

# WHITE PAPER

## Introduce Sustainability in your Diesel Equipment Today with HVO

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As a leader in Power Generation for over 60 years, Generac has been at the forefront of new technologies. On the global journey toward a greener tomorrow, the question is what we can do today to reduce greenhouse gasses and carbon dioxide emissions. The need for backup-power has never been in higher demand with increasing electrification and grid instability. Having an environmentally friendly solution to meet this demand is needed. Focusing on environmental impact and responsibility has come to the forefront in the forward-looking trends in power generation.

Hydrotreated Vegetable Oil (HVO, also referred to as Renewable Diesel), is derived from non-food vegetable oils and other fats that are by-products commonly found in cooking oil. These oils are first filtered to remove impurities, then processed at very high temperatures and pressures utilizing hydrogen in processes called hydrogenation and hydrocracking. Through this process and sourcing, HVO fuel is 100% renewable and sustainable.

High quality HVO offers significant advantages where diesel cannot. The environmental impact can be significant with a reduction up to 75%\* fewer green house gas emissions. HVO provides a fully sustainable solution as the fuel is 100% derived from raw materials that are sourced from sustainable processes. Finally, there is enhancement in performance due to HVO having a high cetane number value, which delivers better efficiency in combustion, improved cold weather performance, and lower general overall emissions. Also, compared to other alternative fuels, HVO can be blended with diesel fuel when availability and price variances necessitate the need for a fuel-flexible solution.

One of the main challenges with biodiesel has been the bacterial growth that occurs, specifically when the fuel is stored for extended periods of time. This concern is largely concentrated in standby applications where diesel fuel remains a popular fuel source. HVO has better oxidation stability due to



the difference in production process versus other alternatives such as biodiesel. Thus, HVO maintains the benefits of being a renewable and sustainable fuel, along with the storage life advantages of diesel fuel, making it a great alternative fuel for standby energy applications.

According to the U.S. Department of Energy, as of 2020, there were five commercial renewable diesel plants in the United States with a combined annual capacity of 550 million gallons. Three plants were under expansion and eight are under construction, which are expected to add another 2 billion gallons of annual capacity by 2024. Most of the new plants and expansion of existing plants are for renewable diesel production. Nearly all renewable diesel is used in California due to the state's Low Carbon Fuel Standard.

Distribution in the US markets is growing at a faster pace specifically in California and Colorado. However, all major fuel distributors now have access to the same distribution network from local or imported product, and should have the fuel available in any point of the continental United States. Ask your current diesel fuel distributor about the availability of HVO in your region.

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Generac is proud to announce that our complete diesel product portfolio of Stationary and Mobile products supports the use of Hydrogenated / Hydrotreated Vegetable Oil (HVO/Renewable Diesel) fuels when such fuels comply with ASTM D975 and EN15940. This applies to blends with traditional diesel fuel up to 100% HVO. No modifications in the engine or software are required to support HVO and thus is a direct replacement for diesel fuel. HVO use is covered under existing product warranties

where diesel fuel that meets ASTM D975 and EN15940 is used. This applies to all current production products outlined below:

- Stationary SD, MD, PLY, TLY, RD and RA series generators;
- Mobile MDE MMG, and MDG series generators;
- MLT series diesel power light towers;
- MIH, MFH, and MIH series mobile heaters;

Generac is committed to reducing green house gasses and the adoption of HVO fuels is another step toward a greener tomorrow.