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ESTIMATES ON POTENTIAL JOBS ASSOCIATED WITH THE IMPLEMENTATION AND DEVELOPMENT OF THE FIRST PHASE OF

DEPOSIT RETURN SYSTEMS IN SPAIN

EXECUTIVE SUMMARY

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CONTENTS AND GOALS OF THE STUDY

The current study was commissioned to ISTAS by RETORNA on the basis of a proposal for a Deposit Return System for beverage containers in Spain. The system would include both manual and automatic collecting procedures in business or companies that choose to implement it.

In the last years, several studies both in the US (Cascadia, 2009; Alvarado, 2004) and in Europe (Gray, 2002; WRAP, 2006; WRAP, 2009; FOE 2010) have highlighted the economic advantages associated to waste classification, recovery and recycling compared to incineration or landfill disposal.

Given the fact that Deposit and Return Systems increase the recovery of material, both in terms of quantity and quality, and have an additional effect on job creation in all the phases of the management cycle, the purpose of this report is to draw estimates on the number of jobs that would be created with the implementation of the DRS put forward by RETORNA for Spain. Job estimates focus on the implementation and the first phase of development depending on expected goals and volumes.

This paper is divided into two main chapters. The first section includes a theoretical description and conceptualization based on the data used for the study. It first offers a detailed picture of the sector of wage management in Spain, considering its implications for the “green” labour market, business structure, job characteristics and future trends. Further on the same section includes a description of activities of urban waste management and a brief explanation of the management models provided by Spanish regulation: Integrated Management Systems and Deposit and Return Systems. The first chapter continues with a detailed account of the operation and activities in each system, the current level of development of IMS and a proposal by RETORNA for their development.

The second chapter offers potential job estimates for Deposit and Return Systems and on their impact on jobs in other sectors and subsectors in an effort to conceptualize this model and its structure. This chapter begins with an explanation of the methodology used to calculate job estimates, it outlines the universe of the study as required by the used methodology and which proportion of activities and jobs are analyzed. To conclude it shows detailed results for the list of activities and references to the impact, in terms of jobs, on other waste management activities, particularly on Integrated Management Systems or street sweeping.

The methodological approach is based on an extensive data search from secondary sources, visits and interviews which provided useful specific information about the state of affairs in Spain.

EXPLANATION

RETORNA's proposal involves the implementation of a Deposit and Return System for single-use glass, aluminium, plastic and tetra-pak beverage containers. The system would participate in the management of containers currently carried out by companies ECOEMBES and ECOVIDRIO.

The type of containers eligible for DRS include those currently deposited in yellow (light containers) and green (glass) recycling bins. Those containers wrongly deposited in other waste bins, or simply left in public spaces are also eligible for Deposit and Return Systems and increase the total volume of recovery and the value of containers due to paid return.

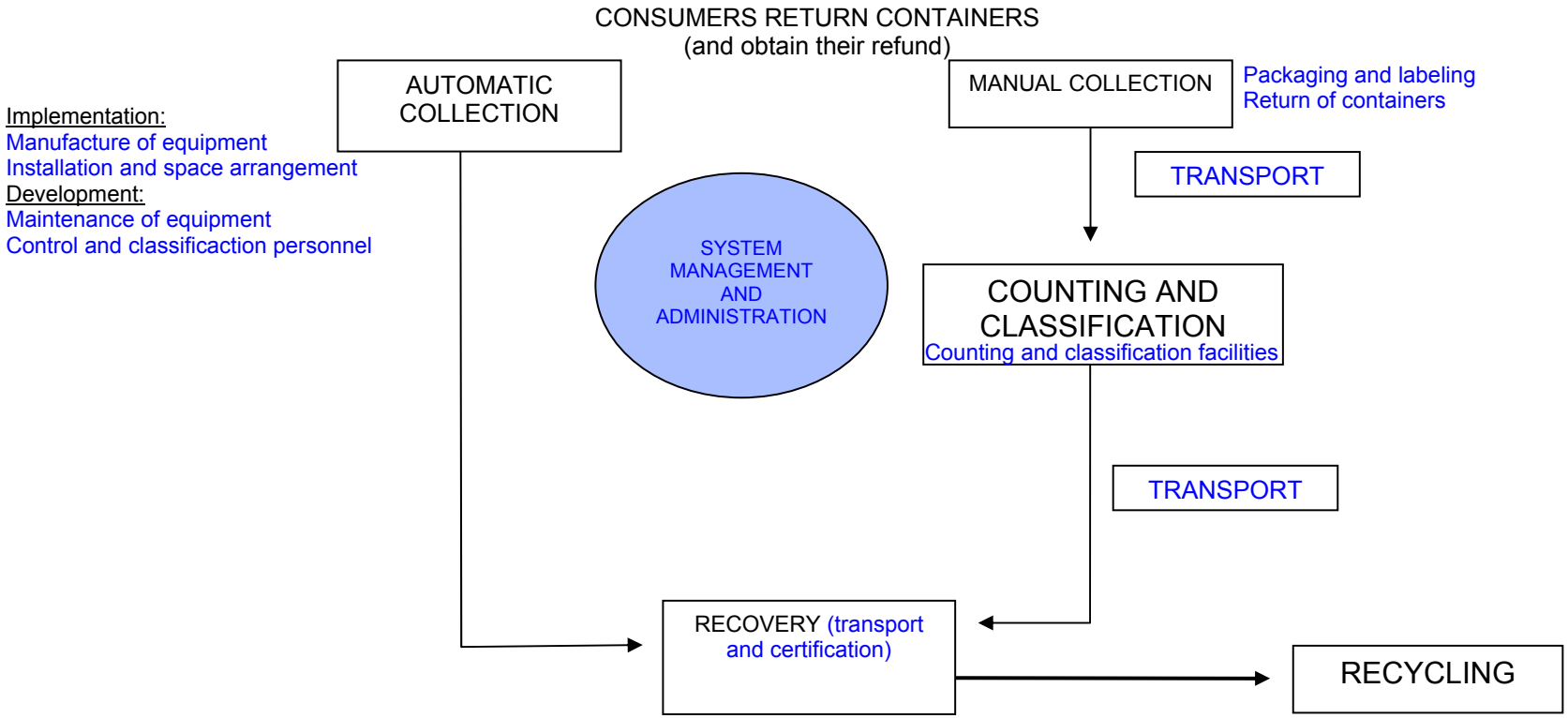
This new system does not represent a business competition for ECOEMBER or ECOVIDRIO, or for any other type of containers management modalities currently operative in Spanish municipalities. As we show in the next paragraphs, each of these systems of waste management will continue to be necessary with their own adaptability, efficiency and sustainability criteria.

The DRS could therefore add up to other systems and make a positive contribution to waste management by increasing selective collection and improving waste recovery and recycling. It would also improve significantly the cleaning of streets and public spaces.

Adaptability will imply the introduction of new bins for the deposit system and their capability to promote the use of reusable containers, transparency of the management system and adequate running by system operators. The efficiency of the system will be proved by innovative technical solutions to reduce consumption (especially energy consumed in containers transportation), and to increase sustainability through high levels of recovery achieved by a more responsible environmental, economic and social behaviour.

Both implementation and development will require a solid financial investment and will generate new direct and indirect jobs. (See the following diagram for details).

Operation and activities of the Deposit Return System



Implementation: Building or adaptation of existing facilities for counting processes.
Design and adjustments of collecting points
Manufacture of equipment for automatic collection and
- Development of a software for system control
- Training of employees

Development: Transport in the different phases
Manufacture of storing equipment
Manufacture of trucks, containers and automatic collection, counting and classification equipment

SUMMARY OF RESULTS AND CONCLUSIONS

The implementation and development of a Deposit Return System will imply the creation of direct and indirect jobs. Some of the main **direct jobs** will be associated with specific activities like collection, counting, transport, as well as system management and administration jobs. Job in the maintenance of vehicles and equipment will also be included in this category.

The main **indirect jobs** will concentrate in the construction sector (counting and treatment lines; design and adjustment of collecting points (automatic collection) and industrial manufacturing activity (automatic collection, counting and treatment for new facilities), containers (storing), bags and labels (manual collection) and manufacture of vehicles.

Jobs in the manufacture of new vehicles are expected to grow due to an increased demand for vehicles. However it must be noted that there are no specific needs for types of vehicles (container-type trucks/ common trailers)

A moderate **drag effect** is expected to affect other waste management activities as treatment, recovery and recycling, given the increase, new characteristics and greater volume of collected waste.

In terms recovery and recycling activities, higher volumes and better quality materials are expected to be recovered. This might generate a bigger demand of labour force and new companies to perform such activities. Activities and jobs in the management of industrial wastes are not currently focused on this new type of recovery.

Other activities in the management of urban wastes **will continue to be carried out** regardless of the effects of the Deposit and Return Systems like for instance street sweeping. Deposit and Return Systems will not imply any changes in terms of jobs in street sweeping and cleaning services, and of collected material (paper, leaves, etc.). The frequency of discharge of waste bins may be affected due to the reduction of waste volume.

Basically there are not activities outside the sector (indirect jobs) that might be affected by job losses with the introduction of DRS. Within sector activities the transferred volume from the current system (IMS) to the new DRS must be taken into account during the new phase where both systems will coexist. According to our estimates there will be no global job losses in Integrated Management Systems due to the greater volume of treated wastes and their increased value. These factors will be detailed further on in this chapter.

In terms of the number of containers deposited in other waste bins tan those regularly used for plastic, paper and glass, the DRS is expected to reduce the number of containers and subsequently their negative environmental impact. No modification of current and future activities is expected given the similarity of mechanization during the treatment process.

Job estimates detailed in this paper are summarized in the following table:

SUMMARY OF JOBD GENERATED IN DIFFERENT ACTIVITIES OF THE DEPOSIT RETURN SYSTEM (IMPLEMENTATION AND OPERATION PHASES)				
SECTOR OF ACTIVITY	**PRODUCT/ SERVICE**		**Implementation**	**Operation**
COLLECTION	Support to: automatic equipment			*8,530(*)* + 362
	Manual			*2,059(*)*
TRANSPORT	Counting plants			332
	Recycling plants			277
TREATMENT	In counting classification and treatment plants			360
	Assessment: recovery and recycling			500-1,250
MANAGEMENT, DESIGN AND TRAINING	System management	Offices	30-100	30-100
	Design	Software for system control; counting plants, classification, treatment; collection material	-	
	Training		144,4	(≈)
MANUFACTURE	Plant equipment	Counting and classification machines	*(**)*	
	Collection equipment	Automatic equipment	*379(**)*	
	Vehicles	Trucks	226	
MAINTENANCE	Plant equipment	Counting and classification		*12(***)*
	Collection equipment	Automatic equipment		240-328
	Vehicles			*2.8 (*)*
CONSTRUCTION	Building of facilities		232	
	Adjustment of collecting sites		116	
TOTAL			**1,127.4-1,197.4**	**12,692.8-13,600.8**

(*): ESTIMATES ON WORKING TIME: NOT DIRECTLY RELATED TO JOB CREATION.
(**) JOBS EXPECTED TO GENERATE ABROAD (OUTSIDE OF SPAIN)
(**): CALCULATED IN THE TOTAL STAFF FOR THE BUILDING OF COUNTING FACILITIES
(***): CALCULATED IN THE TOTAL STAFF OF COUNTING FACILITIES
(≈): JOBS WILL STILL BE CREATED IN THIS PHASE ALTHOUGH IN LESSER AMOUNTS

Research and studies in this field suggest that the implementation of Deposit and Return Systems will have potential positive impact on job creation since it will generate a significant number of jobs in its operational phase.

Collected containers will be repaired and classified with higher efficiency. Those containers will imply significant amounts of quality material with high commercial value, which will expand the recycling industry. Deposit and Return Systems imply a step further towards sustainable development strategies in the waste management sector which will represent a significant progress in the recycling of containers.

Other significant advantages associated with the implementation of Deposit and Return Systems include:

- Deposit and Return Systems as social awareness instruments
- Improvement of urban cleaning and sanitation
- Environmental benefits derived from the global increased volume of recovered containers.
- Consolidation of the sector and of the associated business network

CONCLUSIONS

Waste management is considered a “green” sector given its goals focused on the reduction of environmental impact associated with waste treatment.

Among those impacts we may highlight the significant consumption of resources, energy, greenhouse/polluting emissions and toxic landfill leachates associated with a poor environmental management of urban wastes. The transport of wastes also contributes to that environmental impact.

Environmental effects associated with waste treatment based on incineration and landfills (end of pipeline technology) have special significance due to the unaffordable waste of resources they imply.

It is crucial for the waste management sector to improve reuse/recycling levels and achieve better results. This requires changes in regulation, improvement in the collection and separation of wastes and strict observance of responsibilities that extend to manufacturers of products that would later become waste. The correct management of containers is obviously part of the necessary improvement.

Despite the improvement of waste management processes, mostly as consequence if stricter enforcement of EU regulation, the sector will increase its future environmental significance and will continue to generate jobs.

Public authorities, companies, social partners and citizens, among them consumers, share the responsibility for achieving more ambitious goals in waste management focused on:

- Increased of waste recovery and reduction of wastes whose final destinations are landfills or incinerating plants.
- Elimination and substitution of highly polluting or difficult to recover materials with biodegradable or recoverable ones.
- Development of necessary regulation, technology and processes to achieve high levels of waste management quality and to reduce the impact of the activity.
- Raising social awareness on the significance of sustainable consumption habits.
- Consolidation of a sector that promotes social cohesion and employment associated to a sustainable production mode.

The implementation of Deposit and Return Systems for single use containers will obviously be the first step in the reintroduction of reusable containers. Glass or PET containers would be first candidates for reuse. The assessment of job data in the reusable containers sector in Germany (a country where for each job in the single use containers sector there are 5 jobs in the reusable containers sector) shows that the implementation of high rates of reusable beverage containers (84% of beer containers and around 30% of soda and bottled water containers are reused) implies a significant generation of secure jobs along the production chain. The implementation of reusable containers is expected to improve the job estimates published in this report since this paper only covers the implementation phase of a Deposit and Return Systems in Spain.

The achieved results suggest that Deposit and Return Systems promote an increase of economic activity and are an important source of direct and indirect new jobs with a positive drag effect on related sectors as transport, logistics, construction or recycling.