



**STRONGER TRAINING AND INCREASED KNOWLEDGE FOR
BETTER ENFORCEMENT AGAINST WASTE & MERCURY**

Quantifying E-waste in Scrap Metals

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Introduction 1: Background to Research

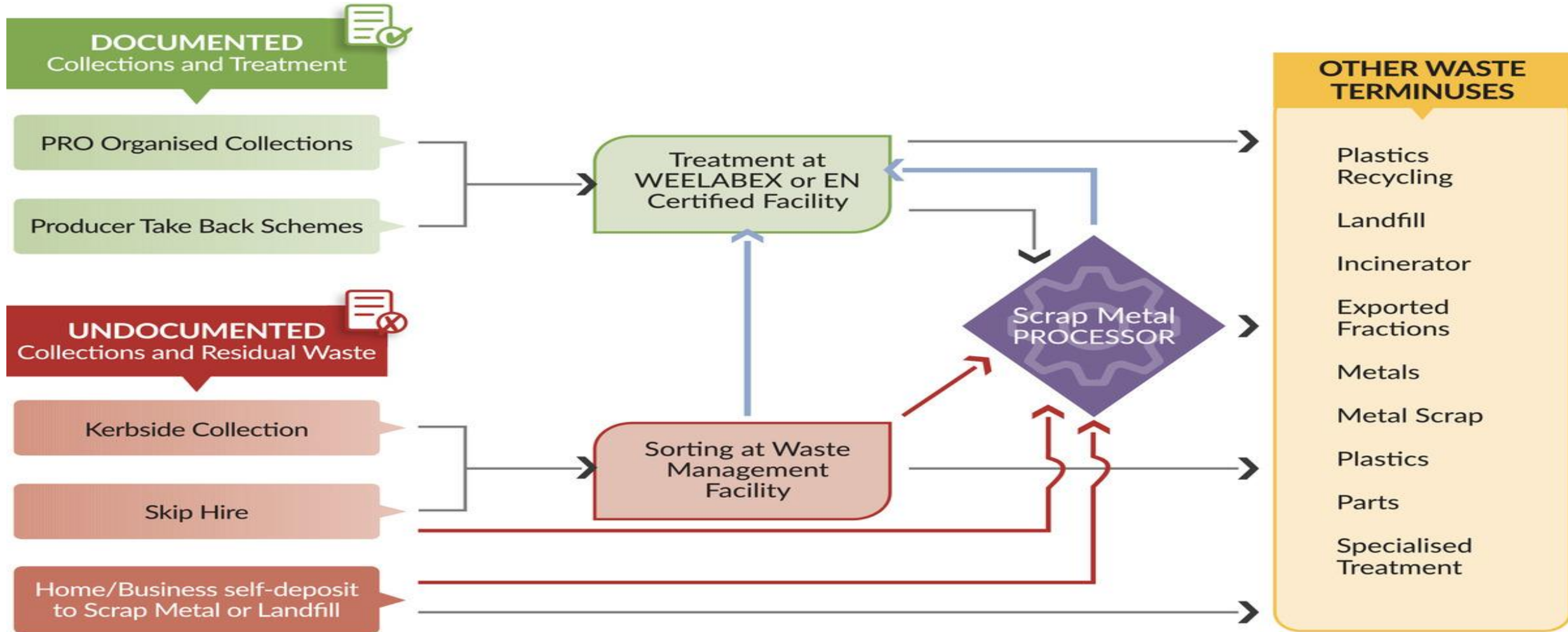


Why did we quantify WEEE arising in metal scrap?

- Irish Environmental Protection Agency & Producer Register Organisations wanted to quantify E-Waste flows in Ireland
- EEE2WEEE Project (also examined consumer behaviour toward EEE/WEEE, full report available at:
<https://www.epa.ie/publications/research/waste/research-366.php>
Summary video: <https://www.youtube.com/watch?v=RG4oPvUUPD8>
- Primarily driven by Recast WEEE Directive increased collection targets



Introduction 2: WEEE Waste Electronic and Electrical Equipment



BLUE LINE = Pathways to transfer WEEE to Documented Collection
RED LINE = Pathways of WEEE Observed in Scrap Metal



A Broader View of Why is E-Waste in Metal Scrap Problematic?



1. EU Member states to meet targets
2. An economic benefit arises from concealing e-waste from appropriate treatment
3. E-waste is categorised as hazardous waste due to components. Concealed e-waste is a health and safety threat to waste facilities
4. Powered EEE – i.e. those containing lithium batteries are a fire risk
5. Circular economy aspects job creation, critical raw material recovery (could become a driver of concealment)

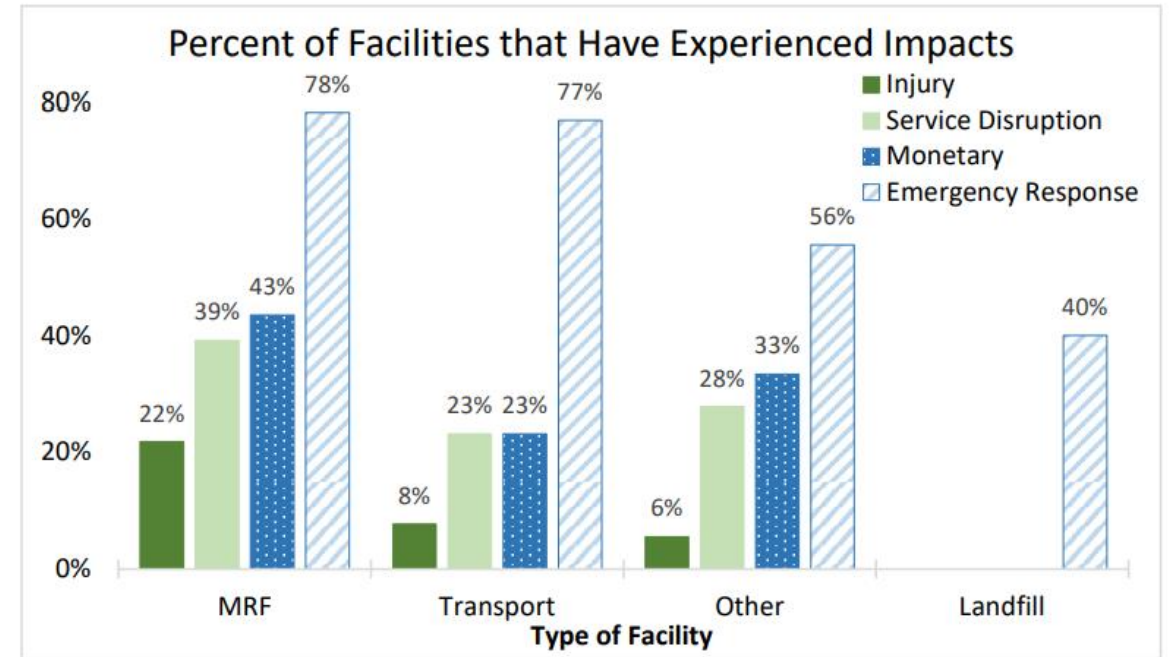


Figure 9: Percent of facilities that have experienced impacts





Method Overview



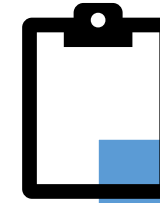
Desk Based Research

- **Population Size**
- TransFrontier Shipments
- National Waste Collection Permit Office
- EPA Waste Characterisation Reports
- EPA Licences and Annual Environmental Reports
- **Developing Method**
- Published Literature



Consultative Research

- Environmental Protection Agency
- Southern Region Waste Management Authority & Limerick City and County Council
- REPAK
- WEEE Processors
- Metal Recyclers and Scrap Collectors
- Domestic/Commercial Waste Management Contractors
- United Nations University
- WRAP - UK

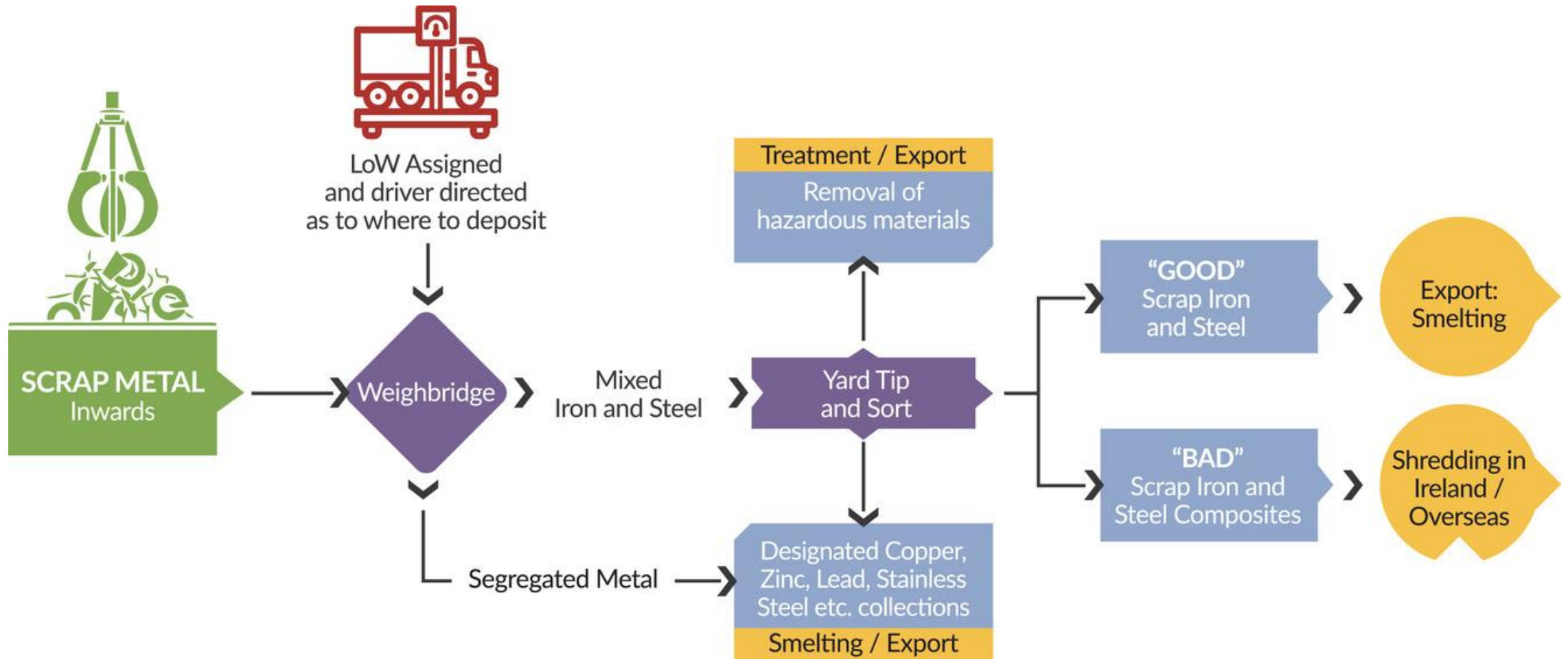


Field Work/Sampling

- Onsite consultations to establish sampling method, H&S procedures, materials required
- Pilot of sampling method Jan / Feb 2019
- Data collection 2019
- 5 sites secured for sampling



Method: Quantifying E-Waste in Metal Scrap



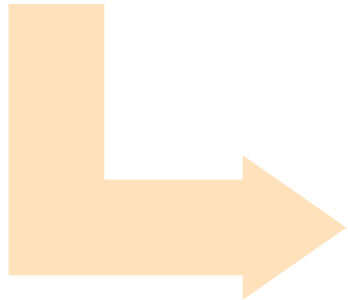


Intro 1: Background to Research



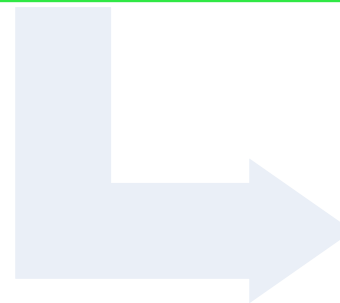
Securing Participation

- Recruited scrap metal sites and screened for suitability



Admissible LoW codes
17 05 05 and
20 01 40

- Established population size and sample size



Developed
database using
UNU codes

- 54 UNU codes used to determine mass based on count



Data Collection



Mechanical grab separating scrap



Scrap pile

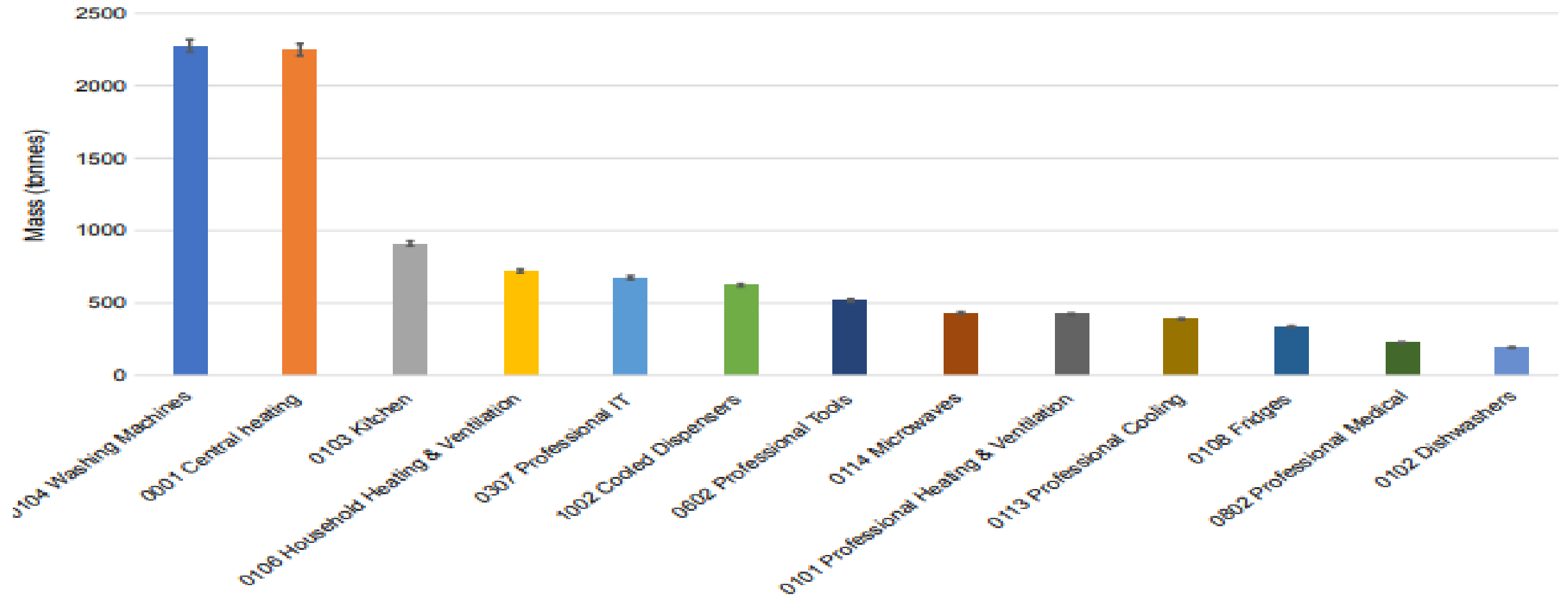




Findings

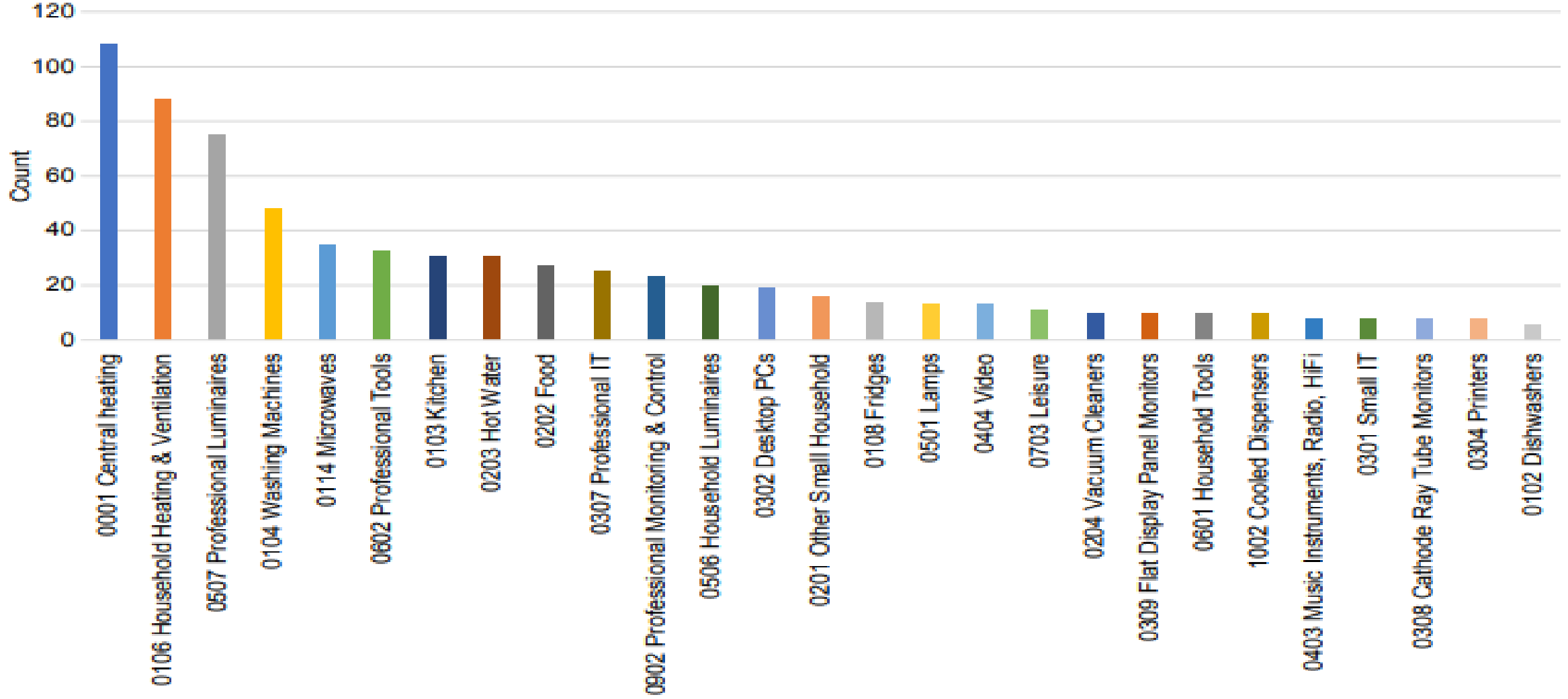


Estimated ~10,000 tonnes of WEEE in scrap metal (for two LoW codes)
Category where large WEEE are expected... C&D, home renovation etc.





Findings





Summary of Findings and Implications for Policy Makers and Waste Enforcement



Construction & Demolition – renovation

Who has responsibility? Property owner? Construction firm?

No evidence of deliberate concealment of e-waste

Opportunities:

Access to civic amenities – convenience

Recovery of e-waste at scrap metal sites

Better guidelines for C&D activities – waste management plans

Professional e-waste came for renovation of commercial properties



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Questions?

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