



AMBILAMP

Association for the Recycling of Light

Construction of a Collection and Recycling System
Organization (CRSO) for light in Spain 2005 - 2012



CONTEXT

INFORMATION ON THE RECYCLING OF LAMPS

- Lamps are the most used source of artificial light in the world, and therefore the volume of lamps thrown away is exceptionally high.
- Lamps represent **1.3% of the total weight** of electrical waste, but **80%** of this type of waste in **pieces**.

- In 2012 AMBILAMP will collect **2.300 tonnes of lamps** in Spain.
- Since 2005 AMBILAMP has collected **10.879 tonnes of lamps** for recycling, which represents more than **76 million lamps**.



In 2013 AMBILAMP will reach more than 100 millions of lamps collected and recycled in Spain

1. Legislation

2. Institutional

3. Operations

3.1 Structure of the collection process

3.2 Recycling

3.3 Information and awareness raising

4. Financing

5. Key factors for success



LEGISLATION

GENERAL WASTE AND WEEE



Directive on Waste 2008/98/EC of the European Parliament and Council of November 19



The Waste and Contaminated Soil Act 22/2011 of 28 July 2011

Directive 2002/96/EC on Waste Electrical and Electronic Equipment (WEEE) of the European Parliament and Council of 27 January 2003



WEEE Royal Decree 208/2005 of 25 February

Directive 2012/19/UE on Waste Electrical and Electronic Equipment (WEEE) of the European Parliament and Council of 4 July 2012



New WEEE Royal Decree currently undergoing reform

Definition: a guideline drawn up by the OECD and later adopted and put into practice by the European Union. The purpose is to improve the total lifecycle of products by extending the responsibility of the producer/manufacturer to all the phases of the lifecycle thereof from their manufacture to their recovery, recycling and final disposal.

Governing principals:

- Prevention of contamination
- Product lifecycle
- The polluter pays

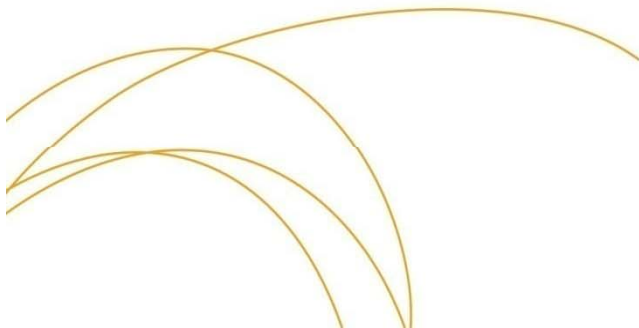
Ways of development:

- Collection & Recycling System Organization (CRSO)
- Individual collection system

LEGISLATION

WHAT IS A CRSO (COLLECTION AND RECYCLING SYSTEM ORGANIZATION)?

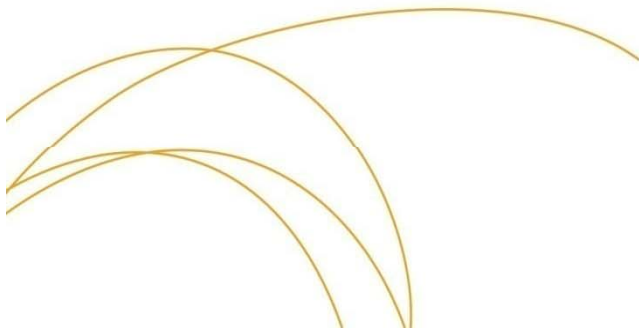
CRSOs: Non-profit organisations formed by producers with the objective of creating a structure that fulfils all the financial, operational, legal and informative requirements established in the Regulations



LEGISLATION

WASTE

**EUROPEAN WASTE
FRAMEWORK DIRECTIVE
2008/98**



LEGISLATION

WASTE

SPANISH WASTE ACT 22/2011

EUROPEAN WASTE
FRAMEWORK DIRECTIVE
2008/98

EUROPEAN SECTORAL
DIRECTIVES



LEGISLATION

WASTE

SPANISH WASTE ACT 22/2011

EUROPEAN WASTE FRAMEWORK DIRECTIVE 2008/98

Used oils (Royal Decree 679/2006)

SIGAUS

Used tyres (Royal Decree 1619/2005)

SIGNUS

Used batteries
(Royal Decree 106/2008)

ECOPILAS
ERP

WEEE (Royal Decree 205/2005)

AMBILAMP, ECOLUM,
ECOFIMÁTICA, TRAGAMÓVIL,
ECOASIMELEC, ECOLEC, ERP

Used packaging (Act 11/1997)

ECOEMBES

Phytosanitary products (Royal Decree 1416/2001)

SIGFITO

Used medicines (Act 11/1997 and Royal Decree 1345/ 2007)

SIGRE

EUROPEAN SECTORAL DIRECTIVES

LEGISLATION

WASTE - WEEE

SPANISH WASTE ACT 22/2011

EUROPEAN WASTE FRAMEWORK DIRECTIVE 2008/98

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SIGRE

EUROPEAN SECTORAL DIRECTIVES

LEGISLATION

LEGAL ASPECTS OF THE CRSOs

Spanish WEEE Royal Decree 208/2005 of 25 February

A collection target of 4 kg/inhab. Per year is established

New European WEEE Directive

2012-2016 4 kg/inhab.

2016-2019 45% POM

2019 65% POM or 85% waste generated

Financial guarantees with respect to future waste

Reinforce financial guarantees with respect to future waste

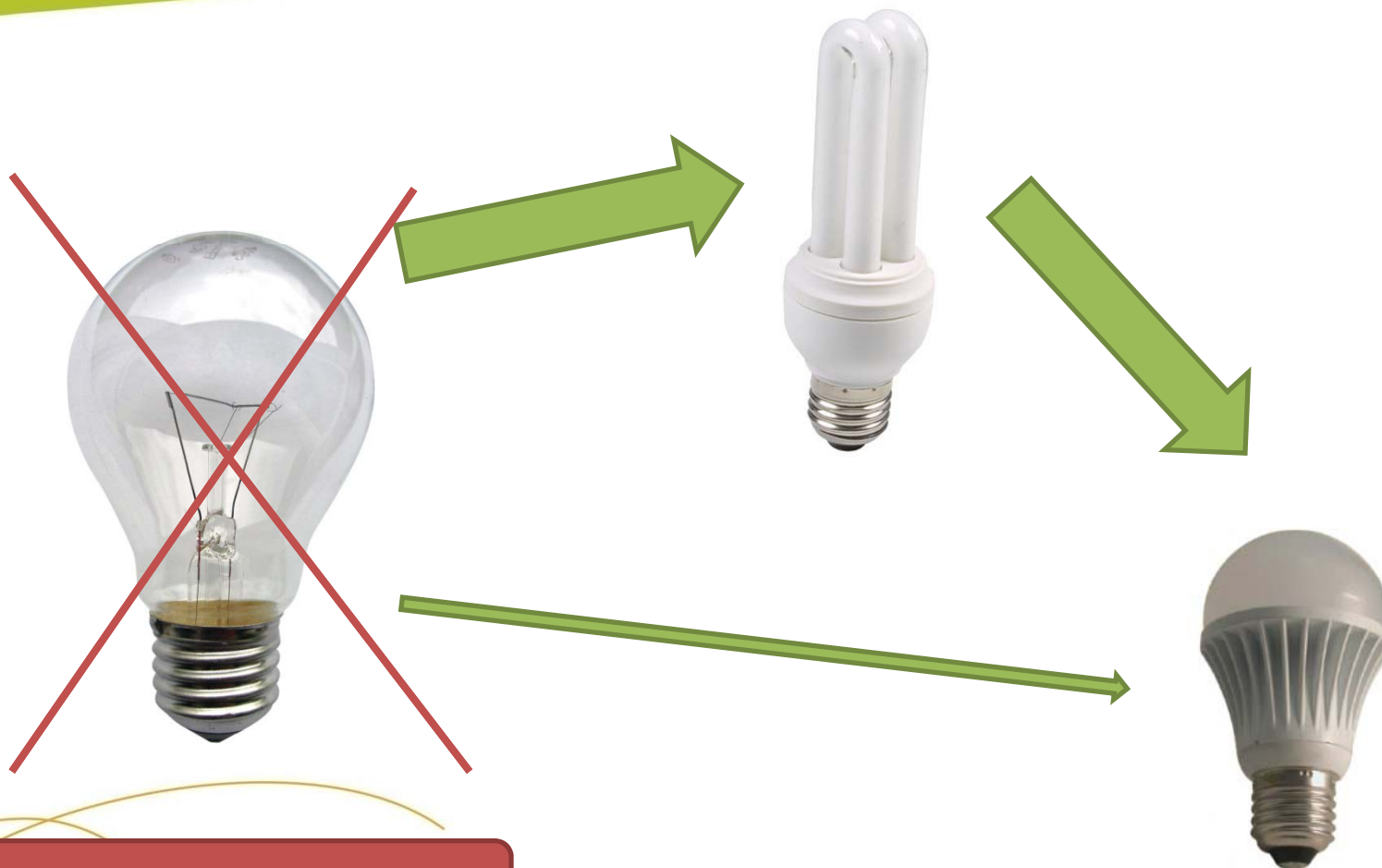
Obligation of the distribution to accept the waste at 1x1

a. Obligation of the distribution 1x1

b. Distributors provide for collection with sales areas relating to EEE at least 400m² of very small WEEE free of charge and with no obligation for 1x1

LEGISLATION

ECODESIGN



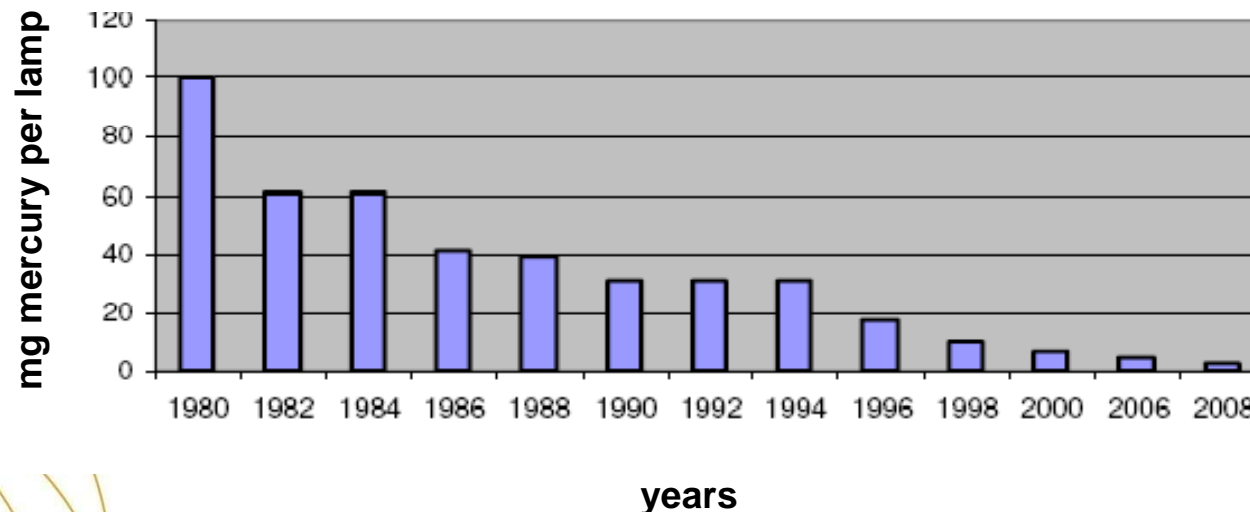
SPAIN, 1 SEPTEMBER 2012

OPERATIONS – STRUCTURE OF THE COLLECTION PROCESS

DIRECTIVE ROHS (RESTRICTION OF HAZARDOUS SUBSTANCES) 2011/65/UE REDUCTION OF MERCURY IN LAMPS

- Over the last 25 years lamp manufacturers have developed innovative processes aimed at increasing light source performance while at the same time reducing the amount of mercury required to make them work.
- The mercury content of lamps has been reduced by more than 90%.
- Entry into force of Directives such as **RoHS** regarding the prohibition of hazardous substances in EEE

Reduction of the mercury content in fluorescent lamps over the last 28 years (best available technology)



OPERATIONS – STRUCTURE OF THE COLLECTION PROCESS

LIGHT SOURCES

UNDER WEEE SCOPE



FLUORESCENT



SAVING LAMPS



DISCHARGE



LEDs RETROFIT

OUT OF THE WEEE SCOPE



INCANDESCENT



HALOGEN



1. Legislation

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INSTITUTIONAL

AMBILAMP

AMBILAMP is a non-profit Association of Producers / Importers of lamps with more than 90% of market share in Spain. AMBILAMP is a CRSO for light

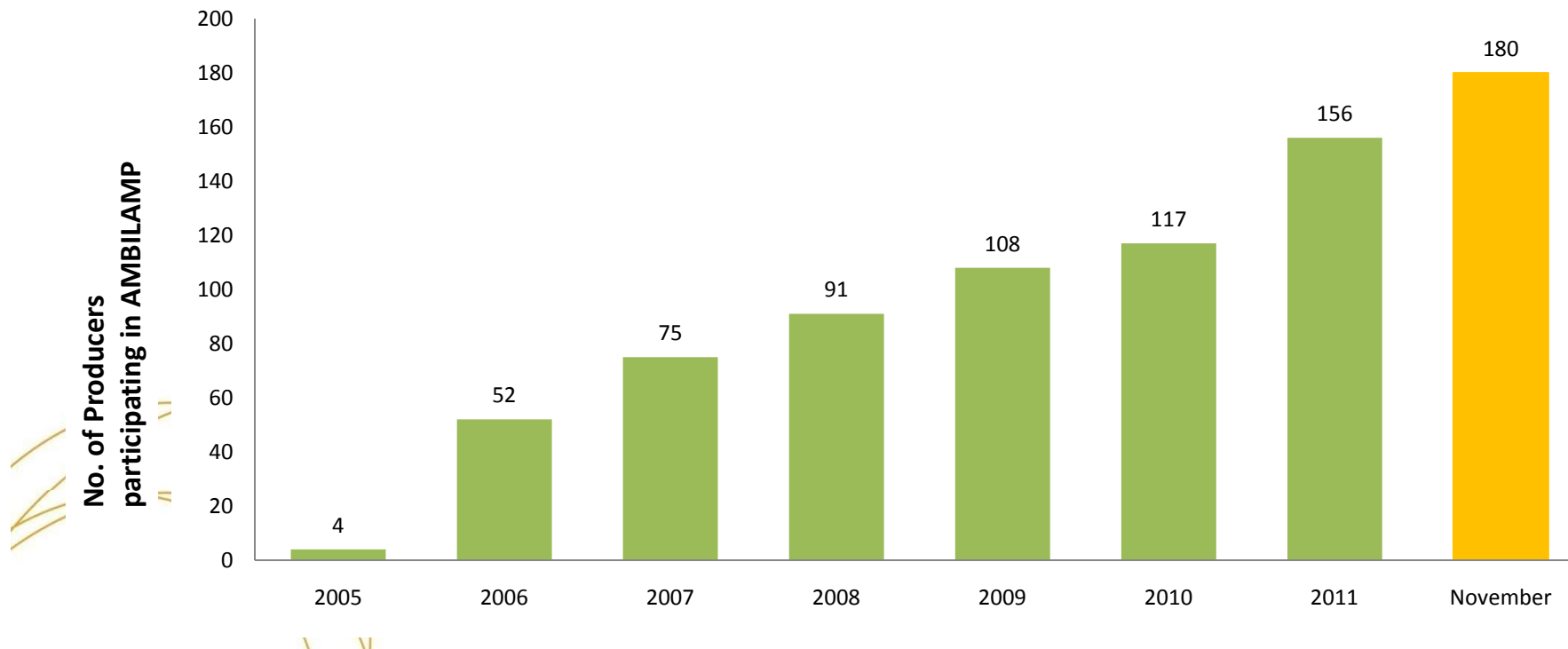
Created in 2005 by:

PHILIPS

OSRAM

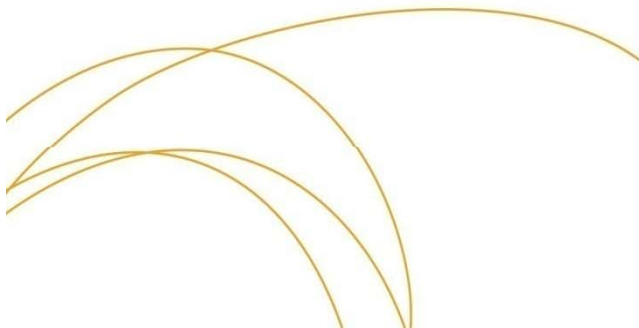


In Europe, there are 29 CRSOs, all the major countries have a CRSO specialised in light



WHY A SPECIFIC CRSO FOR LAMPS?

- ✓ Negative value of the waste
- ✓ Hazardous waste
- ✓ Fragility
- ✓ Specific and complicated shape
- ✓ Specific treatment plants
- ✓ Specific collection system
- ✓ New LED technology mixed



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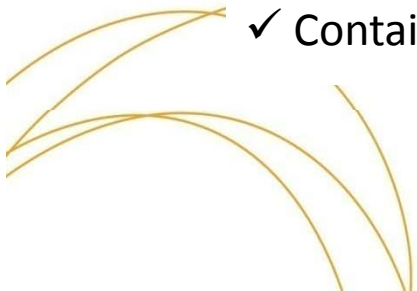
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PRINCIPLES FOR THE COLLECTION SYSTEM

- ✓ The implementation of a multichannel collection process ensures proximity to the waste generation point that is more efficient and ecological
- ✓ Collection in small and large containers:
 - LARGE: Cost efficiency wherever installation is possible
 - SMALL: Brings the container closer to the citizen / domestic user
- ✓ Development of special containers for specific types of lamps
- ✓ Maximum reduction of lamp breakages
- ✓ 99% service coverage throughout the country
- ✓ High degree of satisfaction among the collection points
- ✓ Containers designed for logistical efficiency



OPERATIONS – STRUCTURE OF THE COLLECTION PROCESS

LARGE CONTAINER

- ✓ Easy to assemble
- ✓ Can be used outdoors
- ✓ Foldable and stackable
- ✓ Light
- ✓ Long-lasting materials
- ✓ Traceability of the container
- ✓ Adapted to different types of lamps



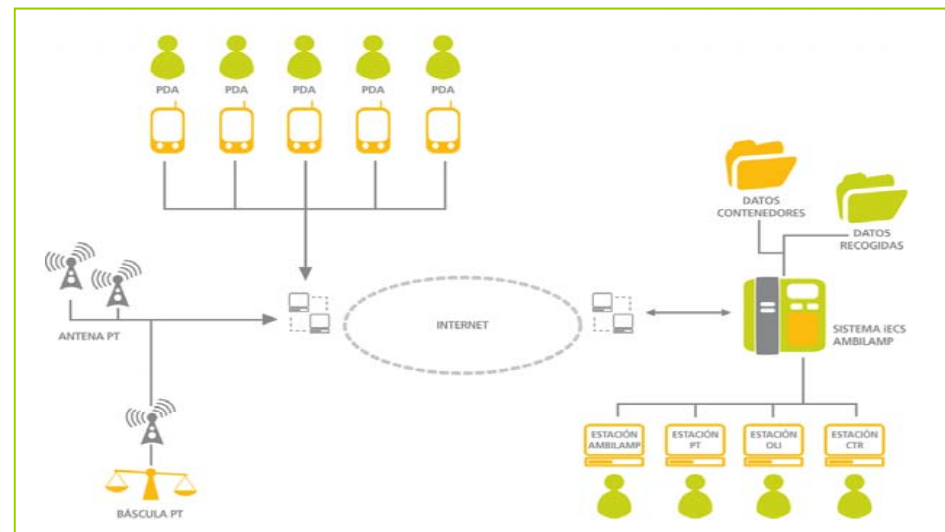
WASTE TRACEABILITY SYSTEM IN LARGE CONTAINERS



RFID Chip



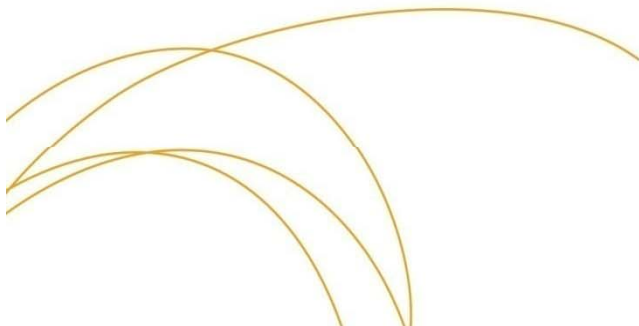
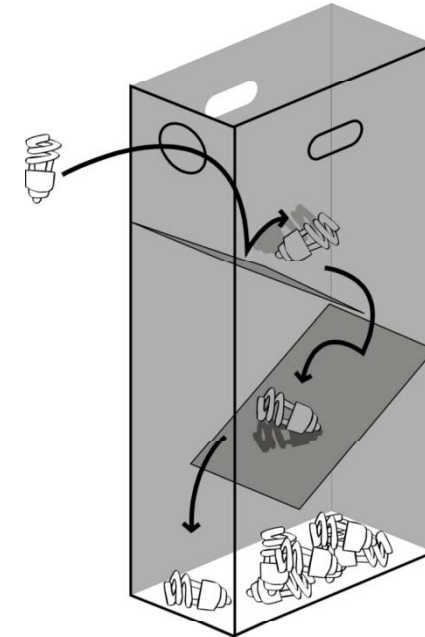
200 x 80 x 78
58 kg



OPERATIONS – STRUCTURE OF THE COLLECTION SYSTEM

SMALL CONTAINER

- ✓ Cheap
- ✓ Is a communication element
- ✓ Separation of fluorescent and saving lamps
- ✓ Anti-breakage ramp system
- ✓ Foldable and easy to assemble



OPERATIONS – STRUCTURE OF THE COLLECTION PROCESS

OTHER SPECIFIC CONTAINERS



Container for fluorescents > than 2 metres



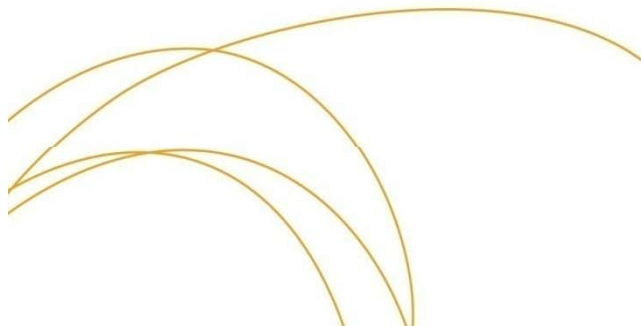
Discharge Lamps (HID)



Installers Container

OPERATIONS – STRUCTURE OF THE COLLECTION PROCESS

MULTIPRODUCT CONTAINER



OPERATIONS – STRUCTURE OF THE COLLECTION PROCESS

COLLECTION CHANNELS ACCORDING TO CONTAINER TYPE

LARGE CONTAINER

ELECTRICAL
DISTRIBUTION

LARGE INSTALLERS AND
MAINTENANCE DIRECTORS

OCCASIONAL/
RELAMPINGS

LARGE USER

INDUSTRIAL

LARGE RETAIL OUTLET

RECYCLING CENTRES

DOMESTIC AND
INDUSTRIAL

SMALL CONTAINER

SMALL RETAIL OUTLET
THAT SELLS LAMPS

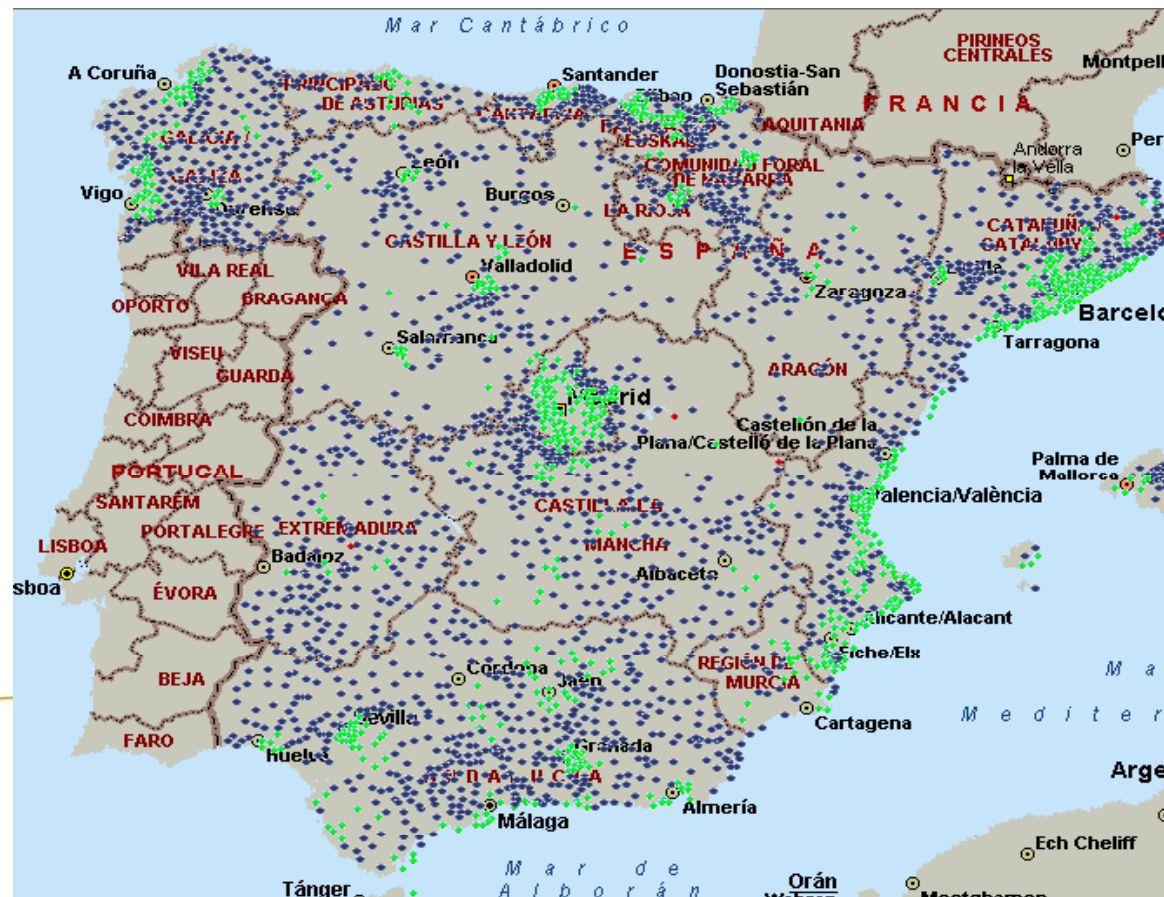
SMALL AND MEDIUM-
SIZED INSTALLER

DOMESTIC

OPERATIONS – STRUCTURE OF THE COLLECTION PROCESS

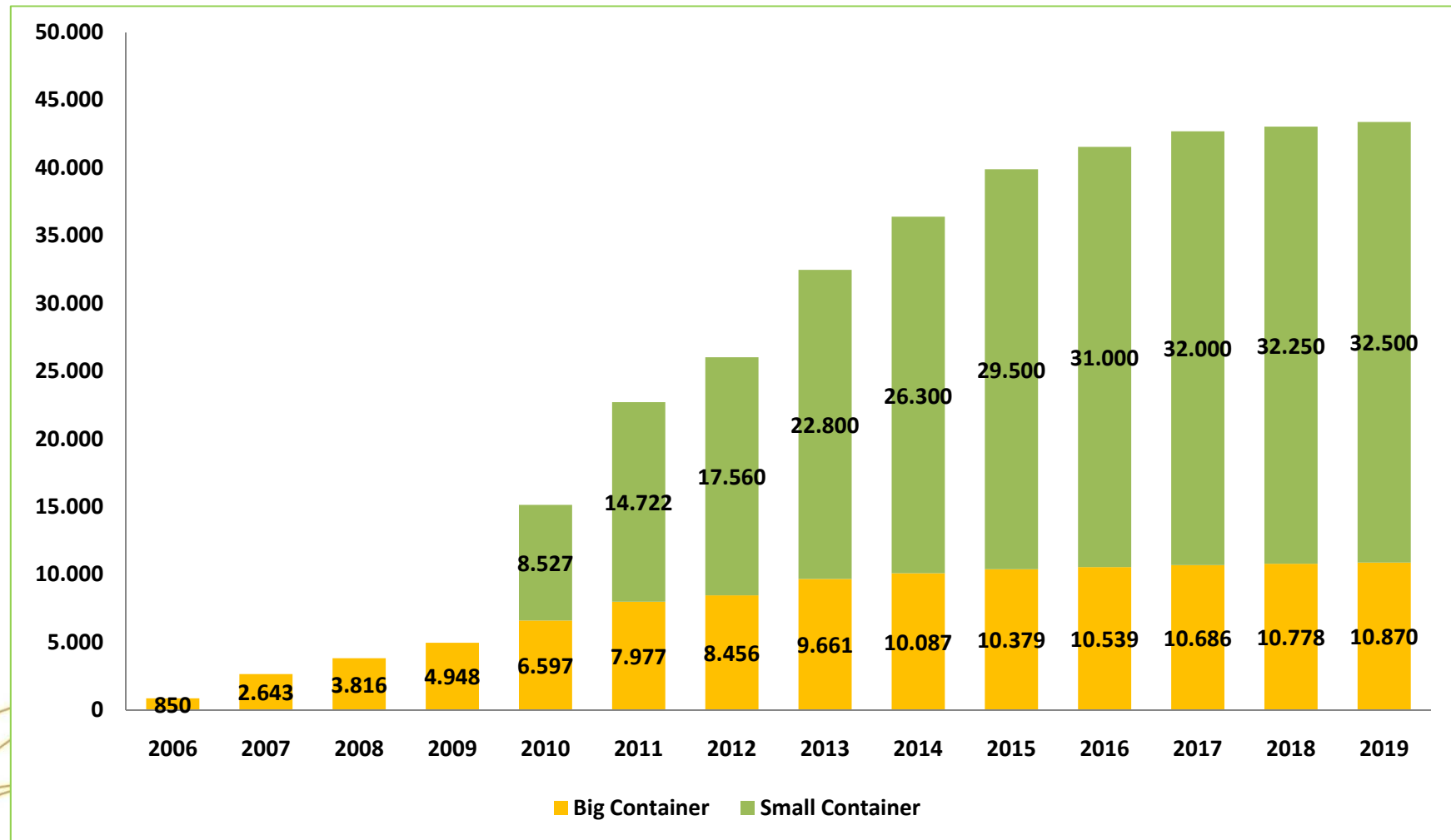
PRELIMINARY STUDY – COLLECTION POINTS WITH SMALL CONTAINER FOR DOMESTIC USE

- 8,712 are necessary to cover 90% of national territory in 2009.



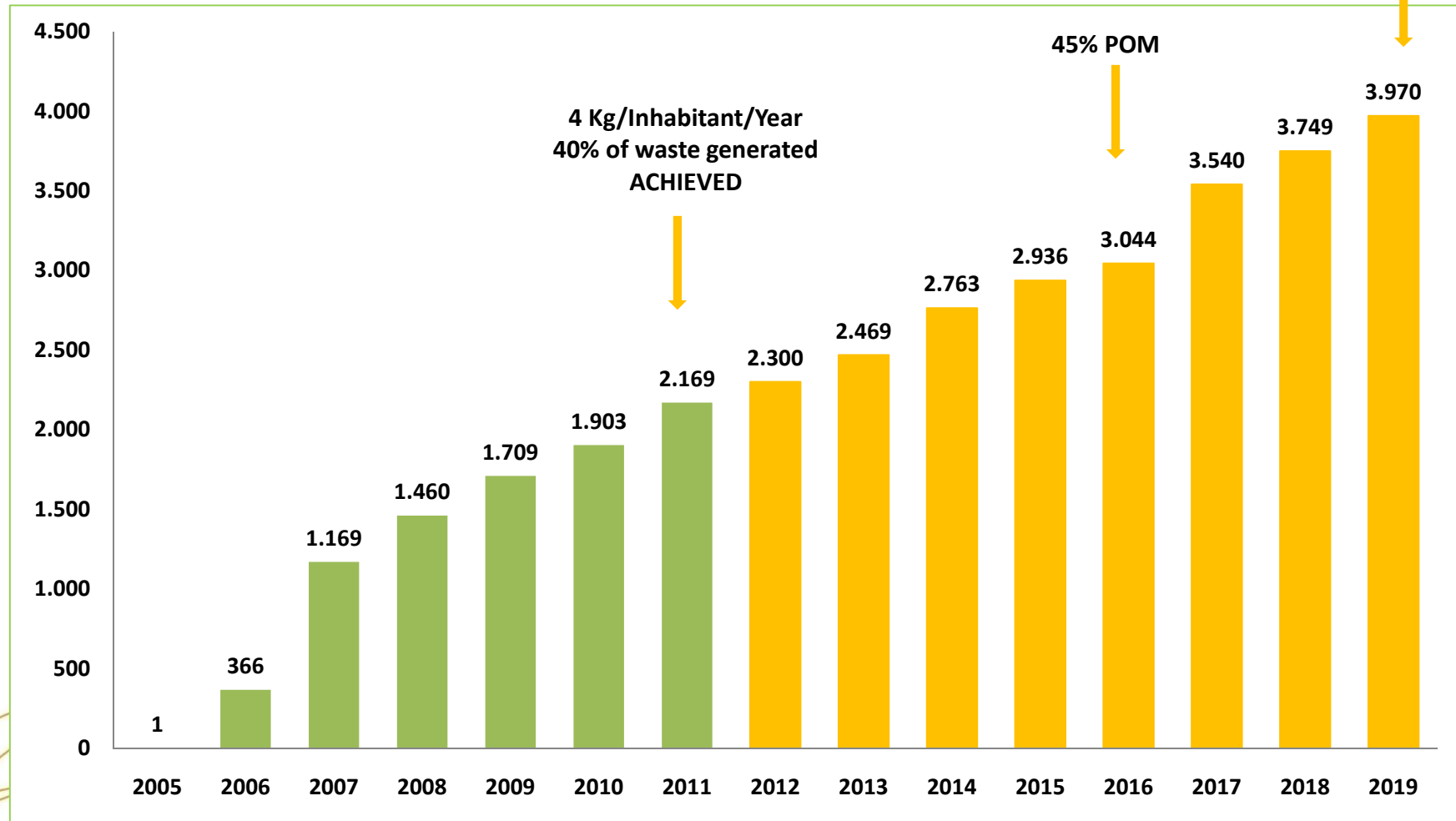
OPERATIONS – STRUCTURE OF THE COLLECTION PROCESS

COLLECTION POINTS DEVELOPMENT



OPERATIONS – STRUCTURE OF THE COLLECTION PROCESS

COLLECTION TONNAGE DEVELOPMENT



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OPERATIONS – RECYCLING

TREATMENT PLANTS



OPERATIONS –RECYCLING

RECYCLING PROCESSES

- The Hg and other heavy metals contained in WEEE lamps makes management by an authorised manager/recycler and the use of a responsible process necessary.
- Responsible process:



Cardboard and foreign bodies

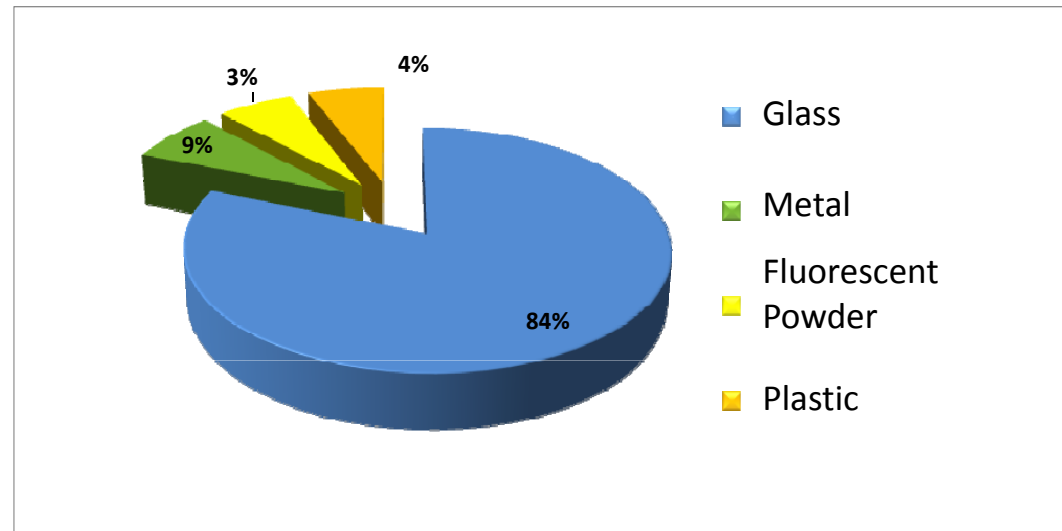


Glass
Metals
Fluorescent powder



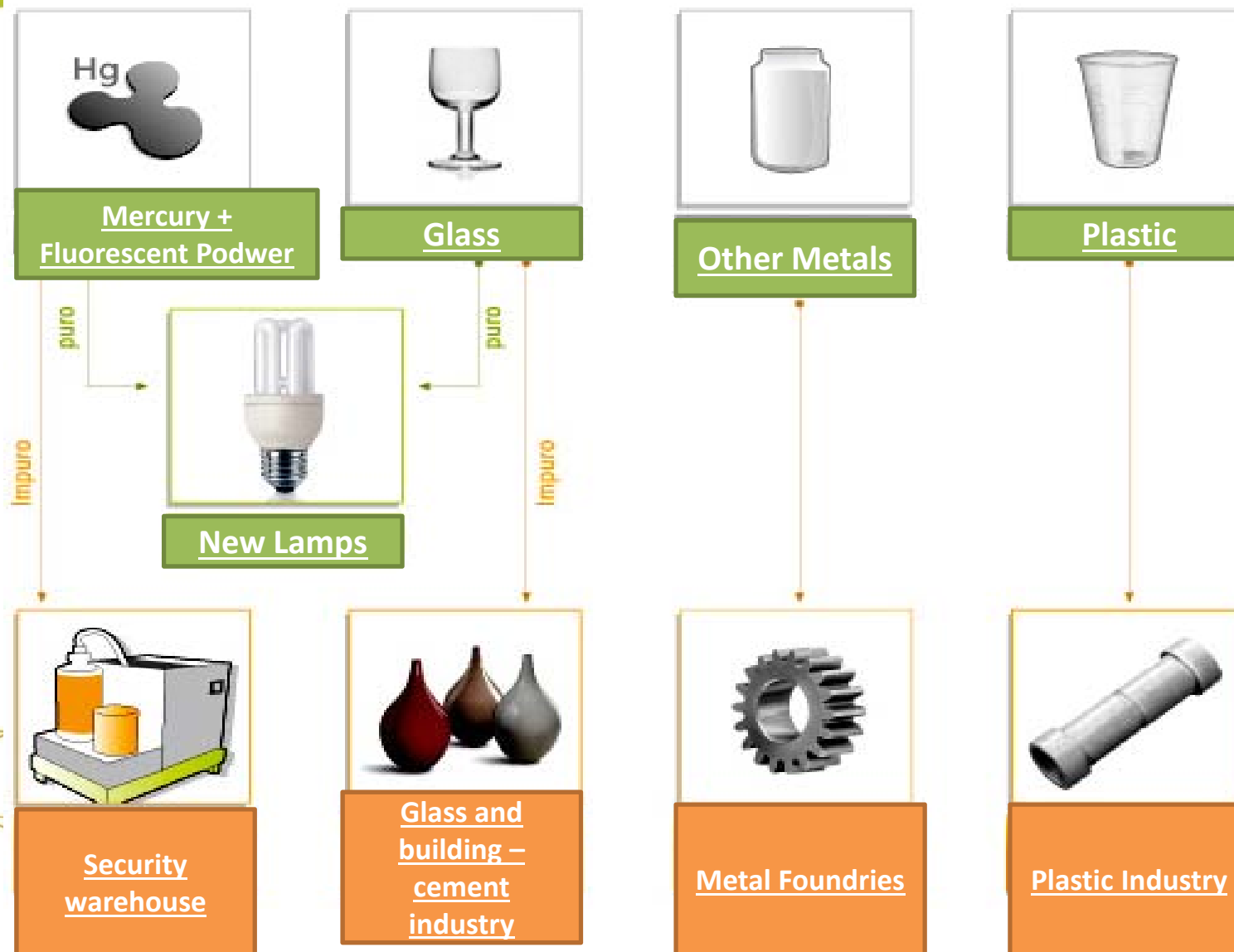
Liquid mercury
Mercury-free fluorescent powder

Fluorescent Powder: 3.5% of the weight of the waste
Rare Earths: 15 - 20% of the weight of the fluorescent powder



OPERATIONS –RECYCLING

MATERIALS OBTAINED FROM THE RECYCLING PROCESS



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OPERATIONS – INFORMATION AND AWARENESS RAISING

EDUCATION EXPERIENCES



Light Recycling Roadshow for professionals
5 Months
All around Spain



Professional Education
1.171 class
63.000 students



Recycling School
375.000 students
18.900 teachers

OPERATIONS – INFORMATION AND AWARENESS RAISING

ADVERTISING FOR PROFESSIONALS

Cada vez somos más, únete.



Empezamos siendo unos pocos, hoy ya somos muchos. Los instaladores profesionales eléctricos que confiamos en AMBILAMP para reciclar los bombillos de bajo consumo y los fluorescentes.

Únete a nosotros y búscalo a tu distribuidor habitual.

Conoce tu punto de recogida más cercano en www.ambilamp.es



Información y recogidas: 902 102 749



Por logística,

Por facilidad,

Por comodidad,

Por tu empresa,

Por el planeta,

Por todos,

No hay un buen motivo para reciclar. Hay muchos.

AMBILAMP pone a disposición de tu empresa un sistema cómodo y gratuito para recoger los fluorescentes y bombillos de bajo consumo fundidos.

Infórmate en el 900 102 749 y solicita uno de nuestros contenedores para tu empresa.

www.ambilamp.es



Información y recogidas: 902 102 749

OPERATIONS – INFORMATION AND AWARENESS RAISING

MASS MEDIA CAMPAIGN

TV Spot

FLUORESCENT LAMP

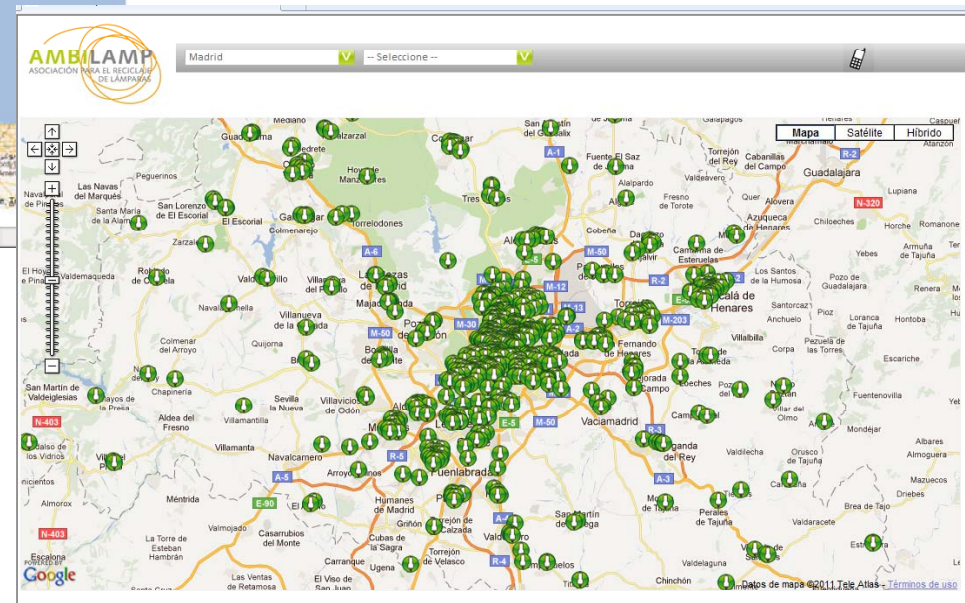
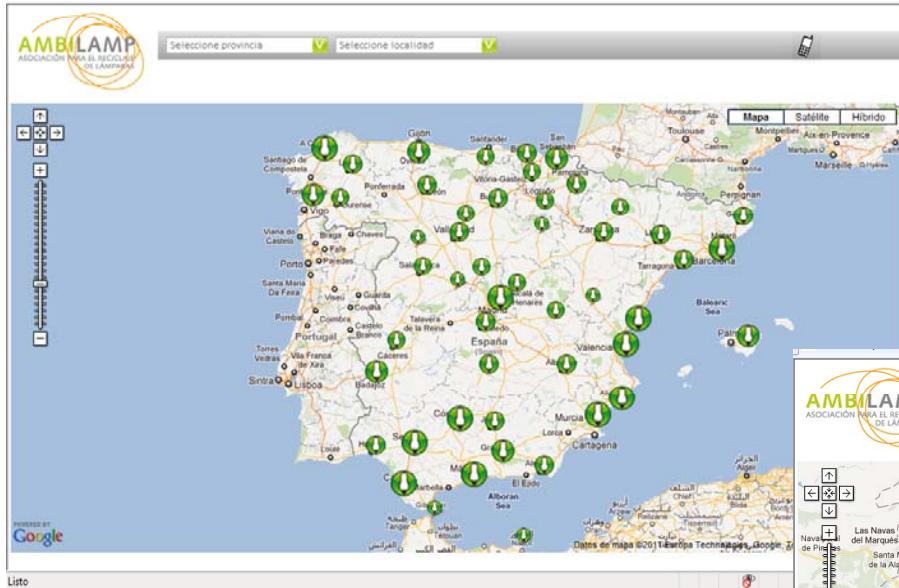
SAVING LAMP

Outdoor



OPERATIONS – INFORMATION AND AWARENESS RAISING

GOOGLE MAPS , COLLECTION POINTS SEARCH



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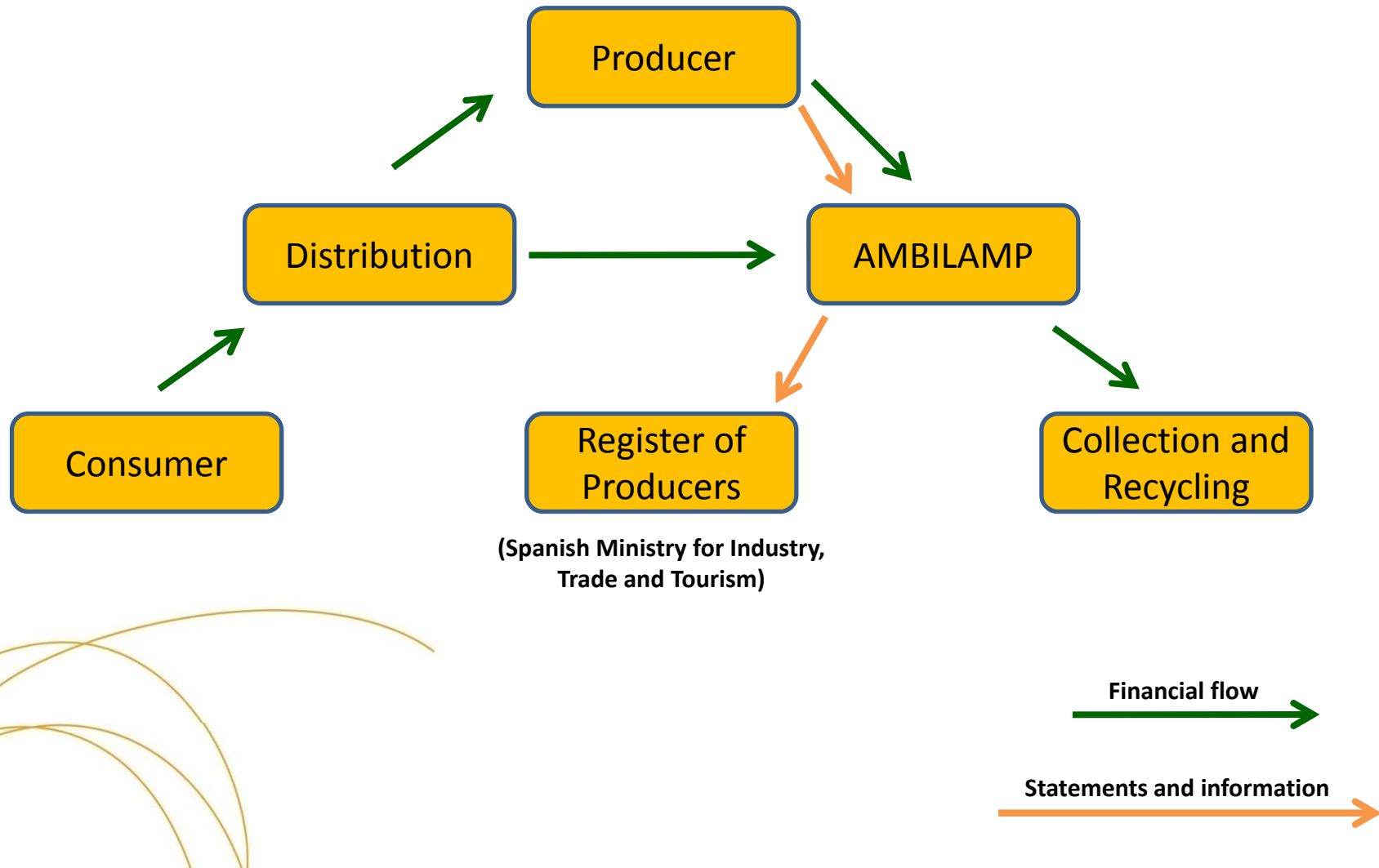
4. Financing

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FINANCING

FINANCIAL FRAMEWORK



FINANCING

FEE CALCULATION PROCESS

FEE AMBILAMP



6 years



Historical / Old Waste

6 years



Future Waste

FEE AMBILAMP

=

COST OF THE
HISTORICAL /OLD
WASTE



COST OF THE FUTURE
WASTE



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KEY FACTORS FOR SUCCESS

1. **Vision**
2. How the stakeholders perceive the service
3. Internal control of the organisation
4. Fighting Free Riders in collaboration with the government
5. Sufficient amounts invested in communication
6. Implication of Administration, distribution and social agents
7. Visibility of the Fee
8. ADEQUATE, REASONABLE AND AGREED LEGISLATION

Efficiency



Social
Service

KEY FACTORS FOR SUCCESS

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AMBILAMP carries out surveys to measure the degree of satisfaction among the different stakeholders.

Collection Points Degree of Satisfaction:

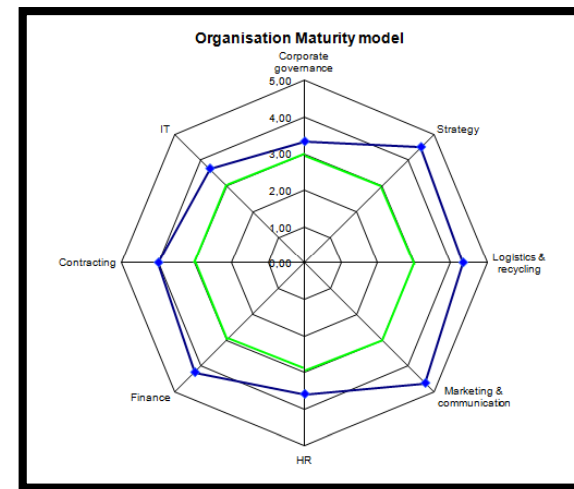
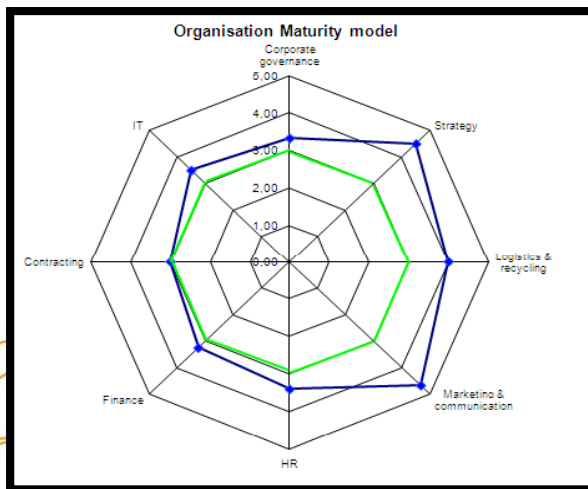
2008:	7.40
2009:	7.95
2010:	8.08
2011:	8.12

Participant Producers Degree of Satisfaction:

2008:	7.60
2010:	7.80
2011:	7.97

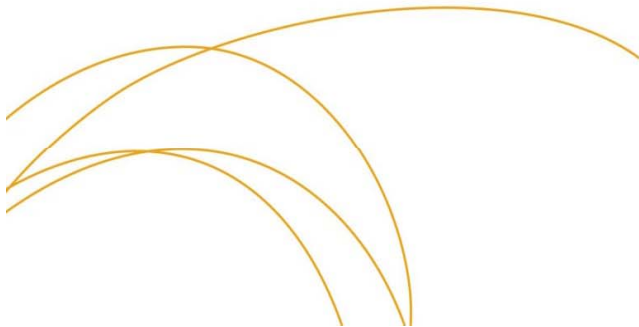
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KEY FACTORS FOR SUCCESS

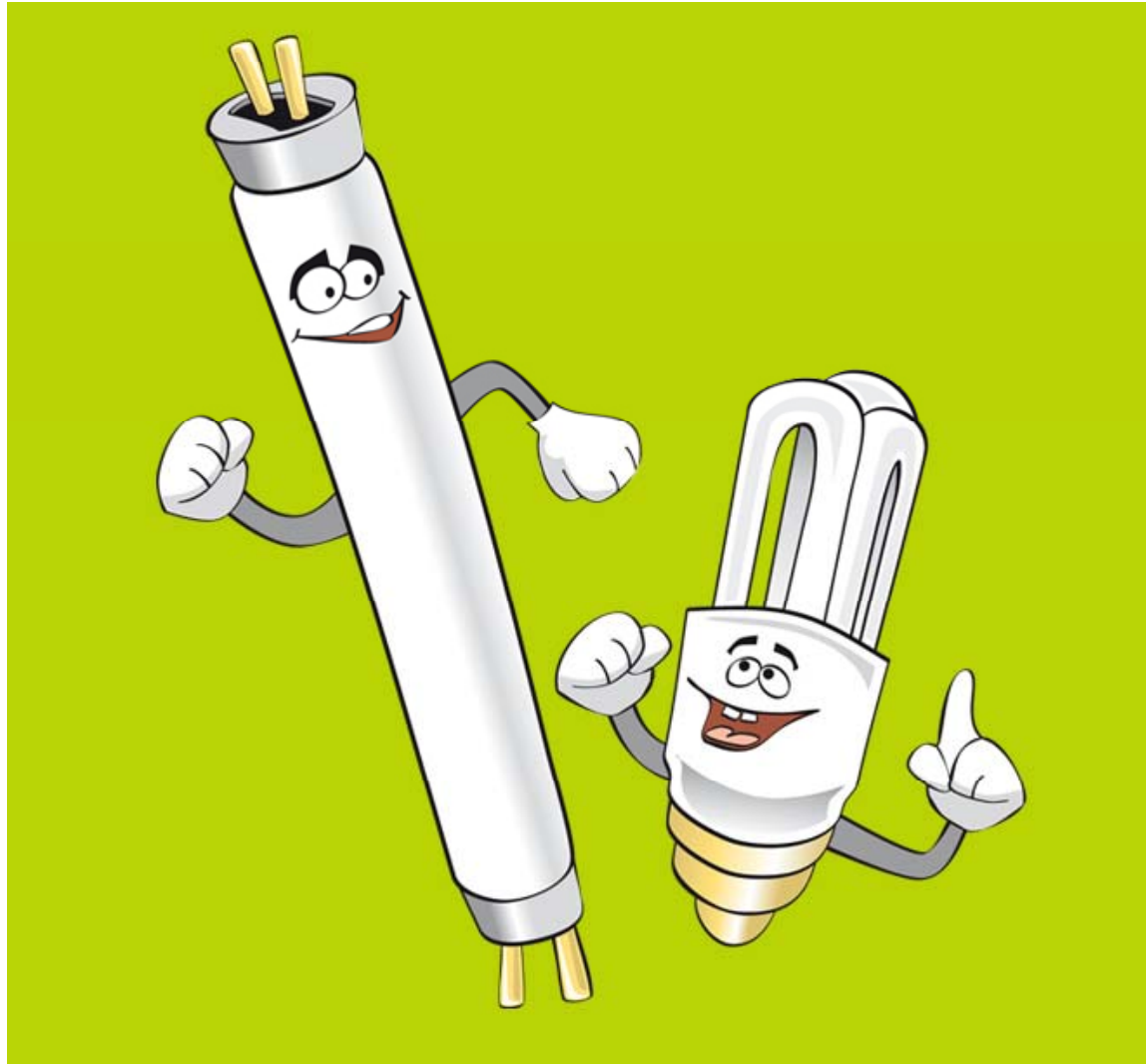
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8. **ADEQUATE, REASONABLE AND AGREED LEGISLATION**





Many thanks for your attention!!