Energy from the air: Tata under “pressure”

We hardly could find a cleaner, greener energy resource as the air around us. We could just drive our car with it, but what about the compromises?

The story of the compressed air cars are the same age as that of the combustion engines, moreover in those days the dominance of the latter wasn't so obvious. Then with the development of the mobility the rate will be shifted to the direction of smog production, at the same time the air driven appliances are in lots of fields of life present so far. Let's just think on that typical buzzing sound which can be heard in the tyre workshops.
In India the time has come in the recent past – exactly in 2007 – to reroute the compressed air driven, so therefore significantly environmentally friendly vehicles. Through the cooperation of the Tata Motors and the French Motor Development developing company that engine conception is ready by now which is already built in two Tata vehicles, proving it's brightness.
There are still a lot to be proved, as if this story would be so easy, obviously we would all drive such air driven cars for a long time. But as humanitarian the air is, it has such a little power to move the more hundred kilo weighted vehicles with their drivers and packages for the proper time with the proper speed. Though the compressed air is basically more safety than other, in the car industry for drive used gases – like hydrogen -, the content and pressure-resistant capacity of the storage unit (fuel tank) is quite limited. But this can be solved, e.g. with the help of a compressor, and here comes the similar sounding word of compromise into the picture, because this unit runs either with electricity or with fossil fuel. At the same time a significant harmful emission can be saved even this way, as generally only in case of a higher speed is a higher pressure necessary.
MINICAT USES POWER OF COMPRESSED AIR

With $30 million backing from India’s Tata Motors, and high oil prices, the time may be right for Compressed Air Technology (CAT) vehicles. Developed by former F1 engineer Guy Négre, the MiniCAT is expected to go into production in 2009.

Three-seater – driver in centre
Fibre and injected-foam body
Aluminium rod chassis
Regenerative braking recovers 13% of power used

800cc four-cylinder engine, maximum power 25hp at 4,000 rpm

MINI-CAT STATS
Top speed 110km/h
Range Up to 200km
CO2 emissions 6g/km
Expected cost 3,500-4,000 euros

REVOLUTIONARY CLEAN ENERGY

Energy storage: Compressed air drives pistons. A Gasoline hybrid version is also planned.

THE FILL UP
Refill tanks via high pressure hose in two minutes, or connect to electric socket to power built-in alternator/compressor – up to 3.5 hours

High-efficiency CAT engine
Carbon-fibre air tanks
Exhaust – clean cold air at -15°C

SOURCE: MOTEUR DEVELOPPEMENT INTERNATIONAL

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According to Tata there are a lots to be developed on the resource till the startup of the production, but the first, conceptional phase ended successfully, and after a few years of the refinement of the details the air driven cars will roll down serially from the production line.

It sounds good – will see, what will turn out of it.