



Cowichan Bio-Diesel Co-operative
#2 - 55 Station Street, Duncan, BC. V8L 1M2
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Tel: (250) 748-2694

Guidelines on Bio-Diesel Use and Membership in the Cowichan Bio-Diesel Co-op



The vast majority of diesel engines are able to use bio-diesel without any significant modifications to the vehicle required. A significant vehicle conversion is only needed IF you want it to run on “Straight Vegetable Oil” or SVO; this is not the same as bio-diesel (a chemically altered SVO that can be mixed in any ratio with “regular” fossil diesel). However, there are a few key things you need to know about bio-diesel and your specific vehicle type before you start using Co-op bio-diesel. Therefore, as part of your personal responsibility as a Co-op member you must read, understand and apply the following guidelines on bio-diesel use:

Canadian bio-diesel quality standards have only recently been developed for Canada under the auspices of the Canadian General Standards Board. As these standards are still relatively new to the industry, it has been generally accepted practice to ensure that ASTM D6751 fuel standards (This is a US standard for bio-diesel.) are met; however, the cost of such testing represents a significant barrier for small-scale producers like the Co-op. As a result, it should be understood that Co-op bio-diesel has not undergone lab testing to determine whether it meets ASTM D6751 fuel standards. However, by applying our own internal quality control methods we have gained ten years of experience successfully using our bio-diesel to fuel a great variety of both on- and off-road diesel vehicles. We are confident enough in our bio-diesel to use it ourselves to fuel our personal vehicles and to provide it to you to use as a diesel fuel additive or substitute for your own personal vehicle IF you first agree to read and take full responsibility for the following BEFORE you use it:

- 1) Confirm that your vehicle, its warranty, its hoses, gaskets, etc. are bio-diesel compatible** (they are NOT made of rubber or other materials that break down when exposed to bio-diesel). Older fuel lines with any real rubber in them will slowly break down over time but this commonly does not apply to most vehicles newer than the mid-nineties. If in doubt, email or call us with the year, make and model of your vehicle and we will do our best to inform you about its compatibility.
- 2) If you have a new car check your warranty – some may be void if you use higher ratios of bio-diesel.** Most new vehicles in North America won't honour the warranty if you use bio-diesel over a percentage as low as 5% (B5). This is likely because bio-diesel is still a relatively young and developing industry in North America and its properties can vary considerably based on the type of oil (vegetable or animal) and the process used to make it.
- 3) If you have not used bio-diesel in your vehicle before, you must "wean" your engine onto successively higher bio-diesel blends.** That means using 20% bio-diesel (B20) or less for the first two or more fill ups then moving to successively higher ratios and finally B100 if you wish and you determine your vehicle is compatible. This is because bio-diesel acts to clean out internal deposits/build-up from regular fossil diesel use. If you use too much too fast, it may cause fuel filters to clog more quickly as it flushes out the fossil diesel deposits. Once your engine has been weaned you can use higher bio-diesel ratios (up to 100% depending on the vehicle) and you should notice your engine will sound better, run better, and smell better with no ugly black particulate exhaust.
- 4) Check fuel filters more regularly** than with regular diesel fuel use and replace as needed. As well as releasing deposits from regular diesel use, bio-diesel may contain minute quantities of glycerin that can accumulate in your fuel filter over time. If these deposits build up too much they can clog your fuel filter and starve your engine of fuel. If this occurs while the engine is running it will feel like your vehicle is stuttering, or intermittently hesitating as you drive until finally the supply of fuel to the engine is cut off. Also, if you leave your vehicle out while the temperature drops any glycerin accumulations in your fuel filter can thicken and clog your fuel filter until temperatures increase or the filter is changed. If this happens, do not be alarmed. These issues can all easily



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be addressed by simply changing and/or draining your fuel filter. A more proactive approach is to install a pre-filter such as a Donaldson P558000. The Donaldson filter is a good second filter as they have a high capacity water separator with a drain and is about 1/3 the cost of a Volkswagen or Toyota fuel filter.

5) Its good practice to always keep your fuel tank filled above a quarter of a tank. Part of ensuring longer fuel filter, injector, and injector pump life is making sure you NEVER run your vehicle until the fuel tank is empty.

6) Be aware of cold temperature limitations to bio-diesel use. The cloud point of bio-diesel made from pure Canola oils is typically below about -10 degrees C. However, when temperatures dip below freezing bio-diesel can thicken enough to make starting more difficult and also cause a strain on fuel pumps and injection systems. On Southeast Vancouver Island it's rare to get temperatures so low that bio-diesel use becomes too problematic. However, a cautious proactive approach to avoid any issues related to cold temperatures would be to use a blend of B50 or less during the late fall to early spring months. This means blending our Coop bio-diesel with 50% or more regular diesel fuel.

7) Taxes. Prior to 2010, bio-diesel was exempt from tax in British Columbia. In light of the January 1, 2010 changes to the Carbon Tax Act and Motor Fuels Tax Act, these taxes are now applied to biodiesel sold in the province of BC. (Yes, the BC Government charges carbon tax on carbon-neutral B100!) Note: How these taxes may apply to SVO have not been clearly outlined by the Province. Individual users of SVO must look into the tax implications of using it as a motor vehicle fuel for themselves. (The Co-op does not provide tax advice.)

8) Provide us with feedback on your experiences with our fuel. We need to know if you notice any improvements or problems with your vehicle after using the fuel. So far we've had very positive feedback from members and we continue to believe your experience will be as positive as ours.



The Value versus the Price of Co-op Bio-Diesel

If the price per litre for Coop bio-diesel seems high compared to fossil diesel, please consider the following:

- **Our current price is subsidized by volunteer efforts and does not reflect the true cost of providing it.** The bio-diesel we provide is below our costs to produce and distribute it. Currently, the only way we can offer locally produced bio-diesel at this "low" price is due to the tireless efforts of volunteers and fund-raising efforts. As we grow and the workload on volunteers increases faster than our budget, we move further away from a sustainable Co-op model. That considered, prices will go up with regular diesel prices before they go down. Once we reach that sustainable "fair trade" Co-op model that isn't based on volunteers carrying the bulk of the costs, then we can realistically look into keeping fuel prices below market prices to reward Co-op members. From another perspective, we expect pressures from peak oil and increasing demand from developing countries to push regular diesel prices above our prices in the not too distant future.

- **Like organic foods, Bio-diesel is a better product - healthier, more ethical and sustainable.**

- **Mechanical benefits:** Just 5% or less of bio-diesel mixed with regular diesel can potentially double the life of your engine due to its lubricity and engine cleaning qualities compared to regular diesel.



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- **Ethically made from locally recycled waste cooking oil:** No foreign countries were invaded, no oil sands were mined, no deforestation to grow palm plantations took place and no food crops were used to produce this fuel.
- **Carbon neutral:** Every litre of B100 that you burn instead of petroleum diesel reduces harmful emissions and helps limit our impacts on global climate change. (In our opinion, the Province's application of a carbon tax on B100 makes no sense. If you agree, please contact the Ministry of Finance and let them know.)
- **Bio-diesel significantly reduces harmful pollutants** such as sulphur, toxins and particulates.

Every litre you purchase, every membership you buy, and every contribution you make brings us closer to the goal of building our community plant, and all the environmental, economic and social benefits this will bring to the Valley.



How to Purchase Bio-Diesel

If you are a Coop member in good standing, have read and agreed to your personal Co-op responsibilities above and support the principles on which the Coop was founded, you are welcome to purchase Coop bio-diesel. There are two options available to Co-op members:

The Co-op Cardlock service is open 24 hours a day at our Duncan location in partnership with Cowichan Petroleum Sales. The Green & Go Blending Pump is open every day from 8:00 a.m. to 5:00 p.m. at our Bings Creek location in partnership with the Cowichan Valley Regional District. More Cardlock's and Blending Pumps are planned in co-operation with other biofuel Co-ops and organizations as part of the BC Biofuel Network initiatives.

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| <p>Cowichan Bio-diesel Co-op Cardlock Pump Cowichan Petroleum Sales 2999 Allenby Road, Duncan BC Open 24 hours a day</p> <p>To pick up your personal card and passcode to access Co-op bio-fuel at the Cardlock please contact us or visit our office in downtown Duncan.</p> | <p>Green & Go Community Bio-Diesel Pump CVRD Solid Waste Management Facility 3900 Drinkwater Road, Duncan BC Open every day 8 am to 5 pm.</p> <p>To sign up for this new blending pump, visit our website and click on <i>Join the Co-op.</i> www.smellbetter.org</p> |
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If you have any questions regarding bio-diesel use or issues you are unsure of please contact us for assistance.

Thanks for your support!