



Joint press release

Eni and FCA sign research agreement for joint projects to significantly reduce CO₂ emissions produced by road transport vehicles

The agreement, which focuses on new technological applications for sustainable mobility, was signed at the Palazzo Chigi in Rome, in the presence of the Prime Minister, Paolo Gentiloni, by the chief executives of the two companies, Claudio Descalzi and Sergio Marchionne.

Rome, 21 November 2017 – Today, at the Palazzo Chigi in Rome, in the presence of the Italian Prime Minister, Paolo Gentiloni, the chief executive of Eni, Claudio Descalzi, and the chief executive of FCA, Sergio Marchionne, signed a Memorandum of Understanding for the joint development of research projects and technological applications aimed at reducing CO₂ emissions from road transport vehicles. The two companies, renewing their strategic commitment to a low-carbon future and in line with the National Energy Strategy, combine their respective expertise, experiences and technological know-how in order to significantly reduce the sector's level of CO₂ emissions.

Eni and FCA have identified the following areas of cooperation.

- The development of technologies and materials to absorb natural gas, Absorbed Natural Gas (ANG), which will make it possible to improve existing technologies linked to compressed natural gas (CNG) in the automotive sector. This collaboration will involve the study of technologies and absorbing materials that will permit the transport of compressed gas (CNG) at a much lower pressure, reducing the weight of tanks and increasing the mileage per refill.
- The development of new technologies for the use of gas in transport. These would facilitate the use of compressed (CNG) and liquefied (LNG) gas, as well as of methanol,

which allows emission reductions when it is added to traditional fuel. Eni has developed a new type of petrol containing alternative fuels (15% methanol and 5% bioethanol) which produces lower emissions and is currently being jointly tested with FCA. This new fuel will be used by five Fiat 500 vehicles from the Enjoy fleet, Eni's car sharing service that was created in partnership with FCA, in an extensive road test. Use of this new petrol can ensure a reduction of more than 4% of CO₂ emissions (2% in the combustion phase and a further 2.3% deriving from the fuel production cycle and due to the organic component).

In addition, in order to extend the use of car sharing and underline the versatility and flexibility of compressed gas, the Enjoy fleet will be expanded to include Fiat Doblò vans in the new Enjoy Cargo service, starting at the beginning of next year. This will constitute the world's first case of vehicle sharing for the transport of goods, without the need to pick-up and return vans from or to a fixed point. 20% of the Fiat Doblò fleet will be powered by methane.

- The realization, which will benefit also from the collaboration with MIT (Massachusetts Institute of Technology), of technologies and devices for the capture and temporary storage of part of CO₂ produced by internal combustion engines. With road transport vehicles responsible for around 23% of total CO₂ emissions, and the share of light vehicles alone reaching about 10%, this would result in a significant reduction of the transport sector's CO₂ emissions.

- To reduce overall greenhouse gas emissions further, the parties also confirmed their shared interest in assessing new fuel types for use in existing vehicles, without the need for substantial mechanical changes. Among other things, this includes diesel types with a higher proportion of hydrotreated vegetable oils (HVO) than now, petrol with higher alcohol content, including from renewable sources and/or waste, and the use of new "friction-reducing" additives.

Finally, the two companies have agreed to launch and implement new partnerships with Italian and international universities aimed at creating and training new professional profiles for the future.

Eni's chief executive, Claudio Descalzi, commented: "Today we have signed an agreement between two great companies in Italy that share a commitment to a low carbon future. Bringing our technological know-how and research skills together with FCA's, with the support of the Italian Prime Minister, is an important initiative in this direction.

It is a strategic path for Eni and signifies our commitments in a number of areas. In the area of mobility, Eni has already taken several important steps, for example in developing innovative, low-emission green fuels. This is part of an integrated strategy that ranges from the reduction of CO₂ emissions in all our activities to the promotion of natural gas as a clean fossil fuel to serve as a bridge in the transition to renewables, and from the testing of green and alternative fuels to renewable energy research. We will push our innovative projects with FCA forward, aiming to make a significant contribution in terms of emissions reduction in the short term, as well as ambitious, though realistic, future objectives.

The chief executive of FCA, Sergio Marchionne, commented: “Our collaboration with Eni marks a big step forward. I am delighted that we can also count on the support of the Italian government in a phase that sees the two most important companies in Italy combining their efforts and skills for an incisive and permanent reduction of emissions. This is a shared goal that reflects a sense of responsibility and a commitment to the world we want to leave to future generations.”

Notes for the media

-Eni and FCA are conducting new tests using green diesel (Hydrotreated Vegetable Oil or HVO), in significantly increased proportions compared with Eni Diesel+. In this case, thanks to the characteristic composition and vegetable nature of the fuel, this results in significant reductions in CO and unburned hydrocarbon emissions and, above all, reductions of around 60% in CO₂ emissions, calculated across the entire fuel production process (well to tank), as well as a further reduction in tank-to-wheel emissions.

This fuel can already be used with existing vehicles, without the need to modify the engine. If combined with systems the two companies are developing for the on-board capture and storage of CO₂, we could achieve an even more significant level of reduction of emissions.

-With regard to the use of methanol, use of the new petrol (15% methanol, 5% bio-ethanol) can ensure, well to wheel, a more than 4% reduction in CO₂ emissions. The possible future replacement, currently being studied, of methanol by bio-methanol from renewable sources, could lead to the reduction of CO₂ emissions by around 10%, reaching also in this case significant level of reduction of emissions when the system of on-board CO₂ capture is included.

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