2021

Audi A3

Sportback 35 TDI diesel 4x2 automatic

7.0 /10	6.6 /10	3.6 /10
Clean Air Index	**Energy Efficiency Index**	**Greenhouse Gas Index**

7.0 /10 Clean Air Tests

	Laboratory Test	NMHC	NO_x	NH_3	CO	PN
7.5/10	Cold Test					
8.2/10	Warm Test					
6.4/10	Cold Ambient Test					
7.6/10	Highway					
	Road Test					
6.5/10	On-Road Drive					
5.7/8	On-Road Heavy Load					
3.8/5	On-Road Light Load					
1.7/5	On-Road Short Trip					
2.0/2	Congestion					
	Robustness					

n.a. good adequate marginal weak poor

Comments

The 110 kW diesel version of the Audi A3 Sportback demonstrates what is possible with adequate modern exhaust aftertreatment and is awarded a highly creditable result of 7 points in the Clean Air Index. Further enhancement of particle control would help the Audi improve on what is already an impressive achievement.

6.6 /10 Energy Efficiency Tests

	Laboratory Test	Energy
7.4/10	Cold Test	
7.8/10	Warm Test	
5.3/10	Cold Ambient Test	
5.9/10	Highway	

	Consumption	Driving Range
Average	**4.9** l/100 km	**1,027** km
Worst-case	**6.0** l/100 km	**755** km

n.a. good adequate marginal weak poor

Comments

Despite being a dynamic, sporty vehicle, the Sportback makes excellent use of the powertrain efficiency of the diesel engine combined with a 7-speed dual-clutch transmission and reaches a high result of 6.6 points in the Energy Efficiency Index.

3.6 /10 Greenhouse Gases Tests

	Greenhouse gases	CO_2	N_2O	CH_4
2.9/7	Cold Test			
3.4/7	Warm Test			
2.3/7	Cold Ambient Test			
1.9/7	Highway			

n.a. good adequate marginal weak poor

Comments

While methane is not a concern for this powertrain type, the Greenhouse Gas Index would benefit from a reduction of the non-regulated laughing gas (N_2O), emissions of which let the diesel Sportback down. Further optimisation of fuel consumption - and hence CO_2 emissions - would also improve the greenhouse gas performance, for which the Audi scores a modest 3.6 out of 10.

Our Verdict

Here, Green NCAP tested the 2020 model of the Audi A3 35 TDI Sportback with S-tronic automatic transmission. This is a compact vehicle targeting sporty buyers and offering high levels of comfort and functionality. To that end, the 2-litre diesel engine seems a very good choice and convinces not only with reasonable fuel consumption values but also by scoring well for clean air, by minimising the output of pollutants. The performance of the state-of-the-art exhaust aftertreatment system remained robust and effective under all test conditions but additional improvements are possible, especially for short trips with a cold engine start and particle number emissions. The emitted greenhouse gases are not unusual for a vehicle of such configuration and are what cap the overall result of the A3 35 TDI Sportback at 3 stars, with a weighted Overall Index of 5.7.

Disclaimer

Publication Date 11 2021	Tested Car WAUZZZGY9MA09xxxx	Emissions Class Euro 6d	Tyres 225/40R18
Mass 1,485 kg	Engine Size 1,968 cc	Engine Power/Torque 110 kW/360 Nm	Published CO_2 127 g/km
	Declared Battery Capacity n.a.	Published Driving Range n.a.	

Think before you print

2021

Lexus UX 300e

electric 4x2 automatic

Clean Air Index	Energy Efficiency Index	Greenhouse Gas Index
10.0 /10	9.7 /10	10.0 /10

10.0 /10 Clean Air Tests

	Laboratory Test	NMHC	NO_x	NH_3	CO	PN
10.0/10	Cold Test					
10.0/10	Warm Test					
10.0/10	Cold Ambient Test					
10.0/10	Highway					
	Road Test					
10.0/10	On-Road Drive					
8.0/8	On-Road Heavy Load					
5.0/5	On-Road Light Load					
5.0/5	On-Road Short Trip					
2.0/2	Congestion					
	Robustness					

n.a. good adequate marginal weak poor

Comments

The Lexus UX 300e is a pure electric vehicle and no pollutants are emitted at the tailpipe. Accordingly, the car scores the maximum index of 10 in this part of the assessment.

9.7 /10 Energy Efficiency Tests

	Laboratory Test	Energy		
10.0/10	Cold Test		→	**22.6** kWh/100 km
10.0/10	Warm Test		→	**20.7** kWh/100 km
9.0/10	Cold Ambient Test		→	**36.0** kWh/100 km
10.0/10	Highway		→	**28.9** kWh/100 km

	Consumption	Driving Range
Average	**24.1** kWh/100 km	**214** km
Worst-case	**36.0** kWh/100 km	**141** km

n.a. good adequate marginal weak poor

Comments

Only for one test, the vehicle exceeded Green NCAP's lower threshold and scored less than the possible maximum. This test is the WLTC+ CAT, where the Lexus was tested at an ambient temperature of -7°C. Overall, however, the energy efficiency index of 9.7 is still close to the maximum possible to the generally low electricity consumption of the battery electric powertrain.

10.0 /10 Greenhouse Gases Tests

	Greenhouse gases	CO_2	N_2O	CH_4
7.0/7	Cold Test	●	●	●
7.0/7	Warm Test	●	●	●
7.0/7	Cold Ambient Test	●	●	●
7.0/7	Highway	●	●	●

n.a. good adequate marginal weak poor

Comments

Because no greenhouse gases are emitted at the tailpipe of an all-electric vehicle, the UX 300e scores maximum points in this part of the assessment.

Our Verdict

The Lexus UX 300e is a pure electric crossover with an electric motor providing 150 kW of power and 300 Nm of torque, offering a dynamic driving performance. For the time being, Green NCAP assesses vehicles based only on what is emitted at the tailpipe, so the Lexus UX 300e gets the maximum points in two out of the three areas of the assessment - Clean Air and Greenhouse Gases - as local emissions of these are zero. With regard to the Energy Efficiency Index, the vehicle passed almost all of Green NCAP's tests with maximum points and, overall, the car comfortably achieves 5 stars. A higher driving range would improve the vehicle's functionality and user experience, but for those wishing to minimize their environmental impact, the Lexus 300e offers an excellent choice.

Disclaimer

Publication Date 11 2021	Tested Car JTHAABBH80200xxxx	Emissions Class Euro AX	Tyres 215/60 R17
Mass 1,801 kg	Engine Size n.a.	Engine Power/Torque 150 kW/300 Nm	Published CO_2 n.a.
	Declared Battery Capacity 54.3 kWh	Published Driving Range 312 km	

Think before you print

green ncap

NISSAN

2021

Nissan LEAF e+

A03 electric 4x2 automatic

10.0 /10	9.9 /10	10.0 /10
Clean Air Index	Energy Efficiency Index	Greenhouse Gas Index

10.0 /10 Clean Air Tests

	Laboratory Test	NMHC	NO_x	NH_3	CO	PN
10.0/10	Cold Test	●	●	●	●	●
10.0/10	Warm Test	●	●	●	●	●
10.0/10	Cold Ambient Test	●	●	●	●	●
10.0/10	Highway	●	●	●	●	●
	Road Test					
10.0/10	On-Road Drive	●	●	●	●	●
8.0/8	On-Road Heavy Load	●	●	●	●	●
5.0/5	On-Road Light Load	●	●	●	●	●
5.0/5	On-Road Short Trip	●	●	●	●	●
2.0/2	Congestion	●	●	●	●	●
	Robustness					

● n.a. ● good ● adequate ● marginal ● weak ● poor

Comments

The Nissan LEAF e+ is a pure electric vehicle and no pollutants are emitted at the tailpipe. Accordingly, the car scores the maximum index of 10 in this part of the assessment.

9.9 /10 Energy Efficiency Tests

	Laboratory Test	Energy		
10.0/10	Cold Test		→	20.2 kWh/100 km
10.0/10	Warm Test		→	19.1 kWh/100 km
9.7/10	Cold Ambient Test		→	32.0 kWh/100 km
10.0/10	Highway		→	28.9 kWh/100 km

	Consumption	Driving Range
Average	22.7 kWh/100 km	306 km
Worst-case	32.0 kWh/100 km	210 km

n.a. good adequate marginal weak poor

Comments

In one of Green NCAP's four tests rating the vehicle's efficiency behaviour, the Nissan LEAF e+ exceeded Green NCAP's lower threshold and scored less than the maximum possible. This test is the WLTC conducted at an ambient temperature of -7°C. However, the energy efficiency index of 9.9 is still close to the maximum score due to the generally low consumption of the battery electric powertrain. The average driving range resulting from Green NCAP tests is 306 km without considering the -7°C ambient temperature test, which represents the worst-case driving range with 210 km.

10.0 /10 Greenhouse Gases Tests

	Greenhouse gases	CO_2	N_2O	CH_4
7.0/7	Cold Test	●	●	●
7.0/7	Warm Test	●	●	●
7.0/7	Cold Ambient Test	●	●	●
7.0/7	Highway	●	●	●

n.a. good adequate marginal weak poor

Comments

Because no gases are emitted at the tailpipe of an all-electric vehicle, the LEAF e+ scores maximum points in the Greenhouse Gas Index.

Our Verdict

The latest generation Nissan LEAF e+ has a bigger battery and higher power than its predecessor. With 62 kWh of declared battery capacity and a power of 160 kW compared to the previous generation's 40 kWh and 110 kW, the latest car makes a great improvement in terms of the energy efficiency. Like the previous version, the new LEAF e+ is also equipped with the e-pedal which allows the driver to control vehicle acceleration and deceleration through a single pedal and helps maximize the car's efficiency by reducing reliance on the traditional braking system. For now, Green NCAP assesses vehicles based only on what is emitted at the tailpipe so the Nissan LEAF e+ easily gets the maximum points in two of the three areas of the assessment - Clean Air and Greenhouse Gases - as local emissions of these are zero. Since this is a pure battery electric powertrain, energy efficiency is also very high and the car easily achieves the maximum 5 stars.

Disclaimer

Publication Date 11 2021	Tested Car SJNFAAZE1U010xxxx	Emissions Class Euro AX	Tyres 215/50/R17 91V
Mass 1,713 kg	Engine Size n.a.	Engine Power/Torque 160 kW/340 Nm	Published CO_2 n.a.
	Declared Battery Capacity 62.0 kWh	Published Driving Range 385 km	

Think before you print

2021

Renault Captur

E-TECH 160 Plug-In Intens plug-in hybrid 4x2 automatic

Clean Air Index	Energy Efficiency Index	Greenhouse Gas Index
5.7 /10	6.8 /10	6.1 /10

5.7/10 Clean Air Tests

	Laboratory Test	NMHC	NO_x	NH_3	CO	PN
5.2/10	Cold Test					
5.8/10	Warm Test					
4.8/10	Cold Ambient Test					
5.1/10	Highway					
	Road Test					
5.9/10	On-Road Drive					
4.9/8	On-Road Heavy Load					
3.0/5	On-Road Light Load					
2.7/5	On-Road Short Trip					
2.0/2	Congestion					
	Robustness					

n.a. good adequate marginal weak poor

Comments

Values of NO_x are very low but Ammonia (NH_3) output is relatively high and reduces the total score in this part of the assessment. However, the Captur's biggest challenge in the Clean Air Index is the high particle emissions, which are close to Green NCAP's upper threshold. If not for this, the Renault would have scored significantly higher than the current 5.7/10.

6.8 /10 Energy Efficiency Tests

Laboratory Test		Energy	
6.5/10	Cold Test	→	**19.3** kWh/100 km
7.6/10	Warm Test		
4.0/10	Cold Ambient Test		
4.3/10	Highway		

	Consumption			Driving Range		
	Petrol	Electric		Petrol	Electric	
Average	**4.8** l	**5.6** kWh	/100 km	**632**	**39**	km
Worst-case	**7.7** l	**n.a.**	/100 km	**510**	**n.a.**	km

Consumption in electric mode: 19.3 kWh/100 km electric + 1.3 l/100 km fuel

n.a. good adequate marginal weak poor

Comments

When operated with an empty battery, the Renault Captur E-TECH Plug-in behaves as a fuel-efficient small SUV petrol hybrid. With the battery fully charged, however, consumption is significantly reduced and, overall, the Captur is awarded with a very creditable score of 6.8 points for its energy efficiency performance.

6.1 /10 Greenhouse Gases Tests

	Greenhouse gases	CO_2	N_2O	CH_4
4.5/7	Cold Test			
4.2/7	Warm Test			
3.0/7	Cold Ambient Test			
3.1/7	Highway			

n.a. good adequate marginal weak poor

Comments

The tailpipe greenhouse gas emissions of a PHEV are highly dependent on the balance of usage between fossil fuel and stored electric energy. The Captur's hybrid management and the battery size of declared 9.8 kWh assure it a high score of 6.1 points. Laughing gas (N_2O) and methane (CH_4) emissions are almost non-existent, which supports the high result.

Our Verdict

Introduced in 2020, the Renault Captur E-TECH 160 plug-in hybrid is a small SUV well suited to urban driving thanks to its ability to drive up to 40 km in fully electric mode. Pollutant control is generally adequate and robust but the car's score is reduced by high particle emissions and, and those of ammonia (NH_3 could also be improved. The vehicle makes efficient use of its two power sources and scores well in the Energy Efficiency and Greenhouse Gas indices. As for all Plug-in hybrids, a higher electric range would lead to higher scores in these assessment areas and the user should charge the high voltage battery frequently. With an overall index of 6.2 out of 10, the Captur E-TECH reaches 3½ green stars and takes a well-deserved place amongst other plug-in hybrid electric vehicles tested by Green NCAP.

Disclaimer

Publication Date 11 2021	Tested Car VF1RJB00X6682xxxx	Emissions Class Euro 6d	Tyres 225/55 R18 98H
Mass 1,580 kg	Engine Size 1,598 cc	Engine Power/Torque 116 kW/205 Nm	Published CO_2 34 g/km
	Declared Battery Capacity 9.80 kWh	Published Driving Range 50 km	

Think before you print

2021

VW Golf

GTE 180 kW plug-in hybrid 4x2 automatic

6.2 /10	6.2 /10	5.6 /10
Clean Air Index	Energy Efficiency Index	Greenhouse Gas Index

6.2 /10 Clean Air Tests

	Laboratory Test	NMHC	NO_x	NH_3	CO	PN
5.6/10	Cold Test					
6.5/10	Warm Test					
4.0/10	Cold Ambient Test					
4.0/10	Highway					
	Road Test					
4.8/10	On-Road Drive					
5.2/8	On-Road Heavy Load					
3.5/5	On-Road Light Load					
4.1/5	On-Road Short Trip					
2.0/2	Congestion					
	Robustness					

n.a. good adequate marginal weak poor

Comments

The Golf GTE demonstrates robust control of its non-methane hydrocarbon and nitrogen oxides emissions but is let down by the high ammonia (NH_3) output. While a reduction of CO emissions would be beneficial, it is the particle number where improvement is most needed. The phases of electric mode driving generally reduce the total pollutant output but, in some cases, sudden combustion engine start in response to a high-power demand can deteriorate the emissions behaviour. However, overall, the Golf GTE is awarded 6.2 points for its control of pollutant emissions.

6.2 /10 Energy Efficiency Tests

	Laboratory Test	Energy		
5.6/10	Cold Test		→	**11.7** kWh/100 km
6.8/10	Warm Test			
2.6/10	Cold Ambient Test			
3.1/10	Highway			

	Consumption			Driving Range		
	Petrol	Electric		Petrol	Electric	
Average	**5.2** l	**4.9** kWh	/100 km	**588**	**42**	km
Worst-case	**8.6** l	**n.a.**	/100 km	**465**	**n.a.**	km

Consumption in electric mode: 11.7 kWh/100 km electric + 3.0 l/100 km fuel

n.a. good adequate marginal weak poor

Comments

For Plug-In Hybrid Electric Vehicles, Green NCAP's rating system considers a weighing factor between tests starting with a fully charged and those starting with an empty battery. The Energy Efficiency Index benefits from the GTE's ability to drive longer distances in full electric mode but, in conventional petrol engine mode, the consumption decreases the overall performance. The total score of 6.2 in this part of the assessment is very creditable for a car with such high system power and a relatively high weight for its body type, and is a consequence of an intelligent energy distribution between both power sources.

5.6 /10 Greenhouse Gases Tests

Greenhouse gases		CO_2	N_2O	CH_4
4.2/7	Cold Test			
3.8/7	Warm Test			
2.3/7	Cold Ambient Test			
2.3/7	Highway			

n.a. good adequate marginal weak poor

Comments

Though the electric side of the powertrain helps reduce the local tailpipe CO_2 emissions, the high output of the petrol engine limits the score. Nevertheless, the hybrid Golf GTE still receives a commendable result of 5.6 in the Greenhouse gas assessment, which is supported by the excellent management of the other rated greenhouse compounds.

Our Verdict

The new Volkswagen Golf GTE is a plug-in hybrid of a very dynamic character with a system power of 180 kW and 400 Nm of torque. It comes as a combination of a 110 kW 1.4 litre turbocharged direct injection petrol engine, a 6-speed double-clutch transmission, an 85 kW electric motor and a battery of 13 kWh declared capacity. All these components add to a relatively high weight but help the vehicle score well in all three parts of Green NCAP's assessment. Despite being equipped with a gasoline particle filter, particle number emissions are still not as low as they could be, and ammonia is another compound that would benefit from attention. The hybrid management makes effective use of the power sources and combines them well enough to achieve low consumption values and moderate CO_2 emissions without compromising agility. Regular charging will provide the greatest benefit from the plug-in hybrid architecture. Overall, the GTE is awarded a very creditable result of 3½ green stars and proves the potential of well-developed alternative powertrains.

Disclaimer

Publication Date 11 2021	Tested Car WVWZZZCDZMW31xxxx	Emissions Class Euro 6d	Tyres 225/45 R17 91W
Mass 1,583 kg	Engine Size 1,395 cc	Engine Power/Torque 180 kW/400 Nm	Published CO_2 36 g/km
	Declared Battery Capacity 13.0 kWh	Published Driving Range 52 km	

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