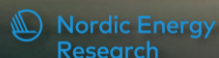
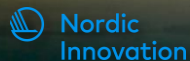


**COP26  
Side Event**

## Nordic Sustainable Aviation – skymiles ahead?

8. November 2021



# Nordic Sustainable Aviation

Niels Buus Kristensen



Project team: Inga Margrete Ydersbond  
Harald Thune-Larsen  
Niels Buus Kristensen



14 JULY 2021 **NEWS**

## United Airlines signs deal to acquire 100 Heart Aerospace ES-19 aircraft



United commits to reducing its greenhouse gas emissions by 100% by 2050. Credit: © United Airlines.

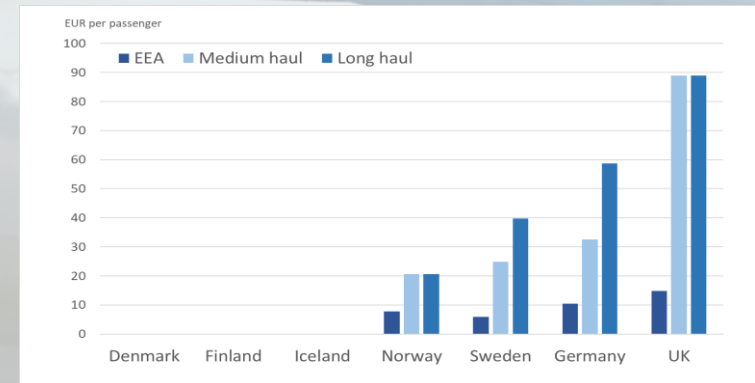


# Potential Nordic policy measures

- Blending mandate
- CO<sub>2</sub> reduction requirement
- SAF fund (SAF = Sustainable Aviation Fuel)
- Fuel tax
- Passenger tax

*National policies are assumed to be replaced  
by the common Nordic framework*

## Current passenger taxes in the Nordics and selected neighbouring countries



### Norway has in addition:

- a **domestic fuel tax** and
- a **0.5% blending mandate** for advanced biofuels



# Nordic policy scenarios and calculation results

## Four alternative policy scenarios

(A) **Blending mandate of 30% SAF** in jet fuel for all scheduled departures from Nordic airports.

(B) **SAF fund** financed by Government budget pays the price differential between SAF and fossil jet fuel for **30%** of total Nordic jet fuel volumes.

(C) **Fuel tax of 0.33 EUR per litre** fossil jet fuel (130 EUR per tonne CO<sub>2</sub>) for all scheduled departures to **Nordic destinations** from Nordic airports. Equivalent to Energy Tax Directive's minimum tax.

(D) **Passenger taxes of 10.43 / 58.63 EUR per passenger** for all trips to EEA countries and to the rest of the world. Similar to the 2020 level of the German passenger tax (ignoring the medium haul tax rate at 32.57 EUR for simplicity).

(A2) CO<sub>2</sub> reduction requirement similar to (A)

Nordic Policy Measure	Ticket price [ % ]	Demand change [ % ]	CO <sub>2</sub> emissions [ % ]	Tax revenue [ bill. EUR ]	Extra fuel costs [ bill. EUR ]
<b>(A) Blending requirement [ 30% ]</b>	<b>0%</b>	<b>0%</b>	<b>-30%</b>	<b>-</b>	<b>0.95</b>
Domestic	-5%	4%	-27%	-	0.31
Nordic	3%	-2%	-31%	-	0.14
Europe	3%	-2%	-31%	-	0.36
World	2%	-1%	-31%	-	0.14
<b>(B) SAF fund [ 30% ]</b>	<b>-6%</b>	<b>4%</b>	<b>-28%</b>	<b>-</b>	<b>0.99</b>
Domestic	-11%	9%	-24%	-	0.32
Nordic	-5%	3%	-28%	-	0.15
Europe	-2%	1%	-29%	-	0.37
World	-2%	1%	-30%	-	0.15
<b>(C) CO<sub>2</sub>-based fuel tax [ 0,33 EUR / litre ]</b>	<b>1%</b>	<b>0%</b>	<b>0%</b>	<b>0.82</b>	<b>-</b>
Domestic	1%	0%	0%	0.56	-
Nordic	9%	-5%	-5%	0.26	-
Europe	-2%	1%	1%	-	-
World	-2%	1%	1%	-	-
<b>(D) Passenger tax [ 10,43 / 58,63 EUR ]</b>	<b>4%</b>	<b>-2%</b>	<b>-2%</b>	<b>1.69</b>	<b>-</b>
Domestic	3%	-2%	-2%	0.67	-
Nordic	8%	-5%	-5%	0.25	-
Europe	4%	-2%	-2%	0.38	-
World	9%	-3%	-3%	0.39	-





# Comparative assessment of the five policy measures

Assessment of measure with regard to:	SAF blending requirement	CO <sub>2</sub> e reduction requirement	SAF Fund	Fuel tax	Passenger tax	SAF fund & Passenger tax
Overall CO <sub>2</sub> -reduction impact	YES	YES	YES	yes	yes	YES
<b>Flights outside the Nordics</b>	YES	YES	YES	NO	YES	YES
Reducing demand: Fewer trips Shorter distance	yes	yes	NO	YES	YES yes	YES yes
Fuel efficient operations (1)	yes	yes	NO	YES	NO	NO
Using (more) sustainable fuels	yes	YES	YES	yes	NO	YES
Market creation for SAF	yes	yes	YES	no	NO	YES
<b>Avoid leakage risks</b>	NO	NO	YES	no	yes	yes
Government budget revenue	no	no	NO	yes	YES	yes
Polluter-pays-principle	yes	YES	NO	YES	yes	yes
Cost effectiveness	NO	no	yes	YES	NO	yes
Administrative burden minimised	no	NO	yes	no	yes	yes
International regulation compliance	YES	YES	yes	yes	YES	yes

(1) Including occupancy rate, cruise speed, etc.

(2) Tankering or displacing operations abroad. The leakage risk is less for a fuel tax than for a SAF blending and CO<sub>2</sub> reduction requirement because the fuel tax is assumed to be imposed only for flights within the Nordics.

# Main policy recommendations for promotion of Sustainable Aviation Fuels (SAF)



**Supply side measures** with a long-term perspective are needed to promote sustainable aviation.

In a 2030 perspective, this will in practice mean pushing for a gradual increase to significantly higher share of SAF of total jet fuel consumption.

A combination of establishing **SAF fund and a passenger tax** or payment on all aviation may

- minimise carbon leakage from tankering and
- provide financing mechanism for the additional costs of a significant share of SAF in total jet fuel consumption.

**Demand side measures** in terms of increased taxation can remedy excessive air travel

- Aviation is under-taxed compared to its climate impact and to other consumption, in particular road transport.

However, national or Nordic taxes alone are not likely to lead to a profound leap forward toward sustainable aviation over the next decade under existing international regulation.

**A joint Nordic policy framework** consisting of

- a joint Nordic (or parallel national) SAF fund(s)
- financed by harmonised Nordic passenger taxes will enhance efforts to create significant and stable volumes of demand for SAF toward 2030.

Such long-term demand commitments will enhance opportunities for large scale production by reducing investor risks.

# Political commitment to XX% SAF in 2030 can create a market



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# Nordic aviation taxes can reduce air travel but hardly drive sustainable aviation alone



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# Passenger taxes can finance the price premium for Sustainable Aviation Fuels



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# A Nordic SAF fund and harmonized passenger taxes can pave the way for significant SAF volumes in 2030



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# *A common Nordic vision for sustainable aviation*

*backed by an ambitious joint target for the share of renewable energy in aviation by 2030*

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- The direct advantages of common Nordic initiatives for sustainable aviation are in terms of harmonization and scale compared to national initiatives
- But arguably , the most significant overall impact might be via its influence on European and international climate change policy



# RefuelEU Aviation

REGULATION ... on ensuring a level playing field for sustainable air transport



Brussels, 14.7.2021  
COM(2021) 561 final  
2021/0205 (COD)

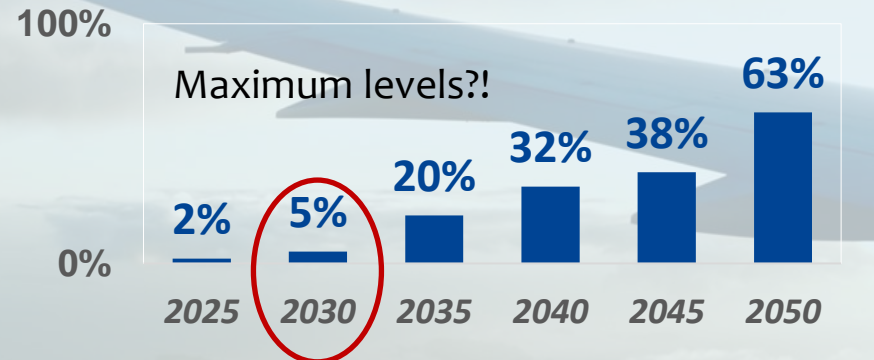
Proposal for a

**REGULATION OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL**  
**on ensuring a level playing field for sustainable air transport**

(Text with EEA relevance)

{SEC(2021) 561 final} - {SWD(2021) 633 final} - {SWD(2021) 634 final}

## Blending mandate



Nordic policy proposal:  
**SAF-fund + passenger tax**



"Ideal" European policy:  
**Blending mandate + CO<sub>2</sub>-tax/ETS**





*Thank you for the attention!*

*Perito Moreno in Los Glaciares National Park, Argentina  
– on of the world's very few non-retreating glaciers ...*

*Photo: © Niels Buus Kristensen*

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**toi**