



2023

Volvo XC40

B3 petrol FWD automatic



6.2 
/10

Clean Air
Index

4.0 
/10

Energy Efficiency
Index

2.3 
/10

Greenhouse Gas
Index



Laboratory Test

	NMHC	NO _x	NH ₃	CO	PN
5.5/10 Cold Test					
7.4/10 Warm Test					
5.7/10 Highway					

Cold Ambient Test

Does not qualify for additional robustness testing



Road Test

7.0/10 On-Road Drive					
2.8/5 On-Road Short Trip					

On-Road Heavy Load

Does not qualify for additional robustness testing

On-Road Light Load

Does not qualify for additional robustness testing

Congestion

Does not qualify for additional robustness testing



n.a.



good



adequate



marginal



weak



poor

Comments

The Volvo XC40 performs above average when it comes to emissions aftertreatment. The particle filter is effective in reducing particle emissions, but the potential for improvement is still identified, especially during cold powertrain starts and high load driving in the Highway Test. The control of the unregulated NH₃ is a challenge for most petrol engine vehicles and leads to negative points in two out of three tests in the lab. The Volvo handles both CO and NO_x emissions well, even during the challenging BAB130 Highway cycle.

Energy Efficiency Tests



Laboratory Test

Energy

5.0/10 Cold Test



5.0/10 Warm Test



2.2/10 Highway



Cold Ambient Test

Does not qualify for additional robustness testing

Consumption

Driving Range

Average

7.1 l/100 km

772 km

Worst-case

8.6 l/100 km

628 km



n.a.



good



adequate



marginal



weak



poor

Comments

The lowest consumption measured in the tests is 6.1 l/100 km in the real-world driving test with a cold engine start. The worst performance is revealed in the highway driving test BAB130 in the lab with 8.6 l/100 km. With 6.4 l/100 km, the figures in the Cold and Warm Lab Tests are lower than the officially declared WLTP value of 6.7 l/100 km, although Green NCAP tests the cars with active cabin climatisation. The consumption figures are not unusual for a SUV of almost 1,700 kg kerb weight but do not help the XC40 get more than 4 out of 10 points in the Energy Efficiency Index.

2.3 Greenhouse Gases Tests

/10



Greenhouse gases

CO₂

N₂O

CH₄

3.5/10 Cold Test



3.5/10 Warm Test



0.0/10 Highway



Cold Ambient Test

Does not qualify for additional robustness testing



n.a.



good



adequate



marginal



weak



poor

Comments

The Greenhouse Gas Index is the XC40's weakest category. Due to its relatively high consumption figures, the SUV scores no points at all in the Highway Test BAB130 and only 3.5 out of 10 during in the other two lab tests. The results follow the Well-to-Wheel+ approach and are based on the sum of tailpipe output and CO₂-equivalent emissions related to the fuel supply. This means that in the Highway Test, 50 g CO₂-eq./km upstream gases are added to the car's own 194 g CO₂/km. The result exceeds Green NCAP's threshold of 225 g CO₂-eq./km and leads to zero points in this test even after collecting all the bonus points for adequate CH₄ and N₂O control.

Our Verdict

Tested here is the Volvo XC40 - a 48V mild-hybrid SUV equipped with a 2-litre direct injection turbo charged petrol engine. Like many other petrol vehicles, the Volvo faces the biggest challenge when it comes to greenhouse gases, scoring only 2.3 out of 10 points. In none of Green NCAP's test did the car reach a consumption below 6 l/100 km. The mild-hybrid system also can't help the relatively heavy SUV to reach more than 4 points in the Energy Efficiency Index. On the positive side, the XC40 B3 performs well above average in the Clean Air Index and demonstrates robust behaviour, although there is room for improvement, mainly in terms of NH₃ and particle emissions. With an Average Score of 41%, the Volvo XC40 B3 receives 2½ Green stars.

Disclaimer [↗](#)

Specifications

Publication Date 04 2023	Tested Car YV1XZK7VXP291xxxx	Tyres 235/55 R18	Emissions Class Euro 6d AP
Mass 1,688 kg	Engine Size 1,969 cc	Power/Torque 130 kW/265 Nm	Declared CO ₂ 151 g/km
Declared Battery Capacity n.a.	Declared Driving Range n.a.	Declared Consumption 6.7l/100 km	
Heating Concept Waste heat			



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