International Civil Aviation Organization

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WORKING PAPER

ASSEMBLY — 41ST SESSION

EXECUTIVE COMMITTEE

Agenda Item 17: Environmental Protection – International Aviation and Climate Change

MEASUREMENT OF CO_2 EMISSIONS GENERATED BY AIRPORT GROUND ACCESS VEHICLES (GAV)

(Presented by Argentina and supported by two LACAC Member States: Costa Rica and Peru)

EXECUTIVE SUMMARY

This paper presents the importance of measuring CO_2 generated by airport ground access vehicles (GAV) and the need for an ICAO calculation method. Furthermore, it discusses the progress made by the Argentine Republic in the analysis and measurement of such CO_2 emissions.

Action: The Assembly is invited to:

a) note the information presented;
b) consider the progress made by the Argentine Republic in environmental protection, in particular the analysis of measurements of CO_2 emissions generated by airport ground access vehicles (GAV), as well as the proposed method;
c) continue building State capacities, especially in developing States, so that they can carry out their own airport CO_2 emissions measurements; and
d) promote, through CAEP, the analysis of CO_2 emissions generated by airport ground access vehicles, as well as the development and dissemination of a method for calculating them.

Strategic Objectives:	This working paper relates to Strategic Objective – *Environmental Protection.*
Financial implications:	No additional financial resources are required for the implementation of environmental initiatives.
References:	Resolution A40-18: *Consolidated statement of continuing ICAO policies and practices related to environmental protection – Climate change* Doc 9184, *Airport Planning Manual* – Part I. 2nd edition (1987) Doc 9184, *Airport Planning Manual* – Part II. 4th edition (2018) Air Quality Management at Airports. Eco-Airport Toolkit e-collection

[1] Spanish version provided by Argentina.

1. INTRODUCTION

1.1 Airport ground access vehicles (GAV) include all vehicles used by passengers, employees, visitors and cargo to access airports. Such vehicles generate significant quantities of CO_2 emissions during trips to and from airport terminals.

1.2 The International Civil Aviation Organization (ICAO) has included ground access to airports in Part I of its Airport Planning Manual (1987), which mentions that "*by far the dominant mode of airport ground access is the automobile, for both private and public transport. It is likely that the automobile will continue its dominance as an airport access vehicle*" (paragraph 11.2).

1.3 The same document posits that "*Fast and convenient access facilities for passengers and freight are essential for an airport to provide efficient service.*" (paragraph 5.5.13). Similarly, it states that "*In addition to private motor vehicles, it is important to take account of public transport systems such as public bus, rail, taxi…*" (para. 5.5.15).

1.4 In 2018, ICAO published Part II of the Manual, which indicates that "*Provision can be made for intermodal interchange facilities*" and "*Passengers may be provided linkage to light, conventional or high-speed rail systems as well as regional and local bus facilities*" (paragraph 3.6.14).

1.5 It also makes reference to the emissions generated by GAVs in the document *Air Quality Management at Airports*, which forms part of the ICAO Eco-Airport Toolkit.

1.6 Paragraph 2.3.2 of the Airport Integral Environmental Management Manual [2] makes reference to the calculation of the greenhouse gas (GHG) emissions generated by GAV; GAV are included in all the sources in group 3, i.e. those sources with respect to which the airport operator cannot take direct decisions, but which the operator could influence.

1.7 In December 2021, Argentina presented to ICAO the updated version of the *State of Argentina's Action Plan for Reducing CO_2 Emissions in Aviation*, in which, for the very first time, approximate calculations were made of CO_2 emissions from GAV. These calculations took into account the variables indicated in paragraph 3.1 of the present paper.

2. METHODOLOGY FOR CO_2 EMISSIONS CALCULATIONS

2.1 The methodology for calculating emissions from GAV should include (among others) the following variables:

- Vehicle type;
- Total number of vehicles;
- Transport mode;
- Distance travelled;
- Types of fuel (gas, diesel, natural gas for vehicles, etc.); and
- Emissions factors by fuel type.

[2] Published in 2019 by virtue of Joint Resolution 2/2019 by the National Civil Aviation Administration (ANAC) and the Regulatory Body of the National System of Airports (ORSNA).

3. PROPOSED ACTIONS

3.1 The Assembly is invited to:

a) note the information presented;

b) consider the progress made by the Argentine Republic in environmental protection, in particular the analysis of measurements of CO_2 emissions generated by airport ground access vehicles (GAV), as well as the proposed method;

c) continue building State capacities, especially in developing States, so that they can carry out their own airport CO_2 emissions measurements;

d) promote, through CAEP, the analysis of CO_2 emissions generated by airport ground access vehicles, as well as the development and dissemination of a method for calculating them.

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