

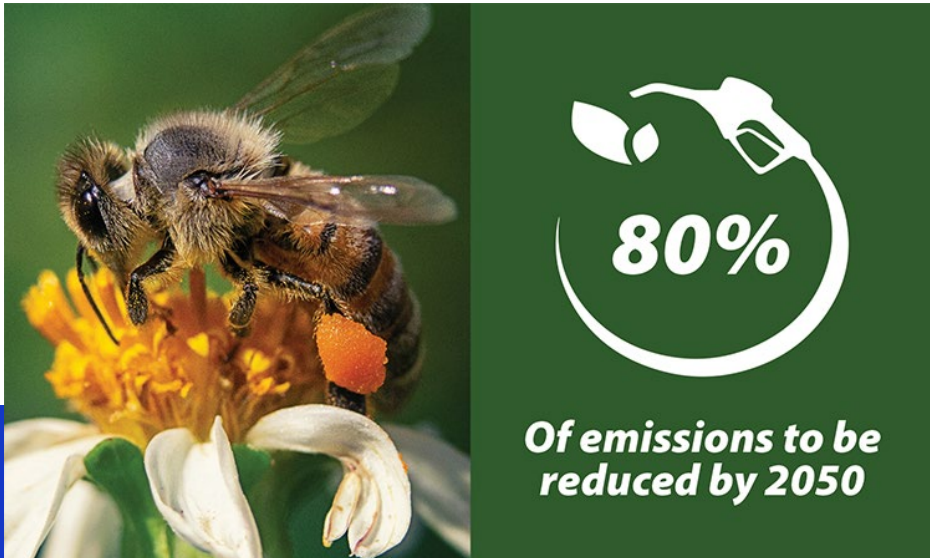


HVO vs BIODIESEL

Rachel Pearson, Key Account Manager - November 2024

NET ZERO

“The way we fuel businesses is changing as we move towards the UK becoming “Net Zero” by 2050.”



HVO FUEL VS BIODIESEL

What is HVO Fuel?

- Stands for Hydrotreated Vegetable Oil.
- Made through hydroprocessing of renewable feedstocks like vegetable oils or animal fats.
- Chemically similar to fossil diesel, offering a drop-in replacement.
- Significantly reduces greenhouse gas emissions compared to fossil diesel.



What is Biodiesel?

- Derived from used cooking oil, food waste, and animal fats.
- A second-generation biofuel and sustainable alternative to fossil fuels.
- Typically blended with fossil diesel (e.g., B7 blend with up to 7% biodiesel).
- Higher biodiesel content in blends leads to greater CO₂ emissions reduction.
- Blends over 10% biodiesel are called High Blend Fuel, combining biodiesel with fossil diesel.

HVO FUEL VS BIODIESEL – PRODUCTION PROCESS

HVO Fuel:

Produced through the hydrogenation of vegetable oils or animal fats, HVO is a synthetic diesel that results in a more refined product with a **similar chemical structure to traditional diesel.**

It involves a hydrotreating process rather than esterification.



Biodiesel:

Made from renewable sources such as vegetable oils, used cooking oil, and animal fats through a process called transesterification.

This converts the oils and fats into fatty acid methyl esters (FAME), which form biodiesel.

HVO FUEL VS BIODIESEL – ENVIRONMENTAL IMPACT

HVO Fuel:

It has a higher greenhouse gas (GHG) reduction potential than biodiesel, with up to 90% reduction in CO2 emissions compared to fossil diesel. **HVO also produces fewer particulates and NOx emissions than biodiesel** and regular diesel, making it more environmentally friendly.



Biodiesel:

Biodiesel also reduces GHG emissions compared to fossil diesel, though the reduction is usually around 50-80%. It is biodegradable and non-toxic, but **biodiesel can result in higher NOx emissions than HVO.**



FLEETMAXX
SOLUTIONS
YOUR TRUSTED PARTNER

HVO FUEL VS BIODIESEL – COMPATABILITY WITH DIESEL ENGINES

HVO Fuel:

HVO is a direct replacement for regular diesel and can be used in all diesel engines without modifications.

It meets EN 15940 standards for paraffinic fuels and is more chemically similar to fossil diesel, ensuring seamless operation.



Biodiesel:

Typically blended with traditional diesel in ratios like B5 (5% biodiesel) or B20 (20% biodiesel), biodiesel blends are widely compatible with diesel engines.

However, **using high concentrations of biodiesel (B100) may require engine modifications** or careful attention to seals and gaskets.

HVO FUEL VS BIODIESEL – STORAGE

HVO Fuel:

HVO has excellent storage stability and is **less prone to oxidation or degradation over time compared to biodiesel**, making it more suitable for long-term storage.



Biodiesel:

Biodiesel can oxidise or degrade if stored for long periods, especially in high concentrations.

This makes it necessary to use stabilisers or blend it with regular diesel to improve storage life.



FLEETMAXX
SOLUTIONS
YOUR TRUSTED PARTNER

HVO FUEL VS BIODIESEL – WHICH IS BEST?

HVO is better if:

- You need superior cold-weather performance.
- You prioritise a higher reduction in CO2 and fewer particulates.
- You are looking for a drop-in replacement for fossil diesel that doesn't require engine modifications.



Biodiesel is better if:

- You want a cost-effective, readily available alternative.
- You are comfortable with biodiesel blends like B5 or B20.
- Sustainability is important, and you are sourcing biodiesel from responsible feedstocks like waste oils



Ultimately, both fuels offer significant environmental benefits over traditional diesel, and the best choice depends on your specific operational needs, budget, and sustainability goals.



FLEETMAXX
SOLUTIONS
YOUR TRUSTED PARTNER

HVO FUEL VS BIODIESEL – SUSTAINABILITY

HVO Fuel:

Since it can be made from a variety of feedstocks, including waste materials, **HVO has a strong sustainability profile**, particularly when produced from waste oils or animal fats rather than virgin vegetable oils.



Biodiesel:

Biodiesel is also made from renewable sources, but its sustainability depends heavily on the feedstock.

Using food-based crops like palm or soy for biodiesel can raise concerns about land use, deforestation, and food security.



FLEETMAXX
SOLUTIONS
YOUR TRUSTED PARTNER

BULK FUEL SUPPLIER



RACHEL PEARSON - KEY ACCOUNT MANAGER

My name is Rachel Pearson, I will be your permanent account manager throughout the duration of your account with Fleetmaxx. I have 17 years' experience in the fuel and fleet industry, and I am also a FORS practitioner.

Fleetmaxx's main aim is to reduce your companies fuel and fleet costs as much as possible and offer the personal touch. You will have regular contact to ensure you have everything they need. I am looking forward to working with you!

Check out my page on our website:

<https://www.fleetmaxxsolutions.co.uk/fuel-cards/meetrachel/>



THANK YOU
Rachel Pearson