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Doc 10109, CAAF/2

SECOND CONFERENCE

Mexico City, 11-13 October 2017

CONFERENCE ON AVIATION AND ALTERNATIVE FUELS

REPORT



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LETTER OF TRANSMITTAL

To: President of the Council

From: Chairperson, Conference on Aviation and Alternative Fuels

I have the honour to submit the Report on the work of the second ICAO Conference on Aviation and Alternative Fuels (CAAF/2) held in Mexico City, Mexico from 11 to 13 October 2017.



R. Kobeh González
Chairperson
Conference on Aviation and
Alternative Fuels

Mexico City, Mexico, 13 October 2017

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INTRODUCTION

Site and duration of the Conference

1. The second ICAO Conference on Aviation and Alternative Fuels (CAAF/2) was convened at the Presidente InterContinental Hotel in Mexico City, Mexico from 11 to 13 October 2017.

Attendance

2. The following 29 Member States of ICAO were represented at the Conference:

Argentina	India	Republic of Korea
Australia	Indonesia	Russian Federation
Brazil	Italy	Saudi Arabia
Canada	Japan	Singapore
China	Mexico	Spain
Dominican Republic	Netherlands	Sweden
Finland	Nicaragua	United Arab Emirates
France	Norway	United Republic of Tanzania
Germany	Pakistan	United States of America
Guatemala	Panama	

3. The following 11 Observer organizations attended the Conference:

Advanced Biofuels Association (ABFA)
Airports Council International (ACI)
Central American Corporation for Air Navigation Services (COCESNA)
Carbon War Room/Rocky Mountain Institute (CWR/RMI)
European Union (EU)
International Air Transport Association (IATA)
International Coordinating Council of Aerospace Industries Associations (ICCAIA)
International Coalition for Sustainable Aviation (ICSA)
International Federation of Airline Pilots Associations (IFALPA)
Sustainable Energy For All (SE4ALL)
SkyNRG

4. A list of participants to the Conference is provided in Appendix A to this report.

Mandate

5. ICAO's work on aviation alternative fuels responds to ICAO Assembly Resolution A39-1: *Consolidated statement of continuing ICAO policies and practices related to environmental protection – General provisions, noise and local air quality*, which recognized the importance of research and development in fuel efficiency and alternative fuels for aviation

that will enable international air transport operations with a lower environmental impact, both in terms of local air quality and the global climate, and Resolution A39-2: *Consolidated statement of continuing ICAO policies and practices related to environmental protection — Climate change*, which acknowledges the need for such fuels to be developed and deployed in an economically feasible, socially and environmentally acceptable manner and the progress achieved in the harmonization of the approaches to sustainability.

6. The 39th Session of the ICAO Assembly also welcomed the convening of the ICAO Conference on Aviation Alternative Fuels in October 2017 in Mexico, with a view to developing the ICAO Vision on International Aviation Alternative Fuels as a means to encourage States to take actions for that objective.

Opening of the Meeting

7. The high-level officials of ICAO and the Government of Mexico in attendance during the opening of the Conference were Dr. O.B. Aliu, President of the ICAO Council, Mrs. Y. Mascott Pérez, Undersecretary for Transport, Mexico, Mr. M. Peláez Lira, Director General, Civil Aviation Authority, Mexico, Mr. A. Sarabia de la Garza, Director General, Aeropuertos y Servicios Auxiliares (ASA), Mexico, Mr. R. Kobeh González, Director General, Servicios a la Navegación del Espacio Aéreo Mexicano (SENEAM), Mr. B. Djibo, Director, Air Transport Bureau, ICAO, Mr. J. Siu, Deputy Director, North America, Central America and Caribbean (NACC) Regional Office, ICAO, and Ms. J. Hupe, Deputy Director, Environment, ICAO.

8. Dr. O.B. Aliu, President of the ICAO Council, opened the Conference with the following opening address:

It's my great pleasure to open this Second ICAO Conference on Aviation and Alternative Fuels. I would like to thank the Mexican authorities and in particular Aeropuertos y Servicios Auxiliares, which so kindly offered to host this Conference here in beautiful Mexico City.

Even more so, we all appreciate the additional efforts from the Government of Mexico in preparing for this Conference particularly in light of the magnitude of the recent natural events. The solidarity of ICAO, its Member States and the aviation community is with the people of Mexico. ICAO stands firmly to support you through our Regional Office here in Mexico City. In fact, the Regional Office is also providing special support to other States in the region strongly impacted by the latest climate events.

That the resolve of Mexico to stand by its offer to host this meeting, even in adverse circumstances, provides us with inspiration and extra commitment to make this Conference a success.

Having served as Chairperson for the first ICAO Conference on Aviation and Alternative Fuels in 2009, it is personally gratifying to see how far we have come. Since then, the 39th Session of the ICAO Assembly has confirmed international aviation's global aspirational goals to achieve a two per cent fuel efficiency improvement per annum, and to keep net carbon emissions stable from 2020.

To achieve our sector's overall objectives, a comprehensive approach consisting of a basket of measures was agreed. These include technology innovations for aircraft, engines and avionics,

streamlined air navigation and air traffic management procedures to reduce fuel burn, promoting the development and deployment of sustainable aviation fuels (SAF), and market-based measures to reduce emissions.

ICAO has been working diligently to ensure progress on all of these fronts. But we must also be very clear that the available data illustrates for us that technological progress and operational efficiencies alone will not be sufficient. Even after these have been accounted for, we are still left with a significant mitigation requirement.

This points to the need for additional contributions if we are to succeed in reducing, in absolute terms, the greenhouse gas emissions from aircraft which will be needed to achieve our goal of carbon neutral growth.

Just last week I was at the Global Sustainable Aviation Summit, from ATAG – The Air Transport Action Group, that encompasses all industry stakeholders, and Alternative fuels were one of the main elements foreseen to support reaching industry's long term climate goals of reducing emissions by 50% in 2050. Good progress on future technologies were showcased, including on electric aircraft, but one message that came to me very clearly from the industry is that progress in one technical solution alone will not be enough, and that we should be looking at aircraft hybrid energy solutions to enable a sustainable aviation future.

Sustainable alternative fuels are critical to closing this mitigation gap, and in the nine years since the first Conference on this topic, in Rio de Janeiro, we have all learned a great deal about what is needed to realize a new and sustainable aviation fuel industry. We have had many successes along the way, and we have identified numerous challenges.

This Conference therefore comes at a very good time. On the one hand we find ourselves at a moment of great change in aviation and transportation generally, not to mention the significant transformations ongoing in our climate and our society.

Major airlines around the world are achieving record profits, many new airports have opened in the past nine years and many more are under construction. These modern and highly efficient air transport operators are moving more and more passengers and cargo every year.

We are also moving quickly with respect to unmanned and remotely-piloted aircraft, with expectations that these may be carrying cargo or even passengers within just the next decade. Similar rates of progress are being made in the areas of commercial space flight and outer space tourism.

Road transport developments are also impacting aviation. For example, innovations in taxi and ride sharing services are changing not only how passengers access the airport, with potentially significant impacts on parking revenues, but also the entire automotive industry.

Simply put, ladies and gentlemen, the point-to-point transportation network as a whole is constantly evolving and we are now living in one of the most dynamic periods of transition ever witnessed. This points to the need for us to remain open to alternative approaches and solutions and to regulate these developments without impeding the overall dynamic of innovation at the heart of them.

Importantly, these changes taking place throughout our societies and economies may aid us in our efforts to develop a new and viable Sustainable Aviation Fuel (SAF) sector.

Robotic agriculture, genetic modification, and automated production will all play a role in improving agricultural productivity. However, climate change impacts on aviation will present challenges, as may other challenges which have not yet been anticipated.

On this point, I'd like to reassure all of you on in that with great change comes great opportunity. And furthermore that sustainable aviation fuels would prove to be a very productive and beneficial opportunity for the aviation industry.

That being said, in this time of ever-changing world oil prices the aviation industry cannot afford to become complacent. ICAO's view is that if the air transport sector embraces the opportunities presented by sustainable aviation fuels, we will achieve more than we may now expect in terms of positive emissions mitigation benefits.

Looking back ourselves, we'd certainly see that there was no sustainable aviation fuels industry ten years ago. And since that time, many biological feedstocks have proven to be viable for producing the sustainable alternatives we know today, including:

- used cooking oil;
- non-edible plant oils;
- animal fat and tallow;
- municipal solid waste;
- forest residue;
- salt-tolerant grasses;
- agricultural wastes;
- and many other products.

Out of these feedstocks, five sustainable aviation fuel derivatives have been certified by an international standards body.

A group of private entrepreneurs, federal agencies, and multi-stakeholder organizations helped raise the funds to prove these production concepts, leading ultimately to the construction of the world's first continuously operating sustainable aviation fuel production facility.

Many airlines have worked with a variety of sustainable aviation fuel producers to secure purchase agreements for millions of gallons of these fuels annually over the next few years.

Several airports have begun not only offering sustainable aviation fuels to any airline interested in purchasing them, but have also introduced it into their hydrant fueling systems so that all aircraft fueling at the airport have at least a small amount of sustainable aviation fuels on board. This approach has led to more than 40,000 sustainable aviation fuels flights being conducted since they were first introduced.

Through these numerous actions, the aviation sector has now supplied the proof of concept for sustainable aviation fuels, confirming their operational viability and the feasibility of producing them in ways which lessen the impact of aviation on the climate.

I am sure that you will agree that these are all great accomplishments, and they have all been achieved in just the past decade.

This brings us to the difficult part, which is that each one of these elements must be scaled up by several orders of magnitude in order to achieve international aviation's commitment to carbon neutral growth.

We will all have to work together to accomplish this through supportive policies which help to clear the path for sustainable aviation fuel production. And we will have to share knowledge and lessons learned.

Most importantly we will need to devise strategies to fund the rapid and extensive growth of a new sustainable aviation fuels industry.

Last year, in 2016, we set forward-looking CO₂ Standards for the certification of aircraft. We have the Global Air Navigation Plan (GANP) to ensure that future development of the air navigation field is sustainable, and for market-based measures we have CORSIA. Time has come for us to discuss the future path we want for sustainable aviation fuels to contribute in this basket of measures towards a sustainable aviation future.

The conclusions of this meeting will form the ICAO Vision on Aviation alternative fuels 2050 towards the realization of this objective.

It shall inspire States and stakeholders to take action to further develop and deploy SAF, and provide the inspiration that will be important to channel efforts in a unified way. As a living instrument, the ICAO Vision shall allow for progress to be regularly assessed and reviewed through a stocktaking process.

The results of this Conference will be presented to the ICAO Council as the basis of a draft policy to be endorsed by ICAO's 40th Assembly, which is just two years away.

With committed action on the part of ICAO and its Member States driving this effort forward, in collaboration with industry and other stakeholders, I am confident that international civil aviation can meet its responsibilities to significantly reduce aviation emissions.

With that, ladies and gentlemen, please let me wish you all a very productive and engaging conference.

Secretariat

9. The Conference was supported by Mr. B. Djibo, Director, Air Transport Bureau, ICAO, Ms. J. Hupe, Deputy Director, Environment, ICAO, Dr. N. Dickson, Chief, Environmental Standards, ICAO, Mr. M. Caballero Alarcon, Environment Officer, ICAO and Mr. S. Webb, Alternative Aviation Fuels, Technical Consultant, ICAO. ASA Liaison was carried out by Mrs. S. Neuman, Coordinadora de Planeación y Comunicación Corporativa, ASA. Document coordination was provided by Ms. V. Muraca, Environment Technical Associate, ICAO.

Election of the Chairman and Vice-Chairman of the Meeting

10. On the nomination by India, as seconded by the Dominican Republic, Mr. Roberto Kobeh González, Director General, Servicios a la Navegacion del Espacio Aereo Mexicano (SENEAM), was elected Chairperson of the Conference, and Mr. Kevin Shum, Director General, Civil Aviation Authority, Singapore, was elected Vice-Chairperson of the Conference.

Agenda

11. The Conference adopted the following agenda, which had been approved by the Council and presented in CAAF/2-WP/01:

Agenda Item 1: Developments in Research and Certification of Aviation Alternative Fuels;

Agenda Item 2: Financing and Assistance Programmes for Aviation Alternative Fuels;

Agenda Item 3: Challenges and Policy Making; and

Agenda Item 4: Defining the ICAO Vision on Aviation Alternative Fuels and Future Objectives.

Documentation

12. A list of the documentation associated with the work of the Conference is presented in Appendix B. All papers prepared for the CAAF/2 are available on the ICAO website (<https://www.icao.int/Meetings/CAAF2/Pages/Documentation.aspx>).

13. In addition to working and information papers, the Secretariat prepared three documents (CAAF/2-SD/1, CAAF/2-SD/2, and CAAF/2-SD/3) containing summaries of the conclusions and recommendations arrived at through discussions during the Conference. These summaries provide a record of the key issues identified under each Agenda Item. These papers were agreed to by Conference participants.