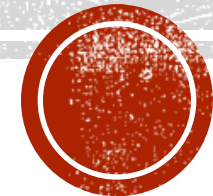


WORK PACKAGE 4



Ester van der Voet
MICA Kick-off meeting
2-4 february 2016



- Objectives of WP4:

Inventory and Assessment of Tools and Methods for providing Expertise to Stakeholders on Mineral Intelligence

- Two starting points:
 - What do stakeholders want to know?
 - What tools and methods are available?

- What do stakeholders want to know about minerals?
- WP2 is about making an inventory of that
- In general:
 - Supply related questions
 - Functionality: what can it be used for?
 - Prices
 - Costs of extracting / purchasing / using
 - Environmental impacts
 - Social / humanitarian aspects
 - (Geo)political aspects
 - Others – supply chains, technology, ...?
- And: can we be sure about the answers?
 - Uncertainty analysis
- Further narrowing down to be done?

- What tools and methods are available?
- Overview in WP4.1, to be described in fact sheets
 - Main characteristics
 - Range of relevant applications
 - Data needs, data
 - Model used (if any)
- Classification in proposal: methods to
 - Identify and assess geological and urban mines
 - Assess society's metabolism
 - Assess economic aspects
 - Forecast or estimate future resource supply and use
- Reasons to revisit?

- **What tools and methods are available?**
- **Availability / supply**
 - **Geological surveys: how much is in geological deposits? In what locations? In what concentration / what form? What is the present situation with regard to mining? How many mines, in how many countries?**
 - **Urban mining surveys: how much is presently in use in society? In what locations? In what concentration / what form? When will it become available?**
 - **Scenario analysis: How will demand develop in the future? What are supply scenarios to match?**
 - **Material Flow Analysis: how has primary and secondary production developed over time? Where are the mined metals now? When are they likely to turn to waste?**
 - **Criticality assessment: brings together supply risk and vulnerability to assess whether constraints in supply can be expected**

- What tools and methods are available?
- Environmental impacts
 - Losses of metals from cycles
 - Risk analysis: fate and health hazards
 - Energy and water requirements / footprints
 - LCA: emissions throughout the life cycle. Environmental impacts of production vs environmental benefits in products
 - Local technology assessment to include local impacts from mining

- What tools and methods are available?
- Information bottlenecks to be expected:
 - Functionality / economic characteristics
 - Supply chain information
 - Non-geological stocks: product information
 - Social / humanitarian impacts?
- Cross-linkages to identify:
 - For example, can geological prospecting methods be used for urban mines as well?
- To be further discussed in WP4 meeting

- **WP4.2: Application of methods in case studies**
 - Small case studies (2-3 person months)
 - Synergies with other projects are quite welcome
 - Covering a broad field of stakeholder questions
 - Using different methods: descriptions of flow sheets

- **Plans to be discussed in WP4 meeting**
 - CML plans: (1) environmental impacts of global demand/supply scenarios for 7 major metals, and (2) prospecting the urban mine of Amsterdam, both partly financed by other projects
 - We promised four case studies, but more is no problem!

- WP 4.3: Recommendations
- Will start in 1 year time
- Main purpose: aligning stakeholder requirements with available methods and tools

- **Agenda WP4 meeting February 4, 2016**
- **Stakeholder questions**
- **Longlist of tools and methods**
- **Fact sheets**
- **Inventory of case studies**



MICA Mineral Intelligence
Capacity Analysis



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THANKS FOR YOUR ATTENTION



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