Envio Group Activities and Locations

Envio Recycling
Transformer Recycling
Dortmund, Germany

Enviso Servicios Ambientales
Barcelona, Spain

Republic of Macedonia
PCB Management System endorsed by BMZ, GTZ & ENVIO „PPP-Project“

Envio Mar
Ballast Water Management
Dortmund, Germany

Envio Korea
Transformer Recycling
Anyang, South Korea

Envio Transformer Recycling
Transformer Recycling
Boxholm, Sweden

Envio Water
Water Treatment
Dortmund, Germany

KK Envio
Water Treatment
Baroda, Gujarat, India
The Competence of Envio

2003  Envio group is established in Germany
2003  Envio subsidiary in Sweden is established
2004  Envio group acquires „Envio Environmental Services“
      • world-wide references and partner network
      • more than 20 years of experience in PCB transformer decontamination as division of world’s largest transformer manufacturer
2006  Envio subsidiary in Spain is established
2007  Envio subsidiary in Korea is established
2007  Initial Public Offering of Envio AG
Initial Public Offering, Sept. 24./07
Environmental Services World-Wide
Site-cleaning, disposal of hazardous waste

- **Decontamination of sites with hazardous substances**
  - site-cleaning, waste disposal
  - dismantling or restoration

- **References**
  - Disposal plant for PCB transformers (AEG Schorch, D)
  - Zastava Automobili (FRY)
  - Oldenburg State Theater (D)

- **Disposal of hazardous waste**
  - treatment in Dortmund (PCBs)
  - transfer to specialized facilities (e.g. incinerators)
Environmental Services

**PCB Elimination Services**
- Recycling of electrical equipment
- Decontamination in operation
- Contamination below 2ppm after treatment

**Clean-up of sites with Hazardous Substances**
- Development of clean-up concepts
- Site-cleaning, waste disposal
- Dismantling or restoration

**Environmental Consulting**
- Inventories of hazardous waste
- Assessment of environmental damage
- Awareness-raising, training
Environmental Consulting

- Inventories of hazardous waste
- Assessment of environmental damage, monitoring
- Sampling and analysis
- Development of clean-up concepts
- Administrative and logistical support
- Awareness-raising, training
ENVIO South Korea
Transformer Recycling in Jeonju
ENVIO’s Recycling Plant in South Korea

- Opening in May 2008
ENVIO’s Recycling Plant in South Korea

- 10,000 tons/year of transformer recycling
- Oil treatment with sodium reduction unit
Republic of Macedonia
Establishment of a Management System for PCB contaminated electrical Equipment
Preconditions for a successful partnership

- Win-win situation
- Common interests must be given
- Targets of the partners must be equal
The Project

The objective of the PPP measure is the introduction of a management system for the
- recording,
- monitoring and
- environment-friendly disposal

of PCB-contaminated transformers and capacitors in Macedonia
The Goals

- Temporary storage of PCB-containing transformers and capacitors
- Proper disposal of PCB-containing transformers and capacitors
- Safe handling of PCB-containing transformers and capacitors
- Informing the population about the handling of PCB-containing transformers and capacitors
- Concept development for a further waste management
- Recording and analysis of PCB-containing equipment
- Clean-up methods for cleaning of PCB-contaminated sites
Time schedule

The Conclusions

- Receiving suitable instruments for an environment-friendly and cost-effective management system for the disposal of PCB-containing equipment.
- Important keystone of the plant GEF project which will be carried out in Macedonia to fulfil the requirements for the Stockholm Convention.
- Distribution of technical information to the owners of hazardous waste and to
- Design of an approved storage area, where the hazardous waste could be prepared for the export to foreign Recycling facilities
LTR² Technology
Non-combustion Process for treatment of PCB contaminated equipment
(an approved method of Envio Recycling Company)
Low-Temperature Rinsing and Re-Use/Recovery

The LTR² technology is a well-proven non-combustion technology capable of decontaminating PCB-containing electrical equipment, PCB liquids and other PCB-containing substances
The LTR² technology - efficient and safe
Safe Elimination

Sodium Reduction of liquids and other materials contaminated with PCB

- easy to control
- few process parameters required
- rapid chemical degradation of PCB
- wide range of liquids and other material treatable
Non-Combustive Destruction of PCB liquids by Sodium Reduction

UNEP’s "Survey of Currently Available Non-Incineration PCB Destruction Technologies" (First Issue, August 2000) states that sodium treatment is the "most common technology [...] to dechlorinate the PCB molecules and yield an oil which can be re-used".
Controlled process - Tracking of Waste

- Incoming materials inspection
- All recycled materials are regularly checked
- Outgoing quantities are monitored and recorded
- Annual reports are compiled
Comprehensive and Regular Certification

ISO 9001

ISO 14001

The current version of certificates are available for download on our website www.envio-group.com ("about us" → "certification")
Video Presentation of ENVIO [5:40]
Envio – your ideal partner for PCB projects

- **Comprehensive scope of products and services**
  - disposal or decontamination of PCB equipment
  - consulting and technical services
  - new transformers and capacitors

- **Reliability**
  - certified quality standards

- **World-wide project execution**
  - local representation
  - authority permits for handling and transport of PCB waste
  - world-wide logistics
Thank you for your attention

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