

Low Emission Bus Scheme Certificate

Customer:		Scania Great Britian			
Customer Address:		Delaware Drive, Tongwell, Milton Keynes			
Test Purpose:		LEB testing		DYNAMOMETER SETTINGS	
Vehicle Type & Manufacturer:	Scania KUB / Enviro 300	Unladen weight (kg)	11770.0	INERTIA	13307 kg
Vehicle Number:	YP14 TGO	Gross Weight (kg)	19100.0	F°	285.73 N
Engine:	Scania OC09 101/280 hp	Max Seated Capacity	43	F ¹	-6.7904 N/kmh
Transmission:	Auto	Passenger Capacity	70	F ²	0.42029 N/kmh ²
Euro VI certificate Y/N	Manufacturer Certified	OK		F ³	-0.002121 N/kmh ³
Net Heating Energy (MJ / kg)		47.89		Fuel Provider: Gas Bus Alliance [†]	
Well-to-Tank Factor [†] : (g CO ₂ e / MJ)		10.0		WTT evidence: DECC GHG conversion factors	
DEFRA Tank-to-Wheel Factor: (g CO ₂ e / kg)		5.49		Fuel Type: Biomethane	

Emissions and Energy consumption results from approved test facility - Average 3 tests

Test Phase	HC (g/km)	CO (g/km)	NOx (g/km)	PM (g/km)	CO ₂ (g/km)	CH ₄ (g/km)*	N ₂ O (g/km)*	Fuel Consumption (Kg/100 km)
Rural	0.0162	0.2115	0.1855	N/A	890.97	0.000	0.000	32.49
Outer London	0.0172	0.3610	0.1280	N/A	1273.61	0.000	0.000	46.44
Inner London	0.0152	0.5130	0.1980	N/A	1859.72	0.000	0.000	67.82
MLTB Average	0.0166	0.4036	0.1475	N/A	1436.73	0.000	0.000	52.43
LUB Average	0.0165	0.3166	0.1647	0.00590	1189.53	0.000	0.000	43.38

Total Tank-to-Wheel GHG CO₂ equivalent - calculated using DEFRA TTW Factor

Test Phase	CO ₂ (g/km)	CH ₄ (g/km x 25)*	N ₂ O (g/km x 298)*	TTW GHG (CO ₂ e (g/km))
Rural	1.78	0.000	0.00	1.78
Outer London	2.55	0.000	0.00	2.55
Inner London	3.72	0.000	0.00	3.72
MLTB Average	2.88	0.000	0.00	2.88
LUB Total Average	2.38	0.000	0.00	2.38

Electric energy consumption and charge efficiency

Total measured energy consumed on vehicle (kWhr)	n/a	Distance covered km	n/a
Measured grid energy during charging kWhr	n/a	Charging efficiency	n/a

Well-to-Wheel GHG CO₂ equivalent

Test Phase	Fuel/energy used over cycle (Kg/km)	Total Fuel Energy (MJ/km)	Calculated WTT* GHG Emissions (CO ₂ Equivalent g/km)	Calculated TTW** GHG Emissions (CO ₂ Equivalent g/km)	Calculated WTW*** GHG Emissions (CO ₂ Equivalent g/km)
Rural	0.325	15.56	155.59	1.78	157.38
Outer London	0.464	22.24	222.42	2.55	224.97
Inner London	0.678	32.48	324.77	3.72	328.50
MLTB Average	0.524	25.11	251.07	2.88	253.95
LUB Total Average	0.434	20.77	207.73	2.38	210.11

Data Generated by (On behalf of Test facility): Data Approved by: 18 January 2016

Low Emission Bus Certificate Summary

GHG Well-to-Wheel	210.1	g CO ₂ e / km
Euro V Average Diesel Equivalent	1139.4	g CO ₂ e / km
WTW GHG saving (compared to Euro V diesel equivalent)	929.3	g CO ₂ e / km
% WTW GHG saving (compared to Euro V diesel equivalent)	82%	g CO ₂ e / km
Zero Emission operating range (km)	N/A	km
WTW CO₂e per passenger km (@ Max Pass Capacity)	3.0	g CO ₂ e/pass km
Approved as Low Emission Bus? (15% saving or more)	YES	

* WTT - Well-to-Tank ** TTW - Tank-to-Wheel *** WTW - Well-to Wheel

COMMENTS: * Compound measured via Fourier Transfer Infra-Red (FTIR), Values in RED are below levels of detectability. No FTIR data available for test ML02015298, average result in certificate are based on the assumption that result from that test would have also been below level of detectability.

[†] Fuel supplier Gas Bus Alliance (single source of Biomethane identified to LowCVP for WTT calculations)

Test Numbers: ML02015298 (11-Jan-2016), ML02015299 (11-Jan-2016), ML02015300 (11-Jan-2016).

Certificate approved by: On behalf of Bus manufacturer	Certificate Approved by: On behalf of LowCVP/DfT
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