

Intelligent Business

A Before you read

1) Have you ever considered buying an electric car? No? Have any of the factors below influenced you? Discuss these factors and any other you think of.

- a) The top speed of electric cars is not fast enough.
- b) The acceleration in electric cars is not good enough.
- c) Electric cars are quiet so I don't feel I am driving a powerful vehicle.
- d) Electric cars cannot drive far enough before they need to be recharged.
- e) Major manufacturers do not make electric cars.
- f) There are not enough recharging points for electric cars.
- g) Recharging takes too much time.
- h) In my country there aren't any tax or other incentives to buy electric cars.
- i) Electric cars are expensive. It takes too much time to recuperate the added cost in savings.

B Comprehension

1) Read the article quickly and find answers to these TRUE/FALSE statements.

- a) The *Ampere* is the planned European version of the GM *Volt*. T/F
- b) The Economist had a test drive of the *Volt* in the USA. T/F
- c) The *Volt* was first shown at the Detroit motor show 3½ years ago. T/F
- d) Like the Toyota Prius, the *Volt* has a conventional petrol engine and a small electric motor. T/F
- e) The *Volt* uses lithium-ion batteries. T/F
- f) Chevrolet says that the *Volt* has a top speed of 80mph. T/F
- g) Chevrolet says it will drive for about 40 miles without needing to be recharged. T/F
- h) A small 1.4 litre internal combustion engine can be used to power the electric motor and recharge the batteries. T/F
- i) Most journeys in cities and suburbs are less than 40 miles, so the *Volt* will run on batteries and produce no tailpipe emissions. T/F
- j) The *Volt* cannot be used for longer journeys. T/F
- k) The *Volt* is cheaper than similarly sized petrol-engined cars. T/F
- l) The American government has offered a \$7500 rebate on the price of the *Volt*. T/F
- m) Nissan's *Leaf* is already a popular battery powered hatchback. T/F
- n) The writer was impressed with the experience of driving the *Volt*. T/F
- o) The soft mouldings had rough edges. T/F
- p) The suspension needs to be improved. T/F
- q) The acceleration is good. T/F



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- r) After charging the car for 3 hours from an ordinary household socket, you can drive it for 40 miles without using petrol. T/F
- s) Apart from the battery there's nothing much to go wrong, and the battery is guaranteed for 10 years. T/F
- t) The *Volt* and *Ampere* are good cars and may receive extra government inducements to buy and use them. T/F
- 2) Read the **FALSE** statements again. Read the text again. Rewrite the **FALSE** statements to make them true.
- 3) Look at the references to
- a) Chevrolet
 - b) Vauxhall/ Opel
 - c) Nissan
 - d) Renault
- and make notes of the information contained in the article.

C Vocabulary

Look at the words in **bold italics** in the sentences below. Choose the correct option to complete the sentence.

- 1) If you are ***keen to take up an offer***, you are eager to ...
- a) accept the offer.
 - b) investigate the offer.
 - c) ask for an alternative offer.
- 2) If something ***breaks cover***, it ...
- a) stops working.
 - b) is revealed.
 - c) gets wet.
- 3) If you ***tone down*** something, you ...
- a) change the sound it makes.
 - b) change its shape.
 - c) make it less extreme.
- 4) If you describe something as ***ground-breaking***, you mean it is ...
- a) very heavy.
 - b) totally new.
 - c) very powerful.



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- 5) If something ***cuts in***, it ...
 - a) stops working.
 - b) starts or stops another system.
 - c) starts to support another system.
- 6) If something is ***a good deal more expensive***, it is ...
 - a) a bargain.
 - b) a little more expensive.
 - c) a lot more expensive.
- 7) If you describe something as ***a dinosaur***, you mean it is ...
 - a) used on the land and in the water.
 - b) large and powerful, but slow and out-of-date.
 - c) very, very old.
- 8) If you describe someone as ***a tree-hugger***, you suggest that they are ...
 - a) someone who has an unrealistic commitment to defending the environment.
 - b) someone who does not live in a city.
 - c) someone who is very affectionate.
- 9) If something is ***far out of line***, it is ...
 - a) very different from normal.
 - b) part of a long queue.
 - c) not part of a long queue.
- 10) If something has ***a few rough edges***, it needs to be ...
 - a) improved, but not redesigned.
 - b) redesigned.
 - c) remade, using the same design but different materials.
- 11) If you ***fine tune*** something, you ...
 - a) make it less noisy.
 - b) make minor changes to it.
 - c) improve the sound it makes.
- 12) If we say a car ***notional*** thirst of 175 mpg, it means that the fuel consumption has been ...
 - a) estimated.
 - b) calculated.
 - c) tested.

D Discussion

Electric cars do not produce tail-pipe emissions of polluting gases, but they use electricity which has probably been generated by burning fossil fuels. Do electric cars make a serious contribution to a better environment or are they just fashionable toys which will make drivers feel they are making a serious contribution?



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GM's new electric car

Driving the future

Jun 25th 2010, 10:54 by The Economist online

FEW cars are of greater significance, not only for their maker, but also for the industry itself, as General Motors' Chevrolet Volt and its European version, the Vauxhall/Opel Ampera. Indeed, GM claims it will be "revolutionary". That is why *The Economist*, which does not normally do road tests, was keen to take up the offer from GM to drive a pre-production Ampera on normal roads in the Thames Valley earlier this week.

The Volt first broke cover at the Detroit motor show three-and-a-half years ago. Underneath its swooping bodywork (subsequently toned down for something more practical) was a ground-breaking new powertrain. Unlike Toyota's Prius, which combines a conventional petrol engine with a small electric motor, the Volt's propulsion would come entirely from a powerful electric motor whose lithium-ion batteries could be recharged either by plugging the car into mains electricity or from an on-board generator. Chevrolet claimed that the car would have a top speed of around 100mph and brisk acceleration, and be able to run on its batteries alone for about 40 miles—more than enough for the average daily commute—after which the generator, a small 1.4 litre internal-combustion engine, would cut in to prevent the batteries running down as the car continued on its way.

What made the concept so appealing was that in the city and suburban environment where the Volt would spend most of its life, it could operate as a purely electric-driven vehicle with zero tailpipe emissions, but it was also capable of undertaking much longer journeys without inducing in its driver any of the "range anxiety" that came with pure battery-powered cars. The downside was that the Volt was fairly complex and would be a good deal more expensive to make than an equivalent-sized petrol-engined car.

Since then, although GM has been in and out of bankruptcy, the Volt programme has steadily progressed. Indeed, its very existence was an important factor in convincing Barack Obama's auto task-force that GM was not quite the dinosaur of popular imagination. Towards the end of the year, the four-door mid-sized saloon will go on sale in America at a price of just under \$30,000 after a government rebate of \$7,500, while the very similar but more crisply styled Ampera, is due for launch in Europe about 12 months later.



Early adopters and affluent tree-huggers are bound to be first in the queue to buy the car, but sales will ultimately depend on whether the Volt/Ampera is pleasant

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to live with, performs reliably and provides an overall cost of ownership not too far out of line from “normal” vehicles. It will also be fascinating to see how it competes against Nissan’s Leaf, a battery-only driven family hatchback with a range of 100 miles that will hit the market in America at about the same time; and a trio of similarly-engineered offerings from Renault which will be offered in Europe from next year.

So how does the Volt/Ampera drive? Overall, pretty impressively. As a well-used pre-production car, the one we road-tested still had a few rough edges. The basic architecture of the surprisingly spacious cabin was in place, but the high-quality soft mouldings that will grace the car when it goes on sale had not yet been fitted. There was also a slightly disconcerting whistle from the exhaust when the range extender engine was working hard, though this can be easily fixed. The suspension settings need a bit of fine-tuning, particularly for ragged British blacktop. But otherwise, the car was extraordinarily refined. It is whisper silent in most conditions—it is mostly hard to tell when the range extender engine is running—and unfussed even at high motorway speeds. Acceleration is strong (0-60mph takes about nine seconds) thanks to the instant torque served up by the electric motor, while the car’s handling is neat and precise thanks partly to the low centre of gravity that is created by installing the T-shaped battery pack along what would be the transmission tunnel in a conventional car.

The Ampera has a range of 350 miles before it needs refuelling and a notional thirst of 175mpg on a long journey which translates to carbon dioxide emissions of about 40g/km. Most of the time, however, the car will run without any need for the petrol engine, the batteries needing only three hours’ charging from a domestic socket to deliver 40 miles of electric-only running. GM reckons that the cost of an electrically driven Ampera mile is a fifth of a petrol-driven mile in an ordinary car. Used daily for a 40-mile commute, the Ampera could save its owner more than £2,000 a year given European petrol prices. As for reliability, the battery is guaranteed against any failure for 10 years. Some of the strain is taken off it by software that stops it being depleted to less than 30% of its capacity before the generator starts working, and prevents it ever being charged to more than 80%. Apart from the battery, there’s nothing much to go wrong, and servicing will be at intervals of around 20,000 miles.

Despite its high initial purchase price, the cost of owning a Volt/Ampera could well turn out to be competitive depending on how it is used and what other tax breaks governments throw its way. For such a genuinely revolutionary vehicle what it is most remarkable about the Volt/Ampera is how easy it should be to live with. It manages to be both extraordinary and ordinary at the same time.

http://www.economist.com/blogs/newsbook/2010/06/gms_new_electric_car



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Teacher's notes and Key

The basic vocabulary of this article is fairly simple. The topic is close to learner's experience. This worksheet can be used with students at Pre-Intermediate level and above.

A1 Open answers

B1 a)T, b)F, c)T, d)F, e)T, f)F, g)T, h)T, i)T, j)F, k)F, l)T, m)F, n)T, o)F, p)T, q)T, r)T, s)T, t)T

B2

b) The Economist had a test drive of the Ampera in the Thames Valley in Britain.

d) The Prius has a small electric motor and a conventional engine, the Volt has a powerful electric motor and a small petrol powered engine.

f) Chevrolet claim a top speed of 100 mph.

j) The Volt can be used for longer journey by using the petrol engine to power the electric motor.

k) The Volt is more expensive.

m) The Nissan Leaf has not yet been sold.

o) The rough edges refers to the overall design, not the soft mouldings.

B3 Chevrolet is a brand used by General Motors (GM).

Vauxhall/Opel are European brands used by General Motors.

Nissan plans to produce a battery-only family hatchback.

Renault will offer three electric cars next year.

C1 1a, 2b, 3c, 4b, 5c, 6c, 7b, 8a, 9a, 10a, 11b, 12a

D Open answers