

Smart Natural Gas

A Natural-Gas-Powered Urban Vehicle

IFP, in partnership with Gaz de France and the ADEME, has combined its downsizing technology with the use of natural gas in a small urban demonstrator vehicle. Its main strengths are:

- fun to drive,
- gas equipment nearly invisible,
- CO₂ emissions less than 100 g/km,
- EURO IV pollution levels.

Thanks to its chemical composition, natural gas can reduce CO₂ emissions by nearly 25% compared to gasoline.

IFP's technology amplifies this gain by adding substantially higher efficiency, compared to the original engine.

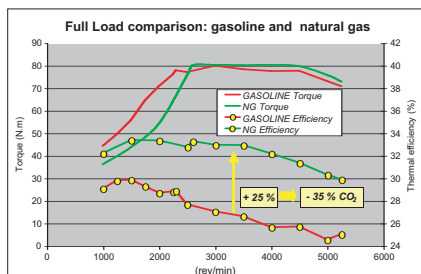


A POWERFUL CONCEPT: DOWNSIZING

- The engine displacement is reduced without torque or power losses, thanks to the use of a turbocharger.
- Very high efficiency in use.

AN URBAN VEHICLE THAT RESPECTS THE ENVIRONMENT

- With CNG, CO₂ emissions are 27%, and even 35% lower in some conditions, than with gasoline in the European standard urban/extra-urban cycle (NMVEG).
- Regulated pollutant emissions are lower than the EURO IV levels in force in 2005.



Comparison of gasoline and natural gas at full load

In partnership with

ADEME



SATISFACTION OF CUSTOMERS' EXPECTATIONS: INTEGRATION, FUN TO DRIVE AND SAFETY

- Integration of three ultra-light composite tanks under the chassis: no vehicle weight increase, passenger compartment and ground clearance unchanged.
- Average range of the order of 200 km (in the European urban/extra-urban cycle).
- Driving pleasure (acceleration and top speed) preserved.
- Complies with the European safety regulation R110.



Integration of the tanks under the chassis

AND TOMORROW: HYBRIDS

The natural gas/hybrid approach is potentially one of the most effective solutions in terms of CO₂ emissions.

CONTACTS:

Worldwide:

Nicolas des Courtils
IFP Powertrain Engineering
Marketing & Business
Development

1 et 4, avenue de Bois-Préau
92852 Rueil-Malmaison Cedex
France
Tel.: +33 1 47 52 59 85
Fax: +33 1 47 52 53 04
<http://engines-fuels.ifp.fr>

Germany:

Oliver Schmidt
IFP Powertrain Engineering
Key Account Manager

Gustav-Heinemann-Ring 60
D-81739 München
Germany
Tel.: +49 700 44 76 91 96
Fax: +49 700 44 76 91 97
Mobil: +49 171 44 33 305
schmidto@ifp@t-online.de



IFP Powertrain Engineering

1 et 4, avenue de Bois-Préau - 92852 Rueil-Malmaison Cedex - France
Tel.: +33 1 47 52 59 18 - Fax: +33 1 47 52 53 04 - <http://engines-fuels.ifp.fr>