

Klimawandel Freie Fahrt der Luftfahrt Geschichte der regulatorischen Erfassung

Fluglarmbekämpfung Frankfurt

Bill Hemmings

Rosetta Advisory Services,
Brussels whemmings@gmail.com

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~~Net Zero 2050~~ ~~2030 is the new 2050~~ 2030 starts today

IPCC, IEA, EU, UKCCC, Biden (domestic)

- Cut CO2 50% by 2030
- Cut shortlived climate forcers by at least 35%

UK/Fit for 55 - main focus post 2030 SAF; new technology

Destination 2050/IATA/ICAO – all post 2030/2050 net zero

- not far short of greenwash

Covid – unique chance to reset - verschwendet

Total climate impact = 3X all CO2 since Wright Bros

- Aviation climate warming impact 2018 ~ 6% of global
- Avia on way to consume 6-17% 1.5°C budget left

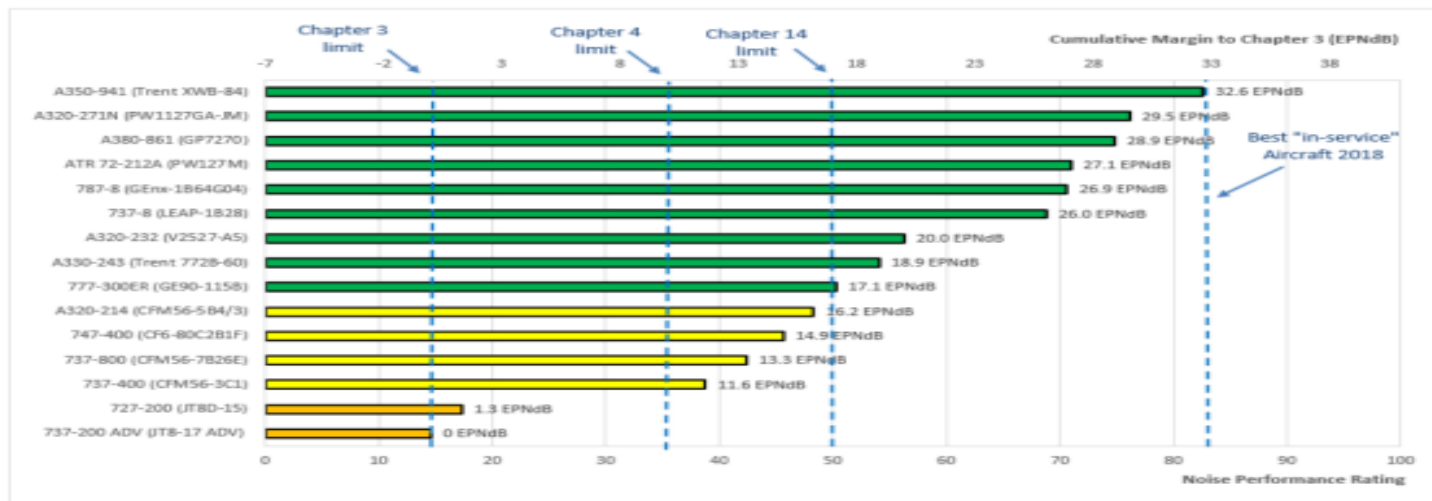
Friedhof der Umweltambitionen



Alle ICAO-Flugzeug-Umweltnormen technology following

- CO2 standard 2016– straight line
- LTO NOx – last revision in 2014
- LTO NvPM 2021 – wont reduce LTO PM at all
 - <https://www.regulations.gov/comment/EPA-HQ-OAR-2019-0660-0181>
- Chapter 14 Noise
- EASA Basic Regulation – EU cannot go beyond ICAO

Noise Performance of Example Products



CORSIA and Aviation ETS

- International/domestic emissions split was 60/40%
- During Covid 10/90%. Now 25/75%?
- CORSIA no impact before 2027
- Offsetting does not reduce aviation emissions
- ICAO 2022 Assembly – Long Term Goal -
- ETS - another form of offsetting
- Reductions in cheapest abatement sectors first
- Intra EU aviation CO2 increase 2012-2019 ~30%
- Post Brexit restoration EU/UK ETS
- one third of ETS emissions
- Cross channel free allowances

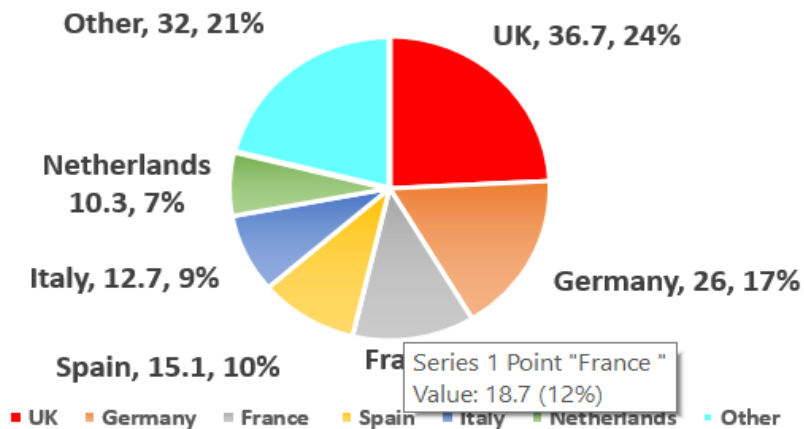
Fit for 55

- EU almost alone in implementing Corsia
 - Who else will?
- Parliament wants full scope ETS
 - The two are incompatible
- Parliament wants to integrate non CO2 in ETS MRV
- Council says no. What is Germany's position?
- SAF mandate – works without effective demand management?
- Who will pay?
- No SAF in Nato pipelines
- H2/electric aircraft = kick regulatory can down the road

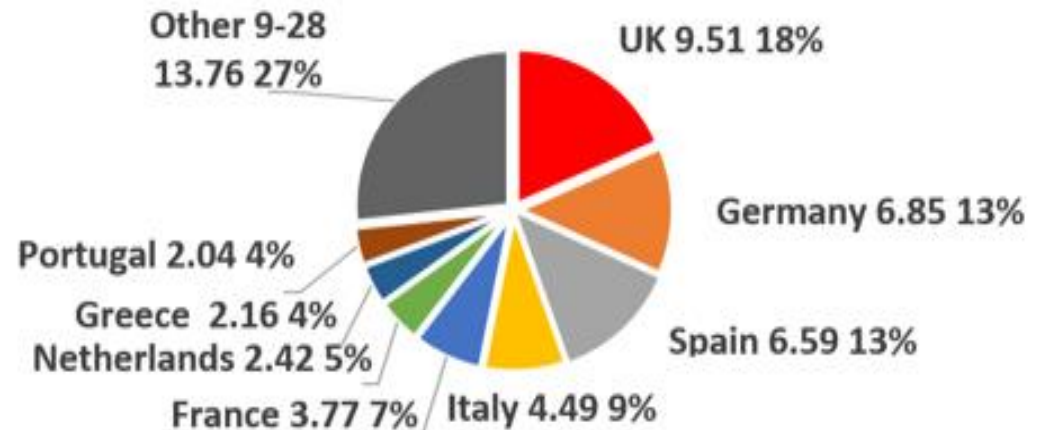
Welche Rolle spielt Deutschland??

Germany #2 in Europe. #1 EU emitter

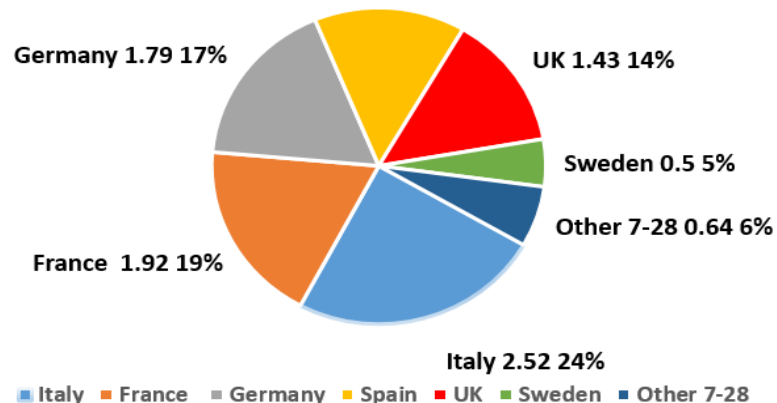
Total EU 28 151.5Mt CO2



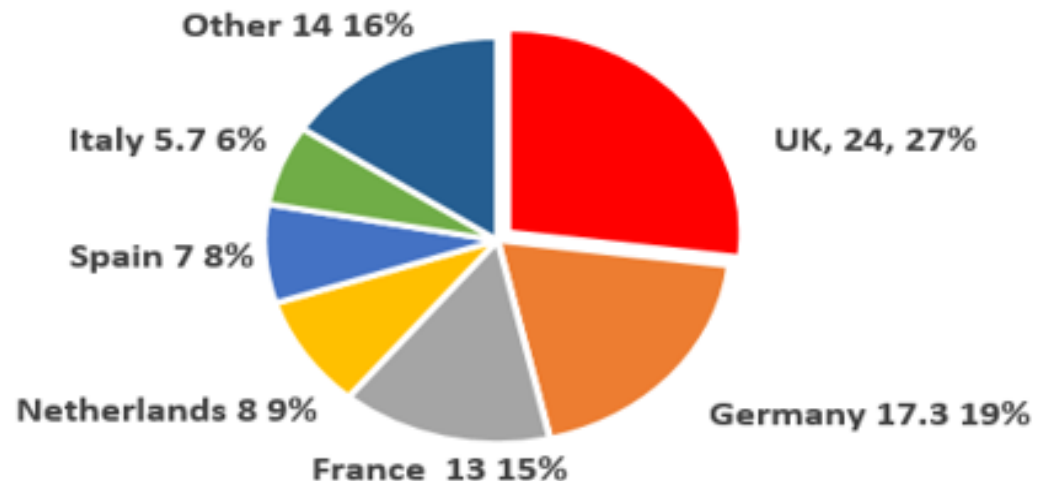
Intra EU 28 51.6Mt CO2



Domestic EU 28, 10.3Mt CO2



Extra EU 28 89Mt CO2



Was sofort zu tun ist

- Carbon pricing/polluter pays
 - Fuel taxation
 - Ticket taxes
- Demand management
- Corporates and corporate travel
- Clean fuels – surcharges, Corporate fuel charges
- Cut aromatics/sulphur in kerosene today
- Restrict airport expansion = Reg 1008 2008
- Modal shift – 1008/2008
- Report non CO2 impacts in EU ETS
 - Then charge for them
- Contrail avoidance flight trials – DKult, MUAC
- Cruise NOx charge

So viele Länder besteuern den Luftverkehr

Domestic Fuel Tax

Argentina	Laos
Australia	Mexico
Armenia	Myanmar
Azerbaijan	Nepal
Bolivia	Norway
Brazil	Paraguay
Canada	Peru
Chile	Philippines
Colombia	Rwanda
Costa Rica	Saudi Arabia
DRC	South Africa
Dominica	Sri Lanka
Ecuador	Switzerland
Ethiopia	Taiwan
Guatemala	Tanzania
Hong KongR	Tchad
India	Thailand
Indonesia	Uganda
Japan	USA
Jordan	Venezuela
Kenya	Vietnam

Ticket Tax

Australia	Ireland
Austria	Indonesia
Bangladesh	Italy
Brunei	Japan
Bermuda	Lebanon
Brazil	Luxembourg
Canada	Malaysia
Cambodia	Mexico
China	Norway
Costa Rica	Palau
Cuba	Finland
Dominican R	Panama
Ecuador	Peru
Egypt	Philippines
France	Saudi Arabia
Fiji	Sri Lanka
Germany	Sweden
Guyana	South Africa
Honduras	Thailand
Hong Kong	Tunisia
Hungary	Turkey
Iran	UK



Tax Exemption on Jet Fuel

International exemption must be maintained on jet fuel used in international travel.

The decision to exempt jet fuel is based on the recognition by States that the situation of international air transport is unique in the field of taxation. Unlike other types of businesses that operate across national borders, airlines rely on the use of aircraft that carry and consume large amounts of fuel between various tax jurisdictions, with a considerable percentage of these operations occurring outside of any tax jurisdiction (i.e. over the high seas) or across multiple jurisdictions. Governments also recognized that taxation would act as an obstacle to the development of air transport, which plays a key role in international cooperation and the development of nations around the world.

<https://www.iata.org/contentassets/4eae6e82b7b948b58370eb6413bd8d88/iata-position---tax-exemption-on-jet-fuel.pdf>

G20 Rome Leaders' Declaration

31 October 2021

International taxation. The final political agreement is a historic achievement through which we will establish a more stable and fairer international tax system

CLIMATE CHANGE

00/2022

Interim report

Decision parameters of an MRV scheme for integrating non-CO₂ aviation effects into EU ETS

by:

Malte Niklaß, Florian Linke
DLR Air Transportation Systems, Hamburg

Katrin Dahlmann, Volker Grewe, Sigrun Matthes
DLR Institute of Atmospheric Physics, Oberpfaffenhofen

Martin Plohr
DLR Institute of Propulsion Technology, Cologne

Sven Maertens, Florian Wozny, Janina Scheelhaase
DLR Institute of Air Transport and Airport Research, Cologne

publisher:

German Environment Agency

Sulphur and Soot PM



Table 1. Costs (positive) and benefits (negative) of naphthalene removal.

	Component	Hydrotreatment (¢/liter)		Extractive Distillation (¢/liter)	
		Median	95% CI	Median	95% CI
Processing	Refinery	2.4	2.0 – 2.7	1.7	1.5 – 2.0
Air quality	nvPM	-0.004	0 – -0.01	-0.009	0 – -0.03
	Fuel sulfur	-0.51	-0.28 – -0.73	0	
Climate	nvPM	-0.02	0 – -0.04	-0.04	-0.01 – -0.09
	Fuel sulfur	1.06	0.15 – 2.85	0	
	Contrails	-0.16	-0.04 – -0.44	-0.38	-0.09 – -1.0
	Refinery CO ₂	0.46	0.08 – 1.19	0.48	0.08 – 1.27
Total		3.2	2.2 – 4.7	1.8	1.0 – 2.5

Sulphur and soot (black carbon) can be cut in kerosene today through hydrotreatment.
Ongoing opposition in EU and Germany not to do this but wait for SAF.

Potential for reducing aviation non-CO₂ emissions through cleaner jet fuel

CE Delft

The impacts of aviation fuels on contrail formation

Subtitel

CE Delft
Committed to the Environment