

Welcome to Sunbelt Biofuels Ltd.

Working with Agriculture for a Cleaner Tomorrow

Making the Best Use of
Water in Biodiesel
Production



B i o F u e l s

Presentation Outline

- ✿ What is Biodiesel
- ✿ Why Biodiesel
- ✿ Biodiesel in Manitoba
- ✿ Location & Size of Sunbelt
- ✿ What is Water Used For
- ✿ Water Sources
- ✿ Water Volumes Required
- ✿ Potential for Water Conservation
- ✿ Wastewater Sources
- ✿ Wastewater Treatment
- ✿ Contacts

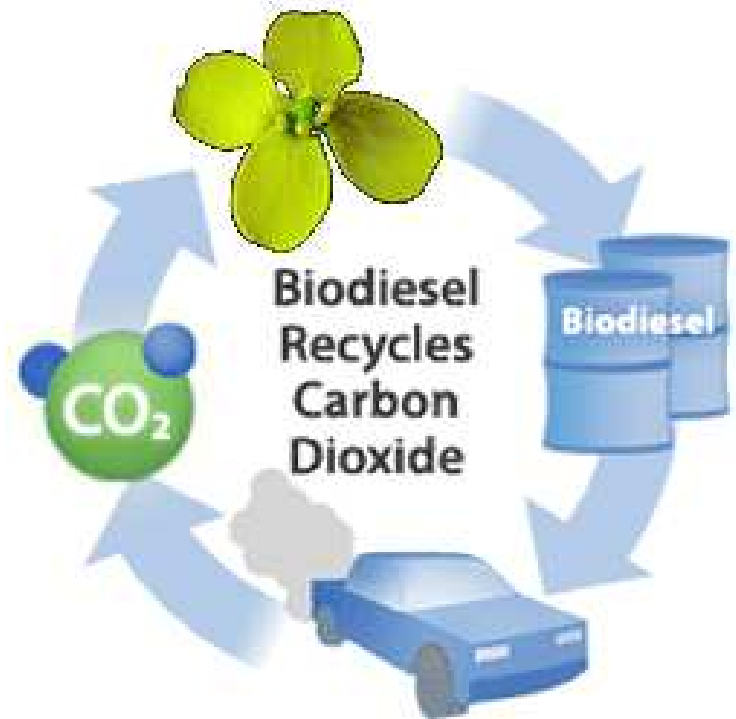


What is BioDiesel

Biodiesel is a fuel derived from vegetable oils or animal fats.

Sunbelt Biofuels is developing a Biodiesel Production Plant that will Use Manitoba & Western Canadian Canola Oil to produce the Biodiesel.

Most biodiesel is being sold and used as an additive to petroleum based diesel often as low as 2% (B2) Biodiesel.



Why Biodiesel



- ✿ **Biodiesel** is Clean and Safe
- ✿ **Biodiesel** from Canola is recognized as Best Quality
- ✿ **Biodiesel** made from Canola, is a Renewable Fuel
- ✿ **Biodiesel** Use in Any Diesel Engine, pure or blended
- ✿ **Biodiesel** is nearly Carbon Neutral

- ✿ **Biodiesel** cuts down on emissions.
 - ✿ Reduce particulate matter by 31 %,
 - ✿ Reduce carbon monoxide by 21 %,
 - ✿ Reduce Green House Gas by 85 -110 %,
 - ✿ Reduce total hydrocarbons by 47 %,
 - ✿ Reduce sulfur emissions and aromatics



Biodiesel in Manitoba



4 plants under construction

Very little Biodiesel at this time

Most plants under 20 M litres/yr

Production for 2008 expect 20 M Lt.

Total production expected 80M –100M Lt./yr

Manitoba's goal is 10% alternate energy



Sunbelt Biofuels Ltd.



SUNBELT BIOFUELS LTD.

ALTONA, MANITOBA, CANADA



Accutech Engineering Inc.
Tomorrow's Technology Today

Sunbelt Biofuels - Altona



✿ Sunbelt Biofuels Ltd. will produce approximately:

✿ 113 Million Litres of Biodiesel Annually

✿ The raw oil used will be extracted from approximately:

✿ 250,000 tonnes of raw Canola seed



Location of Sunbelt Biofuels Ltd



- ✿ Located in the Agri-Industrial Park, +/- 2 kilometres North of the Town of Altona.
- ✿ Will occupy +/- 45 acres of land adjacent to the railway line
- ✿ Will directly employ +/- 50 full time people
- ✿ Projected Construction Cost +/- \$46 Million



What is Water Used for:

- ✿ Cooling of Process
- ✿ Sanitation
- ✿ Process Steam
- ✿ Fire Protection
- ✿ Domestic



Water Sources



- ✿ All Water Must be Potable Quality
- ✿ Water will be Provided by Pembina Valley Water Cooperative Pipeline
- ✿ Initial Discussions have Already Been Carried Out, with PVWC.
- ✿ PVWC Expansion Plans Will Meet Sunbelt's Development Schedule



Water Volumes Required



- ❁ Water **Usage** in the Plant is Approximately, 60,000 Litres per Hour of Operation (500,000,000 litres per year)
- ❁ Actual **Consumption** is Approximately 2,500,000 Litres per Year
4.75 litres/min **1.23 US Gals/min**
- ❁ Water **Usage** in the Plant is Much Higher than Actual **Consumption**, due to Conservation Techniques.



B i o F u e l s

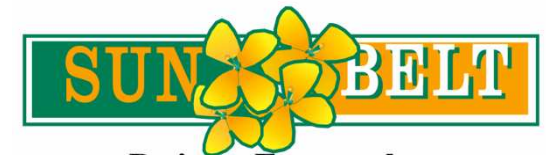
Potential for Water Conservation



The Process is Already Highly Optimized to Reduce Water Consumption

- ✿ Water May be Further Conserved Through:
 - ✿ Use of Fire Water Pond as Cooling Source
 - ✿ Recirculation of Wash Water
 - ✿ Low Water Consumption Domestic Fixtures
 - ✿ Replenishment of Fire Pond with Runoff

Additional Study will be Undertaken During Final Design



B i o F u e l s

Wastewater Sources

- ✿ Blow Down from Process Boilers
- ✿ Process Wash Water
- ✿ Domestic Sanitation



Wastewater Volume



- ✿ 2,000,000 litres per Year
- ✿ Low Strength Waste Water
 - ✿ BOD 1500 ppm
 - ✿ COD 8500 ppm
- ✿ Discharged on a Continuous Basis



Wastewater Treatment



Final Determination has not been made

Options include:

- Primary Treatment on Sunbelt Site (Lagoon)

 - Treated Effluent Used for Irrigation

 - Discharge of Effluent to Town Treatment System

- Direct Discharge into Town Treatment System



For More Information



B i o F u e l s

"Working with Agriculture for a Cleaner Tomorrow."

John Falk
Chairman

Cell: 204-362-0167
Fax: 204-324-1303
Email: jfalk@mts.net

Sunbelt BioFuels Ltd., Box 2069, Altona, Manitoba, R0G 0B0



B i o F u e l s

"Working with Agriculture for a Cleaner Tomorrow."

Jim Spencer
Director

Cell: 204-324-7876
Fax: 204-379-2511
Email: jim@sunbeltdevelopment.ca

Sunbelt BioFuels Ltd., Box 2069, Altona, Manitoba, R0G 0B0



B i o F u e l s

"Working with Agriculture for a Cleaner Tomorrow."

Ronn Smith
Director

Cell: 204-324-4082
Fax: 204-324-1943
Email: ksmith@xplomet.com

Sunbelt BioFuels Ltd., Box 2069, Altona, Manitoba, R0G 0B0



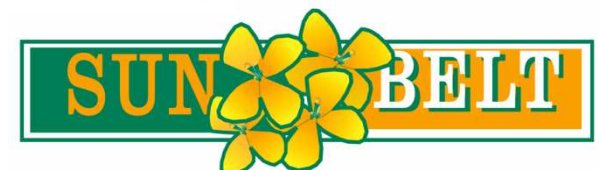
B i o F u e l s

"Working with Agriculture for a Cleaner Tomorrow."

Brian Kelly
MBA, P.Ag, CAC, FCMC
Business Consultant

Ph: 204-261-0379
Email: bakelly@mts.net

788 Cloutier Drive, Winnipeg, Manitoba R3V 1A8



B i o F u e l s