LIFE+ PROGRAMME
LIFE+ 2015 Environment Policy&Governance

ZERO CABIN WASTE

Tackling international airline catering waste by demonstrating integral and safe recollection, separation & treatment

(LIFE15 ENV/ES/000209)

Deliverable products of the project: Report "Cabin waste at Iberia: internal analysis & benchmarking"

Deliverable´s action: A1. Characterise waste flow and fractions per type of flight (A. Preparatory actions)

Beneficiary responsible of the deliverable: ECOEMBES

EXECUTIVE SUMMARY

"Life + Zero Cabin Waste" project aims to improve recycling of catering waste generated in airplanes, recyclable waste (plastic packaging, cans, cartons, paper, cardboard and glass) and other type of waste, including Category (Cat.) 3 waste (from European Union flights) and Category 1 waste (from non—European Union flights). For that, one of the main goals of this project is to demonstrate that Cat. 1 waste can receive a different treatment process from the current one, and being managed in a more environmentally friendly way.

In this first preliminary phase of the project, Ecoembes has analyzed the waste from different Iberia's flights arriving to Madrid airport. This analysis will serve as a basis for subsequently propose a comprehensive waste management model. This preliminary activity have consisted in the detection and comparative evaluation of waste generated in different type of flights (European Union / Non-European Union), and the type of class and the food served (business class / tourist class) and finally, the type of waste (organic and inorganic) associated with each. For this purpose, 165 characterizations have been done taking into account the flow where the waste is generated:

Type of Flight		Nº samples	Grouped flights to make the sample	Nº of flights analyzed	Number of characterizations per flow					TOTAL
					Business class menu	Tourist class menu	Tourist class 2nd menu	Waste Trolley	Pantry	
European Union flights (Cat.3) (≤3h flight times)	National flight	5	5	**25**	5	-	-	5	4	14
	European flight	10	4*	**31**	9	-	-	10	5	24
Total characterizations EU flights		**15**		**56**	**14**	**-**	**-**	**15**	**9**	**38**
Non European Union flights (Cat.1)	Short-haul international flight (≤3h flight times)	1	2	**2**	1	-	-	1	-	2
	Medium-haul international flight (≤7 h flight times)	5	3 samples of 1 flight and 2 samples of 2 flights	7	4	5	-	5	1	15
	Long-haul international flight (≥ 7h flight times)	22	1	22	22	22	22	22	22	110
Total characterizations non EU flights		**28**	**-**	**31**	**27**	**27**	**22**	**28**	**23**	**127**
TOTAL CHARACTERIZATIONS		**43**	**-**	**87**	**41**	**27**	**22**	**43**	**32**	**165**

*Except for London flights where the sample was of one flight. In total 3 samples from London, ie 3 flights, were analyzed.

On the one hand, the waste generated in European Union flights and Short-haul international flights have been jointly analyzed being flights that last less than 3 hours because, in both cases, Gate Gourmet loads the food and drink for round-trips. So that, all waste generated in these flights have been considered Cat. 3. On the other hand, a comparison has been made between Medium and Long – haul international flights (Cat.1), in these flights food and drink are loaded in the city of departure and waste is unloaded at destination.

The results indicated after the characterizations are:
➢ Regarding waste generation:
   o There is a direct relationship between quantity of catering waste generated and flight time.
   o On Cat.3 flights, 64% of the waste generated comes from "Waste Trolley".
   o On Cat. 1 flights, 74% of the waste generated is distributed among three flows: "Tourist class menu", "Waste Trolley" and "Business class menu".
➢ Regarding materials:
   o On Cat.1 flights is generated more unmanipulated material than in Cat. 3. All unmanipulated material is practically organic matter that comes from menus (business class, tourist class and tourist class 2nd menu).
   o On Cat.3 flights more than 80% of the recoverable waste is founded in "Waste trolley".
   o On Cat.1 flights recoverable waste is mainly found in these flows: "Waste trolley", "Tourist class menu" and "Tourist class 2nd menu".