

Peugeot-Citroën's air-powered hybrid

To fight against pollution, as well as loud engines, car manufacturers have been working for several years on hybrid cars, cars that switch between using a standard internal combustion engine and electric power

Toyota has been working on hybrid cars for over 15 years and its Prius is seen by many as the benchmark for hybrid vehicles. But now a new concept being developed by PSA Peugeot-Citroën — the second largest car-maker in Europe — could knock the Prius off its pedestal. The French group recently presented its revolutionary new design replaces batteries with compressed air.

Under the seats a blue canister is charged with compressed air when the brakes are applied, a bit like a bicycle pump. This stored energy can then be sent back to the wheels when it is needed. It is designed to operate in three modes: internal combustion, compressed air only or a combination of the two for rapid acceleration. If the driver is constantly stopping and starting they will have a constant supply of compressed air for this process, making it ideal for those who drive in the city.

"In an hour's drive, the standard engine can be turned off for around 50 minutes, the rest of the time the car can run on compressed air. So



During the presentation of Peugeot-Citroën's new air-powered hybrid

fuel consumption is greatly reduced," said Guillaume Faury, Director of Research and Development at PSA Peugeot-Citroën. Fuel consumption falls to 2.9 litres per 100 km, against

an average of 6 litres for standard cars today.

The car can only drive a few hundred metres on stored energy but the canister takes just 10 seconds to re-

plenish as the car slows down. PSA Peugeot-Citroën plans to start fitting the package to some of its cars in 2016, and will also be licensing the technology to other manufacturers.



Austen still nice little runner 200 years on

Two hundred years ago the public first got their hands on Jane Austen's classic novel, *Pride and Prejudice* and centuries later its popularity endures

At the Jane Austen House Museum in Hampshire in Southern England, where the author lived between 1809 and 1817, a museum worker recreates the mood of the early nineteenth century, by walking through the charming home wearing the dress actress Anne Hathaway wore in the movie *Becoming Jane*.

The first editions of the English author's novel came out on January 28th, 1813 and the tale of manners and marriage was an instant hit with readers. It has never gone out of print. Two centuries after the publication of *Pride and Prejudice*, Jane Austen's fans believe her work is still relevant today. It certainly seems that each subsequent generation has found its own slant on the story, and that its themes are likely to remain a source of inspiration for generations to come.

China holds its breath as pollution perseveres

An area of almost 1.5 million square kilometres continues to be blanketed by smog in northern China

The hardest hit zones are the cities of Beijing and Tianjin, and Hebei and Shandong provinces. For some time, Beijing's air was labelled worse than 'very unhealthy' and 'hazardous'. According to the Chinese Academy of Sciences, 800 million people — over half the country's population — are affected by the polluted air.

In Beijing, authorities have closed over 100 factories and taken 30 percent of government vehicles off the roads, but these measures have had little effect. The problem stems from China's use of coal — it burns almost as much as the rest of the world combined. With more



A chimney billows smoke from a coal-burning power station in Beijing

economic growth, China's use of coal is set to increase.

Chinese news agencies report that an online petition has been

started by Beijing residents sick of the smog. It calls for a 'Clean Air Act' and has been signed by thousands of people.

Ready to cook up natural plastics

It's time for a bit of cooking at a research institute in Brindisi, Southern Italy

The recipe is simple: a splashing of natural textiles, a good dose of partially-bio resin and a pinch of bio-additives and enzymes. Stir well and place your mixture in an oven for a few hours at 60 degrees Celsius. "It is made out of linen fabrics and natural resins. It is a sustainable, completely organically derived product," says Andrea Ferrari, co-ordinator at the engineering firm D'Appolonia.

It is, in fact, a new composite structure born out of renewable

materials. And it is these scientists' dream that this new ecomaterial will soon replace plastic composites.

"We are convinced that very soon we will be able to replace fossil-derived materials with exclusively natural materials. We're talking about materials born out of by-products like cotton, linen or hemp, or resins made with sugar cane or other crops which are not aimed at the food market," says Andrea Ferrari.

Before it hits the market, the new ecomaterial's mechanical performances are fully tested and compared with those of carbon and other clas-



sic composites. Tests include fracture toughness, elasticity and plasticity. Currently, researches study various concepts. The new biocomposite could be used to equip cars, to build



Deutsche Bank hit by costly clean up

Deutsche Bank has plunged to a 2.6 billion Euro quarterly loss as it moved to clean up its balance sheet

The bank's co-Chief Executive Anshu Jain said the legal and restructuring charges it had taken were so that it would not have to ask shareholders for cash by issuing new shares. "We have been very consistent. We have said we do not believe it is in our shareholders' best interests. We have shown that we are willing to take pain," Jain told a conference call when asked about a possible rights issue.

"This said, clearly, it is a very uncertain world. There is a plan B. We will not rule out any option that is in the best interest of Deutsche Bank." The charges include one billion Euros set aside to cover legal risks from its potential exposure to the Libor scandal involving interest rates fixing.

Unseasonal tornadoes lash US south

South-eastern parts of the USA have been ploughed by a storm front in which the winds caused at least two people's deaths

The community of Adairsville, north of Atlanta, Georgia, was left shredded. Tornadoes were reported in Mississippi, Indiana and Tennessee, along a more than thousand kilometre corridor. At Owen's Bar-B-Q roadside grill, employee Chrystal Bagley said, "It lasted probably about, I want to say about 20 seconds, maybe. After we made it into the rest room it quit."

Haulier Danny Odum said, "When we went back, my truck was turned over and all the glass was blown out of it. My dog was in it but he's not hurt. Nobody's hurt. That's the main thing." Emergency officials said minor injuries requiring hospital treatment were sporadic.

The wind split and hurled trees and treated large objects like toys all the way north to Pennsylvania, which borders on the state of New York.