NISA

NISA+NER+DTU/KE Workshop

Sustainable Aviation Fuels
Nordens Hus, Copenhagen Nov20 2018

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NISA
Nordic Initiative for Sustainable Aviation

A short intro:

- **A more sustainable aviation:**
  - **Four fueling phases:**

  - Adjust and approve the use of fossil fuel
  - Bio- and synthetic alternative fuels, (sustainable)
  - Electrofuels (based on renewable energy)
  - Electric aircraft
    - Combinations, hybrids, transitions + maybe some not discovered yet…..

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- Dealing with a lot of challenges regarding best technologies, costs, feedstocks, - also there are difficult issues like approvals, certification issues, sustainability criteria, national and international framework, CORSIA, ETS, advanced biofuels, ILUC and much more.

- Aviation can compensate for their growth in CO2 emissions and leave it to others to reduce emissions, but the real long-term solution is that aviation, with help from developers and manufacturers, on its own will manage to reduce emissions.

- DTU, NER and NISA now invited interesting players on the development arena, - producers, developers and researchers from the Nordic countries and inspiration and inputs from international representatives.

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Todays 4 sessions:

- **Opening session –**
  - status/overview on SAF activities, decisions, conditions !
- **Pilot projects & Initiatives –**
  - actual projects and activities taking place/ Nordic
- **Technology solutions –**
  - **f**uture production possibilities, newest research etc
- **Discussions and networking –**
  - filled up with impressions and curiosity.
    - » Questions, discussion, wrap up + recommendations

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Nordic Energy Research

DTU Chemical Engineering
Department of Chemical and Biochemical Engineering

Nordic SAF -leadership? Policies – Technology options, Research needs & Markets

Sustainable Aviation Fuel - Workshop 2018:
Date: Tuesday, 20th November, 2018, - Time: 09:30 to 17:00
Venue: Nordens Hus, Ved Stranden 18, Copenhagen K - 1061, Denmark.

Opening session – Moderator Martin Porsgaard
09:30 Welcome by Svend Søyland NER, Nordic Energy Research
09:35 The Nordic SAF outlook by Martin Porsgaard, NISA
09.40 Introduction by Heriklia Gavala, Associate Professor, DTU
09.50 Aviation and climate challenges Denmark by Per Henriksen, Danish Aviation
10:00 Islandic Views regarding SAF possibilities by Jón Bernódusson, Islandic Transport Authority
10:10 Swedish SAF investigation process and plan by Maria Wetterstrand, appointed by Swedish Government
10:30 Global SAF initiatives: EU RED II, CORSIA, Airbus and Boeing by Frederic Eychenne + Claire H. Guilhot

10:55 – Coffee Break

11:10 Facing the challenge: Decisions, visions and projects in Norway by Olav Mosvold Larsen, Avinor

Pilot projects & Initiatives – Moderator Anker Degn Jensen, DTU
11:25 Sustainable Biorefining Platform by Lasse Rosendahl, Aalborg University
11.40 SAS/PREEM Sustainable Aviation Fuel agreement and project by Sören Eriksson, PREEM
11:55 Catalytic Pressureless depolymerization by JP Morgan Friberg, Swentep
12:10 Production- and delivery-solutions from Neste, Finland by Virpi Krüger
12:25 Production- and delivery-solutions from AirBP by Thorbjörn Larsson
12:40 Haldor Topsøe views on Sustainable Aviation Fuels by Jostein Gabrielsen + Sylvain Verdier

12:55-13:45 – Lunch/networking

SAF technology solutions – Moderator Thomas Petersen, Aalborg University
13:45 Catalytic hydro pyrolysis for Sustainable Aviation Fuel by Anker Degn Jensen
14:00 Biomass gasification as a pathway for Sustainable Aviation Fuel by Jesper Ahrenfeldt
14:15 Electrofuels/RE- Fuels/Power to X by Peter Holtappels
14:30 Bio-refining with focus on Biomanufacturing for SAF by Heriklia Gavala
14:45 Biobutanol as production pathway by Helena Junicke
15:00 CERE Computer Aided Design by Georgios Kontogeorgis

15:15 – Coffee Break/networking

16:00 Discussion and questions on presented solutions, - by the moderators
16:30 Considerations/inputs from producers, buyers and investors, moderated by Erik Wormslev
16:45 Today's Highlights, wrap up and recommendations by Erik Wormslev, NIRAS and Robert Arendal
17:00 End of Program