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CORE-JetFuel

Promising production technologies and value chains

Panel-II Introductory Presentation, CORE-JetFuel (EU)

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CAAFI – CORE-JetFuel Cooperation Workshop

Alexandria, April 28th 2016

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This project has received funding from the European Union's Seventh Programme for research technological development and demonstration under grant agreement No 605716

Bauhaus Luftfahrt Neue Wege.
SENASA
FNR Fachagentur Nachwachsende Rohstoffe e.V.
AIRBUS GROUP
IFP Energies nouvelles
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Questions & Discussion: 1. ASTM D5054 Certification and alternative fuel chemical structure

- How make certification shorter and how to decrease the cost, for example by using the feedback of the 5 previous certification?
- What about the maximum AFJ allowed in the final blend (50% for FT-SPK, HEFA SPA and FT-SPK/A, 10% for SIP, 30% for ATJ-SPK from isobutanol)
  - How to define the limit ?
  - Why so many different limits ?
  - What about AJF without a continuous distillation curve (SIP, ATJ-SPK) ?
  - Why 30% on ATJ-SPK ?
    - Related to some specific properties such as relationship between density and permittivity (dielectric constant) is a key property used in capacitance gauging systems ?
  - Why up to 100% (AFJ with a similar chemical structure & distillation curve than Jet A/A1 ?

Questions & Discussion: 1. ASTM D5054 Certification and alternative fuel chemical structure

- Current certified AFJ are mainly based on iso-P: what about fuels mimicking the existing fossil jet fuels with n-P, iso-P, N and a limited amount of aromatics but without sulfur (such as the ARA/CLG BIC process or Virent/Shell CPK)?
- What about the blending rules and possible advantages/disadvantages, when blending alternative fuels with petroleum based fuel depending on the chemical structure of both component fuels, as well as different distillation curves?
    - Do we need more research in the field (i.e., cold flow properties, stability..)?
- Research needs to focus on understanding of an appropriate test method and the effect of blending with different fossil fuel batches. A better understanding and data collection may help overcome these concerns and help relax blending limits in future (from an airframe perspective).
    - What' you opinion ?

Questions & Discussion: 2. Conversion + refining pathways to alternative jet fuels

- When looking at the high number of proposed pathways, could we make recommendations for some pathways based on technical/scientific, environmental, economic issues, as well as biomass availability and sustainability?
- How to “classify” these routes regarding risk and rewards?
  - What tools ?
  - What parameters can we use related to economics, GHG saving, industrial risk, flexibility of the process related to feedstock type and availability, etc…?
  - How to manage and to take into account uncertainty in order to make comparison, taking into account a reasonable level of uncertainty ?
- Can we very roughly predict what should be the best routes (industrial development, blending with petroleum based fuels, economics, GHG emission gain) ?
  - How can we do?