

SUMMARY REPORT

on

US-EU Workshop on Raw Material Flows & Data Standards

November 6-7, 2013

US Geological Survey, Reston, VA

Introduction

The USGS hosted a US-EU Workshop on Raw Materials Flow & Data Standards on November 6 and 7, 2013. The workshop is an ongoing effort in response to an EU initiative to set up a mechanism for raw materials data collection and analysis of materials flow for EU countries. Chaired panels include topics related to USGS minerals information activities and future directions, public policy issues related to critical and conflict minerals, materials flow and life cycle analysis of minerals, and EU steps to compile and harmonize data from member countries. Following on the previous meeting held in Brussels, Belgium, last September, the EU established a goal to further the exchange of information on criticality, examine areas where materials flow information is insufficient, improve the inventory of identified minerals resources, expand knowledge of mineral supply chains, and enhance end use data in order to better understand mineral supply chains and potential sources of recycled materials. This collaborative approach supports efforts to develop more comprehensive knowledge of raw materials availability as the basis for policy discussions domestically and multilaterally in order to maintain a sustainable supply of raw materials.

Session Topics:

- 1) Current USGS mineral information and future directions
- 2) Public policy issues and minerals information—critical and conflict minerals
- 3) Materials flow and life cycle analysis of minerals
- 4) EU steps to compile and harmonize data on a transatlantic level from member countries

Session 1 Current USGS mineral information procedures and future directions

The session aimed to review the types of minerals information that the USGS collects; the authorities and requirements of the collection; procedures for collection of domestic, international, and materials flow data; how those data are processed, and analyzed; how USGS disseminates the data and analyses; and how USGS minerals Information is changing to adapt to changing information needs and changing information technology.

Session 2 – Public policy issues and minerals information—critical and conflict minerals

In this session, participants discussed efforts of the US and the EU to limit the use of minerals to finance civil wars and support armed insurgents in central Africa, west Africa, and southeast Asia. Recent studies performed by several countries produced lists of minerals that are designated as “critical” based upon individually identified criteria. While, these lists contain common elements, the lists differ in detail based upon the individual criteria (perspectives) applied.

Conclusions on Criticality:

- Exchange of views on methodologies to determine criticality of mineral resources. The first opportunity for such discussion will be at December 2, 2013, workshop in Brussels.
- Explore the possibility of a follow-up workshop on how to improve forecasting analysis for defining strategic raw materials.
- Work together on establishing a network on knowledge on REE – participation by the US to ERECON starting in 2014.

Conclusions on Conflict minerals:

- Continue to exchange information with the US and inform the US after adoption of EU initiative in the area.
- Explore technical collaboration on conflict minerals.

Session 3 Materials flow and life cycle analysis of minerals

Introduction

The session included discussion topics such as materials flow analysis (MFA) examined as a methodology that can improve national environmental performance, asymmetry in information collection on the production of minerals leading to uncertainty about supply, incompatible end use classifications, and more.

Session presentations and discussion

Session 3 was entitled “Materials Flow and Life-Cycle Analysis of Minerals. The session included discussion topics such as materials flow analysis (MFA) examined as a methodology that could improve national environmental performance, asymmetry in information collection on the production of minerals leading to uncertainty about supply, incompatible end use classifications, and approaches for life cycle analysis. Presentations and discussions around them included the Joint Research Centre of the European Commission and their role/project on LCA. Various methodologies of analysis were presented, with focus on scarcity/mass based: CML and EDIP. Imports, exports, and domestic extraction were highlighted data. Two EU case studies were shown; (1) REE in Washing Machines and (2) Indium in LCD Televisions. Two studies, one completed and one about to start were presented. The completed one, "A Study on Data Needs for a Full Raw Materials Flow Analysis" and the study beginning in 2014, "Study on Data Inventory for a Raw Material System Analysis: Road Map & Test." Discussions also touched on the differences between materials flow analysis and materials system analysis. Pointing out that materials flow analysis is an analytical tool that maps physical flows of natural resources and materials into, through and out of economy (OECD, 2008)¹, while material systems analysis (MFA) is based on material specific flow accounts. MFA focuses on selected raw materials or semi-finished products at various levels of detail and application and considers life-cycle-wide inputs and outputs. MFA applies to materials that raise particular concerns as to the sustainability of their use, the security of their supply to the economy and/or the environmental consequences of their production and

¹ OECD (2008), Measuring Materials Flows and Resource Productivity Volume 1

consumption (OECD, 2008)². This is supported by recommendations from Eurostat and the OECD literature. The discussions on Minerals4EU included work to build a sustainable network of needed information and encourage the exchange of information, and the need for information from International Metals Study Groups.

An example of materials flow analysis work conducted by USGS was the global aluminum flow report that was presented to the OECD. Findings of the availability, or lack thereof, of sources of aluminum for secondary production and how that lack of availability means that secondary aluminum production is not the answer to reducing CO₂ emissions in aluminum production were discussed. China has consumed a large amount of aluminum, driving demand. However the end use has been in construction and electrical infrastructure and not entering the secondary production stream for many years. Discussion continued in the area of ecosystem valuation v. materials flow in valuing mine and its associated product. Digital Commons, harmonizing standards to ensure interoperable data between organizations was also addressed.

Conclusions on Materials flows – LCA (Life Cycle Analysis), Material Flow Analysis (MFA), Material System Analysis (MSA):

- Establish a link between DG ENV and US EPA with regard to the LCA and resource efficiency indicators. EPA manifested a strong interest in these activities in particular the LCA study that JRC is performing under request of SDG ENV.
- Related to the future EU MSA study on materials flows and data inventory a bilateral meeting in 2014 should be considered where among other topics the US side could present the study on aluminum.
- Jointly promote the OECD guidance and the World Resource Institute in this area.
- At the request of France, encourage International Metals Study Group (IMSG) to provide free publications coming from joint seminars (a minority of publications), and start a debate on the evaluation of IMSG work related to the extension of the mandate.

² OECD (2008), Measuring Materials Flows and Resource Productivity Volume 1

Session 4 EU steps to compile and harmonize data on a transatlantic level from member countries

As most minerals data and information are collected outside Eurostat merit, the Member States information data related to raw materials stocks and materials flows are usually not harmonized. This session will discuss plans and progress made towards harmonization on the EU level as well as on the transatlantic level.

Minerals Information Conclusion:

- On EU side the M4EU project is the most concrete action item. After internal project agreements (after a couple of weeks) the contact should be established. USGS will provide information to the M4EU project. Both sides are interested in harmonizing data in mineral statistics. USGS contact person is D. Menzie. A new contact will be provided after January 1, 2014.

Summary

The discussions at the workshop were very fruitful and several action items were identified at the conclusion of each session. These actions are important to the US-EU cooperation on raw materials under the TEC and in the interest of national security of all nations engaged.

The US looks forward to receiving information from the EC as the EC proceeds in further identifying criticality of raw materials, conflict minerals, and proceeds with the creation of a minerals information system. This information will aid in the coordination of raw materials cooperation in the future. In general, it was agreed that the US-EU raw materials cooperation in the future will focus on selected topics. It also was agreed that the outcome of this workshop will be provided as a deliverable under the TEC.

ANNEX 1

Agenda US-EU Workshop on Raw Materials Flow & Data

November 6-7, 2013

U.S. Geological Survey, National Center, Room 3B457

Reston, Virginia, USA

Session Topics:

- 5) Current USGS minerals information and future directions
- 6) Public policy issues and minerals information
- 7) Materials flow and life-cycle analysis of minerals
- 8) EU steps to compile and harmonize data from member countries

DRAFT Agenda:

Day 1: Wednesday, November 6

Morning (0900 – 1200) RM 3B457

Welcoming remarks (0900 – 0920)

- *US – Suzette Kimball (7')*
- *EU – Mattia Pellegrini (7')*
- *State Department – Kim Tuminaro (3')*
- *EU Mission – Mattia Pellegrini (3')*

Introductions (0920 – 0930)

Updates by EU and US on status of programs since last meeting in
September 2012 (0930 – 1030)

- *US – Larry Meinert (30')*
- *EU – Mattia Pellegrini (30')*

Break (1030 – 1100)

Session 1- Current USGS minerals information procedures & future directions (1100 – 1215)

- *US – David Menzie*

*****Breakout discussions (RM 3B457/RM 3B454)**

- *Domestic data collection (Osborne, Apodaca)*
- *Software (Beckman)*
- *Mineral commodities (Ober)*
- *International data collection (Textoris/Bermúdez-Lugo, Baker)*
- *Materials flow (Barry/Matos)*
- *Internet (Callaghan)*

Lunch (1215 – 1315)

Session 2 – Public policy issues and minerals information—Critical and conflict minerals (1315 – 1500) Session Chairs – Meinert & Pellegrini

- *EU opening remarks– Mattia Pellegrini*
- *US opening remarks –Tom Rasmussen, Eileen Kane*
- *Discussion*

Break (1500-1515)

Session 3 – Materials flow and life-cycle analysis of minerals (1515 – 1645) Session Chairs – Textoris & Solar

- *EU opening remarks– Slavko Solar, Jean-Claude Guillaneau*
- *US opening remarks– Derry Allen, Larry Meinert*
- *Discussion*

Break (1700 – 1715)

Closing Remarks (1715-1745)

Evening – 1915 – 2115 No host dinner at Clyde's Reston Town Center

Day 2: Thursday, November 7 - Room 3B457

Session 4 - EU steps to compile and harmonize data on a transatlantic level from member countries (0900 – 1030)

Session Chairs: Pellegrini & Demicheli

- *The building bricks for EU minerals information service—An overview – Slavko Solar*
- *EuroGeoSurveys efforts to put Members States' data together: EU projects – Luca Demicheli*
- *Short presentations from 6 countries: Sweden, Norway, France, Germany, Denmark, and Finland (2-3 slides)*
- *Discussion*

Break (1030 – 1100)

Brief Session Summaries and Action Items (1100 – 1200)

- *Session 1: David Menzie*
- *Session 2: Slavko Solar*
- *Session 3: Steven Textoris*
- *Session 4: Mattia Pellegrini*
- *Action Items: Ingrid Verstraeten & Mattia Pellegrini*

Lunch (1200 – 1300)

Late Afternoon

- Further discussion with NMIC upon request (1300-1400)
- Bilateral discussions with US staff & possible additional meetings (1400-1500)

Adjourn (1500)

Annex II: List of Workshop Participants

US:

USGS (Suzette Kimball (Acting Director), Victor Labson and Ingrid Verstraeten (International Programs Office, Ione Taylor (Associate Director) and Larry Meinert, Dave Menzie, Steven Textoris, Victor Labson, and other colleagues of the Mineral Resource Program)

Department of State, (Kim Tuminaro, Coordinator, Transatlantic Economic Council and Eileen Kane, Economic Officer)

Defense Logistics Agency (Tom Rasmussen, Director of Strategic Plans)

Office of the US Trade (Jean Kemp, Director, Steel Trade Policy)

Environmental Protection Agency, Office of Environmental Policy Innovation (Derry Allen, Counselor)

Department of Commerce, International Trade Administration (Salim Bhabhrawala, Senior International Trade Specialist)

Department of Defense, Office of the Under Secretary of Defense (David Cammarota, Materials Analyst)

Department of Energy (Fletcher Fields, Director, Office of Energy Policy and Systems Analysis)

National Institute of Standards and Technology, Material Measurement Lab (Michael Fasolka, Deputy Director) michael.fasolka@nist.gov

National Institute of Standards and Technology, International and Academic Affairs Office (Katya Delak, International Affairs Officer).

National Mining Association (Leslie Coleman, Director, Statistical Services)

Industrial Minerals Association North America (Mark Ellis, President)

EU:

Mattia Pellegrini, European Commission, DG ENTR, HoU F3

Slavko Solar, European Commission, DG ENTR, F3

Luca Demicheli, EurogeoSurveys, Secretary General

Woody Hunter, EurogeoSurveys, External Relations Officer

Jean-Claude Guillaneau, Georesources Division Director (BRGM, France)

Karen Hangoj, EGS Mineral Resources Expert Group (GEUS, Denmark)

Tom Heldal, EGS Mineral Resources Expert Group (NGU, Norway)

Saku Vuori (GTK, Finland)

Michael Szurlies (BGR, Germany)

Kaj Lax (SGU, Sweden)