FIAT 600e

RED ELECTRIC FWD AUTOMATIC

Sustainability Rating

2025 ★★★★★ 96%

Clean Air
9.6 /10

Energy Efficiency
9.5 /10

Greenhouse Gases
10.0 /10

Driving Experience

Consumption & Range
GOOD

Cold Winter Performance
ADEQUATE

Charging Capability
ADEQUATE

Our verdict

The electric FIAT 600e achieves remarkable results in the sustainability assessment. The small EV impresses with high powertrain efficiency and its life cycle impact benefits from its low mass and moderate battery size.

- The FIAT 600e has no tailpipe emissions and low tyre, brake, and production- and fuel supply-related emissions due to its compact size and efficiency.
- It features a low-consuming powertrain and efficient heating, maintaining impressive energy performance even in cold and highway conditions.
- It achieves top marks for greenhouse gas emissions, showing low life cycle climate impact thanks to its small size, smart design and high overall efficiency.

While it can be expected that a car with a relatively low mass and moderate battery capacity will score in the non-usage life cycle phases, the FIAT 600e surprised with a very low electricity consumption in all tests. The measurement figures are notably better than those of many other vehicles of the same class.

Disclaimer

Think before you print

Clean Air

9.6 /10

Comments

With no tailpipe emissions and scoring highly for tyre and brake abrasion, the FIAT is awarded excellent results in this part of the investigations. Due to the compact dimensions, lightweight and low consumption, the emissions associated to production processes and supply of energy are also low.

Exhaust emissions

Exhaust pollutant emissions are produced from combustion engines. Although current emission legislation is very strict, this type of emission directly affects air quality, and not all vehicles perform equally well. Read more

GOOD ● **10.0** /10

In laboratory

Green NCAP performs a wide range of tests on cars in the laboratory. This is the best way to ensure controlled conditions and guarantee that all cars are tested in the same way, making their results comparable. Read more

GOOD ● **10.0** /10

	NMHC	NO_x	NH_3	CO	PN	PM	Score
Legal test (WLTP)	●	●	●	●	●	●	8.0 /8
Warm weather	●	●	●	●	●	●	10.0 /10
Highway	●	●	●	●	●	●	10.0 /10
Winter cold start	●	●	●	●	●	●	10.0 /10
Winter warm start	●	●	●	●	●	●	10.0 /10

On road

An on-road driving test , using portable emissions measuring equipment complements Green NCAP's laboratory tests. Read more

GOOD ● **10.0** /10

	NMHC	NO_x	NH_3	CO	PN	PM	Score
Real-world mixed drive	●	●	●	●	●	●	10.0 /10
Short city trip	●	●	●	●	●	●	10.0 /10
Congestion	●	●	●	●	●	●	2.0 /2

● good ● adequate ● marginal ● weak ● poor ● not applicable

Clean Air

9.6 /10

Non-exhaust emissions

Driving a vehicle also produces emissions different from those of the exhaust pipe. Green NCAP evaluates vehicle properties that contribute to tyre and brake abrasion.

ADEQUATE **9.0** /10

Tyre wear

Tyre abrasion releases small particles during driving, and some vehicle properties have major impact on it. Heavier vehicles, wheel alignment causing increased slip angle, and aggressive acceleration responses all increase tyre wear and particle emissions. Read more

ADEQUATE **5.2** /6

	Result	Score
Influence of mass	adequate	2.2 /3
Wheel alignment	good	1.0 /1
Accelerator response	good	2.0 /2

Brake wear

Brake dust, produced by friction brakes, can be mitigated through filters, enclosed brake systems (like drums), or by reducing friction brake use with regenerative braking in electrified vehicles. Containment keeps dust inside the system, while recuperation lowers brake wear. However, heavier vehicles still generate more brake abrasion due to their greater stopping demands. Read more

GOOD **5.6** /6

	Result	Score
Brake dust mitigation	poor	0.0 /4
Brake dust containment	poor	0.0 /6
Recuperative braking - warm test	good	5.6 /6

good adequate marginal weak poor not applicable

Clean Air

9.6 /10

Additional Life Cycle Assessment information

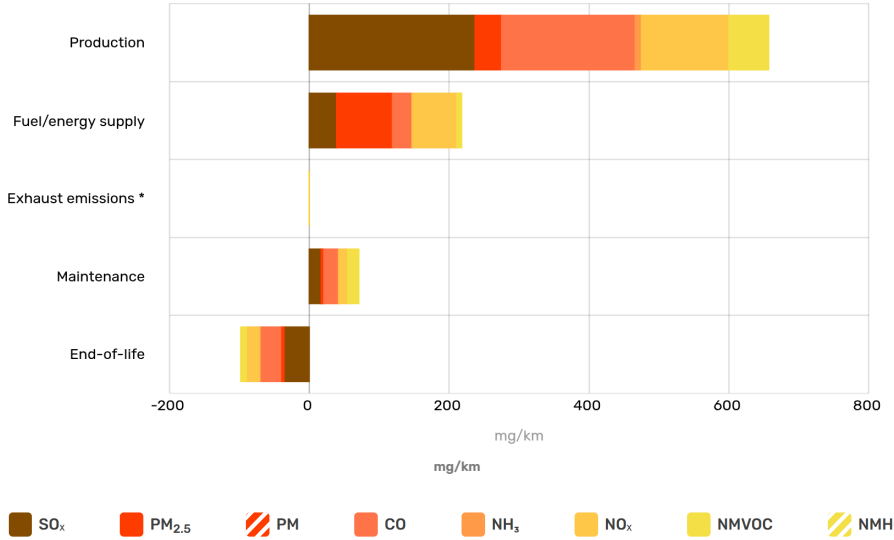
Life Cycle Assessment (LCA) investigates the environmental impact of a car over its entire lifetime, 'from cradle to grave'. In this section, pollutants are estimated in the various stages of a vehicle's life other than use. The chart also displays the measured emissions related to usage, which are taken as an average from the tests and are scored separately in the 'Exhaust emissions' part above. The end-of-life approach uses results in negative values because the benefit of materials recovery and recycling exceeds the effort of obtaining and processing virgin raw materials.

ADEQUATE

8.8 /10

Pollutants

Most of the vehicle exhaust pollutant species are also emitted in others life cycle phases. These are health- and nature-damaging compounds, the amount of which should be reduced as well.



* Exhaust emissions are not contributing to the score in Additional Life Cycle Assessment information because they are scored in the Exhaust emissions section above

good adequate marginal weak poor not applicable

Energy Efficiency

9.5 /10

Comments

The 600e is equipped with a low-consuming powertrain and an efficient heating system, so that its consumption figures impress even in the challenging highway cycle and in the -7°C cold weather sequence.

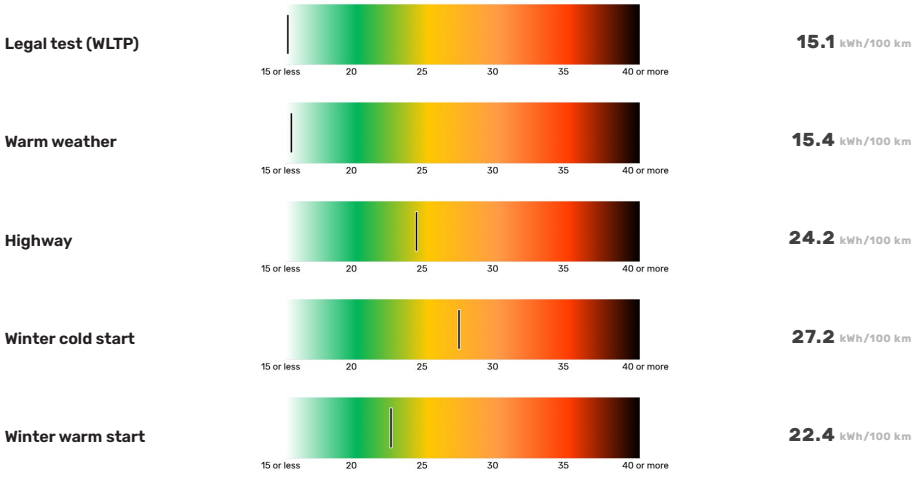
Energy demand

GOOD **9.5**/10

Propulsion energy consumption in laboratory

GOOD **9.8** /10

The vehicle's measured consumption figures are displayed in the bar chart. The colour scheme positions the values relative to low and high figures in a typical range. The ranges are different for combustion engine and pure electric vehicles.



good adequate marginal weak poor not applicable

Energy Efficiency

9.5 /10

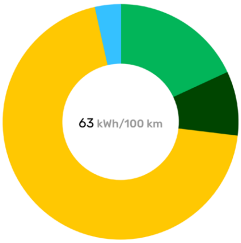
Additional Life Cycle Assessment information

GOOD

9.6/10

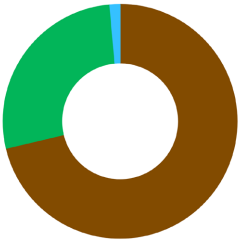
Life Cycle Assessment (LCA) investigates the environmental impact of a car over its entire lifetime 'from cradle to grave'. In this section, the total vehicle life cycle primary energy demand is displayed. The scoring does not consider the direct propulsion energy use, because it is scored separately in the 'Propulsion energy consumption in laboratory'.

Total LCA energy consumption



- Production & recycling 18.1%
- Battery production 8.8%
- Fuel/energy supply * 69.6%
- Maintenance 3.5%

Energy source share in total LCA consumption



- Fossil 71.3%
- Renewable 27.3%
- Other 1.4%

Direct propulsion energy share is not shown, it is included in 'Fuel/energy supply'.

Rolling resistance

Rated here is the vehicle's resistance to movement at low speeds. Different factors have an impact on it, but the most significant one is mass.

GOOD

9.3/10

good adequate marginal weak poor not applicable

Greenhouse Gases

10.0 /10

Comments

Greenhouse gases is the top category of this small and efficient urban SUV. It easily gathered full points, demonstrating very low life cycle impact on the climate, thanks to adequate sizing and Stellantis engineers' efforts for increasing efficiency, which pay off.

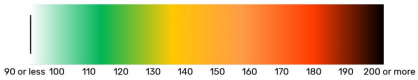
Exhaust GHG emissions

Combustion of conventional fuels releases greenhouse gases at the vehicle's tailpipe. The most significant of these gases are the emissions of CO_2. Green NCAP's assessment considers methane (CH_4) and laughing gas (N_2O) as well. Together, these are counted with their global warming potential to a sum known as CO_2 equivalent.

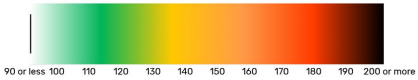
GOOD **10.0**/10

In laboratory

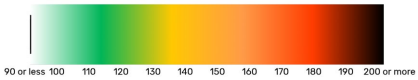
Green NCAP performs a wide range of tests on cars in the laboratory. This is the best way to ensure controlled conditions and guarantee that all cars are tested in the same way, making their results comparable. Read more



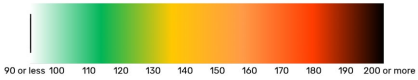
Legal test (WLTP) **0.0** g CO_2-eq./km



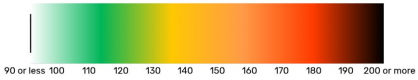
Warm weather **0.0** g CO_2-eq./km



Highway **0.0** g CO_2-eq./km



Winter cold start **0.0** g CO_2-eq./km



Winter warm start **0.0** g CO_2-eq./km

good adequate marginal weak poor not applicable

Greenhouse Gases

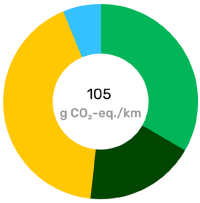
10.0 /10

Additional Life Cycle Assessment information

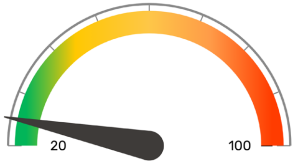
Life Cycle Assessment (LCA) investigates the environmental impact of a car over its entire lifetime, 'from cradle to grave'. In this section, the total vehicle life cycle greenhouse gas emissions are displayed.

ADEQUATE **7.3** /10

Total LCA GHG emissions



- Production & recycling 33.4%
- Battery production 18.3%
- Tailpipe emissions * 0.0%
- Fuel/energy supply 42.1%
- Maintenance 6.2%



tonnes CO_2-equivalent/vehicle

Vehicle Life Cycle average emissions **25** (+/-)
(best **22** | worst **29**)

* The scoring does not consider the direct exhaust GHG emissions at the tailpipe, because they are scored separately in 'Exhaust GHG emissions' above.

good adequate marginal weak poor not applicable

Driving Experience

Consumption & Range

GOOD

Cold Winter Performance

ADEQUATE

Charging Capability

ADEQUATE

Green NCAP Comment

The FIAT 600e shows that high sustainability scoring does not necessarily come at the cost of usability. The car generally shows adequate to good performance in the tested categories and represents its class very well.

- The small electric SUV shines with low consumption values in different tests, resulting in acceptable driving ranges. Drivers can trust the consumption figures shown on the display, keeping in mind that they only reflect the energy amount withdrawn from the battery. The amount needed to charge it is naturally higher.
- The heating performance of the car in -7°C cold start conditions is impressively fast. In the rear footwell it would take a bit longer to reach comfortable temperatures. The fact that the temperature at the non-occupied rear seat did not increase as for the occupied one suggests that the vehicle might be able to actively provide comfort only to the passengers present in the car, smartly saving potentially wasted energy.
- Both the standard home AC charging and the fast DC charging performance are adequate. The car does not provide any kind of bidirectional charging.

Consumption & Range

GOOD

Estimated actual consumption

GOOD

What consumption can be expected in real world conditions?

In-laboratory measured consumption values are only partially representative of real-world use. Green NCAP's estimates aim at providing more realistic figures, which are based on measured results, modified by correction factors.

Conditions	Urban	Rural	Highway	Mixed	
Warm weather	14.7	15.7	19.5	16.4	kWh/100 km
Cold Winter	28.5	20.1	25.3	24.8	kWh/100 km

Driving range

ADEQUATE

What driving range can be expected in real world conditions?

Of special importance to consumers is the real-world driving range of electric vehicles. Green NCAP estimates this based on measured data, modified by correction factors.

Conditions	Urban	Rural	Highway	Mixed	
Warm weather	380	355	287	340	km
Cold Winter	195	277	220	225	km

Accuracy of display

GOOD

Is the consumption figure on the display correct?

good adequate poor not applicable

Cold Winter Performance

ADEQUATE

Driving range benefit of pre-warming

ADEQUATE

How much further can you drive in winter, if the car is pre-warmed?

A cold vehicle has increased energy consumption at the start of its trip, mostly due to the cabin heating demand. Pre-warming the car while it is plugged, when possible, can significantly benefit its driving range in cold weather conditions. Green NCAP's winter tests are performed at -7°C.

Type	Driving Range Benefit	Result
Urban trip	+100 km	
Mixed trip	+44 km	

Cabin heating

GOOD

Does the vehicle get warm quickly in winter?

This indicates the time needed to reach 16°C in seconds at different positions in the cabin after the cold vehicle has been started at -7°C ambient temperature.

	Front	Rear
Head area	192 s	251 s
Footwell	315 s	

Rear left footwell target temperature was not reached. The vehicle possibly recognised the empty seat and optimised energy use. Rear right footwell reached 16°C in 510 seconds.

good adequate poor not applicable

Cold Winter Performance

ADEQUATE

Additional heating functions

What functions can be used to improve heating comfort?

Unlike a combustion car, which usually uses the engine's waste heat to provide warmth to the cabin, in electric vehicles, the energy needed comes from the battery. Therefore, there is a trade-off between thermal comfort and energy consumption. Some additional heating functions can deliver good thermal comfort performance at lower energy use compared to heating up the entire cabin. If they can be scheduled or remotely activated before a trip, while the vehicle is still plugged, both comfort and driving range can be notably improved.

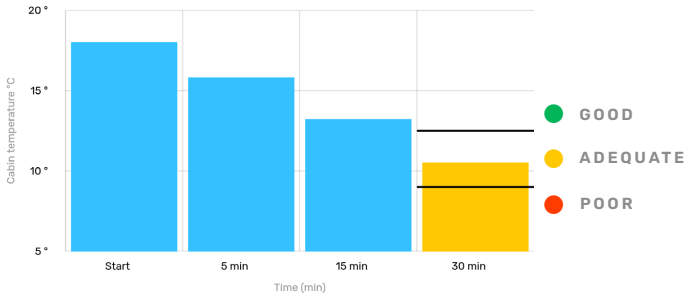
	Y/N	Fitment
Heat pump	✓	Standard
Seating heating front	✓	Standard
Seating heating rear	✗	
Steering wheel heating	✗	
Sheduled pre-heating of seats	✗	
Scheduled steering wheel pre-heating	✗	
Scheduled cabin air pre-heating	✓	Standard
Smart cabin heating management	✓	Unknown

Cabin thermal insulation

ADEQUATE

How well does the cabin maintain its temperature?

Assessed here is the average cabin temperature drop after 30 minutes, starting from 18°C when the outside temperature is -7°C and the vehicle is inactive.



good adequate poor not applicable

Charging Capabilities

ADEQUATE

Battery pre-conditioning

Does the vehicle have the ability to optimize the battery temperature for fast charging?

Fast charging is quicker when the battery temperature is in a certain range, and many vehicles possess the function to actively prepare for a coming fast charging event. Most use the charger destination in the navigational system to control the process, and some would offer a manual activation function.

	Manual	Automatic
Battery pre-conditioning	✗	✓

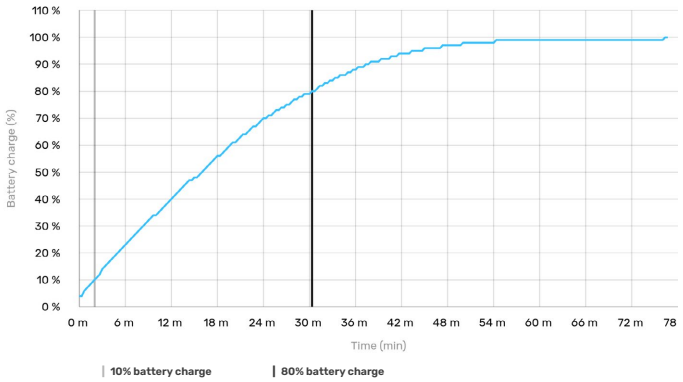
Fast charging

ADEQUATE

Green NCAP's fast charging test verifies the vehicle's ability to recharge fast, which is crucial at long trips or tight schedules. Although constantly improving, not all vehicles offer the same capabilities.

Charging time

How quickly can the battery charge?



good adequate poor not applicable

Charging Capabilities

ADEQUATE

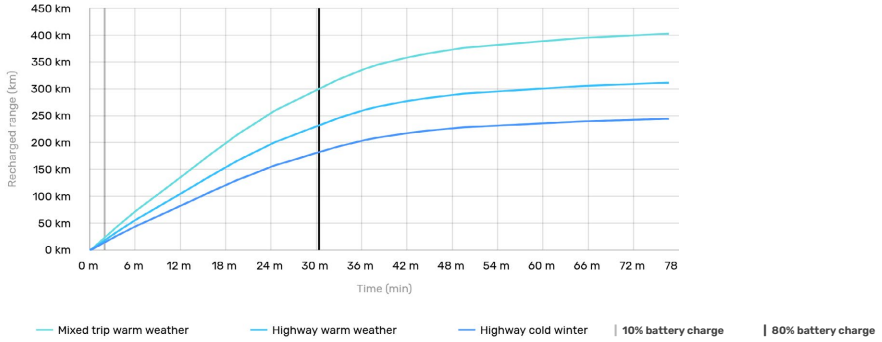
Fast charging

ADEQUATE

Green NCAP's fast charging test verifies the vehicle's ability to recharge fast, which is crucial at long trips or tight schedules. Although constantly improving, not all vehicles offer the same capabilities.

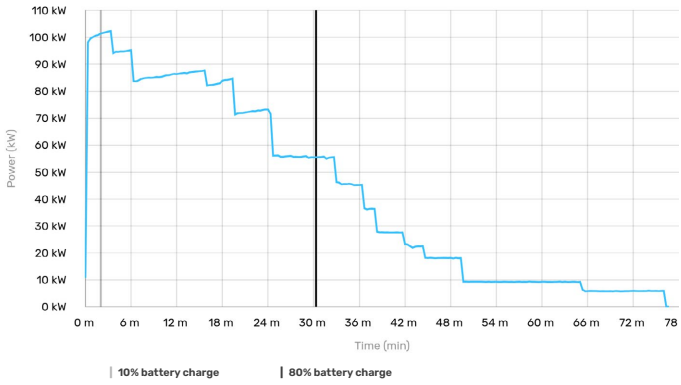
Recharged range gain per charging time

How long do you need to fast charge to drive a certain distance?



Charging power

How quickly does energy flow into the battery, depending on its charge level?



good adequate poor not applicable

Charging Capabilities

ADEQUATE

Home charging efficiency

ADEQUATE

Is charging at home efficiently utilizing the energy withdrawn from the grid?

The assessed efficiency value is the grid-to-battery-output efficiency, which describes what share of the energy taken from the electricity grid is available for the vehicle to use for propulsion and other auxiliary functions. The value encompasses not only the charger efficiency but considers several other losses as well.

Home charging efficiency	**87** %	
Maximum home charging power	**11.0** kW	Standard

Bidirectional charging

POOR

How capable is the vehicle of supplying energy from its battery to other devices or systems?

Bi-directional charging is available in some vehicles and is gaining increasing popularity. It comes with different power and functionality levels. However, battery usage for purposes additional to regular vehicle driving and charging might be disadvantageous for its durability and manufacturers might introduce limitations to protect it.

Power output

Not available

Compatibility

Vehicle-to-Load (V2L)
The inlet or the interior socket can provide AC power through an electrical domestic socket.

Vehicle-to-Household (V2H)
The vehicle can provide power to a household through a charger.

Vehicle-to-Grid (V2G)
The vehicle can return power to the grid.

Grid integration

Basic
No integration (just a socket for a stand-alone load). No scheduling option. Very basic visualisation.

Limited
Energy management system through the vehicle app (timers availability and power monitoring). Dedicated interface in the car, with mobile app monitoring.

Advanced
Advanced settings available such as tariff and consumption control, linked to distributor energy prices. Advanced real time energy flow visualization. AI powered suggestions for optimal usage.

good adequate poor not applicable

Specifications

Vehicle class
Small SUV

System power/torque
115 kW/260 Nm

Engine size
n.a.

Declared consumption
15.1 kWh/100 km

Declared driving range
Overall 409 km
City 604 km

Declared CO_2
n.a.

Declared battery capacity
Usable (net) 51.0 kWh
Installed (gross) 54.0 kWh

Mass
1,523 kg

Heating concept
Waste heat & PTC & heat pump

Tyres
215/65 R16

Emissions class
AX

Tested car
ZFANFBA50PJ00xxxx

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