Parkland

Get to know our low-carbon fuels

Sustainable solutions

Parkland's renewable fuels are an easy way to reduce your carbon footprint. All you have to do is switch your fuel. There's no need to change your equipment, and you'll still get the high performance you're looking for.

Our low-carbon fuels

Biodiesel

Lower cost. Up to 20% renewable. Biodiesel has the lowest carbon intensity of any liquid fuel. Plus, it's cost-effective. The renewable portion is made of biodegradable vegetable oil and waste fats. Customized blends are available, with up to 20% renewable content

Renewable diesel

Drop-in fuel. 100% renewable. Renewable diesel is an advanced biofuel made of 100% renewable material (R100). Compared to conventional diesel, renewable diesel can reduce emissions by up to 75%.

Renewable propane

A Lower-Carbon Future with Renewable Propane. Parkland's renewable propane is made from bio-feedstocks, offering a seamless, lower-carbon alternative to conventional propane. With 10-15% renewable content, it reduces emissions with no need to change your equipment.

écolution™
BY PARKLAND

Ecolution is a brand, an initiative, an idea. It's everything Parkland can do to lower carbon emissions. Whether it's a better product, practice or partnership, we're putting solutions into action. Low-carbon fuels are just one way we're reducing our environmental footprint.

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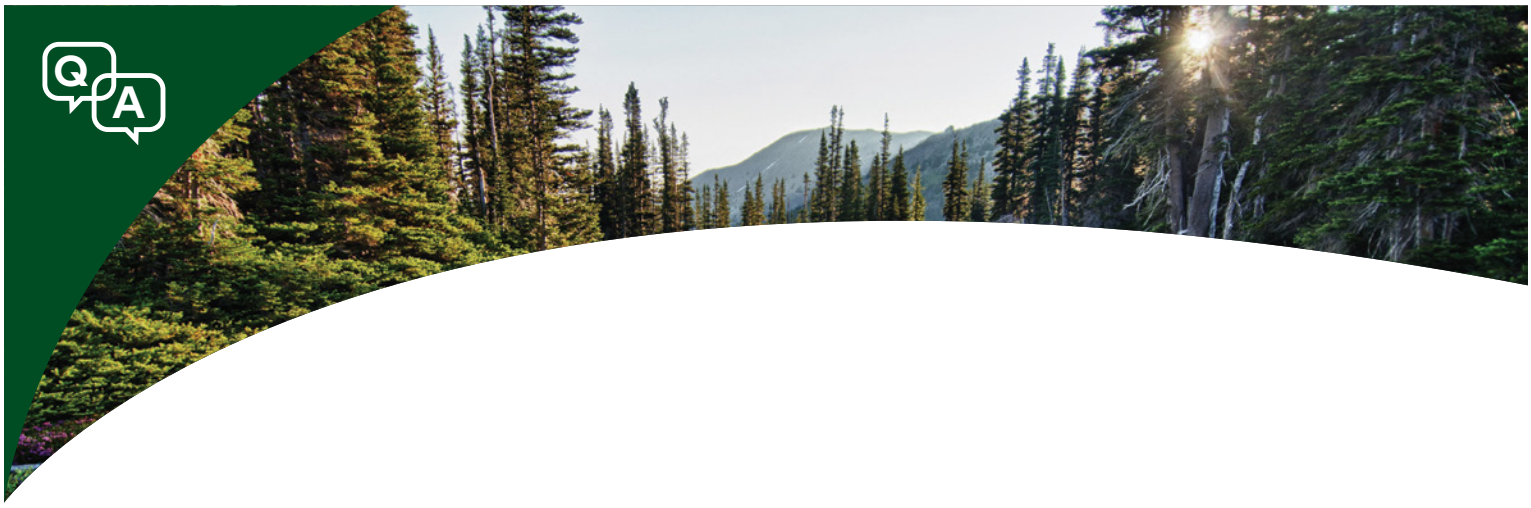


Why choose Parkland's low-carbon fuels?

We're a leader in innovation and have a long history of helping customers reduce their environmental footprint. Our biodiesel, renewable diesel, and renewable propane blends are a sustainable solution, delivering high performance with low carbon.

What is co-processing?

We power what moves people and believe society's journey to sustainability requires big breakthroughs and incremental change. Using existing infrastructure, our Burnaby Refinery is the first facility in North America to co-process bio-feedstocks such as canola oil and oil derived from animal fats (tallow) alongside crude oil. The resulting renewable fuels have less than one-eighth of the carbon intensity with lower greenhouse gas emissions than conventional fuels.

What is carbon intensity?

It's the total amount of greenhouse gas (GHG) emissions a fuel will produce throughout its lifecycle. It's typically measured in gCO_2e/MJ. When comparing fuels, the lower the carbon intensity, the lower the lifecycle emissions.

What are lifecycle emissions?

They are the total emissions a fuel will produce, from beginning to end. That includes emissions from feedstock extraction, transportation, production and distribution, plus the final use of the finished fuel. This is often referred to as "well-to-wheel emissions."

For example, when comparing renewable diesel and petroleum diesel, they have similar combustion emissions, but renewable diesel has much lower emissions in its full life cycle. This is because it's produced from renewable feedstocks that sequester carbon (e.g. canola removes CO_2 as it grows).

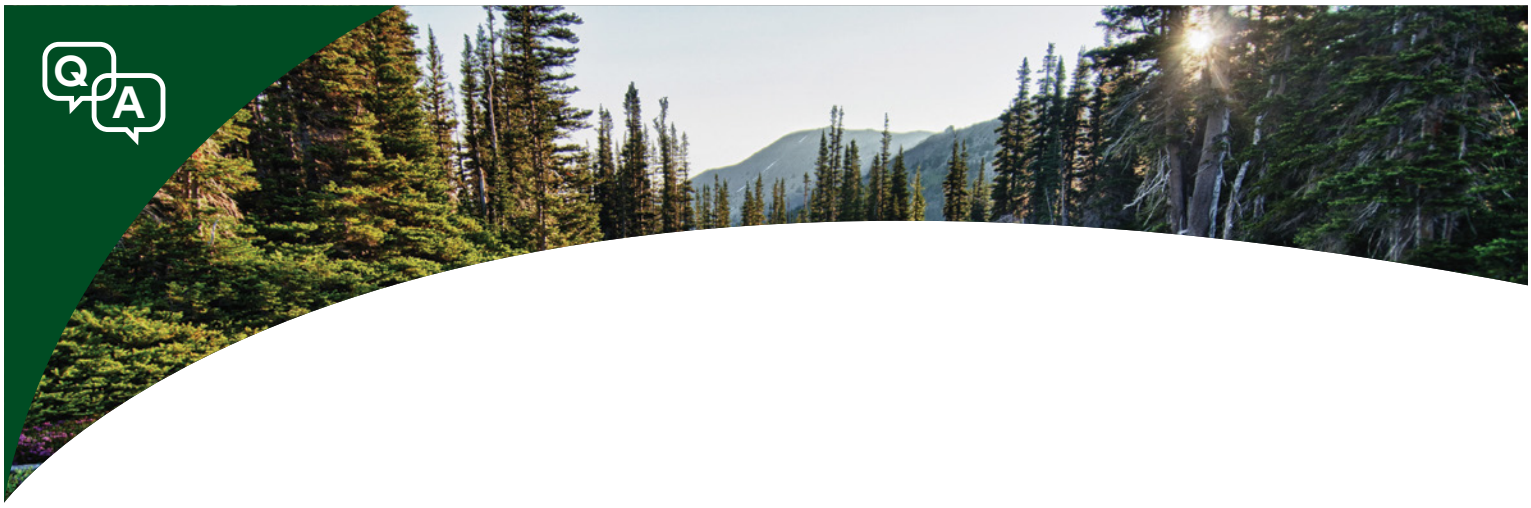
What is biodiesel?

Biodiesel is a Fatty Acid Methyl Ester (FAME) made by a chemical reaction between an alcohol (methanol) and animal or vegetable fats. Biodiesel can be made of vegetable oils (soy, canola), recycled cooking oils or animal fats. Parkland currently uses biodiesel made of soybean oil because its properties are the most suitable for cold weather applications.

Biodiesel-petroleum diesel blends are labelled with a B, followed by the percentage (by volume) of the biodiesel diesel content. Biodiesel can be used neat (B100) or as a blend with diesel in various concentrations (B2, B5, B20).

For example, a B20 blend is 20% biodiesel and 80% petroleum diesel.

B100 typically has a carbon intensity of approximately -5 to 5 gCO_2e/MJ (compared to ULSD of 95 gCO_2e/MJ).



What are the benefits of biodiesel?

- Reduces lifecycle emissions by approximately 95% (B100), compared to conventional petroleum diesel.
- Improves lubricity of fuel.
- Higher cetane value, which leads to better combustion and thermal efficiency.
- Higher viscosity extends the life of fuel injectors.
- Higher flash point makes it safer if spilled.
- In-line blending creates a consistent biodiesel blend percent.

What are the limitations of biodiesel?

In low-temperature settings, biodiesel blends need to be managed to make sure they operate properly.

However, blends of up to B20 have been successfully used in temperatures as low as -25C. To achieve this performance, feedstocks and products must be properly selected. Plus, a Cold Flow Improver may be used to enable performance in cold temperature.

To learn the best practices for your region, consult your Parkland sales representative.

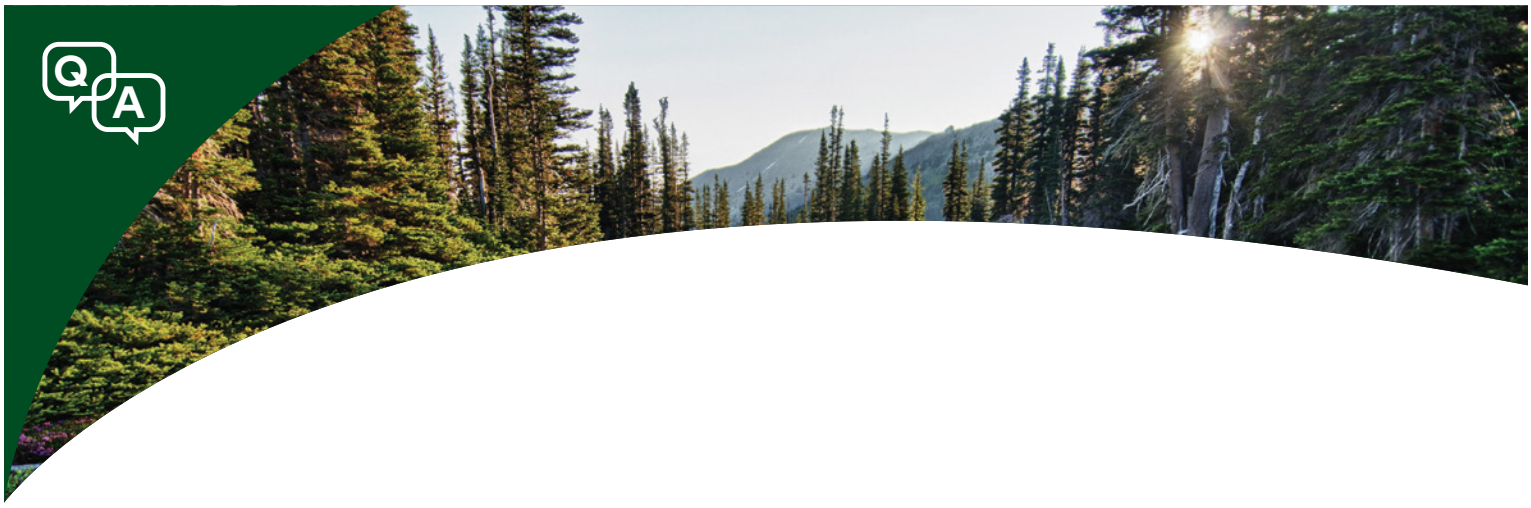
What is a Cold Flow Improver?

A Cold Flow Improver (CFI) is a chemical additive that enables the performance of fuels at cold temperatures. Without a CFI, fuel may form crystals at low temperatures. A CFI changes the size and shape of the crystals, improving the filterability and pour point. This allows the fuel to be cooled to a lower temperature before it will gel.

What is renewable diesel?

Renewable diesel is created by refining fats, vegetable oils or greases in a hydrotreating process. Chemically, it is similar to petroleum diesel, but it has lower lifecycle emissions. It can be used in traditional engines. No new equipment is needed.

Renewable-petroleum diesel blends are labelled with an R followed by the percentage (by volume) of the renewable diesel content. For example, an R20 blend would be composed of 20% renewable diesel and 80% petroleum diesel. Renewable diesel has a carbon intensity of approximately 15 to 30 gCO_2e/MJ.



What are the benefits of renewable diesel?

Switching to renewable diesel is very easy. No engine or equipment changes are needed. It's fully compatible with almost all diesel engines and infrastructure. Plus, it can be blended with conventional diesel fuel in any proportion.

Renewable diesel reduces greenhouse gas emissions by approximately 75%, compared to conventional diesel. It also burns cleaner, thanks to a high cetane value and low aromatics content.

What are the limitations of renewable diesel?

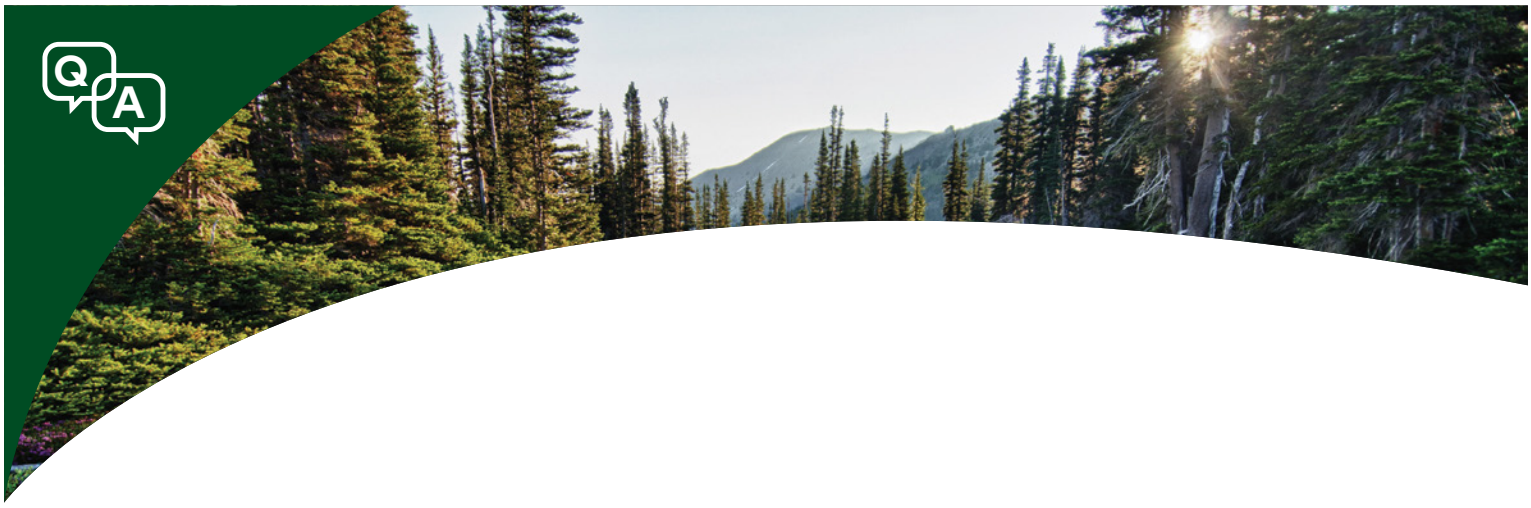
Because renewable diesel is chemically similar to petroleum diesel, cold weather conditions may also similarly affect performance. To learn the best practices for your region, consult your Parkland sales representative.

What specifications does Parkland biodiesel and renewable diesel meet?

Parkland renewable fuels meet the industry-standard specifications for diesel and biofuel blends, including:

CGSB	Title
CAN/CGSB-3.517-2020	Diesel fuel
CAN/CGSB-3.520-2020	Diesel fuel containing low levels of biodiesel (B1–B5)
CAN/CGSB-3.522-2015	Diesel fuel containing biodiesel (B6–B20)
CAN/CGSB-3.524-2022	Biodiesel (B100) for blending in middle distillate fuels

ASTM	Title
D975-22a	Standard specification for diesel fuels (blends up to B5)
D6751-20a	Biodiesel fuel blendstock (B100) for middle distillate fuels.
D7467-20a	Standard specification for diesel fuel oil, biodiesel blend (B6 to B20)



Are biodiesel or renewable diesel approved by my engine manufacturer?

Many diesel OEMs have approved biodiesel blends up to B20, and all renewable diesel blends. These fuels are used in many regions, including U.S.A., Canada and Europe. However, we recommend checking your vehicle OEM warranty to make sure the engine is certified for higher blends, or talk to your Parkland sales representative.

How does Parkland ensure product quality for biodiesel and renewable diesel?

Every fuel product sold by Parkland meets industry-standard specifications. In addition, on request, we can provide documentation of GHG/fuel emissions reductions for fuels purchased through Parkland.

Want to know more about our Renewable Propane?

Please refer to our separate Renewable Propane FAQ/Sales sheet **here**.

Still have questions?

Feel free to contact your Parkland sales representative.