



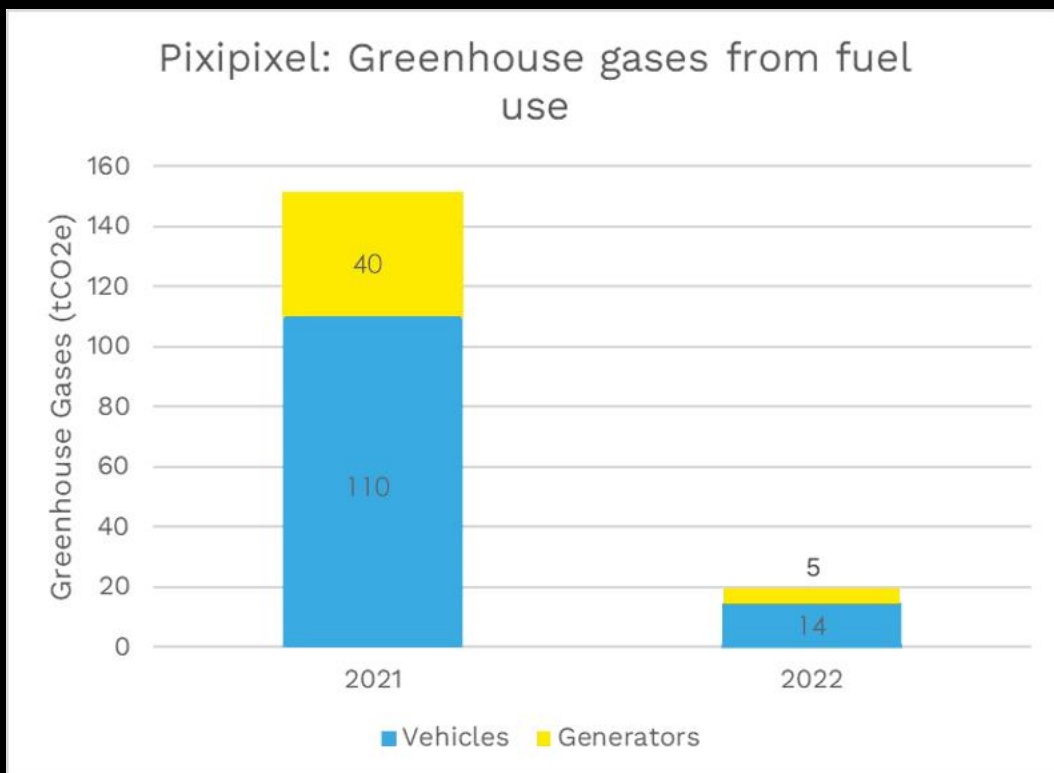
IMPACTS OF PIXIPIXEL'S CONVERSION TO HVO FUEL

HVO VS DIESEL
PROCUREMENT FOR
PIXIPIXEL'S TRANSPORT
AND GENERATOR FLEETS

JUNE 2023

HEADLINES

- In 2022, Pixipixel cut 130 tonnes of greenhouse gas emissions by switching fuels to Hydrotreated Vegetable Oil (HVO) - a fuel created from food and cooking waste.
- Pixipixel has reduced the climate impact of their overall fuel consumption by 87% between 2021 and 2022.
- Reducing diesel consumption and switching to HVO for the vehicle and generator fleet has enabled this rapid reduction.
- The switch would have benefitted production companies (clients) using Pixipixel's services by reducing the emissions of the fuel sent out in their generators and by reducing the shared emissions of their transportation to set.
- Savings are made by sourcing a waste fuel, rather than fossil fuel.



PIXIPIXEL
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HOW PIXIPIXEL USES FUEL

As a camera and lighting rental specialist, Pixipixel operates a mixed fleet of 25 commercial vehicles, from 3.5 tonne to 18 tonne. It has a fleet of 11 fuel-based generators for rental too. Traditionally, these assets are all powered by commercial diesel, a source of greenhouse gas emissions. Approximately 73% of Pixipixel's total fuel consumption is from their vehicle fleet with the other 27% being used in the generators.

Pixipixel owns and uses the vehicles themselves. They hire the generators out as part of a lighting equipment rental package to film and television productions. These generators go out with a full tank of HVO and then their clients refuel as needed, as part of the contract the clients are required to re-fuel only with HVO fuel, for clarity, the fuel use here does not cover all the fuel for all productions.

At the end of 2021, Pixipixel purchased an on-site tank to house HVO (Hydrotreated Vegetable Oil) and made it the primary fuel displacing diesel consumption. There is anecdotal evidence to suggest that this tank has had other positive effects for Pixipixel. The tank is time-saving and likely allows a quicker level of service for clients. It has likely buffered Pixipixel against the fluctuations of fuel prices and shortages.

HOW FUEL PURCHASES EVOLVED BETWEEN 2021 & 2022

The transition away from fossil diesel fuel to HVO has been hugely successful in 2022. Diesel dropped from 67% of Pixipixel's fuel purchases in 2021 to 4% of fuel purchases in 2022. 96% of fuel purchased in 2022 was HVO.

The small amount of diesel fuel purchased was largely because of long journeys where drivers needed to refuel away from their home tank and didn't have access to HVO at the forecourt. Likewise there were a few purchases for personal vehicles where these were used to do small runs or client meetings.

This transition has likely come at a financial cost due to the fluctuations in price for HVO. HVO is a more expensive product and its price increased more rapidly than diesel in 2022. The comparison below excludes the capital cost in Pixipixel investing in an onsite fuel tank.

This analysis estimates the transition to HVO has cost Pixipixel an additional amount between £6,000 and £9,150 (depending on the price of diesel that would have been paid). Please note that there is a tax rebate on fuel used in generators (not vehicles) which Pixipixel have applied for. At the time of reporting, this had not yet been received. If this is achieved there will be a small reduction in the overall cost of HVO.

Year	2021	2022
Total diesel purchased (litres)	46,547.73	2,037.48
Total diesel cost	£56,272.98	£3,007.20
Average price paid (per litre)	£1.21	£1.48
Market average price ex VAT (per litre)	£1.35	£1.57
Total HVO purchased (litres)	22,700	52,289.00
Total HVO cost	£30,503.00	£97,736.06
Average price paid (per litre)	£1.34	£1.75
Average additional cost paid (per litre)	£0.13	£0.27
Average fuel consumption rate (miles per litre)	5.41	5.41

THE IMPACT FROM THIS TRANSITION ON CARBON EMISSIONS

For the purpose of calculating climate impacts, it is important to note that not all fuel purchased is used in the same year. This analysis has focused on the “consumptive emissions” - the emissions of both producing and using the fuel. These emissions are then distributed between the two Pixipixel uses: vehicles and generators.

The data in the table below shows that greenhouse gas emissions from total fuel consumption reduced by 87% from one year to the next. As HVO consumption increased from 2021 to 2022, HVO-related emissions increased. However, this increase was negligible compared to the significant reduction of greenhouse gases from reduced diesel consumption.

Year	2021	2022
Total fuel purchased (l)	69,248	57,824
Total fuel consumption rate (%)*	84%	101%
Total consumption emissions (tCO ₂ e)	150.8	19.6
Emissions attributed to vehicle usage (tCO ₂ e)	107.9	14.2
Emissions attributed to generator usage (tCO ₂ e)	42.9	5.3

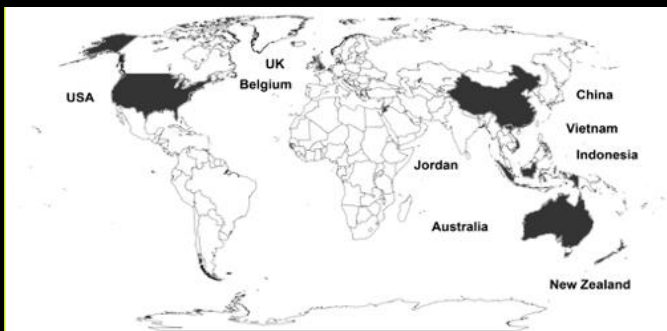
*Note: this data combines real consumption data from the HVO tank and an assumed 100% consumption rate of diesel. The 2022 figure is greater than 100% because more HVO was consumed than purchased, thanks to storage in the on-site HVO tank.

PIXIPIXEL'S HVO ORIGINS

HVO's environmental credentials rely on how it is sourced in the supply chain. Being sourced from organic materials, the emissions from their combustion are "net" of the gases absorbed at the time of growth. This creates a short-term carbon cycle, unlike fossil fuels that add long-term stored materials into the carbon cycle.

Secondly, as this HVO is certified to be a renewable fuel from waste organic materials, specifically used cooking oil, it is making use of a waste-stream rather than relying on new crop production - a process that can cause additional environmental and social impacts.

As a global commodity, HVO is sourced from a number of countries. Based on the certificates provided by the HVO supplier, Pixipixel has sourced from nine countries.

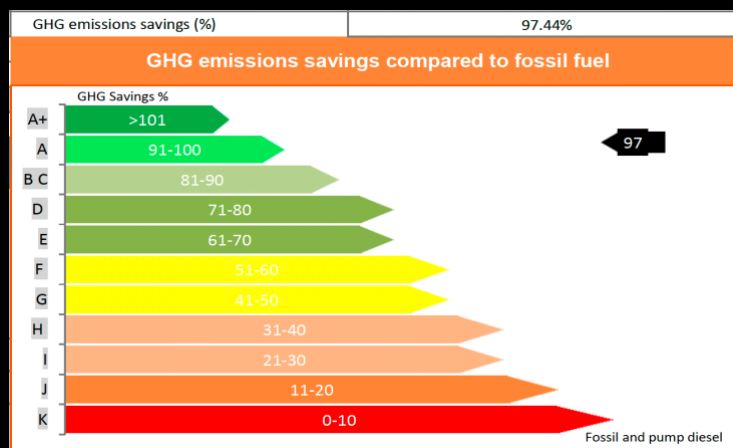


Pixipixel receives certificates from ISCC and Zemo Partnership for their HVO fuel purchase. The certificates from Zemo Partnership show the Greenhouse Gas Emissions savings compared to average fossil fuels. The average savings across the two years Zemo Partnership states for Pixipixel's

emissions is 94% and all received an A rating. The highest rating they were able to purchase was 97%.

When Pixipixel completes the switch from diesel to HVO, the emissions reduction will increase to a similar percentage.

Example of Zemo certification evaluation:



There was an important move within UK Film & TV HVO-purchasing productions to try to secure only HVO created in Europe as it is/was largely believed that this might give a more ethical feedstock and/or more emission savings. There is currently a shift in this thinking. It's important to keep an eye on this as global sales mature.

Tom Crooke, Director of OnBio, the majority supplier of HVO to Pixipixel, explains here, *"Until quite recently we held the belief that local was best when it came to Used Cooking Oil (UCO) (the feedstock for all our HVO). However, we have significant faith in the ZEMO Partnership scheme and trust the GHG emissions savings on their certificates. Depending on how the feedstock is collected, HVO from further afield may have a 97% greenhouse gas savings, which is significantly higher than the 70.3% we were used to seeing from UK-based companies."*

Alex Lewis-Jones, Sustainable Transport Specialist and Co-Author of The Fuel Project, Supplier Guidance Report points out,

"I applaud Pixipixel and OnBio for their efforts here. This is pioneering stuff in an extremely complex value chain. The greater transparency we get, the more action suppliers can take to bring sustainability to fuel - whether this is requesting particular feedstocks, origins or other categories. This is a great example of how demand led by the creative sector can support climate action across the transport and fuel sectors."

Roxy Erickson, Director of Creative Zero and Co-Author of The Fuel Project, Supplier Guidance Report says:

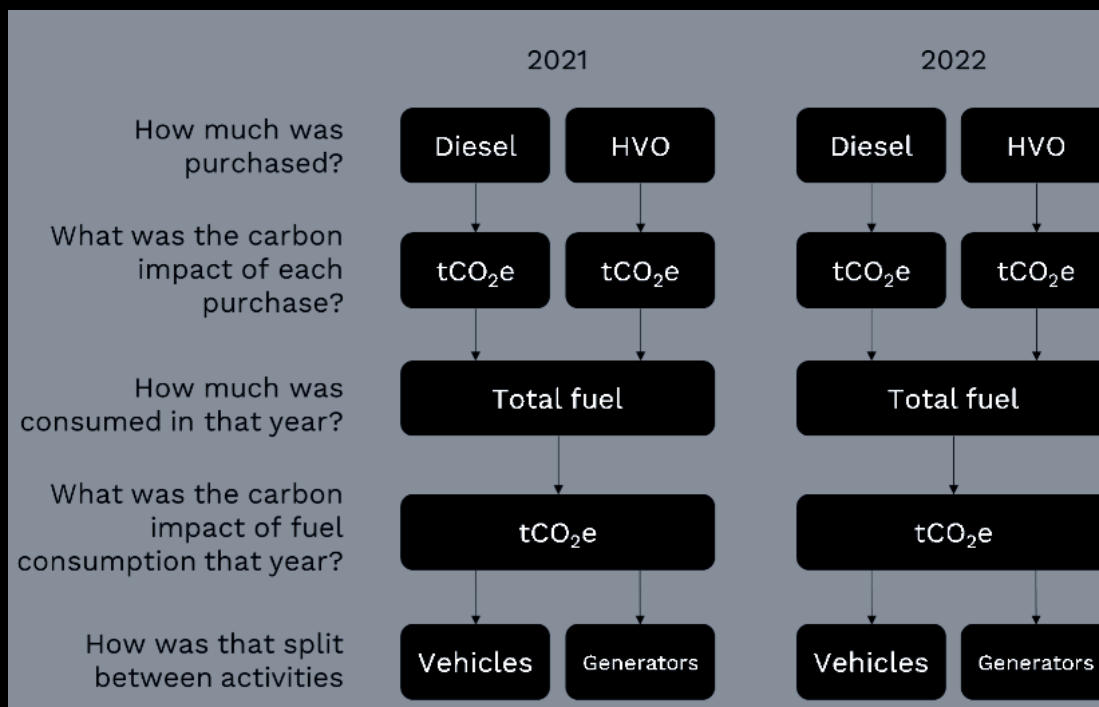
"It's worth noting, that wanting to do the least harm possible while switching to HVO is a principled effort and best-practice, but that this level of critique and thought is not put into the origin of fossil fuels and the damage created in the ecosystems and communities where it is sourced much less the global damage and conflicts caused. Perfect should not stall the shift to significantly better."

Pixipixel has made an exciting shift to low emission work practices at no small expense. Between 100% renewable electricity in their facilities to HVO in their transport and generators, this is what holistic company decarbonisation looks like."

METHODOLOGY

To establish an accurate account of the emissions reduction, this analysis adopted the methodology published by the Zemo Partnership's Renewable Fuels Assurance Scheme (RFAS). This uses data from the UK Government for diesel emissions and data from the RFAS certificates and guidance for HVO emissions.

Below is a high level summary of the steps taken to achieve this analysis.



SOURCES

BEIS (2022) GHG conversion factors full set

BEIS (2023) Weekly road fuel prices

Zemo Partnership (2023) Renewable Fuels Assurance Scheme: Technical Guidance

REPORT COMPILED BY

Alex Lewis-Jones, Sustainable Transport Specialist, Creative Zero

Roxy Erickson, Sustainable Business Strategist, Creative Zero



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