# **The Management of Mercury Lamps**

A presentation of the strategic approach and treatment technologies

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## THE MANAGEMENT OF MECURY LAMPS



## **Environmental and Economic Aspects**

- Power saving
- Cost x Efficiency
- Technology Substitution / incandescent lamps
  - Project Reluz (Brazil)
  - Programs for Energetic Efficiency
  - Prohibition of the production

## THE MANAGEMENT OF MECURY LAMPS



## **Environmental and Economic Aspects**

- Consumption in Brazil (over 290 million in 2012)
- The presence of mercury (functional aspect)
- Logistics with capillary
- Source of environmental pollution and occupational risks



#### **LEGISLATION IN BRAZIL**



- The Brazilian legislation on fluorescent lamps are primarily related to two aspects:
- <u>1 The storage, transportation and disposal:</u> Mercury lamps are consider hazardous waste – Class I (NBR 10.004/04). It is assigned the responsibility for proper disposal to the generators.

- Why do we have customers?

### **LEGISLATION IN BRAZIL**



- 2 The responsibility of manufacturers and importers, and other participants in the distribution chain: through the National Policy on Solid Waste (Act Nº. 12.305/2010 - Decree Nº. 7.404/2010), it was established the responsibility of the collection, transportation and disposal of fluorescent lamps to all participants of the chain.
  - Some principles similar to WEEE Directive
  - Reverse logistics

THE SOLID WASTE POLICY IN BRAZIL

APLIQUIM BRASIL RECICLE Descontaminação de Lâmpadas com Recuperação do Mercúrio

- Developments in environmental aspects / control / legislation
- Approved the National Policy on Solid Waste (2010)
- Creates the expectation of society, and interest in environmental projects by government and companies (all segments)

## THE NPSW AND IMPLEMENTATION OF REVERSE LOGISTICS IN BRAZIL



- Created the Technical Working Group
- Established shared responsibility
- Presentation of a model (ABILUX manufacturers)
- Next step: the presentation of new models and the sectoral agreement (between the manufacturers and importers)
  - Features and problems in Brazil

#### **SITUATION IN BRAZIL**





### **SITUATION IN BRAZIL**











#### SITUATION IN BRAZIL



Legal, Environmental and Technological Aspects

- Just 4-5% (aprox. 12-14 million) are collected
- It's allowed the crushing of lamps, and the waste disposal on landfill (with no recycling and mercury control)
- No specific legislation (emissions of mercury, landfill, quality parameters for recycling, etc..)



## Legal, Environmental and Technological Aspects

- There is no national reference to licensing the decontamination companies
- The bureaucratic aspects
- There is no obligation to the point of sale to receive the lamps
- No concentration points (periodic storage)
  - There are large stocks (cost)



### **System Operation**

- Customer sale (technical explanation and the pursuit of consciousness)
- Collection Schedule
- Collection and transport
- Treatment, decontamination and recovery of mercury





### **Guidance for Handling and Storage**









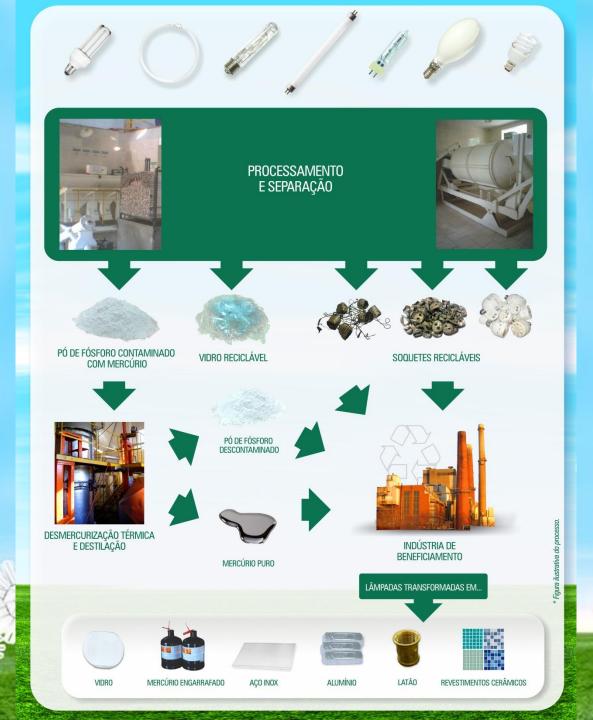
#### **Collection and Transport**















# **Occupational and Environmental Controls**



**Atmospheric Emissions** 



#### **By-products**



#### Water and Soil



#### **Occupational Exposur**



# **Business Plan**

- Installation of two storage points (Rio Grande do Sul-South and Rio de Janeiro-Southeast)
- Development of new technologies
- Exploration of other markets (WEEE)
- Development of the recycling in Latin America and Caribbean



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### **THANK YOU!**

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