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Challenges for alternative fuels for aeronautics - CAER project

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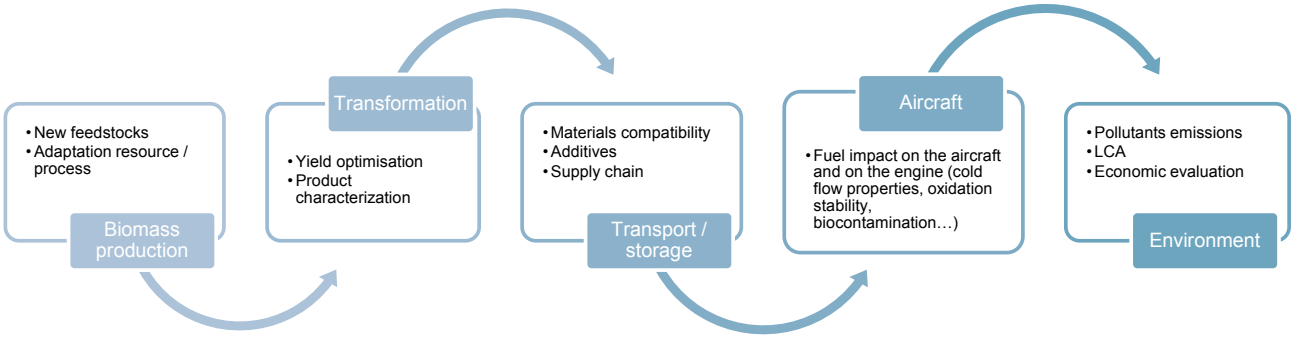
In the framework of CAER project (Alternative Fuels for Aeronautics), carried on between 2011 and 2015 by ten partners from aeronautics and fuel industries as well as research organizations, were addressed several key challenges of alternative fuels for aeronautics involving the use of alternative fuels in a safe, more efficient and economically viable way. The program proposed an integrated approach going from the fuel production to the aircraft. First, the project addressed the development of new biomass feedstocks to produce paraffins and lipids from yeast and microalgae and the optimization of transformation process. Second, the suitability of alternative fuels with the supply chain was addressed through the investigation of materials compatibility, storage stability and biocontamination. Third, the influence of alternative aviation fuels on aircraft operability was studied, this work involved the evaluation of coldflow properties, thermal stability, durability and pollutant emissions. The projects involved an economic and environmental study to evaluate the influence of the different biokerosene pathways on greenhouse gas gmissions, life cycle analysis and economic viability. The poster that is proposed for biofuels and bioenergy conference will present the approach and main results obtained on CAER project.

About CAER Project

CAER project was supported by the General Directorate for Civil Aviation (DGAC). It was conducted from 2011 to 2015 by a 10-member consortium composed of IFP Energies Nouvelles (Coordinator), CNRS, Dassault, Airbus Group Innovations, INRA, Snecma, Total, Air France, Airbus, INRIA. The members represent key partners from aeronautics and fuel industries and research organizations covering a large spectrum of expertise in the fields biochemistry, refinery, combustion, aircraft systems or industrial safety.



Biography

Arij Ben Amara has a Master thesis in "Energy and Engines" from IFP School and a Mechanical Engineering Diploma from SUPMECA Paris. She is a reserach engineer since 2012 at IFP Energies Nouvelles, a French Public Research Institute. She has published 6 papers in reputed journals and conferences and is author of 3 patents on engines and fuels suitability. Her research activity concerns mainly alternative fuels for aeronautics and automotive applications and fuels stability. She is teacher at IFP School and Ecole de Mines de Paris.

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