NATIONALER WASSERSTOFFRAT

STATEMENT **2021-10-29**

Fit for 55 dossier RefuelEU Aviation

CLASSIFICATION

The path towards emission-free aviation requires not only evolutionary improvements but also radical steps in technologies in many areas as well as the corresponding infrastructures. In addition to revolutionary aircraft and propulsion concepts, sustainable energy sources (synthetic fuels, hydrogen, etc.), changed flight routes, shifts in traffic (e.g., increased rail usage) and traffic avoidance contribute to this[1].

Especially in view of the global growth in air traffic, a significant reduction in the ecological footprint of aviation is a central task for research, industry and society. Aviation today is responsible for about 2.5% of global manmade CO_2 emissions[2]. If the effects of non-CO_2 emissions such as water vapour and nitrogen oxide are added, the influence of aviation on global warming increases to around 3.5%[3]. According to emission reporting for the Framework Convention on Climate Change, in 2019 Germany emitted about 2 million tonnes of CO_2 from national aviation and about 30 million tonnes of CO_2 from international aviation.

RECOMMENDATIONS OF THE GERMAN NATIONAL HYDROGEN COUNCIL (NWR)

In the following, 'sustainable fuels' or 'sustainable aviation fuels' (SAFs) are also used as an umbrella term for 'synthetic fuels'.

- **Higher level of ambition:**

The ramp-up path proposed in the regulation does not sufficiently cover the necessary steps in terms of sustainable energy sources to achieve climate neutrality by 2050. In the context of climate policy, we consider it necessary and also technically feasible to cover 100 per cent of the fuel demand by 2050 using SAFs. On the whole, this concerted approach will already enable significantly reduced emissions from air transport in the short term.

[1] German National Hydrogen Council: Hydrogen in aviation, 2021.
[2] Cf. ibid.
[3] D.S. Lee et al.: The contribution of global aviation to anthropogenic climate forcing for 2000 to 2018, Atmospheric Environment 244 (2021) 117834, Elsevier, 2020.

◆ **Plannable ramp-up:**
The proposed curve for sustainable and synthetic fuels is not smooth; instead, it rises very erratically. The largest jump in blending is only made in the period 2045–2050 (25% and 17% respectively). This allots an unrealistically large part of the reduction contribution of sustainable and synthetic fuels to the last five years. In the interests of an ambitious reduction of aviation's ecological footprint as well as in the interest of improved planning security for manufacturers, a continuous ramp-up beginning at 2035 (e.g., a linear or exponential ramp-up) would be desirable.

◆ **Higher quantities for synthetic fuels up to 2030:**
The Commission's proposed target of 0.7% for synthetic fuels by 2030 does not provide sufficient investment incentive. However, this incentive is necessary to exploit the advantages of synthetic fuels in terms of, among other things, scalability and combustion compared to biofuels. In order to invigorate the market and to support the ramp-up phase, more ambitious and technologically feasible targets of 0.8% by 2027 and 2.5% by 2030 should be aimed for.

◆ **Uniform regulations:**
With regard to the present legislative proposal, due to the international dimension of air traffic, it is important to implement uniform and coordinated measures and procedures in the internal EU market. This concerns, for example, the extent of fines. A coordinated approach provides the basis for fair competitive conditions (level playing field), and it is a prerequisite for meeting the sector's environmental responsibility. This is also crucial in order to counteract, for example, the phenomenon of tankering (carrying an additional quantity of fuel that exceeds the calculated need to cover the flight distance, including the legally required reserves), at least in the internal EU market.

◆ **Reporting:**
We welcome the division of responsibility between a refuelling obligation for the airlines and thus for the fuel as such and a blending obligation for the fuel producers. The settlement of the proposed refuelling obligation over the entire course of the year also creates meaningful flexibility in flight operations; this should also be possible as regards accounting. With regard to the concrete implementation, attention should be paid to a sensible balance between additional administrative effort (monitoring, reporting) and feasibility in flight operations.

◆ **Usage of hydrogen:**
Further significant improvements are possible through the use of hydrogen in combustion processes or fuel cells as this can reduce emissions of CO_2, soot and aerosol precursors to (near) zero. The development of associated technologies and the analysis of climate impact of emitted water vapour depending on the respective flight altitude and the areas flown over require increased scientific study.

◆ **Certification and approval:**
The ramp-up path has to be aligned with the required production capacities as well as the applicable legal framework in order to be able to ensure fulfilment of the commitment on part of the stakeholders (including aircraft manufacturers, airlines and fuel suppliers). It should be noted that, depending on the production process and fuel used, full utilisation is currently not possible due to lacking approval. Efforts are therefore needed in the area of regulatory approval of sustainable fuels and the corresponding systems that form the basis for comprehensive use of sustainable fuels.

In summary, bold steps are needed from research, industry and politics to initiate a path to decarbonisation and defossilisation in zero-emission aviation. Ambitious targets for sustainable aviation fuels are the first important step towards achieving this. EU-wide coordinated framework conditions, the promotion of sustainable technologies and fuels as well as efforts towards uniform European airspace management represent further core components in this respect and need to be pursued accordingly.

APPENDIX

47 million tonnes of kerosene for domestic and international flights within the EU

	2027	2030
Quota	**0.8**	**2.5**
corresponds (in million t kerosene) to approx.	0.4	1.2
corresponds (in GW electrolysis) to approx.	1.9	5.8

NATIONALER WASSERSTOFFRAT

THE GERMAN NATIONAL HYDROGEN COUNCIL

On 10 June 2020, the German Federal Government adopted the National Hydrogen Strategy and appointed the German National Hydrogen Council. The Council consists of 26 high-ranking experts in the fields of economy, science and civil society. These experts are not part of public administration. The members of the National Hydrogen Council are experts in the fields of production, research and innovation, industrial decarbonisation, transportation and buildings/heating, infrastructure, international partnerships as well as climate and sustainability. The National Hydrogen Council is chaired by former Parliamentary State Secretary Katherina Reiche.

The task of the National Hydrogen Council is to advise and support the State Secretary's Committee for Hydrogen with proposals and recommendations for action in the implementation and further development of Germany's National Hydrogen Strategy.

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