

The future of alternative fuels

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Developers in the automotive industry are investing considerable effort in the reduction of fuel consumption and CO2 emissions. Additionally, many of them are also addressing the question of which fuels will be required in the future.

For some time now, gaseous fuels have been available: in particular CNG (compressed natural gas) and LPG (liquefied petroleum gas from crude oil) dominate here. Unlike gasoline or diesel, these two fuels depend respectively on the regional availability of natural gas and on the available capacity to process crude products to LPG. Therefore and because these fuels are promoted differently region-by-region, their spread varies regionally and nationally.

CNG is increasingly acquiring a special status in North America and in Europe. Both regions import crude oil, which negatively impacts their foreign trade balance. Recently intensified fracking activities should reduce this dependence on imports by developing additional domestic natural gas reserves. Moreover, vehicles operated with these fuels have lower emission levels.

From the standpoint of the energy turnaround, the CNGfuelled engine is becoming increasingly important: vehicles that are equipped to burn CNG can generally also run on gaseous biofuels - completely without or with only minor modifications.

In the research community, at universities and other institutions, ideas are being hatched that go far beyond the mere tweaking of the current situation and seek to radically change the entire fuel landscape. The basis for these scenarios is the identification of fuels that provide the lowest fuel consumption and the lowest emissions.

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However, it is questionable whether these concepts can actually be applied to our everyday lives. It would be necessary to introduce new fuels into the market, to create new production and infrastructure capacities, to modify existing vehicles, and to prepare consumers for acceptance of these radical changes. Since the fuel landscape is expected to change significantly again in ten or fifteen years, today's newly developed fuels might only offer a stopgap solution for a period of just five to fifteen years. It is unlikely that many market participants will be willing to invest in such a change.

The number of available fuels is therefore not expected to increase in the next five to ten years. However, it is expected that niche fuels like CNG, LPG, and E85 (15% ethanol, 85% gasoline) will become more widespread.

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