



## Biodiesel Fact Sheet – GHG Emissions

- Biodiesel reduces greenhouse gases (GHGs) when it replaces petroleum diesel because it has a closed carbon cycle. This means that the CO<sub>2</sub> that is released when the fuel is burned is absorbed by the plants used to produce it. Burning petroleum based diesel introduces new GHGs into the carbon cycle which increases the concentration of GHG in the atmosphere.<sup>1</sup>
- Pure biodiesel creates a 78% reduction in lifecycle emissions of CO<sub>2</sub>, because it takes some fossil fuels to make biodiesel. A B20 blend leads to a lifecycle CO<sub>2</sub> reduction of about 16%.<sup>1</sup>
- A 2% biodiesel mandate in Manitoba will reduce GHG emissions by 56,000 tonnes annually, which is the equivalent of taking 11,200 cars off the road. A 5% biodiesel mandate would reduce Manitoba's GHG emissions by 141,000 tonnes annually, which is the equivalent of taking 28,000 cars off the road.<sup>2</sup> These reductions are part of the Government of Manitoba's commitment – set out in *The Climate Change and Emissions Reductions Act* – to reduce GHG emissions by three megatonnes to 6% below 1990 levels. For more information see *Beyond Kyoto: Manitoba's Green Future* at [www.gov.mb.ca/stem/climate](http://www.gov.mb.ca/stem/climate).
- Biodiesel has one of the highest “energy balances” of any liquid fuel. For every unit of energy it takes to make biodiesel, 3.5 units of energy are gained. This includes everything from planting to transport of the fuel.<sup>3</sup>
- Biodiesel produced in Manitoba will primarily use canola as a feedstock. Due to increases in crop and oil yields, a mandate is not expected to cause a significant increase in the amount of land used to grow canola.

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<sup>1</sup> National Biodiesel Board, *Lifecycle Summary*, [http://www.biodiesel.org/pdf\\_files/fuelfactsheets/LifeCycle\\_Summary.PDF](http://www.biodiesel.org/pdf_files/fuelfactsheets/LifeCycle_Summary.PDF), accessed on 01/09/09.

<sup>2</sup> (S&T)<sup>2</sup> Consultants and Natural Resources Canada, *GHGenius : A model for lifecycle assessment of transportation fuels*, [http://biofleet.net/component/option,com\\_wrapper/Itemid,58/](http://biofleet.net/component/option,com_wrapper/Itemid,58/), accessed on 01/09/09.

<sup>3</sup> National Biodiesel Board, *Commonly Asked Questions*, [http://www.biodiesel.org/pdf\\_files/fuelfactsheets/CommonlyAsked.PDF](http://www.biodiesel.org/pdf_files/fuelfactsheets/CommonlyAsked.PDF), accessed on 01/09/09.