Zemo Partnership

Zero Emission Bus Certification ID: BYD SD B11E03 -2026

Approved Test facility UTAC

Zero Emission Bus Certificate

Customer:	**BYD China**			**DYNAMOMETER SETTINGS**			
Customer Address:	**BYD Company Ltd, Shenzhen, Guangdong, China**	Telematics Capability	**Yes**	Test Weight	**13825**	kg
Test Purpose:	**Zero Emission Bus Certification**	Maximum Speed (km/h)	**70**	F^0	**-466.65**	N
Vehicle Manufacturer	**BYD-UK**	Seated Capacity	**28**	F^1	**-4.2240**	N/kmh
Vehicle Model Name:	**Single Deck B11E03 -LC06S44N3S4000318**	Passenger Capacity	**65**	F^2	**0.13014**	N/kmh ²
Powertrain Technolog	**Battery Electric**	Declared Unladen Weight (kg)	**12750**	Equivalent test passengers	**16.25**	passengers
Powetrain Configurati	**Hair Pin Hub Motor x 2**	Gross Weight (kg)	**17245**	Measured Unladen Weight	**12737**	kg
Zero Emission Heating	**Heat Pump**	GVW Check	**OK**	umber of consecutive tests complete		Tests

Battery Specification		**Charging and Refuelling Capability**		**Hydrogen Specification**	
Battery Manufacturer	BYD Blade	Plug Type	CCS2	Fuel Cell Manufacturer	N/A
Battery Chemistry	LFP	Max Charge Capability (kW)	200/340 kW	Fuel Cell Power Rating (kW)	N/A
Battery Installed Capacity (kWh)	467	Charger Compatibility	Dual CCS	Hydrogen Storage Capacity (kg)	N/A
Battery Usable Capacity (kWh)*	444	Charge time from 20-80% SOC**	1.2-1.9 hrs%	Hydrogen Storage Pressure (bar)	N/A

* Recommended manufacturer guideline, subject to warranty

** Based on manufacturer estimate

Declared fuel, properties and source plus carbon conversion factors

Well-to-Tank Factor:	***Electricity***	***68.17***	**g CO_2e / MJ**	*Fuel Provider*	**UK Grid**	*WTT evidence*	**DESNZ Conversion 2025**
Well-to-Tank Factor:	***Hydrogen***	**N/A**	**g CO_2e / MJ**	*Capacity of Tanker (kg)*	**N/A**	*Fuel Type / Pathway*	**UK Grid Electricity**
Energy Density	***Hydrogen***	**N/A**	**MJ / kg**	*Transport Distance of Hydrogen (km)*	**N/A**	*Energy Source*	**UK Grid**

Emissions and Energy consumption results from approved test facility - Average 4 tests

Test Phase	HC (g/km)	CO (g/km)	NOx (g/km)	PM (g/km)	CO_2 (g/km)	CH_4 (g/km)*	N_2O (g/km)*	Total Energy Consumption (kWh)	Vehicle Energy Consumption (kWh/km)	Grid Electrical Energy Consn. (kWh/100km)
Outer Urban	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4.75	0.724	82.721
Inner Urban	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.20	0.855	97.689
Rural	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3.83	0.516	58.956
LBC Average	N/A	N/A	N/A	N/A	N/A	N/A	N/A	6.95	0.761	86.949
UK BUS Average	N/A	N/A	N/A	N/A	N/A	N/A	N/A	10.78	0.651	74.381

Zero Emissions (Z.E.) Range: Energy consumption and charging efficiency

Test Charger Used	Enter Value	Total measured energy consumed on vehicle (kWh)[1]	47.70	Max ZE Range at 100% SOC (km)	682
Hydrogen Energy Over Test (kWh)	N/A	Measured grid energy during charging (kWh)	54.50	Max ZE Range at 80% SOC (km)	546
Hydrogen Delivered to Vehicle (kg)	N/A	Grid-to-Wheel efficiency (%)[2]	87.5%	Test Distance Travelled (km)	72.7

[1] Total measured energy may include energy used during the 23 minute warmup, this is needed for charge efficiency calculation.

[2] Grid to Wheel efficiency represents the total energy losses between the grid and the wheels of the bus.

Calculated total Well-to-Wheel GHG CO_2 equvialent emissions over test

Test Phase	**Fuel Energy (MJ /km)**	**Fuel WTT*GHG Emissions (g CO_2e / km)**	**Electrical Energy (MJ / km)**	**Electricity WTT* GHG Emissions (g CO_2e / km)**
Outer Urban	N/A	N/A	2.98	203.01
Inner Urban	N/A	N/A	3.52	239.74
Rural	N/A	N/A	2.12	144.69
LBC Average	N/A	N/A	3.13	213.38
UK BUS Average	N/A	N/A	2.68	182.54

Data Generated by (On behalf of Test facility): Liam Coleman — *Date:* Jan 2026

Data Approved by: Andy Eastlake Zemo — *Date:* May 2026

Zero Emission Bus Certificate Summary

Test Vehicle			*Average Euro VI Diesel Equivalent*		
Greenhouse Gas Emissions: Well-to-Wheel	**182.5**	**g CO_2e / km**	**Average Diesel GHG Emissions Equivalent**	**1092**	**g CO_2e / km**
WTW CO_2 per passenger km (@ Max Pass Capacity)	**2.8**	**g CO_2e/pass km**	**WTW CO_2 per passenger km (@ Max Pass Capacity)**	**16.8**	**g CO_2e/pass km**

Overall Zero Emission Bus Performance

WTW GHG saving	**909.8**	**g CO_2e / km**	**Maximum Theoretical Zero Emission Range (km)**	**682.0**
% WTW GHG saving	**83%**	**g CO_2e / km**	**Vehicle Energy Consumption (kWh/ km)**	**0.65**
Approved as Zero Emission Bus? (50% GHG saving or more)			***YES***	

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

COMMENTS: Test date 6 Jan 2026 - Test conducted for TfL with Zemo ZEB certification incorporated

Heating Requirement	**Cell**	**Lower Saloon**	**Upper Saloon**
Target Temperatures ±2 (°C) :	**10**	**17**	**17**
Average Temperatures across testing (°C)	10.00	15.44	N/A

Test Numbers: 20260106_1150_2xUKBC, 20260106_1355_2xUKBC

Certificate approved by: On behalf of Bus manufacturer

Certificate Approved by: On behalf of Zemo Partnership