

NISA

Nordic Initiative for Sustainable Aviation

8. december 2016
Folketingets høring om luftfart

Global luftfart

Vokser

4-5% pr år

700 mil tons

CO₂ (2014)

2% af den

menneskeskabte CO₂

En uundværlig

del af transportsektoren



Industrien

Har et stort ansvar

Målet

At gøre luftfarten
bæredygtig

også klima- og
miljømæssigt

Klimaudfordringen

Udfordringen

er global

Behov for

internationale
reguleringer

Industrien

aktiv med mål og
forbedringsplaner

CO2 akkreditering

AIC/airports



70% forbedret
brændstof-effektivitet
over de seneste 55 år

1-1,5%
tekn.
forbedringer pr år

Luftfart omfattet
-af EU's kvotehandel ETS

-ICAO's CORSIA
(Carbon Offsetting and Reduction Scheme
for International Aviation)

-CO₂ standard for nye fly

Klima aktivitets-plan



GLOBAL GOALS

**-1,5% forbedring
pr år**

**-CO₂ neutral
vækst fra 2020**

**-Minus 50% CO₂
i 2050**



PILLARS OF CLIMATE ACTION

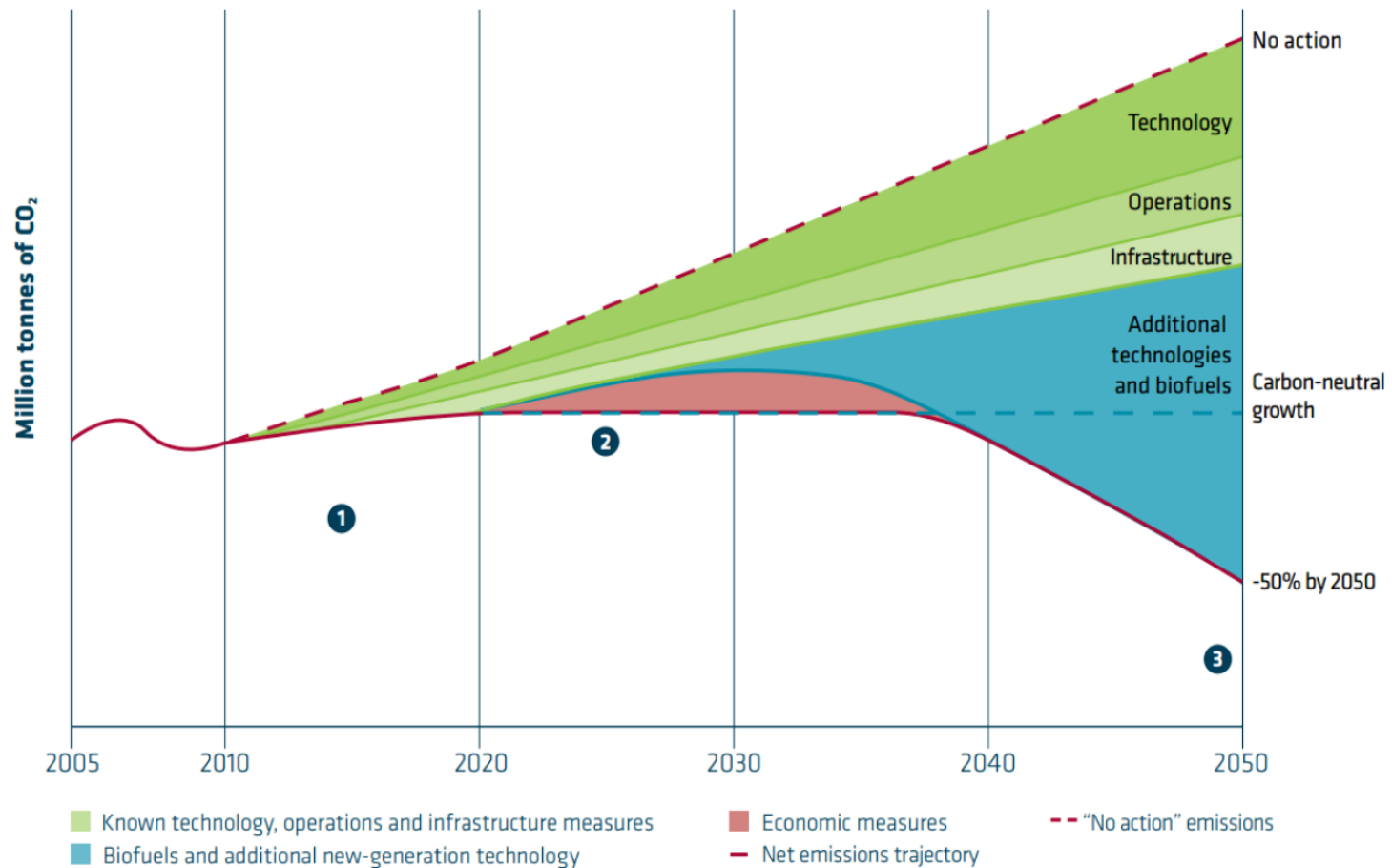
-Teknologiske

-Operative

-Infrastruktur

**-Markedsbaserede
virkemidler**

COMMITMENTS



Source: ATAG, 2013

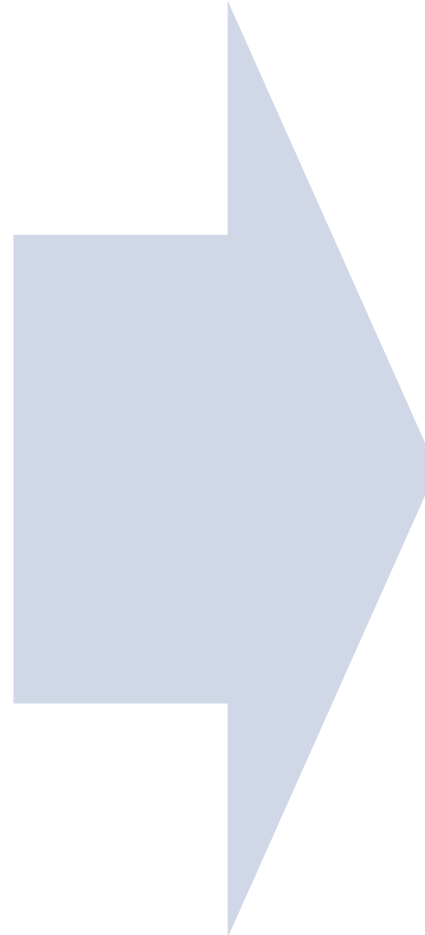
Bæredygtig jetfuel

Vi:

Analyser
Seminarer
Nationale og nordiske rapporter
International koordinering
Kommercielle aftaler/flyvninger
Samarbejde med mulige producenter

Andre lande:

Analyser
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**Samstemmende
erfaringer**

Nordisk flybranche engageret i bæredygtig jetfuel:

Branchen forpligtet til CO2-reduktioner og en fossilfri fremtid

Ingen alternativer til det flydende brændstof på forholdsvis lang sigt

Branchen er klar – kommet langt i forberedelserne

Specifikationerne på plads – ingen ændringer i motorer og eksisterende udstyr

Bæredygtig jetfuel kan fremstilles, - mange muligheder

Åbner for innovation, beskæftigelse, investeringer, selvforsyning mm

+

Høj prioritet hos nordiske lufthavne og flyselskaber

SAS og Finnair: Kommercielle flyvninger med iblandet biofuel

Gardermoen: Har introduceret biofuel i tankanlægget

Helsinki: Arbejder på en tidsbegrænset model med aftale om offentlig støtte

Københavns Lufthavne: Deltager i projekt med omdannelse af affald til biofuel

Konklusioner fra dansk og nordisk studie:

- Tilstrækkelig biomasse: Skov, papirproduktion, landbrug, industri- og husholdningsaffald
- Vi har veludviklede teknologier og forskningsmiljøer der kan bidrage innovativt
- Raffinaderier der kan færdigbehandle bio-råolie til jetfuel

MEN - alvorlige mangler:

Beslutninger vedr forsyning af biomasse/råvarer og valg af teknologier

Politiske mål for luftfartens CO2 reduktioner

Der er et stort prisgab mellem fossil og bæredygtig jetfuel

Initiativer der kan kick-starte processen for at udfylde prisgab

Rapporterne:

<http://www.nordicenergy.org/article/seminar-on-sustainable-aviation-fuel-shows-positive-momentum-among-stakeholders/>

www.cleancluster.dk/misa
<http://cleancluster.dk/wp-content/uploads/2016/08/sustainable-fuels-for-aviation-danish-aviation.pdf>

Behov for:

Politisk opbakning og guidelines vedr bæredygtig jetfuel

Bør integreres i regeringens luftfartsstrategi

Tværgående koordinering (sektorer, myndigheder, forskning)

Nordisk samarbejde (råvarer, teknologier, investeringer og kompetencer)

●

**OUR ENVIRONMENTAL
VISION IS TO BE A PART OF
LONG-TERM SUSTAINABLE
SOCIETY**

**IT SHOULD BE POSSIBLE TO
FLY WITH NO FOSSIL-FUEL
CO2 EMISSIONS BY 2050**

We are

An association working to promote and develop a more sustainable aviation industry

Main purposes: Facilitate, coordinate and push forward the development of sustainable and alternative fuel for the aviation industry

Overall objectives are:

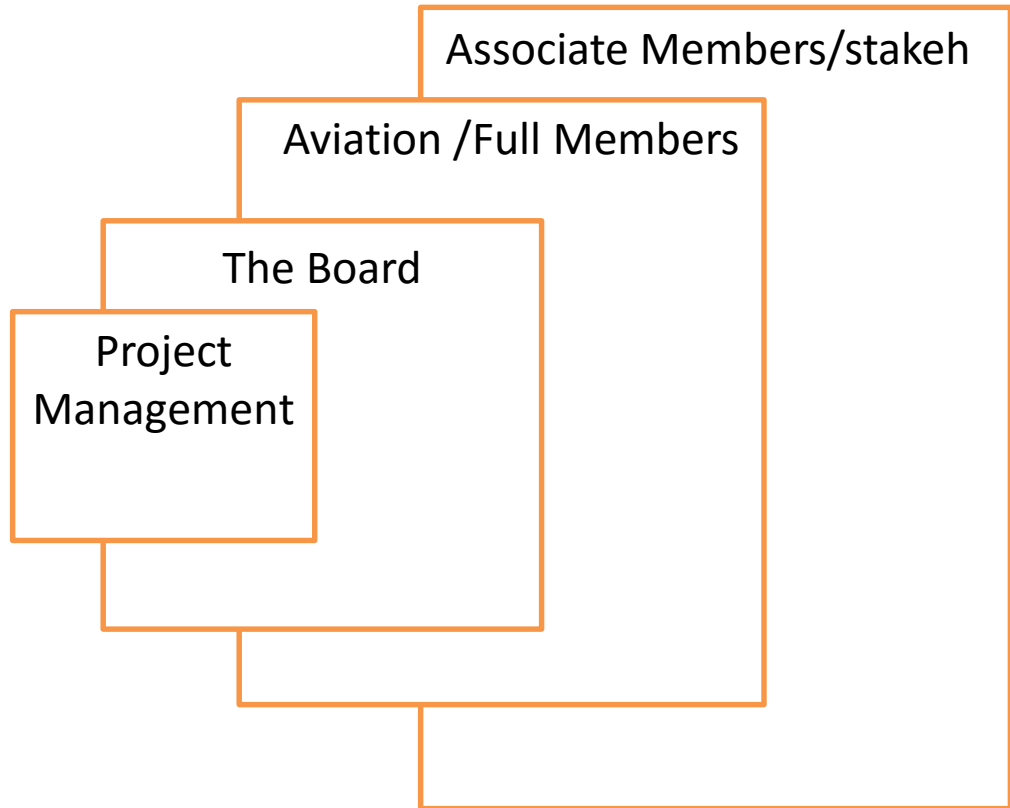
Helping catalyzing and promoting by no later than 2016 at least 3 pilot projects covering the value chain for sustainable jet fuel

Catalyzing the development of a business case by 2015-2016 for a project covering a full scale biofuel production for aviation in the Nordic Region

Contribute to ensure the Nordic region as a minimum meets its share of the EU Flight Path target of 2 million tons or more of sustainable jet fuel in 2020

Organization

SAS
Swedavia
Avinor
Copenhagen Airports
Airbus
Boeing
Finnair
Finavia
Atlantic Airways
Air Greenland
Icelandair
TUI Fly Nordic
Danish Confederations/BDL
NHO Luftfart
IATA
Svenskt Flyg
FlygBranschen
Ministry of Transport
Danish Transport Authority
Isavia, Reykjavík
Swedish Transport Agency
Energimyndigheten
Energistyrelsen



Org/company	Country
SAS	Sweden, Denmark, Norway, Finland
NISA	Nordic
Swedavia	Sweden
Avinor	Norway
Copenhagen Airports	Denmark
Airbus	France, Germany, UK
Boeing	USA/UK
Finnair	Finland
Finavia	Finland
Atlantic Airways	Faroe Islands
Air Greenland	Greenland
Icelandair	Iceland
TUI Fly Nordic	Sweden
Danish Confederations/BDL	Denmark
NHO Luftfart	Norway
IATA	Switzerland
Svenskt Flyg	Sweden
FlygBranschen	Sweden
Ministry of Transport	Finland
Danish Transport Authority	Denmark
Isavia, Reykjavík	Iceland
Swedish Transport Agency	Sweden
Energimyndigheten	Sweden
Energistyrelsen	Denmark

Sustainability is key

(Corporate social responsibility)

- Not just a word - but a safeguard for a growing future aviation
- Push for solid sustainability criteria for biomass and processes
- Total sustainable supply chains
- Sufficient Life Cycle Analysis
- Encourage the development and adoption of a global sustainability standard (RSB)



SAFUG

- Exhibit minimal impact on biodiversity
- Meet a sustainability standard with respect to land, water, and energy use
- Do not displace or compete with food crops
- Provide a positive socioeconomic impact
- Do not require any special fuel handling equipment, distribution systems, or changes to engine design

Regional Biofuel-consortia/initiatives established

Brazilian Alliance for Aviation Biofuels, ABRABA Brazil

Aviation Initiative for Renewable Energy in (AIREG) ([Germany](#))

AlfaBird, Sustainable Way for Alternative Fuels in Aviation and Flight Path 2020 ([EU](#))

Initiatives for the Production and Consumption of Biojet Fuel for Aviation ([Spain](#))

Saltwater Tolerant Biomass As A Source of Aviation Fuel, ([Abu Dhabi](#))

Commercial Aviation Alternative Fuels Initiative (CAAFI) ([US](#))

Flight Path to Sustainable Aviation Fuels CSIRO ([Australia and New Zealand](#))

NISA, [The Nordic Countries](#)

Also initiatives in [Indonesia](#), [China](#), [Mexico](#), [Qatar](#), [Italy](#) and more....

[Airbus and Boeing](#), - several engagements globally, - and as well [ICAO](#) and [IATA](#) of course plays overall coordinating and supporting roles

Aviation Sustainable jetfuel

**NISA
Progres
Plan:**

**National
studies
to
Nordic
Flight
Path**

Prestudy phase - February / Aug 2014

September 2014

July 2015 – Summer 2016

Ultimo 2016

- Network/pre-studies/initiatives Sweden
- Network/pre-studies/initiatives Norway
- Network/pre-studies/initiatives Denmark
- Network/pre-studies/initiatives Finland
- Network/pre-studies/initiatives Other/International initiatives

Nordic Workshop

Invited stakeholders from authorities, researchers and the supply chain

Outcome:

1. Dialogue and collaboration - cross borders
2. First step to a Nordic Study in sustainable jetfuels

Nordic study

Nordic perspectives in the use and production of advanced biojetfuels

Co-funded by Nordic Council of ministers

Steering group: Representatives from authorities in all the Nordic countries and NISA

Outcome:

1. Nordic Route Forward
2. Recommendations
3. Nordic potentials
4. Policy paper/ICAO 2016

Nordic Flight Path Business case

Biofuels for aircraft

The Nordic Council of Ministers has launched a study of the climatic impact and commercial potential of using biofuels for aircraft. Spring, 2015



Green aviation

“I hope that a Nordic approach will identify there is potential for green growth in biofuels for aircraft. Denmark can’t propel this by itself, but the prospects may change dramatically if the Nordic countries join forces,” Minister of climate and energy

“I hope that this Nordic initiative will teach us a great deal about advanced biofuels for aircraft and help the industry pursue its global climate ambitions....”