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Photofuel - Biocatalytic solar fuels for sustainable mobility in Europe

Deliverable D5.6

Data on engine performance of transition and future blends for assessment in WP6



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Editorial

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Publishable Summary

Documentation of deliverable 5.6 “Data on engine performance of transition and future blends for assessment in WP6” for series or close to series vehicles and series or close to series engines, both single cylinder or full motor.

For diesel engines, a total of two test fuels and a reference fuel were tested in a close to series vehicle. The testing was executed on dynamometer test bed. Tests were repeated at least three times in WLTP cycle to ensure a reliable result.

For gasoline engines, a total of four test fuels and a reference fuel were tested in a close to series vehicle. The testing was executed on dynamometer test bed. Tests were repeated at least six times in WLTP cycle to ensure a reliable result.

The fuels used were defined in Deliverable 5.1 “Test Fuel Matrix” and contained the fuels that were targeted in the project.

Testing revealed that the fuels could be used for combustion with advantages towards the emission profiles. Even if no optimization was conducted, the potential benefit is demonstrated on demo vehicle. N-butanol containing diesel fuels have to be excluded due to the low flash point.

Clear advantages could be seen in the field of particle emissions, which can be turned into emission advantages for nitrous oxides.

Test results were summarized and transferred to WP6 for LCA calculations.

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