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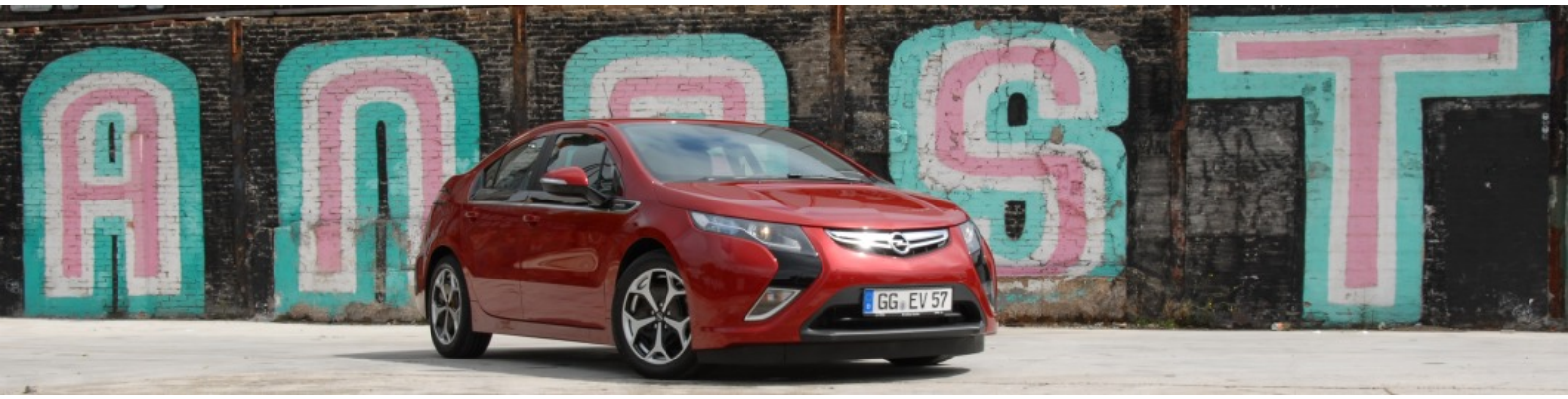


Vauxhall Ampera

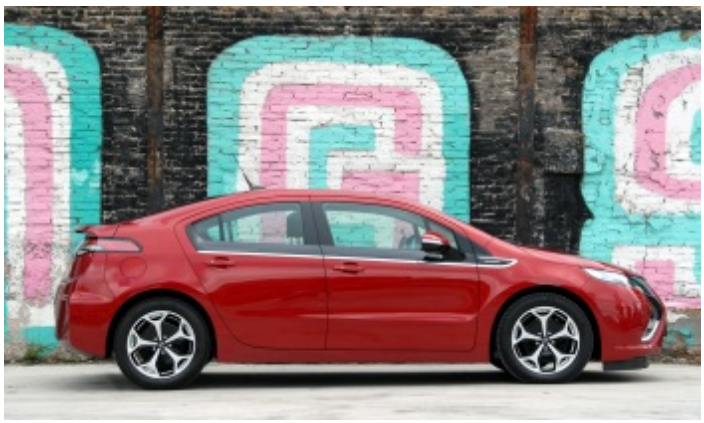
Put an end to the angst

Car review | "Range anxiety", that's the term to describe the common fear all owners of electrical cars share. Every time they take their car out for a spin, they are afraid it doesn't have enough power left in the batteries to make it to the destination. The Vauxhall Ampera should end this problem. This electrical car from Vauxhall has both an electric motor and a petrol engine, giving it a total range of about 500 km (300 miles). Does the Vauxhall Ampera put an end to the angst of driving an electric car?

For a true car buff the above doesn't seem revolutionary. Cars with both an electric motor and a petrol engine have been around for years and they are called "hybrid". But, the Vauxhall Ampera is different! A traditional hybrid car runs on petrol most of the time and sometimes engages an electric motor to save fuel.

Range Extender

The Vauxhall Ampera does it the other way around: this is an electric car where the petrol engine is the assistant. The Ampera is charged using any household outlet and can then travel for 60 km (40 miles) on the electric motor. After that the Vauxhall doesn't come to a standstill. Instead, the petrol engine ("range extender") takes over. In that way a total of 500 km (300 miles) can be covered, effectively taking away the biggest objection against the electric car.

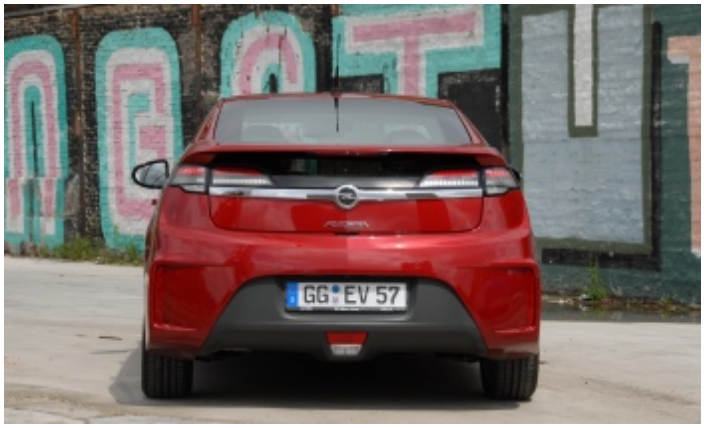


To see what the Ampera was capable of, motoring journalists competed in an eco run. They drove between 39 and 72 kilometres (24 and 44 miles) on the batteries alone. Once the batteries are depleted, the petrol engine starts automatically. This can be heard and felt, but isn't disturbing.

The petrol engine has no direct connection to the wheels. Instead it generates just enough current to

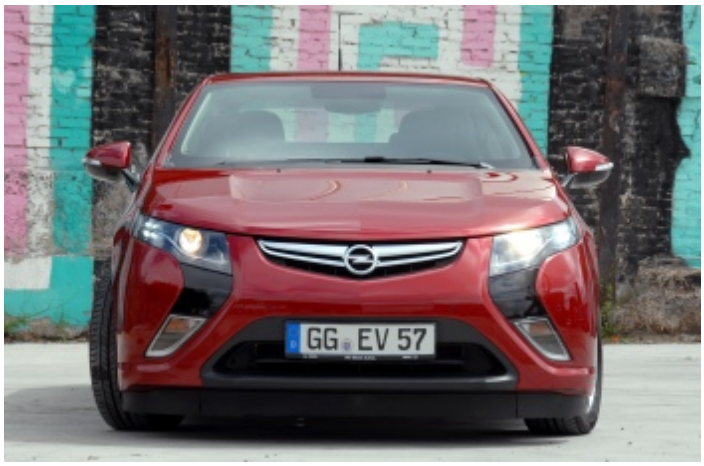
power the electric motor. This may seem unnecessarily complicated: first run a petrol engine, convert its movement into electricity and convert that electricity into movement again.

There is a good reason for this: an internal combustion engine is most efficient at a certain engine speed (the so-called "sweet spot"). Because the petrol engine isn't connected to the wheels, this ideal engine speed can always be maintained. A side effect is that the engine speed doesn't vary with the speed of the car and that takes some getting used to. It is like a baritone that consistantly kicks in either too late or too early during an opera.



While driving on the petrol engine the batteries are not being charged, that would cost too much fuel. The idea behind any electric car is that a power plant is much more efficient at generating electricity. What car makers forget to mention is the fact that this strongly depends on the source of that energy. When the current is generated by a coal plant, the Ampera will actually pollute more than a traditional petrol car. Only when run on green energy, does the Ampera cause little to no harmful emissions.

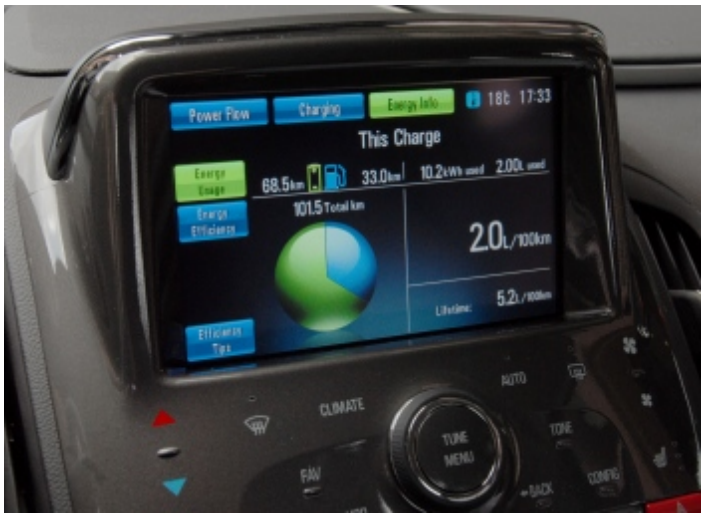
Whether the Ampera runs on its batteries or the petrol engine, performace is always the same. Especially in "Sport" mode performance is excellent.



Fuel economy

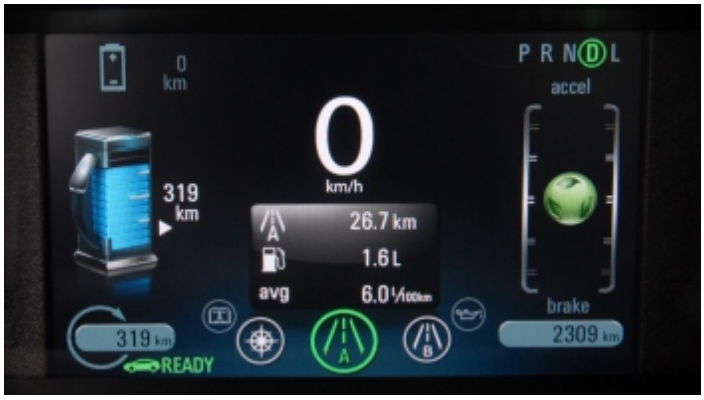
All this breakthrough technology functions without a hitch and especially unnoticeably. Vauxhall offers its drivers several aids to improve fuel economy and/or understand what is happening under the bonnet. However, driving the Ampera does not require any special skills. Those who choose to ignore all gadgetry can blissfully ignore all the displays and schematics and drive the Ampera like a normal, luxurious car with an automatic gearbox.

The big question is: how much fuel does the Ampera use? Even after a lengthy test drive there's no easy answer to that question. During the first 60 km the answer is simple: not a single drop.



After the first 60 km the petrol engine comes to the

rescue and fuel economy decreases, albeit slowly. When driving on the petrol engine alone, the trip computer showed an average fuel mileage of 6 litres per 100 km (47 mpg). Suppose a total of 160 km is covered, then the combined fuel economy is 6 litres per 160 km (60 on electricity + 100 km on petrol) and that is very frugal indeed (75 mpg).

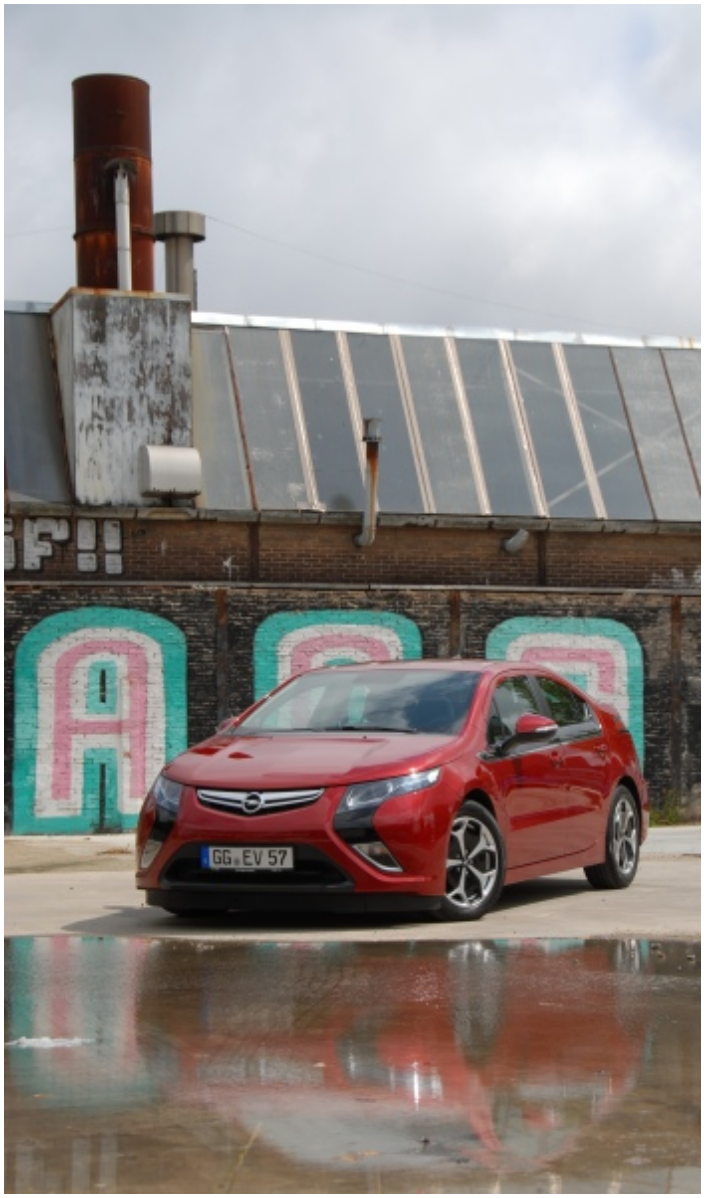


Its true fuel economy depends on the ratio between the distance travelled on the electric motor and the petrol engine. During the official "European test cycle" Vauxhall measured a fuel economy of 183 mpg.

Handling

Because of all the batteries, the Ampera weighs about 1,800 kg. To put this into perspective: the heaviest Vauxhall Insignia with a six-cylinder engine, four-wheel drive and an automatic gearbox weighs 300 kg less! Yet, its weight doesn't affect the Ampera's handling. Instead it gives the car a certain "grandeur". Only when braking hard, the Ampera is obviously big and heavy.

Thanks to the even distribution of the weight over the front and rear wheels and the bespoke tyres, the Ampera isn't afraid of a bend. However, the Ampera certainly isn't a sporty car. Comfort always comes first.

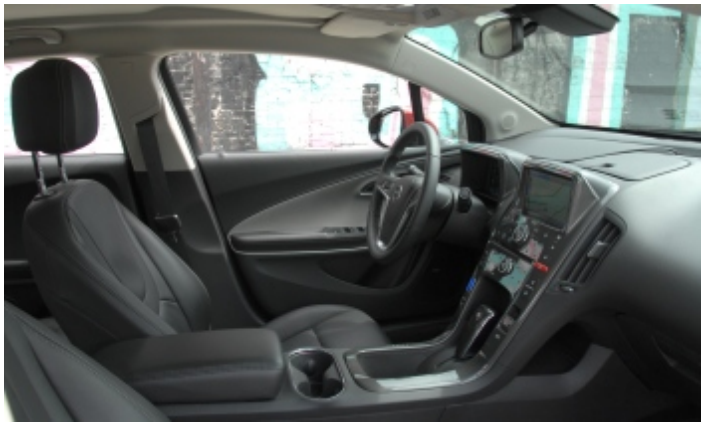


Luxury

One would almost forget it, but the Vauxhall Ampera offers another big advantage over the average electric car. Currently, most electric cars are small and simple to reduce weight and thereby increase their range. The Ampera, on the other hand, is a large and very luxurious company car. Thanks to its electric drive, the

Ampera is exceptionally quiet. Even the "subway sound" that most electric cars produce, is absent with the Vauxhall.

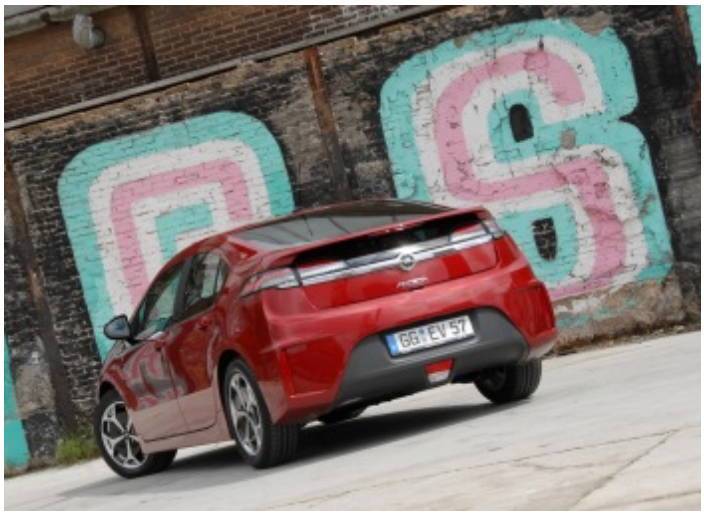
Regrettably, some of the features of Vauxhall's own Insignia are not available on the Ampera. For example, the Ampera cannot read traffic signs and cannot be fitted with the excellent "healthy back" seats from the Insignia.



Space

Despite the size of the car, the cabin space isn't equal to that of a traditional sedan. The room in the back is poor. Headroom is minimal because of the sloping roofline (which benefits aerodynamics) and legroom is poor. The boot is deep yet shallow, making it less spacious than the average (301 litres). There's a special place for the charger under the floor, so more room remains for luggage.

In the front the Ampera does offer the space one may expect from a car of this size. The dashboard has a very futuristic layout, to emphasise that this is a truly revolutionary vehicle.



Conclusion

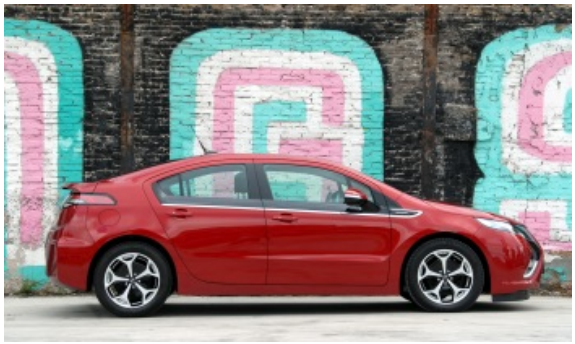
Does the Vauxhall Ampera end all objections against the electric car? Yes! The Ampera combines all the strong points of an electric car and a luxury car without introducing new problems.

The Vauxhall Ampera can cover about 60 km electrically and produces zero emissions while doing so (how green this actually is, depends on the energy source). After this, other electric cars will come to a standstill. Vauxhall solves this problem by means of a "range extender": after the first 60 km, the Ampera can do another 400 km on the petrol engine. This gives the Ampera the same range as a traditional car and effectively ends all "range anxiety".

While many other electric cars are small, the Ampera is a large, luxury car. Although the room in the back is poor, the space in the front is fine. The Ampera offers the same luxury and, because of its electric drive, even more comfort than traditional company cars. ■

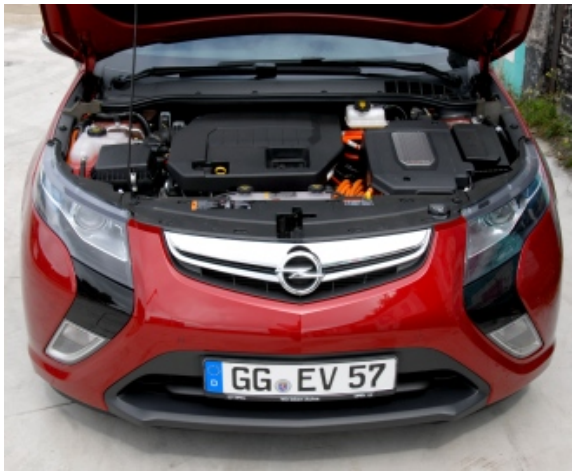
Specifications
Vauxhall Ampera Plug-In

Size and weight



Length x width x height	450 x 179 x 144 cm
Wheelbase	269 cm
Kerb weight	1.732 kg
Trailer	unknown
Trailer - braked	unknown
Fuel capacity	35 l
Luggage space	301 l
Tyre size	R17

Engine and performance



Capacity	1398 cc
Cylinders / valves	4/4
Max power	150 PS @ 1 rpm
Max torque	370 Nm @ 1 rpm
Drive	front wheels
Acceleration 0 - 62 mph	9 secs
Top speed	161 km/h
Average mileage	1.6 l / 100 km
Mileage urban	INF l / 100 km
Mileage extra urban	INF l / 100 km
CO2 emissions	40 gr / km

Price

Price	Â£ 28,995
Price base model	Â£ 28,995