



## Biodiesel

Biodiesel is a petroleum diesel alternative made from renewable sources such as canola, soybeans, tallow and used cooking oil. Biodiesel is most often blended up to a 20 percent concentration with petroleum diesel or renewable diesel. Using locally-produced biodiesel improves air quality, supports the local economy, and helps reduce greenhouse gas emissions.

### Greener & cleaner

Biodiesel is made from renewable resources, so using it to displace conventional ultra-low-sulfur diesel (ULSD) helps keep fossil fuels in the ground. Research by the Argonne National Laboratory found that the greenhouse gas impact of pure biodiesel is 74 percent lower than that of ULSD.

Due to its higher cetane value compared with ULSD, biodiesel combusts more fully in an engine and produces fewer tailpipe emissions. Pure biodiesel reduces particulate matter and carbon monoxide, two known types of airborne carcinogens, by nearly 50 percent. However, it may produce up to 10 percent more nitrogen oxides (NOx).

### Biodiesel benefits:

- Produced and available in Washington State
- Ready to use – no vehicle conversion required
- Emits less air pollution
- Can improve engine performance
- Safer to handle and store

### Produced locally

In Washington, biodiesel is primarily made from used cooking oils and locally-grown canola.

Pacific Northwest producers:

- **General Biodiesel**, Seattle, Washington
- **Renewable Energy Group, Inc. (REG)**, Grays Harbor, Washington
- **SeQuantial**, Salem, Oregon

Another benefit of biodiesel is that it is nontoxic and nonflammable, making it much safer to handle, store and transport than nearly any other fuel product.



### Strict fuel quality standards

All biodiesel manufactured or sold in the United States must meet the international fuel specification standards ASTM-D6751. Blends of five percent biodiesel (B5) or less are required to meet the same set of specifications as conventional diesel.

Most biodiesel producers and suppliers are also registered with BQ-9000, a voluntary program from the National Biodiesel Board. BQ-9000 independently reviews each applicant's fuel quality control systems. Program applicants need to meet a strict set of best practices in fuel processing, testing, blending, and storage before approval.

## Best when blended

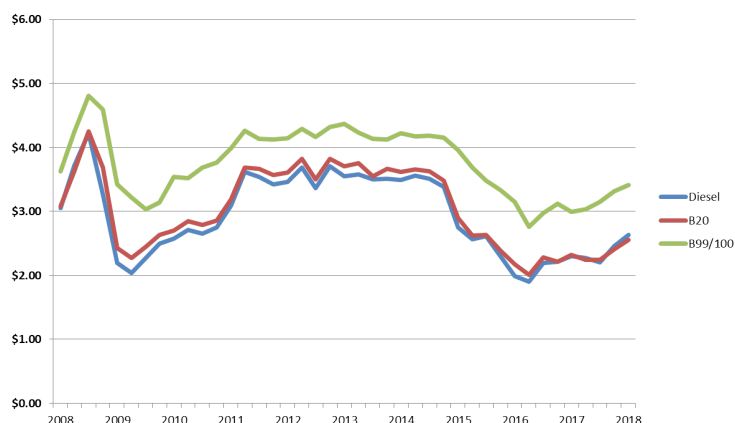
Nearly all vehicle manufacturers approve the use of up to B20 in their vehicles without affecting the vehicle warranty. Due to the slight differences in pure biodiesel's materials specifications as compared to ULSD, most users stick to blends of B20 or lower.

In some states, such as Minnesota, New Mexico, and Oregon, biodiesel is blended into all diesel fuels sold.

The emergence of renewable diesel, another petroleum diesel replacement, offers a promising opportunity to create a maximally sustainable diesel fuel alternative by blending 20 percent biodiesel with 80 percent renewable diesel, a blend called RB20. Renewable diesel with or without blended biodiesel is fully compatible with all diesel vehicles and diesel fueling infrastructure with no modifications necessary. Like ULSD, renewable diesel's lubricity is improved by blending it with biodiesel.

## Biodiesel vs. Diesel Prices

Cost per gallon



## Investing in a clean energy future

Over the past several years, locally-produced biodiesel has cost the same or less than ULSD, so using it can help save on fuel costs! Even when it runs a few cents higher per gallon, biodiesel's multiple benefits more than outweigh its cost.

An increasingly important piece of Washington's economy, biodiesel creates local industry opportunities, provides revenue for Washington farmers, reduces environmental impacts, and helps keep your diesel engine running strong.

## Biodiesel in Western WA:

Many Western WA Clean Cities members already know the benefits of biodiesel.

Members using a B10 biodiesel blend or higher:

- City of Bellevue
- City of Seattle
- City of Tacoma
- King County
- Kitsap County
- Pierce County
- Port of Seattle
- Recology CleanScapes
- SeQuential
- Snohomish County
- Tacoma Public Utilities
- Thurston County
- University of Washington
- Washington State Department of Transportation

## Considering a shift toward alternative fuels?

Let Western Washington Clean Cities be your guide.

**Angela Song**, Associate  
AngelaS@psclicleanair.org | 206.689.4016

**Kelly O'Callahan**, Associate  
KellyO@psclicleanair.org | 206.689.4054

**Landon Bosisio**, Communications  
LandonB@psclicleanair.org | 206.689.4046

## About Us

Western Washington Clean Cities Coalition is a not-for-profit membership organization dedicated to expanding the use of alternative fuels and advanced vehicle technologies. We provide education, technical expertise, and networking opportunities to help our members transition from petroleum to more sustainable energy choices.

**Western Washington Clean Cities Coalition**

1904 Third Avenue, Suite 105

Seattle, WA 98101

[www.cleancities.org](http://www.cleancities.org)

