REACH Copper Overview:
Pre-Registration & Cu Consortium
Substances will fall into one of the following routes

- **A**
  - Registration
  - Evaluation
  - Authorization

- **B**
  - Authorization

- **C**
  - Restriction
REACH Implementation Timeline

- 2008: Jun-December: Pre-registration
- 2009: Restriction
- 2010: Registration
- 2011: Authorization
- 2012: Evaluation
- 2013: Registration
- 2018: Registration
REACH Implementation Timeline (II)

- Pre-registration (of phase-in substances)
  - 1 June - 1 December 2008
  - Possible to pre-register after this period for 1st time manufacturers / importers
  - Provides extended deadlines for registration

- Registration (of phase-in substances):
  - Until 30 November 2010
    - Substances imported / manufactured in quantities > 1000 t/yr
    - Substances classified as CMR, category 1 or 2 imported / manufactured in quantities > 1 t/yr
    - Substances classified as R50 – R53 (very toxic to aquatic organism) imported / manufactured in quantities > 100 t/yr
  - Until 31 May 2013
    - Substances imported / manufactured in quantities > 100 t/yr
  - Until 31 May 2018
    - Substances imported / manufactured in quantities > 1 t/yr
REACH Implementation Timeline (III)

- Evaluation
  - Dossier Evaluation:
    ✓ Compliance Check: 2011
    ✓ Checking of testing proposals: by 2012, 2016 and 2022
  - Substance Evaluation: from 2012

- Authorization
  - First Candidate List: October 2008
  - Publication Annex XIV: Autumn 2009
  - First Application Date: Spring 2011

- Restriction
  - First Publication: June 2009
Cu & Pre-registration basics

Some definitions

- **Substance** (Art. 3.1): “A chemical element and its compounds in the natural state or obtained by any manufacturing process, including any additive necessary to preserve its stability and any impurity deriving from the process used, but excluding any solvent which may be separated without affecting the stability of the substance or changing its composition”.
- **Intermediate** (Art. 3.15): “Means a substance that is manufactured for and consumed in or used for chemical processing in order to be transformed into another substance”
- **Preparation** (Art. 3.2): “A mixture or solution composed of two or more substances”
- **Article** (Art. 3.3): “An object which during production is given a special shape, surface or design which determines its function to a greater degree than does its chemical composition”
Cu & Pre-registration basics

What can be pre-registered and registered

- Substances on their own, e.g. copper
- Substances in preparations, e.g. copper in a Cu-alloy
- Intermediates substances, e.g. copper matte, anodes, electrolytic slimes
  .... which are imported or manufactured in quantities of 1 ton or more per year
- Substances in articles which are:
  - Intended to be released from the articles
  - Present in quantities of 1 ton or more per year

Cu Article: wire rod
- Does not meet both conditions
- Not subject to Pre-Registration / Registration.
Cu Products under REACH

- Concentrate
  - Natural raw material
- Thermal process (smelting, converting, casting) & Electrochemical process
  - Thermal process (Melting, Casting)
  - Thermal process (Melting, Atomization)
- Thermal Mixing Process (eg. sintering)
- Anode, Matte, Flue Dasts
- Intermediates Substances
- Cathode Substance
- Wire rod
  - Article
- Powder Substance
- Thermal process (e.g., extrusion)
- Wire Article
- Shape (billet, slab)
  - Article
- Sintered product
  - Article
- Bronze paint
  - Preparation
- Thermal process (Melting, Casting, Extrusion)
- Wire Article
- Cable Article
- Tube Article
- Mechanical process
- Strip/Sheets
  - Article
- Roofs
  - Article
Concentrates

Concentrates: Special Case

- **REACH Art 2.7(b) exempts from Registration** the following substances included in Annex V: “…substances which occur in nature, if they are not **chemically modified**, such as ores and ore concentrates.

- **No need to be pre-registered or Registered**
- “Potentially” subject to Authorization / Restriction
- Also affected by GHS- Classification and Labelling: December 2010
- Joint project (pilot) by ICMM & Eurometaux
  - ✔ Ensure Classification based on a tiered approach and sound data
  - ✔ Avoid unnecessary work and cost
  - ✔ Agreed strategy: characterization based on chemical composition and mineralogical data, preliminary grouping, etc.

- Commodities Associations will follow up?
Secondary Raw Material

- For REACH, **recovered substances** should be understood as substances that have ceased to be waste.
- Art 2.7(d) **exempts from Registration**: substances, on their own, in preparations or in articles, **which have been registered** and which are recovered in the Community if:
  - The substance that results from the recovery process is the same as the substance that has been registered
  - The information required by Articles 31 or 32 (SDS) relating to the substance that has been registered...is available to the establishment undertaking the recovery
- **Recommendation for the recycler**: **pre-register to**:
  - Benefit from the extended deadlines
  - Eventually be exempted from the registration if another pre-registrant registers the substance
Substances Identification (I)

How did the Cu industry identify which Substances should be pre-registered

- ECI Leading Role: successful management of the Voluntary Risk Assessment
- Setting up of 2 Working Groups: “Smelters & Refiners / Downstream Users”
  - Origin of the Cu Consortium created in February 2008
  - Participation of European and non-EU companies
  - Companies: identified own inventory
  - Discussions on type of substance: mono-constituent, multi-constituent, UVCB, substance or article…..
- Key driver for inclusion in the Cu Consortium scope: only substances resulting from Cu production process and / or containing Copper
**Substances Identification (II)**

How did the Cu industry identify which Substances should be pre-registered

- **Final inventory included in Cu Consortium scope**

<table>
<thead>
<tr>
<th>Substances</th>
<th>Intermediates</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Cu Metal</strong></td>
<td>Copper Anode (including Cu Blister, Spent Anodes, and Removal Cathodes)</td>
</tr>
<tr>
<td><strong>Slags</strong></td>
<td>Cu Matte &amp; White Matte</td>
</tr>
<tr>
<td></td>
<td>Cu containing residue from leaching</td>
</tr>
<tr>
<td></td>
<td>Cement Copper</td>
</tr>
<tr>
<td><strong>Intermediates</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Black Copper / Cupro</td>
</tr>
<tr>
<td></td>
<td>Slimes, copper refining</td>
</tr>
<tr>
<td></td>
<td>Speise Copper</td>
</tr>
<tr>
<td></td>
<td>Stags, copper refining</td>
</tr>
<tr>
<td></td>
<td>Spent Electrolyte &amp; Spent demetalised Electrolyte</td>
</tr>
<tr>
<td></td>
<td>Weak Acid</td>
</tr>
</tbody>
</table>

- **Other substances out of the scope of the Cu Consortium**
  - Cu compounds: Own inventory
  - Other Consortia for: Gypsum, Sulfuric Acid, SO2, SO3, Nickel sulfate, Bullion, etc.
Cu Consortium Organisation

General Assembly

Management Committee

Working Group on Intermediates
Working Group on Cu Metal
Working Group on Slags
Working Group on Downstream Uses

Secretariat (ECI)
Pre-registration Requirements

Information for the Pre-registration

• Consortium Secretariat developed Pre-registration templates for members to ensure
  • Consistency in data by all members
  • Members end up in the same SIEF’s

• Information to be included in the Pre-registration submission
  • EINECS, CAS or IUPAC name
  • Pre-registrant contact details
  • Registration deadline
  • Tonnage band
  • Similar substances for read across

• Non-EU companies only entitled through an Only Representative (OR)
  • Represents the non-EU company to fulfill the obligation of an importer, with background in the handling of Chemical Substances
Pre-registration Requirements

Information for the Pre-registration

- Cu industry Lead Registrants for each substance and intermediates have already pre-registered
- Cu Metal has been pre-registered by 336 companies (as of October 6)
- ECHA has requested companies to pre-register only those substances which they intend to register
- Number of pre-registrations by country (as September 19)

<table>
<thead>
<tr>
<th>Country</th>
<th>Pre-regist.</th>
<th>Country</th>
<th>Pre-regist.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Austria</td>
<td>1,449</td>
<td>Latvia</td>
<td>221</td>
</tr>
<tr>
<td>Belgium</td>
<td>5,577</td>
<td>Liechtenstein</td>
<td>66</td>
</tr>
<tr>
<td>Bulgaria</td>
<td>397</td>
<td>Lithuania</td>
<td>75</td>
</tr>
<tr>
<td>Cyprus</td>
<td>76</td>
<td>Luxembourg</td>
<td>270</td>
</tr>
<tr>
<td>Czech R.</td>
<td>1,974</td>
<td>Malta</td>
<td>10</td>
</tr>
<tr>
<td>Denmark</td>
<td>759</td>
<td>Netherlands</td>
<td>17,356</td>
</tr>
<tr>
<td>Estonia</td>
<td>166</td>
<td>Norway</td>
<td>262</td>
</tr>
<tr>
<td>Finland</td>
<td>1,397</td>
<td>Poland</td>
<td>1,859</td>
</tr>
<tr>
<td>France</td>
<td>9,945</td>
<td>Portugal</td>
<td>555</td>
</tr>
<tr>
<td>Germany</td>
<td>141,185</td>
<td>Romania</td>
<td>401</td>
</tr>
<tr>
<td>Greece</td>
<td>404</td>
<td>Slovakia</td>
<td>355</td>
</tr>
<tr>
<td>Hungary</td>
<td>1,885</td>
<td>Slovenia</td>
<td>97</td>
</tr>
<tr>
<td>Iceland</td>
<td>13</td>
<td>Spain</td>
<td>8,865</td>
</tr>
<tr>
<td>Ireland</td>
<td>3,141</td>
<td>Sweden</td>
<td>1,458</td>
</tr>
<tr>
<td>Italy</td>
<td>13,989</td>
<td>UK</td>
<td>138,434</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>352,641</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Post Pre-registration

And after Pre-Registration …..?

- Cu Metal: Voluntary Risk Assessment (VRA)
  - Provides 90% of the Copper Metal Dossier for REACH
  - Develop exposure scenarios
  - Extend from EU 15 to EU 27
  - Remaining VRA data gap: inhalation toxicity, occupational exposure monitoring

- Intermediates: “Light” Registration Dossier
  - Read across for the Cu metal to the intermediates
  - Effects data from other Consortia: Ni, Pb, Co, Si, As, Cr, Sb, Mo, Fe, Al, Cd, Si, Se, Te, Bi, Ag, Hg…..

- Slags:
  - Start from scratch
Cu Consortium Costs (*)

- Voluntary Risk Assessment: Cost: 8 mill €, Paid by ICA / ECI Members, Non-members contribution: 2€ /T
- Consortium Administration: Cu metal: 732,000€, Intermediates: 243,000€
- Dossier Costs: Cu Metal: 244,000€, Intermediates: 975,000€
- Slags: Indicative cost: 1,3 mill €

* Cost Estimation by February 2008 Cu Consortium GA
Cu Company Cost

Example of Company X Registration Costs for Cu products (*)

1. Non ICA / ECI member
   Cathode Production: 100,000 mts

<table>
<thead>
<tr>
<th>Component</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>VRA</td>
<td>200,000€</td>
</tr>
<tr>
<td>Administration</td>
<td>5,000€</td>
</tr>
<tr>
<td>Dossier Compilation</td>
<td>26,000€</td>
</tr>
<tr>
<td>ECHA Fee</td>
<td>23,250€</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>254,250€</strong></td>
</tr>
</tbody>
</table>

2. Intermediates produced: 7

<table>
<thead>
<tr>
<th>Component</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Administration (8,000€/interm.)</td>
<td>56,000€</td>
</tr>
<tr>
<td>Dossier (7,000€/interm.)</td>
<td>52,500€</td>
</tr>
<tr>
<td>ECHA Fee (23,250€ /substance for &gt;1,000 mts)</td>
<td>162,750€</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>271,250€</strong></td>
</tr>
</tbody>
</table>

3. Slags Production: 100,000
   Participants: 6 companies

<table>
<thead>
<tr>
<th>Component</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Cost: 1,350,000€ / 6 companies</td>
<td>225,000€</td>
</tr>
<tr>
<td>ECHA Fee</td>
<td>23,250€</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>248,250€</strong></td>
</tr>
</tbody>
</table>

**Total Cu** | **773,750€**

* Cost Estimation by February 2008 Cu Consortium GA
Cu Smelters are not only affected by Cu, but for other Metals / Products (Nickel, Bi, H2SO4, Gypsum…..)

- Costs vary greatly from each Consortium and from tonnage band / substance classification
- Potential costs reduction: data gap analysis, read across…
- Majority of costs concentrated in 2010 (major metals deadline for registration) for testing, studies, IUCLID 5, Registration fees…..

<table>
<thead>
<tr>
<th>Tonnage band</th>
<th>Approx. Cost (€)*</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 -10 Mts</td>
<td>40,000€</td>
</tr>
<tr>
<td>10 – 100 Mts</td>
<td>250,000 €</td>
</tr>
<tr>
<td>100 – 1000 Mts</td>
<td>1 mill €</td>
</tr>
<tr>
<td>&gt; 1000 Mts</td>
<td>3,5 mill €</td>
</tr>
</tbody>
</table>

- Data based on different industry sources
Conclusions

• REACH
  • is more than just an environmental issue
  • involves different units in a company: EHS, Production, Marketing, Legal and ….Management
  • requires discussions with Consortia and Eurometaux
• Copper Industry is prepared to face and comply with this challenge
ICSG- Lisbon
7 October