Deliverable report

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Project management	Uniresearch (NL) (http://www.uniresearch.com)

Executive Summary

REDIFUEL (RF) is a bio-mass derived renewable fuel which can be a potential diesel fuel replacement. It is a mixture of Alcohols and Paraffinic fuels in a specific proportion making the final product which has a close compliance to EN590 standards. It is also very important for any fuel to be drop-in capable so that the functionality of the current technology is not affected, and the fuel can be easily introduced into the market. In this regard, Tec4Fuels conducts the material compatibility testing in a Hardware in the loop testbench which consists of all the fuel system components of an automotive fuel injection system. CoCoS (Complete Common Rail System) is a hardware in the loop testbench in which all the fuel systems components are connected in series and the fuel can be circulated for a specified amount of testing period without combustion. This helps in checking the compatibility of all the fuel components while stressing fuel leading to fuel degradation. This testing can be conducted at different conditions to obtain a detailed picture of the fuel interaction with the fuel components.

Currently, REDIFUEL has already been tested in comparison to EN590 Diesel. The pure RF did not show any noticeable differences in the fuel flow or the component functionality. The initial observation of the pure components is that its highly compatible with the current technological system. Further, the pure RF and Diesel will be tested an extreme condition to obtain an in-detail picture or the failure criterion. This will be followed by testing of blends from Redifuel and Diesel at different concentrations.

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Project partners:
1 - FEV – FEV EUROPE GMBH - DE
2 - MPI – MAX-PLANCK-GESELLSCHAFT ZUR FORDERUNG DER WISSENSCHAFTENEV - DE
3 - CSIC – AGENCIA ESTATAL CONSEJO SUPERIOR DE INVESTIGACIONES CIENTIFICAS - ES
4 - VTT – Teknologian tutkimuskeskus VTT Oy - FI
5 - RWTH – RHEINISCH-WESTFAELISCHE TECHNISCHE HOCHSCHULE AACHEN - DE
6 - OWI – OWI – Science for Fuels gGmbH - DE
7 - VUB – VRIJE UNIVERSITEIT BRUSSEL- BE
8 - NESTE – NESTE OYJ – FI
9 – MOL - MOL HUNGARIAN OIL AND GAS PLC - HU
10 – INER - INERATEC GMBH - DE
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