Deliverable report

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Technical coordination	FEV (DE) (www.fev.com)
Project management	Uniresearch (NL) (http://www.uniresearch.com)

Executive Summary

The main objective of the REDIFUEL project is to enable the utilization of various biomass feedstock to produce a drop-in renewable diesel sustainably via FT (Fischer-Tropsch) process. The proposed fuel complies with the EN590 standards and is consists of long-chain bio-hydrocarbons and bio-alcohols. Bio-hydrocarbon content in the fuel ensures high cetane hence, improved combustion performance and bio-alcohol content is crucial for emission reduction.

One of the base activities within the project is to propose the composition of the drop-in fuel based on the outcomes of the FT process and to identify various optimal blends of the selected drop-in fuel with EN590 diesel. A detailed analysis of the neat fuel, as well as proposed blends, is essential to ensure the compliance of the selected blends and neat fuel with EN590 standards. Fuel analysis provides an insight into various physico-chemical properties, it is of high importance and based on its outcomes, the composition of the neat fuel and blends will be finalized. After the finalization of the composition, the fuel, and the selected blends will be investigated in real applications to quantitatively assess the effects of the novel alcohol-enriched biomass-derived fuel on the engine performance, efficiency, engine wear, and emission characteristics. The present report provides an overview of the fuel formulation and fuel analysis steps of the project. The discussed results throw light on the various important physico-chemical properties of the proposed neat fuel and fuel blends.

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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 GmbH - 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
11 – T4F - TEC4FUELS - DE
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