Deliverable report

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Project acronym:	REDIFUEL
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Project website:	www.redifuel.eu
Technical coordination	FEV (DE) (www.fev.com)
Project management	Uniresearch (NL) (http://www.uniresearch.com)

Executive Summary

The overall objective in the REDIFUEL project is to develop and validate a novel and cost-competitive process for sustainable production of renewable diesel that is fully compatible with the EN590 fuel standard. The proposed drop-in biofuel is composed of high-cetane C_{11+} bio-hydrocarbons and C_6-C_{11} bio-alcohols resulting in improved combustion performance and reduced emissions - owing to the share of alcohols in the diesel blend.

One of the core activities in the project is the pilot-scale validation of the entire process chain to reach TRL5. The know-how gained in laboratory-scale development of Fischer-Tropsch catalyst and optimization of the hydroformylation step will be transferred to pilot plant level during the second year of the project. The thermochemical conversion route starting from biomass gasification and gas clean up to Fischer-Tropsch synthesis will be validated at VTT's Piloting Centre Bioruukki in Espoo (Finland) and hydroformylation of the C_5-C_{10} olefin fraction at Max Planck Institute in Mülheim (Germany). This report gives a short overview of the REDIFUEL concept as well as a description of the gasification/synthesis process assembly that serves as the experimental platform in the project.

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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 – 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
11 – T4F - TEC4FUELS - DE
12 – UNR - UNIRESEARCH BV – NL

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