



ICAO

ENVIRONMENT

DRONE ENABLE 2022

ENVIRONMENTAL IMPACTS – NOISE AND LIFE CYCLE EMISSIONS

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14 November 2022





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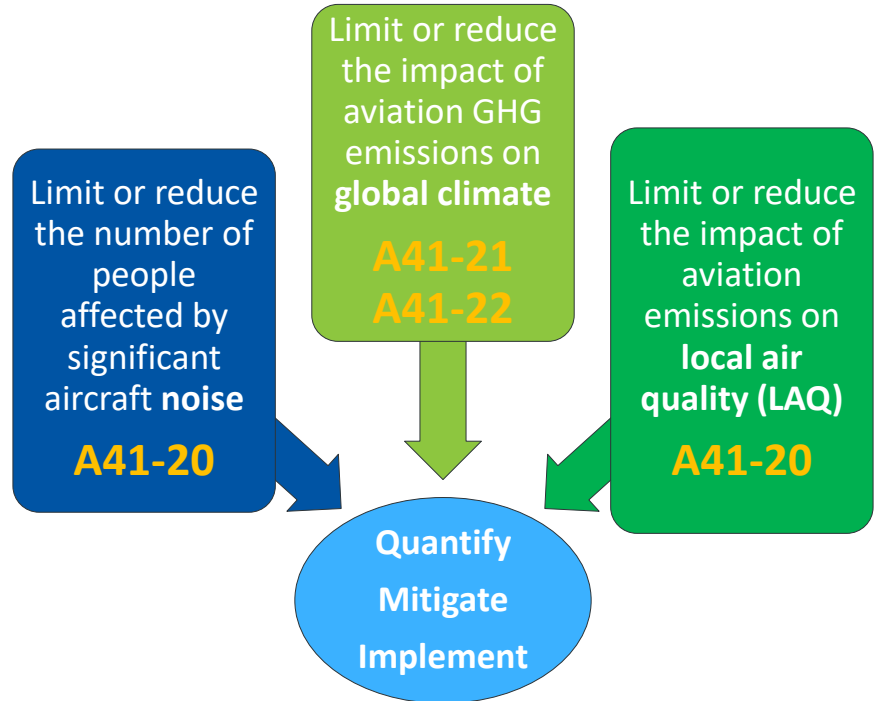
ICAO Environmental Objective



ICAO's environmental work contributes to 14 out of the 17 United Nations SDGs



Environmental Goals





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ENV work on Emerging Technology Aircraft

ICAO is closely following up the development of new technologies such as urban air mobility concepts to prepare for their timely environmental certification.

Emerging Technology Aircraft (ETA) is the term being used to refer to these new aircraft concepts.





ICAO website on noise from Emerging Technology Aircraft (ETAs)

- News related to ETA noise
- Experiences from States and Stakeholders
- Technical materials and related events

States and Stakeholders are invited to contact us at officeenv@icao.int and share experiences in responding to noise issues related to ETA.

This information will be consolidated as a potential best practice guidance for States.

Noise from Emerging Technology Aircraft

New innovative technologies and energy sources for aviation are under development in a fast pace, and ICAO is closely following up these developments to prepare for their timely environmental certification, as appropriate. In that regard, ICAO is maintaining the E-HAPI, a website with a non-extensive list of ongoing projects that have been identified globally.

Specifically on aircraft noise, ICAO is following up possible environmental issues from the operation of Emerging Technology Aircraft (ETA), including urban air mobility concepts, unmanned aircraft and remotely piloted aircraft. States and Stakeholders are invited to contact us at officeenv@icao.int and share experiences in responding to these aircraft noise issues. This information will be consolidated as a potential best practice guidance for States.

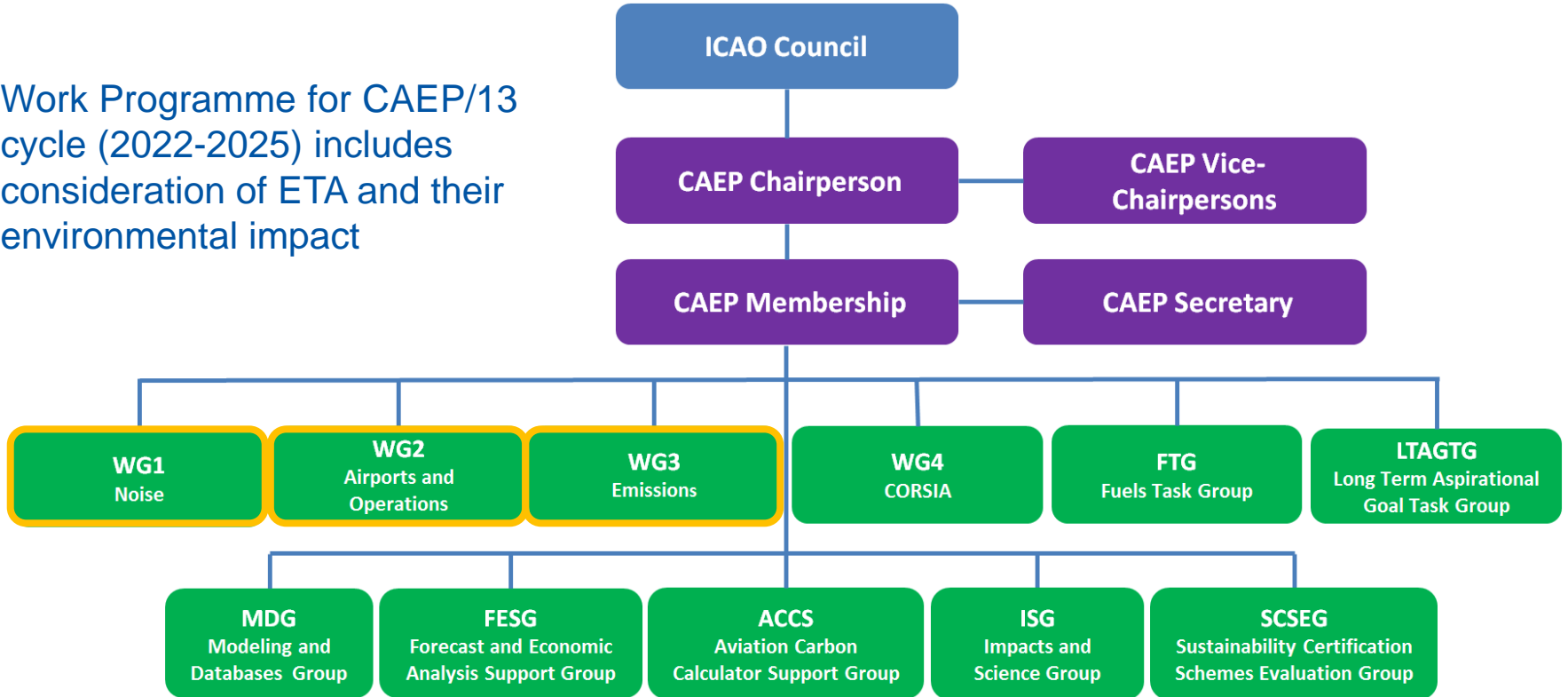
Latest news on noise of Emerging Technology Aircraft

Date	Link and Description
Feb 10, 2021	No more "whiny bee buzzy drone noise", has Canadian company made "eureka silent breakthrough?"
Dec 22, 2020	Unmanned Aerial Vehicles and their enormous potential in most sectors
Dec 21, 2020	Make drones sound less annoying by factoring in humans at the design stage..The Conversation
Sep 24, 2020	LA and World Economic Forum partner on urban air roadmap. Includes "low noise" as a guiding principle.
Sep 8, 2020	Drone delivery company Wing cleared for take off in Queensland, Sydney Morning Herald
Jun 12, 2020	What's all the buzz about?. Engineering and Technology
Jan 29, 2020	Noise Critical Issue for eVTOL Acceptance
May 6, 2019	Expert warns shift to drone deliveries will fill the skies with 'incessant buzzing'. dailymail.co.uk



ICAO Committee on Aviation Environmental Protection (CAEP)

Work Programme for CAEP/13 cycle (2022-2025) includes consideration of ETA and their environmental impact





CAEP/13 Work Items on Emerging Technology Aircraft (ETA)

CAEP WG1 (Noise):

- Review existing ETA noise data and noise measurement approaches
- Develop noise measurement guidelines for ETA noise (Attachment to Annex 16 Volume I)

CAEP WG2 (Airports and Operations):

- Develop report on Community Engagement in relation to emerging trends in aviation including new and emerging airspace users: ETAs
- Develop a new Eco-Airport Toolkit publication on “Environmental Impact of Unmanned Aircraft” at and around Airports”

CAEP WG3 (Emissions):

- Scoping of ETA emission regulations
- Consider existing ETA implications on future emission certifications





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ICAO Long-Term Aspirational Goal for the International Aviation (LTAG)


Assembly Resolution
A41-21 on Climate
Change



ICAO LTAG

LONG TERM GLOBAL ASPIRATIONAL GOAL FOR INTERNATIONAL AVIATION

NET-ZERO 2050



LTAG Report



<https://www.icao.int/environmental-protection/Pages/LTAG.aspx>



ICAO Global Coalition for Sustainable Aviation and ICAO Tracker Tools



TECHNOLOGY

ELECTRIC	42
HYDROGEN	23
UAM/AAM	19
AEROPLANE	18

SUSTAINABLE AVIATION FUELS

POLICIES	24
VOLUME OF OFF-TAKE AGREEMENTS (Billion Liters)	27.4
TOTAL ANNOUNCED CAPACITY (Billion Liters / Year)	62.4
DISTRIBUTING AIRPORTS	79

OPERATIONS

GREEN INFRASTRUCTURE	44
AIR	25
GROUND	28

AVIATION NET ZERO

AVIATION NET ZERO INITIATIVES PER YEAR

Year	2019	2020	2021
Initiatives	~1	~12	~22

CORSIA

Updated information on the implementation of CORSIA

<https://www.icao.int/environmental-protection/SAC/Pages/learn-more.aspx>

<https://www.icao.int/environmental-protection/SAC/Pages/GCSA%20main%20page.aspx>



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Presentation of the Speakers

Monica Alcabin

Technical Fellow, Global
Regulatory Strategies,
Boeing

Ruby Sayyed

Head, ATM Strategy,
International Air
Transport Association
(IATA)

Max Fenkell

Policy and Government
Affairs Lead, Joby
Aviation, United States

Hua (Bill) He

Office of Environment
and Energy, AEE-100
Noise Division,
FAA, United States



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Discussion Session

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Regulatory Strategies,
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Ruby Sayyed

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International Air
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Central American
and Caribbean
(NACC) Office
Mexico City

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(SAM) Office
Lima

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Montréal

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Central African
(WACAF) Office
Dakar

European and
North Atlantic
(EUR/NAT) Office
Paris

Middle East
(MID) Office
Cairo

Eastern and
Southern African
(ESAF) Office
Nairobi

Asia and Pacific
(APAC) Sub-office
Beijing

Asia and Pacific
(APAC) Office
Bangkok



THANK YOU