ProSUM - Prospecting Secondary raw materials in the Urban mine and Mining wastes

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An EU Secondary Raw Materials Inventory

• An inventory of CRMs to improve the knowledge base
  o WEEE
  o Batteries
  o ELVs
  o Mining wastes

• Interoperable

• Available data

• New data classification system

• Updating protocols
Approach

Product Characterisation
Factors and trends in composition that affect the CRM content for products and components. Protocols for assessing CRM parameters in products for EEE, vehicles and batteries.

Stocks and flows
Past sales, current stocks and future waste stocks and their flows around the EU. Protocols to identify future stocks and flows.

Waste Characterisation
The CRM content of treated wastes and mining wastes. Protocols for assessing CRM parameters in wastes.

Join the Information Network!
A dynamic platform for the entire stakeholder community. Join the community of professionals working to improve data availability and the knowledge base on CRMs.

ProSUM
http://www.prosumproject.eu
ProSUM Consortium
Prospecting Secondary raw materials in the Urban mine and Mining wastes

Data Search
Search into the EU-UMKDP (Urban Mine Database and Knowledge Documents) to find the best data

Map Viewer
View the data inside the EU-UMKDP and combine them with other data to create decision support maps

Urban Mine Yearbook
View data for secondary raw materials

LATEST NEWS

EU-UMKDP presentation @ PROSUM Meeting in Uppsala
The PROSUM Meeting will be held in Uppsala at the end of January and the EU-UMKDP will be presented for the first time.
January 24, 2016

EU-UMKDP alpha version Grand Opening
The EU-UMKDP alpha version has done its Grand Opening today.
January 22, 2016

About PROSUM
The ProSUM project will deliver the First Urban Mine Knowledge Data Platform, a centralised database of all available data and information on arisings, stocks, flows and treatment of waste electrical and electronic equipment (WEEE), end-of-life vehicles (ELVs), batteries and mining wastes.

Horizon 2020
This project has received funding from the European Union’s Horizon 2020 research and innovation programme under grant agreement N°641999
In four steps to the datasets – Step 1

Defining the systems

- Identification and visualization of stock and flows (WP2-4)
- Common terminology
## In four steps to the datasets – Step 2

### Identification of data sources

<table>
<thead>
<tr>
<th>Report from</th>
<th>Report to</th>
<th>Obligatory by</th>
<th>Information content</th>
</tr>
</thead>
<tbody>
<tr>
<td>Batt collection scheme</td>
<td>Batt compliance scheme</td>
<td>Directive 2006/66/EC</td>
<td>Quantities per battery chemistry</td>
</tr>
<tr>
<td>WEEE collection scheme</td>
<td>WEEE compliance scheme</td>
<td>Directive 2012/19/EC</td>
<td>Quantities WEEE collected per category</td>
</tr>
<tr>
<td>Undefined</td>
<td>EPA</td>
<td></td>
<td>Mass fraction of Batt in other waste streams (studies)</td>
</tr>
<tr>
<td>Batt sorting plant</td>
<td>Batt compliance scheme</td>
<td>Directive 2006/66/EC</td>
<td>Sorting efficiency, composition of battery waste stream</td>
</tr>
<tr>
<td>WEEE (first) treatment plant</td>
<td>WEEE compliance scheme</td>
<td>Directive 2012/19/EC</td>
<td>Quantities of WEEE per category according Directive</td>
</tr>
<tr>
<td>Batt recycling process</td>
<td>EPA</td>
<td>Directive 2006/66/EC</td>
<td>Recycling efficiency; treatment design; mass per year;</td>
</tr>
<tr>
<td>Batt compliance scheme</td>
<td>EPA</td>
<td>Directive 2006/66/EC</td>
<td>Share battery chemistries; recovery rate on elemental</td>
</tr>
<tr>
<td>EPA</td>
<td>EC</td>
<td>Directive 2006/66/EC</td>
<td>Quantities, collected and send for recycling; collection</td>
</tr>
</tbody>
</table>

#### Identification and description:

- **Pan-European data sources**  
  (e.g. Eurostat, ProMine, ...)

- **Multinational data sources**  
  (e.g. Fennoscandian Ore Deposit Database, IMDS, ...)

- **National data sources**  
  (e.g. NSI, NGS, ...)

- **Other data sources**
In four steps to the datasets – Step 3

Data collection
• Identification and collection of (unstructured) data sources in common EndNote bibliography with use of ProSUM meta data descriptors
• Inventory tables representing the availability of information
• Data inventories for all waste groups and all EU28+2 countries
In four steps to the datasets – Step 4

Data consolidation

- Harmonised descriptions of data quality, uncertainty and the handling of metadata
- Handling with data redundancy and data gaps
- Data set per product key
  - Time resolution
  - Country resolution
Case Battery

TUB, Recharge, Eucobat
Battery, composition

Elements in products (e-p)

Elements in Lithium batteries

Elements in Zn, NiMH, NiCd, Pb batteries

C* = graphite Carbon
Battery, flow put on market

Example
BATT POM for 0303, EU28 (p-f)

Data source: Avicenne, extracted by RECHARGE
Battery, stocks

Example:
BATT Stock 0303, Country X (p-f)

Data sources for the modelling: POM: Avicenne, extracted by RECHARGE; residence times: Bebat
Battery, waste flow

Portable BATT Waste collected in EEA+Switzerland (p-f)

Data sources: EPBA, Eucobat

Cobalt in BATT Waste 0303, EU-28 (e-f)

Data sources for the modelling: POM: Avicenne, extracted by RECHARGE; residence times: Bebat; Cobalt content in BATT: Sommer et al., 2015
After finishing the ‘prospecting’ work, time is needed to ‘digest’ many of the results:

- The definition and harmonisation work will need to be ‘formalised’ in the future
- A more structured view can be gained e.g. on the potential for improved recovery of CRMs (and on where this is not!)
- Improved understanding of ‘leakages’ in the system and possible interventions

Need to ensure as a minimum that this knowledge base is kept up to date

Activate the links to other platforms
The Information Network

- Join the Information Network if you want to be kept up to date
- Join the sampling and analysis SIG
- Provide feedback on the Harmonisation Paper
- Meetings next year
  - Testing of the EU-UMKDP with end-users in 2017
  - Final conference – protocols, data and intelligence, recommendations and the future of the EU-UMKDP and Information Network
- Publication of articles and reports
- Conferences and meetings
- Updates in the newsletter, website, twitter and LinkedIn
Thank you!