

ATTACHMENT to State letter AN 1/17-09/093

**QUESTIONNAIRE CONCERNING VOLUNTARY ACTIVITY FOR GHG REDUCTION/MITIGATION
IN THE AVIATION SECTOR**

A copy of the questionnaire, in Microsoft Word format, has been posted on the Internet at <http://www.icao.int/icao/en/env/measures.htm>.

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Q1. Name of the voluntary activity.

EgyptAir Fuel Conservation Committee – Establish Fuel and Emission Directorate
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Q2. Type¹ of the voluntary activity.

<input checked="" type="checkbox"/> Unilateral commitment <input type="checkbox"/> Public voluntary scheme <input type="checkbox"/> Negotiated agreement <input type="checkbox"/> Other (Please describe the activity in the box below.)

Q3. Please mark all the participants² of the activity.

<input checked="" type="checkbox"/> Airline <input type="checkbox"/> Airline association <input type="checkbox"/> Manufacturer <input type="checkbox"/> Manufacturer association <input type="checkbox"/> Airport authority <input type="checkbox"/> Air traffic control <input type="checkbox"/> Government <input type="checkbox"/> Other (Please specify in the box below.)

Q4. Is the voluntary activity accompanied by a side agreement³?

<input checked="" type="checkbox"/> Yes (Proceed to Q4-1.) <input type="checkbox"/> No (Proceed to Q5.)

¹The features of each type of voluntary activity are as follows.

- Unilateral Commitment: The environmental improvement plan established by the participant itself, and declared to the stakeholders, such as employees, stockholders, consumers, etc. Target and measures to environmental improvement are established by the participant itself.
- Public Voluntary Scheme: The scheme which the participant agrees voluntarily with the standard on environmental improvement target, technology, management, etc. established by public organization such as Ministry for Environment.
- Negotiated Agreement: Contract based on negotiation between public organization (national government/local government) and industries. Both parties can independently decide whether to agree to the contract.

² If you marked “Public voluntary scheme” on Q2, the public organization which establishes the standard is included in the participants. If you marked “Negotiated agreement” on Q2, the public organization which agrees to the contract is included in the participants.

³ “Side agreement” is the agreement between the participant of the activity and a third party. For example, the agreement between an airline and an engine manufacturer, which prescribes that the manufacturer assist the airline to attain its target by introducing new emission-reducing technologies, is considered as a side agreement. For more information, please refer to Part II Paragraph 6.5.2 on “Template and Guidance on Voluntary Measures”, released on ICAO CAEP website (http://www.icao.int/icao/en/env/Caep_Template.pdf).

Q4-1. If the voluntary activity is accompanied by side agreement, please describe the parties and outline the side agreement.

The agreement between EgyptAir and IATA:
 Fuel Conservation Consulting project for Identification and Implementation Support of the identified savings potentials as follows:
 - **Fuel Efficiency Gap Analysis (FEGA); and**
 - **Implementation of specific recommendations arising from the Fuel Efficiency Gap Analysis.**

Q5. Please answer the following questions concerning the coverage of the voluntary activity:

Q5-1. Select all green house gases (GHGs) which are part of the voluntary activity.

Carbon dioxide (CO₂) Methane (CH₄) Nitrous oxide (N₂O) Hydrofluorocarbons (HFCs)
 Perfluorocarbons (PFCs) Sulphur hexafluoride (SF₆) Nitric oxide & Nitrogen dioxide (NO_x) Water vapor (H₂O) Other (Please specify in the next box.)

Q5-2. Please select all operations⁴ which are part of the voluntary activity.

International passenger flight Domestic passenger flight International cargo flight Domestic cargo flight
 Other (Please specify in the next box.)

Q6. Please answer the following questions concerning the index to measure the effect of the voluntary activity.

Q6-1. Select the index used to measure the effect of the voluntary activity.

Absolute quantity of GHG emissions⁵ (Please outline the index in the box below.)
 Unit of GHG emissions⁶ (Please outline the index in the box below.)
 Introduction of specific technology
 Introduction of specific procedure Other (Please specify in the box below.)

1) Absolute CO₂ emissions in tonne

⁴ In case that the voluntary activity describes its coverage from the other viewpoint than listed above, such as “operation under IFR”, “operation of aircraft larger than specific weight”, etc. and that aim of the activity is not linked to operation directly, for example introduction of new technology which contributes reduction/mitigation of GHGs, please mark “other” and please describe feature.

⁵ The example of the unit is Ton-CO₂, Ton-C, m³-CO₂, etc.

⁶ The example of the unit is g-CO₂/RPK (Revenue Passenger Kilometer), g-CO₂/ASK (Available Seat Kilometer), g-CO₂/RTK (Revenue Ton Kilometer), g-CO₂/ATK (Available Ton Kilometer), etc.

Q6-2. Please outline the procedure to acquire data to calculate or describe the index of Q6-1.

- 1) Fuel Consumption data is extracted from fuel logs and calculated using Method B (under EU ETS MRV guidelines)
- 2) CO₂ emissions is calculated from fuel consumed multiplied by 3.15 CO₂ emission factor (for jet A1)
- 3) For LTK, Payload data (load-tonne) is extracted from EgyptAir Departure Control System and Distance (km) data is extracted from LIDO Flight Planning system

Q7. Please answer the following questions concerning the target of the voluntary activity.

Q7-1. Is the target of the voluntary activity clearly defined?

- Yes (Proceed to Q7-2.) No (Proceed to Q8.)

Q7-2. Please describe the target of the voluntary activity, including substance of the target, target year, base year.

Looking forward to increase savings up to 3.1% of the annual fuel budget which is about 17360 tonne and equivalent 54656 tonne CO₂ by the end of 2012.

Q8. Please list the measures to attain the target or to reduce/mitigate GHGs.

1. Flight Dispatch:

- Fuel Information Management (establish a centralized database that contains all data from all operations that are necessary to support fuel management objectives of EgyptAir)
- Fuel Awareness Training (Establish a training program for IOCC and Dispatch personnel to communicate the EgyptAir Fuel Conservation Program and to educate them on fuel conservations techniques)
- Cost Index Optimization.
- Reduced Contingency Fuel (This is an identified EgyptAir project and is to introduce a policy change for Contingency Fuel to reduce the values from 5% to 3% as permitted by regulation)
- Flight Dispatch and Pilot Extra Fuel (This project is to improve confidence in accuracy of FPS fuel predictions and conduct a city-pair analysis of statistical fuel to then judiciously reduce the amount of Extra Fuel being loaded on EgyptAir flights.)
- Flight Planning Route Selection (This is an EgyptAir identified project to increase the number of city-pair routes available in the EDS flight planning system. Implement dispatch procedures to calculate the best route from all available city-pair routes and use this route for the operational flight plan).
- Alternate Airport Selection (to introduce a policy change for the selection and designation of destination alternate airports as a means to reduce Landing Fuel loads).
- Flight Planning Systems Fuel Bias
- ZFW Planning & C of G Management (Review load plan procedures and update as needed to create a normal process for the aft loading of applicable flights. Sensitize load planners and station operations to the need to aft load aircraft.
Use the fuel statistics to measure improvements in ZFW planning and to track C of G performance.
- IOCC Mission Management (establish procedures to identify Cost of Delay passenger and airline schedule disruptions.)

2. FLIGHT OPERATIONS:

- APU Operating Time Reduction (Reduce the use of the Auxiliary Power Unit).
- Engine-Out Taxi-In Operations (Increase the use of Engine-Out Taxi-In procedure).
- Engine-Out Taxi-Out Procedure (Introduce Engine-Out Taxi-Out procedures to EgyptAir fleet).
- Pilot Technique & Flight Management (Introduce EgyptAir Express and EgyptAir Cargo pilots to the principles of efficient pilot technique).
- Low Noise Low Drag Approaches (Introduce the concept of low noise low drag approaches to the EgyptAir Express and EgyptAir Cargo fleets, and increase the target level of improvement of EgyptAir to 30%).
- Reduced Flap Landing (Introduce reduced flap landings to the Airbus fleet.)
- Idle Reverse on Landing (Increase the use of Idle Reverse Thrust on landing to 50% all of EgyptAir flights and include the EgyptAir Express and Cargo fleets in the initiative.)

3. MAINTENANCE & ENGINEERING:

- Modification Fuel Saving Impact (Review of SB's for Fuel saving potentials)
- Engine SFC Build Standard (Improve the fuel efficiency of engines by defining an SFC goal or a maximum limit in the build standard.)
- Engine Core Water Wash (Optimize the existing engine core water wash program).
- APU SFC Build Standard (Improve the fuel efficiency of APU by defining an SFC goal or a maximum limit in the build standard).
- Airframe Aerodynamic Deterioration (Reduce Airframe Drag Fuel Bias and Aerodynamic Deterioration due to Painting, Sealant, Dirty surfaces).
- Maintenance Program Task Cards MEL/CDL (Mark Task cards and MEL / CDL with influence to fuel conservation)
- Empty Weight Aircraft (Remove FAK, Dirt and Dust as well as Dehumidify the Aircraft)
- Reduction of APU usage by Maintenance.
- Aircraft Performance Monitoring System (Manage and reduce Airframe Drag and Aerodynamic Deterioration.)
- Calculate TDMC.
- Fuel Conservation Training (Stir awareness and ensure best practice application throughout M&E).

4. GROUND OPERATIONS & COMMERCIAL:

- Reduction of the onboard weight and the assessment of other reduction potentials.
- Reduce weight of on board magazines.
- Reduction of the onboard catering and the assessment of other reduction potentials.
- Optimize the weight of Duty Free Material carried on-board.
- Reduce the quantity of on-board water.
- Reduction of Cargo Container Weight.
- Stir awareness and ensure best practice application throughout M&E.

5. Airport Operations

- Reducing taxi fuel by assigning gates near to take-off/landing runways
- Optimizing fuel uplift based on final zero fuel weight
- Fixed gate electrical and pre-conditioned air supply to reduce APU usage
- In trail separation to reduce separation between departing/arriving aircraft
- Introduction of RNAV SID/STARs at Cairo Airport

Q9. Please answer the following questions concerning periodic review of the voluntary activity.

Q9-1. Is the progress of the voluntary activity reviewed periodically?

Yes (Proceed to Q9-2.) No (Proceed to Q10.)

Q9-2. Please describe the frequency of the periodic review.

Quarterly

Q9-3. Is a third party's opinion considered/to be considered in the periodic review?

Yes (Proceed to Q9-4.) No (Proceed to Q10.)

Q9-4. Please outline the third party opinion.

Q10. Please answer the following questions concerning legislative obligation.

Q10-1. Is there any legislative obligation on attainment of the target?

Yes (Proceed to Q10-2.) No (Proceed to Q11.)

Q10-2. Please describe legislative obligation, including measures taken in case that the participant of the voluntary activity fails to attain the target.

Q11. Please answer the following questions concerning disclosure of information⁷ on the voluntary activity:

Q11-1. Is the name of the participant of the voluntary activity disclosed to the public?

Yes No

Q11-2. Is the target of the voluntary activity disclosed to the public? (If you marked "no" at Q7-1, the answer to this question shall be "not applicable".)

Yes No Not applicable

Q11-3. Are the measures taken/to be taken by the participant of the voluntary activity to attain the target/reduce or mitigate GHGs disclosed to the public?

Yes No

Q11-4. Is the result of each periodic review disclosed/to be disclosed to the public? (If you marked "no" at Q9-1, the answer to this question shall be "not applicable".)

Yes No Not applicable

Q11-5. Is the effect of the voluntary activity disclosed/to be disclosed to the public?

Yes No

Q12. Please answer the following questions concerning effect of the voluntary activity:

⁷ Item(s) to which the answer is/are "no" from Q11-1 to Q11-5, are considered but this information will not be included in the final report.

Q12-1. Is third party's opinion considered/to be considered when examining the effect of the voluntary activity?

Yes (Proceed to Q12-2.) No (Proceed to Q12-3.)

Q12-2. Please outline the third party opinion.

Q12-3. How much of GHGs amount emitted per year, in CO₂ weight equivalent are reduced or mitigated/expected to be reduced or mitigated by the voluntary activity?

savings up to 3.1% of the annual fuel budget which is about 17360 tonne and eqivilant 54656 tonne co₂ by the end of 2012.

Q13. Please provide the website address for the voluntary activity, if any, in the box below.

www.egyptair.com

Q14. Please describe additional information, if any.

Duly completed questionnaires should be returned to:

Voluntary Measures Focal Point
ICAO Committee on Aviation Environmental Protection (CAEP)
Attention: Mr. Tetsu Shimizu
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