Waste Management at Airports

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Introduction

Why do we need a Waste Management at an airport?

• Waste is generated continuously, every day, with various “quality”
• Waste can be hazardous to humans and the ecosystem
• Waste disposal can be expensive and can become a relevant cost factor
• Increased knowledge on airport environmental impacts
• Basis for mitigation and cost savings

Legal Framework

In most countries, there are legal provisions on how to deal with waste and materials:

• Ecuador: Norma de Calidad Ambiental Para el Manejo y Disposicion Final de Desechos Solidos no Peligrosos (Libro VI, Anexo 6)
• Ecuador: Título V, Reglamento Para la Prevención y Control de la Contaminación por Desechos Peligrosos

There is a legal obligation what to do, what not to do and (maybe) how to do things.

Management Approach

Define a Waste Policy
Reflect / consider:
- Legal framework
- Industry solutions
- Business practices
Plan the managing of waste
Implement procedures and measures
Monitor and evaluate results

Important questions:

• Who are the partners?
• What do we want to achieve?
• What is the main strategy?
• What elements are needed to implement the strategy?
• How do we control and improve the process?
Who are the partners?

- Airport Operating Company: waste from offices, airfield maintenance
- Airline Operators: waste from aircraft cabin/ galley, maintenance
- Handling Agents: waste from aircraft cabin/ galley
- Catering Companies: waste from meals and returns
- Cargo Companies: waste from packaging materials
- Concessionaires: waste from offices, shops, restaurants,…

What do we want to achieve?

- Saving costs
- Improving environmental footprint (reducing impacts, save ecosystems)
- Save resources

What is the main strategy?

1. Prevent origination of waste
   - Reuse of packaging materials
   - Policy on printing/copying
   - Reduction of wrapping etc

2. Minimize amount of waste
   - Separation (at point of origin)
   - Compacting

3. Waste Treatment
   - Recycling
   - Incineration (combined with heat production)
   - Decontamination

But: we can only start with 2. when we have sorted out 3.!

What are the elements needed to implement the strategy?

Logistics:
- Waste collection infrastructure
- Signage/labelling

Management:
- Procurement agreements (e.g. using reusable packaging materials/bins)
- Disposal contracts and controlling
- Data capturing tool (getting the amount and type of waste)
- Reporting mechanisms (company management, authorities, public)

Waste disposal options

1. Recycling: waste fraction is used to again produce consumer goods: Paper, cardboard, glass, lubricants, soap, tissue, etc
2. Incineration: waste fraction is incinerated, optionally in a CHP (combined heat power plant) that produces heat and/or electricity

In many cases, a pre-treatment might be necessary, e.g. to remove hazardous substances or to reduce volume.

Waste disposal logistic chain

- Waste separation should occur at source (most economic way, but a cultural question)
- Once separated, waste should not be mixed again
- Waste type and volume/ weight should be known when leaving the airport
- Waste treatment is clarified, accepted and contracted in advance
Separated waste collection

Public areas:

Non-public areas:

How to control the process?

Ideas:
- Train and encourage the staff
- Obtain regular progress reports with meaningful data
- Have tasks, authority and responsibilities defined

Training and awareness

- Special campaigns
- Posters, leaflets, logos
- Simple explanations (multi color, multi lingual)
- Incentive programs

Data management

1. Who disposes when how much of which waste type?
2. Who has to pay how much for what?
3. How are the waste streams developing?

Case study: the Zurich airport waste management

- Optimization of waste management to reduce disposal costs
- Reduction of waste fraction through increase of segregation at the origin
- Polluter-pays-principle
- Avoiding waste generation through changes in buying and processes
- Close cooperation of airport partners to increase efficiency

Labelling all waste fractions

- Uniform, airport-wide labelling system for both the public domain and the operation areas:
  - Symbol
  - Color
  - Text (multiple languages)

Currently approx. 40 waste fractions defined for operation areas, but only 3 for public areas.
Conclusions

- Airports take the role of cities when it comes to waste management.
- It’s the type of waste and in particular the volume of waste that matters.
- Waste management includes all partners at the airport.
- Common set of definitions, procedures and handling equipment is needed.
- Control of the waste streams is essential for successful mitigation.

Click to see the data capturing diagram.