



Jet Zero Council – Inaugural Session
13:00 – 14:00, Wednesday 22nd July 2020
Virtual Meeting

Attendees

Ministerial attendance

- Rt Hon Boris Johnson MP – Prime Minister
- Rt Hon Grant Shapps MP – Secretary of State for Transport (Joint Chair)
- Rt Hon Alok Sharma MP – Secretary of State for Business, Energy, and Industrial Strategy (Joint Chair)
- Rt Hon Rachel Maclean – Parliamentary Under Secretary of State for Transport
- Rt Hon Kelly Tolhurst - Parliamentary Under Secretary of State for Transport

Member attendance

- Warren East, CEO, Rolls-Royce
- Katherine Bennett on behalf of Julie Kitcher, Executive VP, Airbus
- Tony Wood, CEO, Meggitt and ADS President
- Russ Dunn, CTO, GKN
- Val Miftakhov, CEO, ZeroAvia
- Peter Mather, Group Regional President and Head of Country, UK, BP
- Anna Mascolo, CEO, Shell Global Aviation
- Neville Hargreaves, VP Waste to Fuels, Velocys
- Nina Skorupska, CEO, Renewable Energy Association
- Jennifer Holmgren, CEO, Lanzatech
- Jonathan Counsell on behalf of Alex Cruz, CEO, BA
- Shai Weiss, CEO, Virgin Atlantic
- Johan Lundgren, CEO, easyJet
- Jonathan Hinkles, CEO, Loganair
- Kenton Jarvis, CEO Aviation and Business Improvement Director Markets, TUI
- John Holland-Kaye, CEO, Heathrow
- Charlie Cornish, CEO, MAG
- Dom Hallas, Executive Director, Coadec
- Jacqueline de Rojas, President, Tech UK
- Tim Johnson, Director, AEF
- Gary Elliot, CEO, Aerospace Technology Institute (ATI)
- Dr Alicia Greated, CEO, Knowledge Transfer Network (KTN)
- Prof Iain Gray, Director of Aerospace, Cranfield University
- Prof Peter Littlewood, Emeritus Director of Argonne National Laboratory, Professor of Physics, University of Chicago
- Raphaël Fabien, Director, European Affairs, GAMA

- Trevor Woods, Independent consultant

Department for Transport official attendance

- Rannia Leontaridi – Director, Aviation
- Holly Greig – Deputy Director, Aviation Climate Change and Technology

Department for Business, Energy, and Industrial Strategy official attendance

- Paul Griffiths – Deputy Director, Head of Aerospace Team

Actions

- Council to send any further comments on:
 - The Terms of Reference.
 - The direction and ambition around a potential moonshot.
 - Thoughts on possible delivery mechanisms for the Council's work.
- HMG to share a revised version of the Terms of Reference for agreement.

Summary of Meeting

- Agreement for the Council to **take a technology neutral approach and consider the broad range of options** to decarbonise aviation, with a specific focus on zero emission airspace technologies and sustainable aviation fuels.
- Potential **subgroups could take the work forward, but they should relate to existing structures where possible** (e.g. HMG-industry Councils, Aerospace Growth Partnership, ATI Programme, etc).
- **HMG focus on innovation and technology**, what can directly be done to aircraft to reduce emissions. The Prime Minister and Secretary of States are looking to achieve an ambitious zero-emission flight goal within the decade.

Readout

1. Introduction to the Jet Zero Council

The Secretary of State for Transport welcomed members to the Council and outlined its purpose: to take the world towards zero-carbon flight with the objective of the UK being the first country to create transatlantic commercial flight without emitting any greenhouse gases. He stated the Council will aim to be technology neutral so all options to decarbonise aviation can be investigated.

The Secretary of State for Business welcomed members and outlined wider objectives on UK Net Zero by 2050, UK COP Presidency and driving forward the international agenda to tackle emissions. He acknowledged aviation is part of the work already being undertaken, that it is important to have ambition and articulate it in public, and we need to work together to achieve a brighter future.

The Prime Minister welcomed everyone to the Council, recognising the difficulties facing aviation. The Prime Minister is looking long term and wants the Council to achieve a super

charged economic recovery based on new technology. In particular, he wants ambitious goals for aviation, such as the first zero-emission commercial transatlantic passenger flight by 2025.

2. Discussion on the Terms of Reference

The Secretary of State for Transport gave an overview of the draft Terms of Reference. He noted that the Council will provide policy advice, and for industry to lead the direction of this work and input into the establishment of potential sub-Committees to accelerate progress.

Points made in discussion included:

- Whether the Terms of Reference purpose also covers wider net zero aviation policy?
- Whether commercial flight also includes urban air mobility and small-scale flight. And suggested including certification in the objectives.
- Whether there is sufficient focus on the infrastructure needed to support these objectives?
- It would be useful to have targets to set clear timetables and milestones, such as UK COP presidency and the ICAO General Assembly in 2022.
- The Council should focus on making each individual plane capable of zero emissions rather than offsetting.
- Everything needs to be on the table and the UK has world leading facilities which we should build on. Ensure alignment with net zero ambitions for energy, heat and power.
- [The Prime Minister said] There are opportunities for a green industrial revolution through focussing investment on a limited number of key technologies, one of which should be aviation. There are massive opportunities for the UK, not just to decarbonise but to generate jobs and transform its economy.
- Carbon capture and storage is an important tool for zero emission aviation. Sustainable aviation fuels are the only way to make deep emission reductions in the short term.
- The ATI FlyZero study will help deliver the Council's work.

3. Discussion on ambitions and potential moon-shots

The Secretary of State for Business opened the discussion on how we define the UK's high ambitions. Points made in discussion included:

- The Council should keep a broad remit. Support is needed for electric aircraft for shorter flights and payloads, with hydrogen playing a role in the middle distance. Larger/long-haul travel will need something similar to synthetic fuel. Sustainable aviation fuels exist today, but there is a need to overcome the regulatory hurdles to allow 100% usage. If one could produce fuel with clean electricity then this

technology could be demonstrated by 2025, but real goal is something commercially viable and widespread.

- A large climate neutral aircraft is possible by 2035, but open to ambition of the Council. Partnering is key, as well as investment in the Aerospace Technology Institute and other programmes. Noted the need for the right skills in the UK and engagement with unions.
- Fundamentals of flying are about wings, propulsion systems, and fuels. Industry already have roadmaps to develop these technologies. There will be lots of different views on moon-shots depending on the technology. Sustainable aviation fuels is key in the near term and should be reflected in the Terms of Reference.
- Ambitions need to be broader than one product or solution, and there are very different timescales and options. A roadmap with different potential solutions on the journey might be best. Also noted the full supply chain and infrastructure are not to be underestimated.
- The UK Academic network can pull new technologies.
- The balance of the TORs is right in terms of ambition. Sustainable aviation fuels technology is available now, and in combination with carbon capture and storage it can reach net zero emission flight and may also have non-CO₂ benefits. A 2025 target is challenging.