



# Readiness of Individual European Recycling Companies

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# Research Project Overview

- **Identify End-Of-Life Supply Chain Vendors in the European Union**
- **Develop and Distribute Questionnaire**
- **Research Internet Information**
- **Compile Information**



## Research Project Overview (con't)

- **Evaluate Current Capabilities**
- **Determine WEEE Readiness**
- **Identify Potential Obstacles/Concerns**
- **Make Recommendations**



# Questionnaire Content

- **Contact Information**
- **Facilities Infrastructure**
- **Recycling Capabilities**
- **Regulatory Status**
- **Recycling Capacity**



## Questionnaire Content (con't)

- **Deep Pocket Protection**
- **Deep Pocket Affiliates i.e. Customer Base**
- **Future Capacity Potential**
- **Financial Stability**
- **Insurance Status**
- **Firm's WEEE Awareness and Preparation**



# Evaluate Capabilities

- **Countries With Existing ‘Advanced’ Recycling Legislation**
- **Netherlands, Scandinavia, Germany**
- **Firms In These Countries Currently Charging For Services**



# Evaluate Capabilities

- **Countries With Less Stringent Current Regulations (e.g. UK and France)**
- **‘Free’ of Charge Services (charged for transportation only)**
  - Recovery of valuable components only
  - Land filling balance
  - Concern of hazwaste constituents being land filled



# Limitations

- **Not All Firms Have Internet Info or is Limited In Scope**
- **No Pan-European Solution**



# End-Of-Life Supply Chain Identification

- **73 Companies Have Been Identified**
- **Numerous Firms Have WEEE-Tailored Solutions**
- **Many Available Firms Suggests Competitive Pricing**



# End-Of-Life Product Management Scenarios

- **Charge the Customer a Deposit at Time of Purchase**
- **Include Actual Recycling Costs Into the Units Tag Price**



# End-Of-Life Product Management Scenarios

- **Producers Contributing to a Central Fund Dependant on Market Share**
- **Individual Take Back Option**
  - **Producer (importer of record)**
  - **Last owner**



# Challenges and Obstacles

- **Language Barriers**
- **No or Limited Internet capabilities**
- **No Single Pan-European Solution Identified**
- **Small, Local Recycler Would Suggest Higher Processing Fees**
- **Lack of Response To Questionnaire**



# Challenges and Obstacles

- **Probable That Once the WEEE Directive comes on-line, recycling management costs will rise considerably as there will be charges for both in-house WEEE and customer returns.**



# Opportunities

- **Advantages to Contractual Agreement Prior to WEEE implementation**
  - increased efficiencies through economies-of-scale
  - improved bargaining power with recyclers
  - improved risk management by consolidating WEEE liabilities
  - deep pocket protection and substantial financial strength



# Opportunities

- **Disadvantages to Contractual Agreement Prior to WEEE implementation**
  - **Potentially locked into a long-term, expensive contract**



# Conclusions and Recommendations

- **Use multi-lingual researcher based in Europe**
- **Access to local telephone directories**
- **Canvas large US based recycling companies to determine worldwide capabilities**



## Conclusions and Recommendations (cont)

- **Determine current recycling law by country**
- **Combine existing waste management and recycling programs with WEEE process**
- **Materials Tracking**



## Conclusions and Recommendations (cont)

- **Ensure all Hazardous Waste Constituent Containing Components are Identified for Proper Management**
- **Ensure Products are DfE and DfR**
  - Mixed waste is minimized and easily segregated