



Science@ifpen

Written on 01 November 2007



15 minutes of reading



News

Fundamental Research

Climate, environment and circular economy

CO2 capture, utilization and storage

Sustainable mobility

IC powertrains

Responsible oil and gas

Fuels

Basins and reservoirs modeling and simulation



The **Grenelle Environment Forum** has strengthened awareness of the need to

cut emissions of greenhouse gases and atmospheric pollutants.

This second issue of Science@ifp highlights scientific advances that will contribute to this. For example, **low-temperature combustion** in the new diesel engines reduces both the **fuel consumption** and the **particulates emissions** of automotive vehicles. Again, the **molecular modelling** tools developed by IFP and its academic partners are contributing to knowledge of the phase equilibriums relevant to the **storage of CO₂** in underground reservoirs.

As the other items show, in order to ensure a smooth energy transition, IFP also continues its work to improve oil technologies in exploration, production, and refining, which will remain essential to

ensuring our energy supplies for a long time to come.

Philippe Ungerer, Scientific Director

Summary:

- Looking below **diapirs**
 - **NMR** goes into the well
 - **Fluidized-bed reactors**: optimizing the reaction zones
 - **Optimizing complex systems**
 - **Cut pollution** by controlling valves
 - **Thermodynamics**: from nano to macro
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