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PSA Peugeot Citroën unveils Diesel Hybrid Technology

PSA Peugeot Citroën today unveils two demonstrators featuring a diesel-electric hybrid powertrain, the Peugeot 307 and the Citroën C4 Hybride HDi.
The performance of these cars represents a major breakthrough in further improving fuel economy and reducing CO2 emissions. They also provide increased driving comfort under all conditions, especially in urban traffic.
Average diesel consumption for these two cars is 3.4 litres per 100 kilometres, with 90 grams of CO2 emitted per kilometre, tank to wheel - a record for compact cars, the most popular segment in Europe. This is some 25% better than a similar vehicle equipped with a petrol hybrid system, or as much as a litre per 100 kilometres in combined urban and motorway driving.
PSA Peugeot Citroën's Hybrid HDi technology comprises a 1.6-litre HDi diesel engine, a particulate filter system (DPFS), the latest generation Stop & Start system, an electric motor, inverter, high-voltage battery pack and dedicated control electronics. The cars are also equipped with an electronically managed manual gearbox.
The Stop & Start system enables the Hybride HDi vehicles to start and drive using only the HDi diesel engine, even when the high-voltage battery pack is totally flat. Other hybrid vehicles, in contrast, would be totally immobilised in this situation.

The Hybride HDi introduces several innovative features:

- Recovery of kinetic energy during deceleration and braking.
- All-electric mode, or Zero Emission Vehicle (ZEV), eliminating noise and emissions for urban driving at up to 50 kilometres an hour.
- Extended ZEV mode, in which electrical power is used by default, depending on the battery charge level.

For main road and motorway driving, the electric motor can provide a 35% power boost for extra acceleration when needed, thereby enhancing driving comfort.
PSA Peugeot Citroën could market its Hybride HDi vehicles as early as 2010. However, their introduction rests on making this technology available at an affordable price. Today, the price gap between a Hybride HDi model and a comparable diesel HDi model is still too wide and would have to be halved to make diesel hybrid vehicles accessible to most consumers.

PSA Peugeot Citroën is committed to meeting the challenge of lowering the cost of this technology. Only by meeting this goal will the Group be able to ensure the widespread distribution of the innovative Hybride HDi solution, so making a significant contribution to protecting the environment. The Group plans a two-pronged approach:

- Extensive R&D on the four areas that generate most of the extra cost: high-voltage batteries, electric motor/generator, inverter and the regenerative braking system.
- Unite the expertise of equipment manufacturers and research laboratories to focus on this project.

PSA Peugeot Citroën has asked the French Agency for Industrial Innovation to support the project.
Enhancing fuel efficiency and reducing CO2 emissions to address the issue of greenhouse gases is a critical component of PSA Peugeot Citroën's product strategy. PSA Peugeot Citroën vehicles rank amongst the best in class worldwide for low fuel consumption and CO2 emissions.
To sustain this achievement, PSA Peugeot Citroën is leveraging its expertise in high-tech diesel engines, a segment where it is a world leader (more than 8 million cars with the common-rail HDi engine sold), and its pioneering role in electric vehicles. The new Hybride HDi system presented today combines many advantages of the HDi diesel engine with those of an electric motor for urban driving.

HDi Peugeot 307 and Citroën C4
An unprecedented array of innovative technologies

- 1.6-litre HDi engine + diesel particulate filter system (DPFS)
- Electronically managed gearbox
- New-generation Stop & Start system
- Electric motor and inverter
- High-voltage battery pack
- Dedicated control electronics
- All-electric mode for speeds under 50 kilometres an hour
- Driver selection of extended ZEV mode