growth in fuel consumption, 5% renewable content in diesel fuel nationally by 2015 would require the production of just over 1.5 billion litres of biodiesel¹. The canola industry is confident it can supply over 80% of the required feedstock by 2015, with the remainder coming from other vegetable oils, animal fats and recycled restaurant grease². Without the establishment of a domestic biodiesel production industry, this requirement will have to be serviced by imported biodiesel. Experience in countries like Germany indicates this goal can be met, but only if policy changes at the federal and provincial level occur³. Policy changes are an investment at the 'front end' of this emerging industry and would signal long-term sustainability, while ensuring Canada participates in the value-added processing associated with biodiesel rather than simply supplying the raw products.

Government action is required to support the development of a sustainable domestic processing base and market in all of the following ways:

- Staged implementation of a initial 2% mandate, climbing to 5% biodiesel specific content requirement by 2015 to ensure demand;
- Policy incentives that support a "Made in Canada" supply of biodiesel (e.g., the accelerated depreciation of capital assets, refundable tax credits for production and production incentives) and maintain a competitive balance across North America;
- Mandated biodiesel quality parameters to ensure reliability and end user acceptance; and
- Support for farmer equity investments to allow farmers to actively participate in the biodiesel value chain.

Biodiesel's role in a Renewable Fuel Strategy

Governments around the world have introduced renewable fuel content requirements, including those for biodiesel. A national strategy would ensure Canadians demand biodiesel in their consumption, which would help meet Greenhouse Gas emission reduction targets and be a tangible way to address urban air quality issues.

The establishment of domestic production capacity to meet the 5% renewable fuel strategy for transportation fuels including diesel is achievable, with Canadian canola playing a key role as the foundation feedstock. The canola industry believes a 1 million tonne carryover level (stocks left over after all market commitments have been made) is necessary for stability and confidence in the processing sector. Since the 2004–2005 crop year, however, carryover levels have exceeded 1 million tonnes. If domestic production facilities were in place, using 1 million tonnes of carryover canola seed for biodiesel production instead of having it remain unsold could have supplied over 500 million litres of biodiesel. As increases in canola production continue due to technological advancements including improved hybrids, advanced agronomics and increased acreage, the industry expects to provide a stable foundation to meet both food and fuel demand. A 5% renewable fuel strategy would translate into almost one-fifth of canola's projected production in 2015 being used for biodiesel production. Given the time lag required to bring oilseed crushing and biodiesel production facilities on line, careful consideration should be given to the introduction of a phased-in mandate. For example, an initial mandated 2% biodiesel inclusion level in 2010, rising to a 5% inclusion level by 2015, would provide a strong investment signal to the marketplace and to feedstock suppliers that a domestic biodiesel industry is sustainable.

¹ Hogan, Natural Resources Canada "Biodiesel Basics" 2005 and Canadian Bioenergy Corporation, 2006

² Canola Council of Canada, personal communication 2006

³ (S&T)² Consultants Inc "Economic, Financial, Social Analysis and Public Policies for Biodiesel, 2004



Incentive Parity with the United States

Long-term sustainability of the domestic biodiesel industry is a primary goal for proponents. However, the current level of incentives and other forms of government support in the United States has created an investment climate that favours the establishment of biodiesel production infrastructure in the US that will use Canadian canola as the feedstock to supply Canadian market demand⁴. Canadian policymakers need to address this inequity to encourage the investment in a robust domestic industrial base. Investments in domestic infrastructure will not only sustain the biodiesel industry but could also provide an important platform for increased research and development activity in clean fuel technologies in Canada. As the majority of the cost of biodiesel is related to the feedstock, location of production facilities closest to the areas of canola production in western Canada would serve two purposes—encourage the use of locally produced feedstocks and provide long-term market alternatives for the canola industry.

Current incentive programs to support domestic biodiesel production in the US include the accelerated depreciation of capital assets directly related to the production of biodiesel, refundable tax credits and producer incentives⁵.

Mandated Quality Parameters

A sustainable biodiesel industry requires the confidence of fuel suppliers, original equipment manufacturers and the transportation industry. This confidence can be gained and maintained by mandating quality parameters for biodiesel that address product quality as well as the realities of the Canadian climate.

While the process of developing a Canadian standard for biodiesel quality is ongoing, existing models, including the most current version of the ASTM D 6751 standard for biodiesel, provide a framework that has supported biodiesel innovation in other countries. Experience with biodiesel in climates similar to Canada demonstrates the need for *additional* quality parameters relating to cold flow and oxidative stability⁶. As such, inclusion of the current cold flow specifications used in Germany and a maximum Iodine value of 120 would ensure Canadian biodiesel is of the highest quality.

Canola has several unique characteristics that make it the feedstock of choice for Canadian biodiesel, including:

- Lowest levels of saturated fat of all oilseeds (7%), resulting in superior cold flow qualities
- Maximum Iodine values (IV) below 120, indicative of improved stability and reduced engine deposits as compared to other feedstocks

Farmer Equity Investment

A domestic biodiesel industry based on canola would provide an innovative opportunity for farmer participation in the value chain. Active engagement of the farming community through support for farmer equity investments would also ensure the sustainability of the foundation supply required for the establishment of production facilities. The provinces have a key role to play in developing biodiesel production infrastructure through policies that encourage local ownership and equity investments.

Every \$100 million* in additional demand for canola generates⁷:

- 730 direct jobs in value added industries
- \$83 million in GDP
- \$5.2 million in tax revenue (federal, provincial)

*450,000 tonnes at current cash prices (\$222 per tonne)

In addition to the direct impact in western Canada, expansion of canola demand provides a substantial benefit across Canadian society, including Canadian Gross Domestic Product.

⁴ www.admworld.com "Archer Daniels Midland Announces Plans to Build Biodiesel Production Facility", 2005

⁵ (S&T)² Consultants Inc "Economic, Financial, Social Analysis and Public Policies for Biodiesel, 2004

⁶ UFOP "Biodiesel Facts, Arguments, Tips" 2003

⁷ M Goodwin Consulting Ltd , "Canola Socio-Economic Value Report", 2006