PRESENTATION SYNOPSES

Greener By Design Conference

GREENER BY DESIGN CONFERENCE
AVIATION AND THE NET ZERO EMISSIONS CHALLENGE

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1) AVIATION AND CLIMATE - THE STATE OF SCIENCE
This presentation will review the climate science in the light of recent IPCC reports and the UK net zero target: aviation’s share of carbon dioxide emissions, non-CO2 climate effects of aviation and pathways compatible with net-zero.

2) ACCELERATING CLIMATE ACTION - TAXIING ON THE PATHWAY FOR CARBON-NEUTRAL GROWTH
Not available.

3) PLANNING AHEAD: AVIATION IN A NET ZERO WORLD
Aviation’s global target to keep net carbon emissions at or below 2020 levels was set a decade ago. With the recent publication of IPCC’s 1.5 degrees report and the advice of the CCC to deliver net zero greenhouse gas emissions in the UK by 2050, aviation will need to define its role and set a long-term target.

4) WHAT IS THE POTENTIAL FOR IMPROVING OPERATIONAL EFFICIENCY?
High level figures produced by IATA and ICAO suggest that approximately twice as much fuel is used as would be required if each flight was conducted with the aircraft operating at maximum efficiency. This presentation examines the data, seeks to identify the sources of the excess and to quantify them. Some consideration is then given to the means and to the degree by which the fuel usage may be reduced. Timelines are considered and comparisons drawn with potential savings through developments in airframe and engine technology.

5) ELECTRIFICATION AT AIRBUS
A summary of Airbus’ electrification activities – focusing on the E-Fan X hybrid electric demonstrator.

6) THE ROLLS-ROYCE PERPECTIVE
Not available.

7) AN UPDATE FROM HEATHROW AIRPORT
Not available.

8) IMPROVING AIRSPACE EFFICIENCY
This presentation will review how NATS has improved airspace efficiency in the UK and what the plans are for the next five years.

9) BUILDING THE UK SUSTAINABLE AVIATION FUEL SUPPLY CHAIN
The Sustainable Aviation Fuel Special Interest Group (SAF SIG) was a 2-year initiative to build the UK SAF supply chain. The SIG was sponsored by Innovate UK, DfT and Sustainable Aviation and delivered by the Knowledge Transfer Network. By understanding the UK capability, KTN facilitated new partnerships, brokered collaborations and bought people together to network. Working with industry experts, KTN published ‘Research & Development Priorities to Support a UK Sustainable Aviation Fuel Industry’ to inform investment and policy decisions and ‘Cleared for Offtake’ for fuel producers to help them understand what airlines look for in a SAF. KTN.

10) PROSPECTS AND CHALLENGES FOR LOW-CARBON AVIATION FUELS
Low carbon aviation fuels will be essential in allowing the aviation industry to meet carbon reduction targets and ultimately to reach net-zero emissions. This presentation will review the current market for low-carbon aviation fuel production across the world, considering the status of plants, technologies and policy. It will also consider the potential for the scale-up of low-carbon aviation fuel production over the coming decades and highlight challenges to this scale-up.

11) AVIATION SUSTAINABILITY - THE ROLE OF THE FUEL SUPPLIER IN HELPING THE INDUSTRY FLY MORE BUT EMIT LESS
An overview of opportunities and challenges in helping the aviation industry achieve CO2 reduction and the ambitions of CORSIA, a fuel supplier’s perspective. What are the levers to help deliver sustainable growth?
12) OPPORTUNITIES AND CONSTRAINTS FOR ALTERNATIVE AVIATION FUELS
Low carbon alternative aviation fuels are crucial for the industry’s ability to reach its climate commitments. Technology is evolving as do feedstock options covering a wide range of bio-based feedstocks as well as recycled carbon feedstocks. In order to achieve real GHG emissions reductions and to make sure that no unintended effects are caused to people, decisions need to be taken early development for the environment within the supply chains of alternative aviation fuel supply chains. The Roundtable on Sustainable Biomaterials supports industry along this journey to evaluate the opportunities and constraints for alternative aviation fuels.

13) STRATEGY FOR RAMPING UP MITIGATION OF GREENHOUSE GAS EMISSIONS FROM AVIATION
The pressure on aviation to contribute more effectively to meeting the Paris Agreement and Intergovernmental Panel on Climate Change 2°C and 1.5°C targets is building up fast. Greenhouse gases from aviation will continue to increase globally given prevailing mitigation actions, whose effects are well outdistanced by traffic growth. ICAO is in the process of finalising a ‘basket’ of measures for dealing with CO2 emissions from international aviation. This is a significant accomplishment, but one aimed at ‘carbon neutral growth’ rather than reducing emissions. There is a pressing need for a more ambitious approach to aviation emissions mitigation, building on the ICAO basket but going above and beyond the current ICAO process. Key elements might include a revisit of the IPCC 1999 Special Report on Aviation and the Global Atmosphere and evolution of a long-term aviation emissions mitigation strategy including definitive and robust targets and actions.

14) EMERGING MARKETS FOR CARBON OFFSETS: PREPARING FOR CORSIA
This presentation will provide international context to CORSIA and how it fits in wider climate goals and considerations. It will look at the preliminary results of modelling the Article 6 of the Paris Agreement and its potential for countries to improve the economic efficiency of achieving their carbon reduction pledges. Eva will also explore the competing parties, which include aircraft operators, interested in the future carbon reduction projects.

15) MEETING OUR CARBON TARGETS
A summary of how technology, alternative fuels and market-based measures will help airlines to reduce their carbon emissions and play their part in the global reduction of CO2.