SUPPORT HB 4090

Supporting Consumer Choice to Reduce Greenhouse Gas Emissions TODAY

The Problem

The environmental impacts of greenhouse gas (GHG) emissions are cumulative—today's emissions remain in the atmosphere for many years—so reducing fossil carbon emissions TODAY is more impactful than reducing emissions in the future.

Currently, Oregon is not on track to meet its near-term GHG reduction goals and must do more immediately to reduce GHG emissions if it's going to be successful. Transportation is Oregon's largest source of GHG emissions, making it imperative to reduce carbon from this sector quickly. One policy Oregon should implement is to **give consumers the confidence and power to choose more non-fossil fuel for diesel engines.**

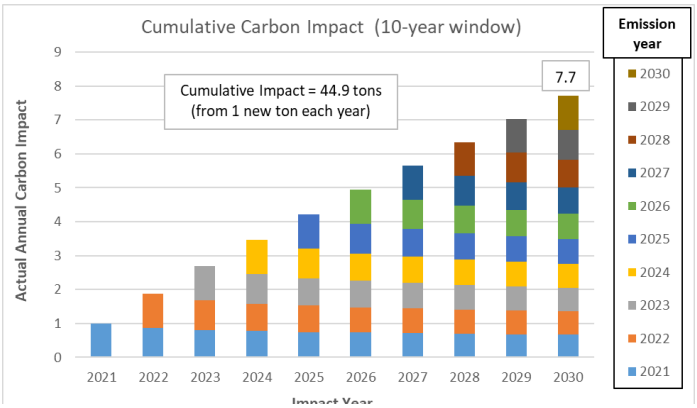

Figure 1[1] - Fossil carbon emissions DO NOT affect the atmosphere only in the year they were emitted; they accumulate over time.

While most diesel engine manufacturers expressly support the use of a 20% biodiesel fuel blend (B20) in their engines, some use vague or even discouraging language about biodiesel blends. Without express support from their engine manufacturer, some consumers and fleets are hesitant to use blends above B5 because of uncertainty about their engine warranties.

Diesel engines routinely run on B20 (and higher) blends. In fact, all major and most local truck stop operators commonly supply B20 to their customers in Oregon and across the nation. Drivers should have the choice to confidently fill up wherever they choose with the fuel of their choice and should not face unnecessary (and erroneous) doubts about their warranty status because a small minority of engine manufacturers have outdated notions about biodiesel. It's not good for consumers (as biodiesel is competitively priced in Oregon compared to diesel) or, given the urgency of reducing fossil carbon emissions as soon as possible—the planet.

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[1]Using the Bern Carbon Cycle CO2 decay function provided in the Technical Summary of the 4th Assessment Report of the IPCC (2007) and in Kendall, et al. (2009) based on a background atmospheric CO2 concentration of 378 ppm

The Solution

Oregon should lead by example and require that all diesel engine vehicles purchased by the State be from a manufacturer that supports the use of at least B20 biodiesel blends.

- HB 4090 requires that when the State is procuring diesel engine vehicles, it must be from a manufacturer that supports a minimum of B20 in its engines—giving state fleets confidence to use B20 and encouraging manufacturers to update their operating manuals to support the use of at least B20 in their engines.

- HB 4090 is not a mandate to use B20. It merely provides consumers with confidence to use it without fear it will impact their vehicle warranties. Diesel engines perform routinely on biodiesel blends up to and above B20 and have been doing so for years in Oregon and in states like Minnesota, Iowa, Illinois, Texas, and California. B20 is prevalent in the Oregon fuels market today.

- HB 4090 is good for consumers' pocketbooks—biodiesel is competitively priced in Oregon compared to petroleum diesel.

- HB 4090 could have a national impact by persuading the small number of engine manufacturer holdouts to provide support for B20 and above. Thus, providing more consumers choice and confidence nationwide.

- HB 4090 is another strategy Oregon can use to lead by example and demonstrate its commitment to making every mile count in reducing more GHG emissions immediately.

Biodiesel is **readily available**, utilizes existing distribution infrastructure, **does not require engine system replacement or retrofit** and, therefore, is an **easy** and **cost-efficient** way to decrease fossil carbon emissions today.

The Environmental Impact

Using biodiesel has numerous environmental benefits when compared to petroleum-based diesel fuel, including:

- **Reducing fossil GHG engine emissions by nearly 100%;**
- **Reducing engine-out particulate matter emissions up to 70%; and**
- **Reducing engine-out hydrocarbon emissions up to 60%.**

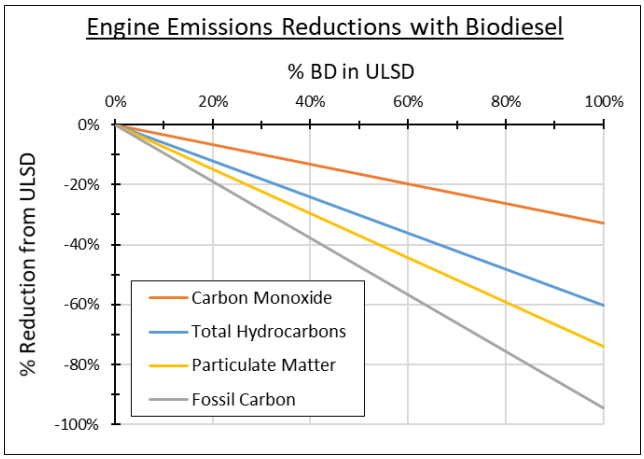

Figure 2 – REG and CARB data

Utilizing an existing and proven lower-carbon fuel that will immediately reduce GHG emissions allows Oregon to make meaningful reductions in its fossil carbon footprint today while continuing to discuss and adopt policies related to future options such as electrification.

HB 4090 is a win-win. It is a meaningful addition to a comprehensive and evolving strategy for Oregon to meet its GHG reduction goals.

HB 4090 supports a 100% renewable future for diesel engines. As renewable diesel becomes more readily available, combining renewable diesel and biodiesel creates a complete renewable fuel with significant advantages—biodiesel adds critically-important lubricity to renewable diesel and improves other key fuel

properties such as density, bulk modulus, and elastomer compatibility, while further reducing engine emissions and extending the supply of renewable diesel.

FAQ's

What is biodiesel and what are the benefits of using B20?

Biodiesel is a renewable, high quality, diesel replacement made from agricultural feedstocks like animal fats, used cooking oil, inedible corn oil, or vegetable oil. Using blends of biodiesel on our highways has numerous environmental benefits when compared to petroleum-based diesel fuel by reducing engine-out particulate matter emissions up to 70%, fossil GHG engine emissions by up to 100%, and engine-out hydrocarbon emissions by up to 60%.

Doesn't Oregon Already have a Renewable Fuel Standard?

Oregon's Renewable Fuel Standard (RFS)—which requires that every gallon of on-road diesel sold in Oregon be blended with 5% biomass-based diesel (B5)—has been an irrefutable success since its passage in 2007. The RFS has reduced hazardous engine emissions and is helping the state meet its GHG emissions reduction goals. However, the environmental impacts of GHG emissions are cumulative—emissions today don't just have an impact this year, but they remain in the atmosphere for many years—today's emissions have a compounding effect. Oregon could be doing more now if they had more clear support from all engine manufacturers to use higher blends today. Reducing fossil carbon emissions today is much more impactful for our climate than reducing them in the future.

Would such a change to the state's procurement process require the use of B20?

No, it would require that new diesel engines purchased by the state come with confirmation from the engine manufacturer that they support the use of blends of biodiesel of at least 20 percent (B20) or higher. The proposed change would not require B20 use; it would only enhance fuel choices and provide clear support for a fuel that is already in common use in the state and elsewhere.

Do other states have B20 blend or state vehicle purchasing mandates?

Yes. Iowa's governor issued an executive order in 2019 requiring respondents to state bids for vehicles containing diesel engines to certify that the manufacturer has provided support for the use of B20 and that all state vehicles must be purchased from manufacturers that have provided such certification[1].

Beginning in 2018, Minnesota has required B20 blends between April and October in all diesel fuel sold in the state, with a B5 requirement for the remaining months. Before that, they required B10 blends in the same months. The state government in Minnesota is currently in discussions to establish the same B20 support requirement for fleet procurement as Iowa.

Is B20 being used in Oregon today?

Yes. Oregon retail consumers regularly buy B20 or higher blends of biodiesel due to the incentive created by the Oregon Clean Fuel Standard that seeks to reduce the carbon intensity of transportation fuel. Oregon diesel vehicles are routinely using B20 or higher blends of biodiesel than what a small number of OEMs are explicitly supporting. The Oregon Clean Fuels Program provides data through the annual Fuel Supply Forecast showing the average blend level in Oregon in 2020 was 9% and is expected

[1] https://governor.iowa.gov/documents/executive-order-5

to rise to 10.5% in 2022, higher than the levels clearly supported by these reluctant OEMs.[2] If we assume that most Oregon fuel suppliers who choose to blend above the mandated state minimum of B5 are blending B20 (for the aforementioned reasons), an average statewide blend level of around 10% could be interpreted to indicate that about 1/3 of the diesel used in the state is B20 (33% times B20 plus 67% times B5 = B10.0).

Do engines need to be converted or retrofitted to run on B20?

No. Biodiesel is a "drop-in" replacement for diesel fuel and is being used all over the United States, including in Oregon. B20 requires no changes to a diesel engine or to the fueling infrastructure used to dispense fuel. To demonstrate biodiesel's ability to successfully operate in existing diesel engines, some underground mining companies use blends up to B100 to minimize their diesel particulate matter and total hydrocarbon emissions from the heavy-duty engines driving their powerful mining equipment.

[2] Oregon Department of Environmental Quality. https://www.oregon.gov/deq/ghgp/cfp/Pages/Fuel-Supply-Forecast.aspx