
Speedy Hire Ltd

Emissions & Fuel Reduction Case Study



Mike DeRome, Head of Fuel, Speedy Hire

"As a trusted partner, Speedy Hire engaged with CFCS Analytical services to determine the benefits of HC24 from an emissions and cost perspective for both internal use and on our extensive hire fleet. These types of trials require extensive attention to detail to get accurate results. The approach taken by CFCS gave exactly that, exact ongoing measurement and support throughout the trial and beyond to deliver a practical solution when HC24 is introduced on a wider scale to our business and customers.

We are delighted with the results from both an emissions and efficiency perspective, this will have a significant impact on our journey to Net Zero and to our operating profit."

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In May 2025 CFCS Analytical Services Ltd & Speedy Hire Ltd conducted emissions analysis on 2 x Speedy Hire Tier 3 Generators, one running on EN590 and the other on HVO (Hydrotreated Vegetable Oil), both generators were identical in make and model with identical power output.

The objective of the report was to gather data before and after adding the fuel additive HC24™. Regular readings were taken and documented to form the basis of this report to measure the effects on exhaust gas emissions.

The test equipment used was an AGS-688 with SGD-010 Diesel Emission Upgrade which was used to establish the exhaust gas emissions for carbon monoxide (CO), carbon dioxide (CO₂), oxygen (O₂) and nitrous oxide compounds (NO_x).

HC24™ was added to each machines fuel tank following baseline readings, consisting of a corrective dose (double the maintenance dose), at a ratio of 1:350 (1L additive to 350L fuel).

The emissions testing data analysis continued for 2 weeks with the generators running 24hrs a day at 70% load.



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Generator 1 HVO - Treated Emissions Results

Day	LOAD (%)	Load KW	O2 %	O2 Change %	CO2 % KG/L	CO2 Change %	NOX ppm	Nox Change %	Total % change
Day 1 Untreated	0	0.0	17.90	4.75	5.30	-73.58	77.60	-32.99	-106.57
Day 10 Treated	0	0.0	18.75		1.40		52.00		
Day 1 Untreated	20	16.0	15.60	8.97	6.45	-58.14	141.00	-40.43	-98.57
Day 10 Treated	20	16.0	17.00		2.70		84.00		
Day 1 Untreated	30	23.0	14.50	9.38	6.46	-47.33	162.75	-39.78	-87.11
Day 10 Treated	30	23.0	15.86		3.40		98.00		
Day 1 Untreated	40	31.6	13.69	11.91	6.40	-39.01	203.60	-41.55	-80.57
Day 10 Treated	40	31.6	15.32		3.90		119.00		
Day 1 Untreated	50	40.0	13.00	11.85	6.58	-34.60	237.50	-41.05	-75.65
Day 10 Treated	50	40.0	14.54		4.30		140.00		
Day 1 Untreated	60	47.0	12.10	13.97	6.73	-28.68	286.05	-40.57	-69.25
Day 10 Treated	60	47.0	13.79		4.80		170.00		
Day 1 Untreated	70	54.0	11.72	13.40	6.69	-22.21	327.85	-41.44	-63.65
Day 10 Treated	70	54.0	13.29		5.20		192.00		

Generator 2 EN590 - Treated Emissions Results

Day	LOAD (%)	Load KW	O2 %	Change %	CO2 % KG/L	Change %	NOX ppm	Change %	Total change %
Day 1 untreated	0	0.0	17.90	4.08	5.01	-68.06	78.90	-41.70	-109.76
Day 10 treated	0	0.0	18.63		1.60		46.00		
Day 1 untreated	20	16.0	15.55	8.36	6.75	-55.56	138.05	-35.53	-91.09
Day 10 treated	20	16.0	16.85		3.00		89.00		
Day 1 untreated	30	23.0	14.50	10.90	6.67	-47.53	170.00	-38.82	-86.35
Day 10 treated	30	23.0	16.08		3.50		104.00		
Day 1 untreated	40	31.6	13.70	9.97	6.63	-36.65	211.65	-38.11	-74.76
Day 10 treated	40	31.6	15.06		4.20		131.00		
Day 1 untreated	50	40.0	13.01	10.42	6.75	-31.85	247.15	-37.69	-69.54
Day 10 treated	50	40.0	14.36		4.60		154.00		
Day 1 untreated	60	47.0	12.30	10.49	6.94	-25.07	285.10	-34.76	-59.83
Day 10 treated	60	47.0	13.59		5.20		186.00		
Day 1 untreated	70	54.0	11.84	12.29	6.67	-22.04	343.10	-43.46	-65.50
Day 10 treated	70	54.0	13.29		5.20		194.00		

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Following on from the success of the emissions reduction trial, Speedy Hire agreed to proceed with a fuel reduction trial on a number of vehicles from their fleet.

The MPG's were calculated by logging the mileage and the fuel used throughout the month and the data below was provided by Speedy Hire.

Vehicle	Make & Size	Vehicle age	May MPG	June MPG	MPG Increase
			Pre HC24	Post HC24	
Vehicle 1	DAF 12T	2022	14.80	16.60	12.70%
Vehicle 2	DAF 12T	2022	12.70	14.80	16.80%
Vehicle 3	DAF 18T	2018	12.50	14.00	11.30%
Vehicle 4	DAF 32T	2022	7.70	9.00	17.30%
Vehicle 5	DAF 32T	2022	6.90	8.20	19.20%
Vehicle 6	DAF 32T	2022	8.50	9.40	10.40%
Avg % MPG Increase					14.62%
Total CO2 KG reduction					1,218.50

There was a 7th vehicle used in the trial, but the MPG increase was very high in comparison to the other vehicles. When we analysed the MPGs and fuel usage, we noticed the starting MPG was only 3.2, when the average for that vehicle should have been on par with the other 32T. The MPG increased by 87.30% to 5.9. We concluded the vehicle was heavily contaminated and HC24™ had cleaned the injectors and DPF which resulted in the increase. This vehicle was taken out of the main table, so the increased MPG did not result in a misleading average. We will continue to monitor this vehicle over the forthcoming weeks.

HC24™ was added directly to the tank before fueling at a dose rate of 1L:750L. The 18 & 32T used the one shot 500ML bottle and the 12T used the 1L premeasured dosing bottle.

We used the maintenance dose in the vehicle trial as it was being run in live conditions, not like the generator trial where we had limited time, so we use the corrective dose to get the results required over a short space of time.

HC24™ is a fuel conditioner and therefore needs to be added to every new batch of fuel to maintain the results achieved.