cobalt

awareness . learning . dialogue

Closing conference report “Fostering stakeholder dialogue”

Report from the COBALT Closing Conference “Sustainable raw materials management in Europe – Fostering stakeholder dialogue to deliver on the future”

Deliverable D1.3 of the COBALT project

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1 The COBALT closing conference

1.1 Overall aim and scope of the COBALT project

The **COBALT** project addresses key challenges on the route towards more sustainable management of raw materials, including issues of raw materials supply and use. The project is embedded in the broader policy context of the Europe 2020 Strategy and its Innovation Union and Resource Efficiency Flagship Initiatives as well as the Raw Materials Initiative. More specifically, COBALT is supporting the work and objectives of the European Innovation Partnership on Raw Materials (EIP).

In the project context, the debate on sustainable raw materials management is framed around raw materials which are in the focus of the EIP on Raw materials: These include non-energy, non-agricultural raw materials (i.e. including metallic minerals, industrial minerals, construction materials, wood, natural rubber). Within this focus, the project integrates both raw materials with high environmental and social impacts, and a list of 14 economically important raw materials identified by the European Commission.

Overall, COBALT provides a platform for involving different stakeholders across the entire value chain of raw material supply and use, mainly business and industry (e.g. industry associations and SMEs), CSOs (e.g. consumer associations and environmental NGOs), EU and national level policy makers, national geological surveys, and public and private research organisations etc..

The project's activities (European-wide conferences and workshops as well as regional workshops) have the following objectives

- mobilising public awareness on raw material issues and promote raw material substitution, replacement and recycling;
- facilitating European and regional dialogues on raw materials between civil society and industry in order to ensure mutual learning, awareness and partnership building;
- identifying shortages of skills that would enable more sustainable management of raw materials and develop strategies for addressing these shortages

COBALT is a project funded by the European Commission under FP7. The project runs from 1 May 2013 until 30 April 2015.

As the global economy grows and the demand for raw materials is skyrocketing worldwide, the European Union has acknowledged the importance of raw materials supply for our economy and society. Consequently, it initiated several policy strategies dealing with the political challenges regarding the issue of raw materials and resource efficiency: The Europe 2020 "Resource Efficiency Flagship Initiatives", "Raw Materials Initiative" as well as the "Roadmap to a Resource-Efficient Europe" are key policy documents shaping the European policy framework on raw materials and resource efficiency.

In this regard, resource-efficiency and sustainable raw material supply are essential for securing growth and jobs. Furthermore, they provide economic opportunity to improve productivity and boost competitiveness by developing new products, minimise waste, change

consumption patterns and optimise production processes. However, fully exploiting such socio-economic and environmental opportunities and benefits requires the involvement and participation of relevant stakeholders along the entire value chain in order to foster mutual understanding and to forge coalitions and partnerships striving for joint solutions.

1.2 Main purpose of the closing conference

Within this context, the COBALT closing conference aimed (i) to raise awareness on the need to further improve multi-stakeholder dialogue, (ii) identify thematic areas in need of enhancing dialogues, and (iii) elaborate recommendations for how best to enhance dialogues among a multitude of actors from industry and business (including SME and larger businesses), civil society, geological surveys, policy making (EU, national and regional level), and academia.

Box 1. Aims of the COBALT closing conference

More specifically, the closing conference strove to

- highlight future trends, challenges and needs in Europe for a sustainable raw material management along the value chain;
- introduce best practice examples of stakeholder co-management from along the value chain;
- discuss options and challenges for stakeholder involvement for (primary and secondary) raw material management and product design;
- present Lessons Learnt from the COBALT activities over the past 2 years as regards relevant thematic areas needing further dialogue and promising dialogue setting; and
- collaboratively work on recommendations for stakeholder collaboration and dialogue in raw materials policy and management in Europe.

The main features of the closing conference are presented in the Agenda in Annex II – COBALT Closing Conference Agenda.

2 Main findings from the Welcome and framing of the conference Session

In his reflection on stakeholder collaboration for sustainable raw materials management, **Gerald Berger,** Institute for Managing Sustainability at the Vienna University of Economic and Business, highlighted that at the heart of the COBALT project is the belief that stakeholder dialogues are important to target the diverse challenges that raw materials management contains.

In this context, during the activities of the past two years in the project, the COBALT team

(1) discussed **key challenges** on the route towards more **sustainable raw materials management** (i.e. secure and sustainable supply and use);

(2) created **multi-stakeholder platforms** on **awareness, learning and dialogue** for sustainable raw materials management; and

(3) identified **skill shortages** in various stakeholder groups to **increase capacity building** for sustainable raw materials management.

From the policy side, COBALT is mainly linked to the Europe 2020 Strategy (2010), the Raw Materials Initiative (2008, 2011), and the ***European Innovation Partnership (EIP) on Raw Materials***, lead by **DG GROW.** The EIP's **Strategic Implementation Plan (SIP)** sets out specific objectives and targets, and COBALT aims to support the implementation of the SIP.

The three headline themes of COBALT were awareness, learning and dialogue. "Awareness" was raised with the organisation of two multi-stakeholder European conferences; "learning" by stock-taking of skills shortages and develop strategies; and in three European and three regional workshops "dialogues" were held. In total, 189 participants were reached with these dialogues out of which 22% were from CSOs, 24% from the industry sector, 45% from the research sector, and 9% were policy makers. In addition, for the closing conference a total of 76 participants participated (see Annex I – COBALT Closing Conference Attendees List).

The EU dialogues focused on:

1. Eco-design
2. Urban mines
3. Raw material scarcity in Europe

The regional dialogues focused on:

1) Optimizing the raw materials value chain (Madrid)
2) Sustainable mineral production - the role of industry and civil society (Copenhagen)
3) The role of civil society and industry in driving a sustainable production and consumption *(*Bucharest)

The dialogue formats were important for the process. In the dialogue process, stakeholder groups had a chance to reflect what defines them ('intra-stakeholder dialogue'), and discuss how they can collaborate and find a common understanding of the issues at stake ('inter-stakeholder dialogue'). COBALT has achieved a number of important outputs, including:

- ✓ **Organization and reflection** on 2 conferences and 6 dialogue meetings (adaptation and synthesis reports)
- ✓ **Pre- and post-survey interviews** on stakeholder collaboration and perceptions
- ✓ **Recommendations for effective stakeholder collaboration in SRMM**
- ✓ **8 Policy Briefs** (documenting results of Conferences & Dialogues)
- ✓ **Report on study programs and skill shortages** on SRMM in Europe
- ✓ **Draft syllabi for University courses and trainings** on SRMM

- ✓ **2 Working Papers** (for OC and on stakeholder collaboration)
- ✓ **3 Newsletters**

The welcome address by **Carsten Bermig,** from the Cabinet of the Commissioner for Internal Market, Industry, Entrepreneurship and SMEs (Elżbieta Bieńkowska), emphasised the connection of raw materials management with the adopted Framework Strategy for a Resilient Energy Union with a Forward-Looking Climate Change Policy (Energy Union Package, COM(2015) 80 final). He also referred to the now scrapped proposal for a Circular Economy, emphasising that this proposal shall be developed further in the upcoming months. To reach this, a stakeholder consultation will be held in May 2015. The goal is to reach a realistic, but ambitious Circular Economy package which integrates waste and raw materials, and includes the secondary market of raw materials.

Mr. Bermig welcomed the integrative approach of the COBALT project, which brought together civil society, research, policy makers and industry. He assured that the European Commission (EC) had closely followed the project, as it provides solutions to bring the SIP, adopted by the EC in 2013, forward. Especially the goal to boost competitiveness, an action area defined as industry-led, could be improved by stronger communication and transparency as it can create trust and raise awareness in the public of raw materials extraction.

Mr. Bermig further elaborated on the European Innovation Partnership and its Raw Material Commitments (RMCs). Already more than 700 partners contributed to work for raw material supply in the EU. The next call for RMCs will be issued at the end of 2015. Fresh input is needed to bring these issues forward. Upcoming challenges for the EU include the question on how best to integrate the theme of public trust into H2020 framework and how to bring the raw material initiatives together with “Natura 2000” (fitness check). Last but not least, public acceptance of European extractive industries should be enhanced – in this context, Mr Bermig considered the COBALT project a very good example of fostering these goals.

The perspective of DG GROW on stakeholder engagement and public acceptance will be presented in the second half of 2015.

3 SESSION 1: Future trends and challenges for Sustainable Raw Material Management in Europe

Raimund Bleischwitz, UCL, opened his talk on "*Providing sustainable resources for a future low carbon circular economy: Nexus challenges and prosperity"* by elaborating the current challenges for sustainable raw materials in the international arena connected to raw materials supply and demand:

- Commodity prices have – against former expectations – dropped due to political economy and better technology (USA as exporter of energy). Low prices have impacts on investments.
- Countries have different perspectives on raw materials. Europe has an importing focus; resource rich countries are focusing on a development agenda. Extraction should bring these countries on the development path.
- Raw materials remain, or are again increasingly a geopolitical issue. Example: South China Sea – access to resources (minerals and energy).
- All raw material policy is happening in the context of the challenge of Climate Change: reducing GHG emissions by 80-90% till 2050 may lead to "stranded assets". The question is how can energy companies act under these challenges (leaving fossils in the ground)? Investors need to come up with ideas to tackle these challenges.
- Additionally environmental challenges beyond climate change abound: Planetary Boundaries, Land Use and Resource Nexus.
- Resource Nexus comes into play regarding (critical) raw materials. There is an energy need for producing materials and a materials need to produce energy. A low carbon economy needs more materials! (REN need steel, heavy rare earth metals; hydrogen economy needs more zinc and platinum; energy infrastructures need steel, copper, nickel; sustainable buildings and sustainable transport have sophisticated material requirements. At the same time material extraction needs more energy. Currently 7% of total energy is used to mine and refine metals. Due to ore grade degradation, mining in remote areas etc. this will rise in the future: in 2050, 15% of global energy use is expected to be required for extraction and refining of raw materials.
- The different challenges might cumulate to a "perfect storm" ("Expect the unexpected"):
    - Climate change
    - Vulnerability of extraction, unconventional fuels and resource intensive industries> supply chain security

- Regions with nuclear weapons become ungovernable
- World shipping faces large scale piracy along choke points
- Geopolitical powers chose military options

As possible answers to the challenges, Prof Bleischwitz presented:

- The Circular Economy, which increases resiliency and can help to create jobs and growth. BUT circular economy must be brought to the beginning of the supply chain (not only starting in the Western hemisphere and in the recycling sector).
- Resource-efficient Mining must be supported: i.e. reducing mining waste, sustainable water use; selective mining of by products, manage ecosystems and land use.
- Circular Economy knowledge advanced: refineries to deliver critical materials, hub on secondary materials, international recycling for metals.
- Urban mining advanced and a steady state infrastructure in Europe established, while preparing for “Asia 2.0” and re-opening landfills.

Prof. Bleischwitz noted that regions have started to act. Innovation is starting in niches, driven by regional actors. Then it moves on to regime changes (e.g. REN), eventually to landscape alterations. Examples for these first actions include:

- Covenant 2022
- Circle Economy in NL
- Raw Materials Alliance in DE
- ERA-MIN, an ERA-NET program on the Industrial Handling of Raw Materials for European industries
- 80 Commitments under the EU EIP on Raw Materials.

According to Prof. Bleischwitz, future Resource Management needs**:**

- Knowledge on primary and secondary resources and reserves, innovation potential, existing policy frameworks,
- Engagement and facilitation: mapping of regional initiatives, comparative assessments, online tools, establishment of an international network, lessons for lead markets and dissemination;
- From Niches to Norms: loan-based funding for commercial activities, green regional bonds, citizen dividends, long-term patient finance vehicles; a single market for resources; fiscal reforms; and
- International Partnerships on key areas such as phosphorus and metals management.

Finishing with an international outlook, Prof. Bleischwitz suggested that:

- Alliances and new business models should be encouraged;
- Environmental actors should act as ‘alarm bells’;

- Moderate extraction pathways for the next 30 years to meet international demand, while maintaining ecosystem services; and
- Inclusive institutions at multi levels, promoting inclusive wealth.

In the second presentation of Session 1, **Kristín Vala Ragnarsdóttir**, University of Iceland, addressed the issue of *"Future raw material availability on a finite planet: How much can we substitute, recycle or afford?"*

She pointed out that the earth is shrinking because of greater population and affluence levels and humankind still mostly following the business as usual path used in the 1972 "Limits to Growth" study.

Modelling with the system-dynamic "WORLD-model" shows that we are currently at peak oil, but over 40 analysed minerals (gold, phosporos etc.) are shortly peaking or already past peak. The WORLD model includes a comprehensive set of modules: energy module, food-module, society module etc.; some submodules (cement, land, wood) are currently in the making. World modelling examples show that we are on an "ore grade cliff", i.e. steeply declining ore grades will be experienced for many raw materials rather soon.

From the modelling findings we should become aware of

- Peak almost everything will be in this century, scarcities will emerge for many minerals in the next years. Still, we are living in a linear "take-make-waste world", but we need to go to a circular economy, in particular because substitution is only possible from mass minerals to rarer minerals and cannot go unlimited. Instead, we need to recycle metals and materials up to 90%. Currently, recycling is only working for a few minerals (currently i.e. gold at 90%); still many business opportunities abound in this sector for industry.
- Peak resource is usually followed by a peak wealth curve for different societies.
- The challenge is understood by some actors: for example is the need for "complete recycling" accepted by many academics, but EU policies are still too fragmented.

In the **subsequent discussion** it was highlighted that the laws of thermodynamics abide, hence, due to increasing costs and diminishing returns, "endless" recycling does not make sense. However, on a limited planet, resource scarcities will define the future. Furthermore, recycling often requires less energy than extraction of virgin raw materials, especially with decreasing ore grades. In this light, as mining is becoming more challenging, politics needs to make the right incentives.

Furthermore, having robust data on raw material resources are a challenge, especially due to confidentiality concerns of firms. More funds for researchers working on providing the required data and for efforts to establish a data hub are necessary. Ore grades are declining, but peak issues are connected to reserves, not to resources. The notion of "peak everything" was challenged as some resources (i.e. Phosphorus, oil) have been corrected upwards. Also, there are considerable differences between fossil fuels and metals, as fuels are burned

and used up, while metals (theoretically) remain available for endless recycling and reuse. The challenge of metals extraction and recycling should be closer connected to climate change, considering the energy needs for extraction and losses due to entropy. New forms of energy are still being developed (hydrogen) and thus critical raw materials – needed for these energy technologies or other production processes – are always subject to change. Instead of focussing on changing scarcities it would thus be more important to develop an economic understanding that does not build on perpetual growth, but on a steady state. This will encompass the need to define the success of a nation on wellbeing and happiness rather than on GDP.

The second part of Session 1 focused on **'Future needs in Europe for a sustainable raw material supply: issues and challenges along the value chain'** with several short presentations on value chain elements, incl. primary raw material extraction - challenges and needs; urban mining and recycling on global markets; and product and eco-design.

Challenges and needs related to primary raw material extraction

Michelle Wyart Remy, IMA Europe, stressed the fact that raw materials play a key role in today's society – they are needed, inter alia, for products and services in the areas of housing, mobility, communication, education of health care. 70% of the manufacturing industries depend on mined materials. While the demand for minerals and metals is increasing in emerging markets, in developed markets it is perceived that rather the constraints on mining (for instance from regulations) are increasing.

The EU is self sufficient in the production of construction minerals, with 3 billion tonnes of aggregates produced annually. And for this production to remain economic, extraction and processing need to be in close proximity – the economic radius of aggregate extraction is 50 km, beyond that it gets uneconomic due to transportation costs. On industrial minerals, the EU is not self-sufficient. The roughly 500 members of the Industrial Minerals Association (IMA) together produce 1.8 million tonnes a year.

There is a need to improve the mining sector's overall sustainability issues. Those challenges have been identified in the EIP on raw materials, which lists, inter alia, challenges all along the value chain (exploration, extraction, processing, refining and recycling), including the issue of substitution where feasible and not constrained by scarcities. In order to improve the sector's overall sustainability, (more) favourable regulatory framework conditions are needed, calling for improving the minerals policy framework to safeguard deposits of public importance, while addressing social and environmental issues such as low ore grades needing high upfront investments or increasing the flexibility, automation and safety of mining processes.

The industrial mineral industry is committed to zero waste, requiring the integration of industrial clusters along industrial symbiosis concepts to improve resource efficiency along the value chain. As industrial minerals are embedded in many applications and products with different characteristics and processing states, during recycling they cannot fully be recovered. Therefore, the industrial mineral sector is dedicated to using industrial minerals

better and smarter rather than generally using less. Using them better and smarter includes commitments to avoiding dissipative losses along all processes (as much as possible) and to reducing energy use for mining through reducing transportation distances and developing local access to resources. In this context, a one-size-fits-all approach will never fit. Hence, stakeholder dialogue is needed to express technological and regulatory problems, which companies may face in developing new business models.

Lluis Fontboté, University of Geneva, acknowledged the clear need to improve the good, but not sufficient, recycling and use efficiency of most materials in Europe. Nonetheless, mining of virgin materials will remain an important activity to satisfy society's needs for products and services containing minerals and metals. Inevitably, the question arises that if we have to mine how long can we? Even if metals and minerals are not renewable resources (on a geological time-scale only and therefore far too long for human use dimensions), available resource deposits are far from indicating a metal peak. In the context of peak resources, most alerts on reaching peaks are just wrong as they talk about reserves (the known or extractable part of available resources), but not about resources (entire deposits on the planet). The so-called reserve life time (how long known reserves will last to provide the respective resource) depends mainly on investments and the type of commodity, but not on geology – for instance, for Copper reserves, figures have been corrected downward and upward over the last decades with new deposits being located, new needs for copper emerging, etc. We are not close to the peak because technically we can mine down to depth of 3,000 m now, where ore grades are still good – so the peak has been pushed with technological progress.

There are a lot of critical issues in mining, such as assessing, monitoring and alleviating environmental impacts, social acceptance, increasing lack of investments for exploration and extraction, creation and transfer of technical know-how. The recent trend to lowering metal prices leads to low investments – too little is invested in mining (the duration from exploration to the actual mining of a resource may take 15 – 20 years), so we may face a shortage of some minerals in the future due to currently too low investments.

With the continuous need for mining arising from both (1) the many modern products, but also future technologies, requiring more and more elements from the periodic table, and (2) the EU's strong dependence on imports, we need to reduce social and environmental impacts also during exploration and extraction. Hence, mining must reduce its footprints along the entire mining value chain and become less invasive.

Getting and maintaining a social license for mining may be easier in developed countries, e.g. Sweden, than in developing countries, due to the technologies available – so we should rather be mining in our backyards than beyond. The EU does have the opportunity to create models of sustainable mining, because many good examples exist in the EU to build on (e.g. Finland's efforts to developing Green Mining).

In the *subsequent discussion*, participants highlighted that the peak discussion seems to focus on questions of access, but seem not to address at all environmental aspects. When looking at what happens with climate change and greenhouse gas emissions, we may postpone the peak for metals, but we will not succeed in postponing the peak for climate change due to energy needs of mining operations. Therefore, mining operations also need to become less energy intense. However, we also need to consider the issue in a more holistic approach, acknowledging that the mined materials are needed and contribute to provide technological solutions for reducing greenhouse gas emissions, e.g. through renewable energy generation, providing rigidity to light-weight cars, etc. thus leading to energy and greenhouse gas emissions savings. So while domestic mining in the EU should be put higher on the political agenda, this should be conditional to reducing mining activities' footprints and energy needs. In order to increase public acceptance of mining domestically, IMA Europe launched the European Minerals Day together with Euromines to raise awareness in Europe, inviting all stakeholders to judge for themselves on the issues and needs on mining, to make stakeholders fully aware of and able to see what happens in mining to make it more transparent.

Urban mining and recycling on global markets

Barbara Toorens, WorldLoop, elaborated that Information and Communication Technologies (ICT) are a key driver to increase social benefits in developing countries. However, from WorldLoop's work in developing countries it was found that developing countries often lack the capacities to treat waste electronic and electrical equipment (WEEE) (and any other) waste streams in a sustainable manner. Currently, ICT treating takes place at great health risks for the workers and with great environmental risks. There is no awareness of what to do with ICT devices nor are there any incentives to increase awareness.

This leads to many resources being left unavailable for recycling and there is no regulatory support in Africa to get companies starting business models on proper and sustainable waste management. While there are 80-90% collection rates of e-waste in Africa, actual treatment of the collected wastes has no standards to adhere to.

In this context, WorldLoop's mission is to eliminate the negative impact of e-waste by turning it into sustainable human and economic resources through raising awareness, providing capacity building and bringing the informal market in contact with the formal market in the developed world as well as through providing seed funding and technical assistance.

As shipping of hazardous waste (e-waste, for instance, qualifies as hazardous waste) from Africa to EU is a huge legal and administrative challenge, the question arises how urban mining in the EU can benefit from the e-waste materials regained in Africa. WorldLoop, through its activities, collected 1,500 tonnes of e-waste, but due to lacking cash flow of investors, lacking incentives for non-valuable collections, small volumes of waste streams and pre-financing of shipments the e-waste collected cannot (easily) be sent to the EU for recovery. Hence, we need to seek regional solutions for proper and sustainable resource management in Africa and appropriate international market and legal structures for reimport of secondary raw materials based on a sustainable equal playing field of frameworks.

Adding to that, **Christian Hagelüken**, Umicore, underlined that urban mining needs to be addressed on a global scale in order to achieve a truly circular economy – locally will not be sufficient. One important approach is to undertake the actual recycling in industrial countries, but use local treatment wherever possible, aiming to provide sound solutions for all waste fractions while generating jobs according to ILO standards.

In this context, there is a huge need for intense training, both in business staff (accounting, technologies, etc.), but also among policy makers. This will not work without intense stakeholder collaboration in order to build trust and mutual understanding – such a transition needs time.

The "Step e-waste academy" started as a summer school with training courses for Master students with 1, 2 days at Umicore. Many of these students now work for companies or authorities in the developing countries. One of their key observations from work experience is the profit dilemma (cherry picking): in many places, from the e-waste the most valuable materials are extracted through health impairing and environmentally damaging processes. In addition, informal practices are rewarded, whereas formal sound practices are discouraged. Solutions to this problem could be to provide a fast track procedure for export of e-waste to certified recyclers in OECD countries. This, however, requires interlinkages with international recycling networks.

Hence, fostering a circular economy (CE) faces a set of challenges:

1. it does not work without teamwork;
2. creating trustful, lasting relationships between actors and stakeholders is needed, but not at all easily done.

What does it really mean to achieve a CE with focus on metals? The quality of metals usually does not decrease, but a physical circle is only closed if the material finds its way into a new product. Here, you need to ensure collection of products and materials as well as economic viability of the businesses (models) working on the CE. As recycling cannot entirely fulfill the EU's metal needs, we always need a complementary approach between mining and recycling. Therefore, a CE in the real sense means that we have to make sure that materials are comprehensively recycled to an optimal extent at the end of the product live using best standards.

Product and eco-design

Carsten Wachholz, EEB, presented the findings of a recent study by EEB on delivering resource-efficient products. In his view, products should become a key pillar of resource efficiency (RE) measures. Based on Raw Material Consumption (RMC) indicators 13% of total resource

consumption in Europe is materials and goods, e.g. needing 270 kg resource consumption for every kg of laptop consumed.

In addition to the input perspective, we also need to look at environmental impacts associated with production and use of products. Up to 50% of Global warming potential of laptops may be associated to the design and use phase; many products become energy efficient in the use phase vs. their energy requirements in the production phase. While in the design phase we are usually concerned with product properties, not with defining resource impacts in the design phase, but the product properties determine the resource and environmental impacts, we need to be moving from product properties (energy demand, use of consumer goods) to a consideration of environmental impacts in design(ing).

The UK Waste and Resources Action Programme WRAP conducted an analysis for product groups at readily available design options for low resource and energy impacts – extrapolating from these analyses to the EU markets, the EEB report arrived at impressive savings from laptops and printers through extending life-time of up to 1 Million tonnes less CO2 emissions per year.

What is needed to realise such design potentials is better alignment of product design with waste treatment processes needed and fostering the EU framework for product policy, e.g. providing financial incentives, making use of Green Public Procurement and of labeling schemes, or setting binding minimum information requirements for resource efficiency and minimum specific requirements for share of secondary materials used in products. In addition, we need more stringent coordination between the various policies in place in the EU and in Member States.

Ursula Tischner, econcept, asked the questions (i) What can eco-design contribute to more sustainable consumption and production? and (ii) Why is design so important? The freedom to influence impact of products and services is great in design processes, while the costs to correct wrong decisions in the design phase are very low. However, designers are hired by companies in order to produce products not lasting long but as innovative as possible. Built-in and perceived obsolescence (i.e. the product no longer satisfying the buyer's needs for social status, etc.) are one consequence.

"There are professions more harmful than industrial design, but only a few" – hence, we need to design differently and provide different products and services.

So what is eco-design? Eco-design captures making products more environmentally friendly focusing on ecological and economic benefits of design over the whole product life cycle. For all different stages of the life cycle we need to consider thoroughly sustainability aspects; for instance, longevity of non-consumables, such as chairs, can increase resource use efficiency through lasting for a long life time.

In addition, eco-design also means designing for closing natural and technical cycles – so products made of natural resources (biotic) that after the use phase can be shredded and used for growing flowers, etc. Furthermore, it is important not only to focus on product

design, but also the full system – i.e. including product-service-systems, e.g. the Philips pay per lux (unit of illumination) model delivering light as a service.

Eco-design can also (attempt to) change behaviour by design, e.g. using emotional engagement to have buyers use products longer, use the products in the way they should be used and to return waste. For this, collaboration along the value chain and also with consumers is crucially needed, e.g. products designed by people with certain needs (e.g. the Innonatives project on crowd-based design).

In addition, eco-design is not taught at universities hence many professionals still do not know these things, as it is not there in the professions. This could be embedded into Corporate Social Responsibility guidelines and reports from companies. And finally one key argument for doing eco-design is that it normally pays off because it saves you resources and money.

4 Session 2: Governing and co-managing change

In her presentation, *"A general perspective on co-management in sustainability"*, **Annica Sandström**, LTU, set the scene for the discussions on co-management and a framework for discussing the following best practices.

The diverse concept of co-management

Natural resource governance is happening in high institutional complexity and surrounded by substantial uncertainty and ambiguity. (Advocacy) coalitions are formed around differing beliefs, divergent problem definitions further add to the complexity. A set of different concepts for co-management exist. The World Bank, for example, defines co-management as "*the sharing of responsibilities, rights and duties between the primary stakeholders, in particular, local communities and the nation state; a decentralized approach to decision-making that involves the local users in the decision-making process as equals with the nation-state*". In all cases the concepts includes institutional diversity, but even within "one" institutional actor many different actors act (i.e. there is not *the* local community).

Prerequisites for successful co-management

As co-management should help handling some of these difficulties by involving stakeholders, the selection (process) of stakeholders is of high importance to the success of the process as a whole, especially informal stakeholders must be included and pre-existing collaborations taken into account. A complex system can be disentangled by a network approach. A partnership between public and private actors is a common feature of co-management, the public actors can come from different governance levels.

Governing co-management

The power between the public and private actors must be shared, and the process and goal must be clear to the participants. The participants must know from the beginning, what the outcome of the process can be and which influence the process can have on this process.

This is important also for the perceived fairness of the process and the outcome. Only if the latter is achieved stakeholder acceptance can be reached.

Even if well organised, co-management is not a panacea, nor is there a blue-print for successful co-management processes. In all cases, however, it is important to generate knowledge, coordinate, create transparency and accountability, and have a legitimate process.

In conflict-ridden policy areas competing advocacy coalitions oppose each other. Especially in these cases policy learning across the advocacy coalitions has to take place and possibly own perspectives refined. To create space for a successful process the time-factor has to be taken into account.

Trend towards co-management

With the trend to co-management there comes a growing research pool which types of co-management are successful. This research shows that co-management can sometimes change beliefs, so policy learning and deliberation *does* sometimes take place.

Three speakers then provided ***best practice examples*** for stakeholder management on how to work together in different elements of the supply chain.

Sylvie Fraboulet-Jussila, The Finnish Innovation Fund – Sitra, presented the *Finnish Network for Sustainable Mining*. Mining is an important business sector in Finland, at the same time the government wants to be leader in sustainability. The opportunities associated with mining, the conflicts of interests around it and the Finnish goevernment's objective to make Finland a leader in Sustainable mining triggered a strong need to change the way the industry interacts with its stakeholders. Hence the need to create a multistakeholder dialogue and cooperation network.

In order to be able to built dialogue and cooperation challenges had to be overcome: The network has to be neutral and independent to be credible and functioning. It is not ruled by one party: decisions are taken jointly and in consensus. Furthermore, the network has to be representative and have continuity, while being able to welcome new members with new energy and ideas. The created network consists of a multitude of members (mining industry, nature conservation NGOs, business affected by mining (such as reindeer herding or tourism), the Sami and other local people, financial sector). It is chaired by Mrs Hannele Pokka from the Ministry of Environment. Participants of the network are motivated because they see that concrete results are achieved together, through the work of working groups on concrete tools. The Network's members are jointly developing: Reporting that would serve both the industry and its stakeholders, auditable sustainability standard and concrete tools to answer specific needs.

The networks is built on key principles that underlay a successful dialogue: Listen, Understand, Respect, Accept, Agree to disagree. However, when tough issues are discussed and the only agreement was "agree to disagree" the network did not take a

decision. But due to the trustful cooperation within less than a year a statement of intent has been signed by the parties, clearly indicating the objectives and principles of the cooperation.

This success is attributed to a number of factors, among them sufficient allocation of time for the process, inclusion of all parties in planning what the network would be. Furthermore the network has clear – and jointly defined - objectives, principles and rules of operation. Finally the meeting locations reflected the reality of one or more of our members; and a lot of team building activities were added to the hard work.

Johanna Beate Wysluch, German EITI (Extractive Industries Transparency Initiative Secretariat, presented the *stakeholder process around establishing a national EITI secretariat*. EITI promotes an open and accountable management of resources. Currently 48 countries implement the EITI, a country's EITI report informs the public of what happens with its natural resources. The process is elaborated by a national multi-stakeholder group, including stakeholders from civil society, companies and governments. Germany is not yet part of EITI, but has declared interest in the implementation, in order to support the international transparency agenda, send a political signal to other countries and serve as a role model for anti-corruption. The federal system is a challenge to the implementation of EITI in Germany, as the Federal Government requires the implementation, but the "Länder" have to act.

In the dialogues held between the stakeholders, including stakeholders from the federal and "Länder" level the following lessons have been learned:

- Intensive dialogue on Government side necessary from the beginning
- Independent support structure (D-EITI secretariat in Germany) facilitates the process
- Stakeholders must be able to discuss on the same knowledge level – financial support to civil society needs to be considered
- Trust building amongst the stakeholders key for success
- Strong Rule & Law structure can hamper implementation

The third best practice example was provided by **César Luaces Frades,** ANEFA, i.e. the *Guidance document for local stakeholders relationship management* in the Spanish extractive industry sector. The "guidance document" is a tool for the aggregates sector to address and engage local communities. A multitude of stakeholders is affected by aggregate sector activities. A dialogue is important to close an information gap and reach a common understanding, but major difficulties need to be overcome, one of them being different languages of communication between the SMEs and the affected stakeholders.

The guidance document recommends a four step approach: objectivity and credibility, definition of goals and targets, a continuous flow of information and bi-directional engagement.

It is of crucial importance to the success of the process to understand stakeholders problems and priorities, therefore meetings and communication fora, as well as consultation procedures are held. In these meetings the targets and achievements of the SMEs as well as the process needs to be communicated clearly to establish close ties with communities. Furthermore it is suggested to engage in the local community beyond the business case with voluntary initiatives, such as restoration of old sites, support for NPOs and promotion of social activities. Strong cooperation between industry and NGOs; but also strong relations with the media and provision of informational and educational materials to increase awareness of the importance of raw materials for the European economy help to strengthen ties between stakeholders and raise understanding for the activities. The guidance document provides further communication tools to strengthen ties, raise awareness and provide information, for example a “Minerals Day”.

In the final presentation of this session, **Andreas Endl,** Institute for Managing Sustainability of the Vienna University of Economic and Business, summarised the *results from the COBALT project on stakeholder dialogues*.

COBALT reached 189 participants at dialogues; and conducted 76 pre- and post-event survey and interviews. COBALT aimed at generating insights from the thematic dialogues with regard to industry civil society collaboration; explore future directions for EU policy; summarize existing communication/collaboration channels between industry and CSO; and form recommendations for improving mutual understanding, communication and future collaboration. In line with the EIP agenda COBALT should create insights on better stakeholder dialogues, learning about the status quo (who is already cooperating?), the enablers and the benefits of dialogues.

COBALT looked into: who is collaborating with whom, what brings people together and what makes working together pay off. In COBALT we learned that CSOs have well established intra-stakeholder collaboration and are also collaborating well with other stakeholders. Industry stakeholders have also strong inter-stakeholder collaboration and collaborate strongly with business, industry has balanced collaboration with other stakeholders. Policy and industry (stakeholders) are seen as crucial levers, closely followed by associations and CSOs; academia, however, is not playing a crucial role in multi-stakeholder processes. Collaboration (i.e. CSO – industry collaboration) is enabled by transparency and accountability, common goals and interest and instruments and tools for interactive dialogue.

5 Session 3: Main findings from the working groups on Stakeholder involvement for Raw Material Management and product design

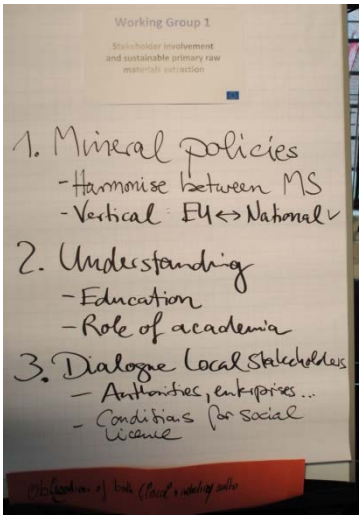
In the afternoon of the first conference day, three parallel working groups worked on one of the following key topics respectively:

1. Stakeholder involvement and sustainable primary raw materials extraction
2. Stakeholder involvement and the circular economy
3. Stakeholder involvement and (product eco-design)

Each key topic was introduced to the working group participants with a short input by one of the COBALT team members. The working groups aimed ***to identify action areas where fresh collaborative action is needed to make progress in the respective key area***. The participants were asked to prioritise 2-3 areas and develop recommendations for achieving collaborative action in these areas. The results of the working group were then presented and discussed in the plenary in session four.

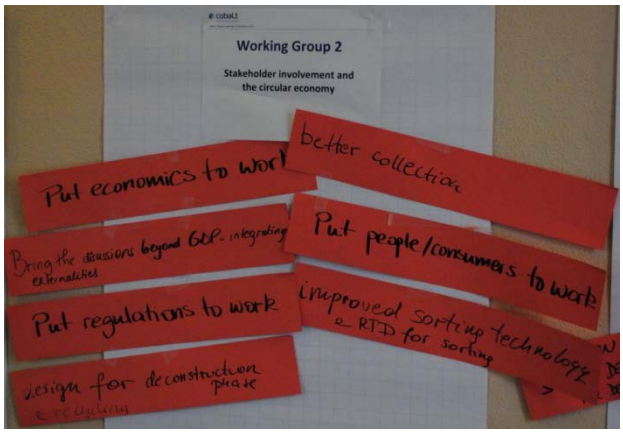
According to the discussions and summaries from the closing conference Working groups, the following key areas emerged as needing further stakeholder dialogue:

1. **Stakeholder involvement and sustainable primary raw materials extraction**, working group rapporteur: Anders Sand, LTU



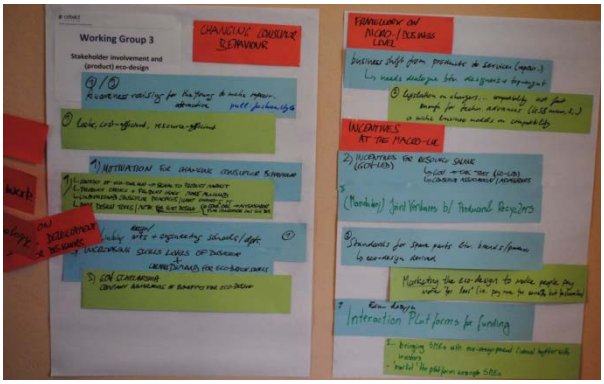
- Better harmonisation of mineral policies between Member States as well as improving vertical integration between EU level and national level (with mutual influence)
- Fostering mutual understanding through education aiming at improving understanding of the technological processes, necessities and limits of extraction, but also of other issues. In this context, the role of academia is not just to do research, but also to educate (potential) future leaders and society.
- Involving relevant (local) stakeholders (such as authorities, enterprises, local communities) into dialogue in order to improve/create the conditions for granting a social license to operate

2. **Stakeholder involvement and the circular economy**, group rapporteur: Elena Palacios, TYPSA



- Better putting economics to work, i.e. using incentives and economic instruments aiming to internalise external costs and to find the right price between consumption and production
- Better putting regulations to work, for instance making sure that Extended Producer Responsibility schemes work (better) and that eco-design principles are applied (i.e. designing with a mind to deconstruct and recycle)
- Better putting support for research and development to work, e.g. fostering RTD for improved sorting technology
- Producing networks to exchange information to profit from, e.g. raising consumer awareness and ways to identify producers and users/demanders of waste (e.g. industrial symbiosis)
- Raising awareness among consumers to better collect relevant product streams to make it available for recycling
- Discussing and considering the limitations of recycling (e.g. discussing the sense and feasibility of a 100% recycling society and asking how much recycling is technically, environmentally and economically possible)

3. **Stakeholder involvement and (product) eco-design**, group rapporteur: Andreas Endl, Institute for Managing Sustainability, Vienna University of Economic and Business



- Making repairing attractive to young people, aiming at motivating consumer behaviour changes shifting from disposing and new purchases of products to recycling and repairing products
- Providing the skills needed of designers to meet design needs for environmentally friendly products linking different disciplines (e.g. engineering and design faculties to ensure attractive, cost efficient and resource efficient products)
- Providing a supportive framework and incentives for eco-design on
  - a macro-level: setting standards for spare parts and orienting public procurement to demand eco-designed products from the consumption side
  - a micro-level: making top-level management aware of benefits of eco-design and incentivising eco-design of products, for instance through government paid scholarships for businesses, or joint ventures between companies or encouraging collaborative platforms for funding and pooling of ideas (e.g. the Innonatives project on crowd-based design).

6 Session 5: Recommendations for effective stakeholder collaboration

Day 2 of the closing conference was kicked off by a presentation of "Introduction to COBALT Lessons Learnt" by **Martin Hirschnitz-Garbers**, Ecologic Institute, and **Manuela Gheoldus**, Bio by Deloitte. They summarised the main findings on thematic areas needing further stakeholder dialogues and on promising dialogue settings. COBALT had three main foci: awareness (making people aware of raw material needs in daily lives, differing perceptions along the value chain), learning (how to undertake dialogues and about different perceptions) and dialogue. The goal was to identify thematic areas along the value chain where further dialogues, building trust and mutual understanding is essential – major topics include mining, Urban Mining and Eco-Design.

Sustainable and responsible mining means that sustainable and responsible mining touches more than mining itself. It includes also reducing the social and environmental impacts of obtaining raw materials, fostering jobs, supporting local communities, ensuring transparency, respecting access to land and resources to name but a few. Especially in the mining sector negative behaviour spreads quickly and falls back to companies.

To flourish, sustainable mining needs top-management and employee backing, early involvement of stakeholders and creation of trust, and robust assessments and monitoring of impacts. To build relationships and an atmosphere in which sustainable mining is achieved by stakeholders, the format for exchange is of importance.

In COBALT six dialogues were organized using a special agenda format. The format aimed to encourage stakeholders to discuss and share knowledge. The format had three main sessions: first a framing session, followed by in-stakeholder discussions; and then practical experiences were presented. Finally the inter-stakeholder discussions were held and recommendations were elaborated.

A couple of innovative formats was chosen to bring stakeholders together and build a network between them. For example, a speed-dating was at the beginning of dialogues, which helped to bring people in an interactive mood. More classical "keynotes" framed the dialogues and prepared for intra-stakeholder dialogues. The intra-stakeholder groups proved helpful to set the scenes within the stakeholder groups, as these groups were more heterogeneous than is often accounted for. Having specific, clear and outcome-oriented questions added substantial value to this exercise. Furthermore reporting in front of the other groups was very useful as preliminary key challenges in collaboration were identified and summarizing the discussions was helpful

in preparing the next sessions. Inter-stakeholder dialogues were also successful as they helped to

- Identify barriers to successful collaboration on the given topic
- Understand the other groups' needs
- Develop future pathways for collaboration and prioritise these

As general recommendations for dialogues, participation and dialogue settings should

- consider the (socio-economic, cultural, geographic) context of the topic/debate
- think about the best level at which to conduct the dialogue (EU, national, regional or local level)?

Participation should be ensured by a sequenced process of

- inviting a broad / wide spectrum of stakeholders for informing, consulting and educational purposes to a public event (scoping relevant issues, exchange of opinions)
- inviting a selected set of stakeholders relevant to certain issues because of needed/relevant understanding, knowledge, expertise, decision power in a more closed-shop event that allows them to also speak more openly

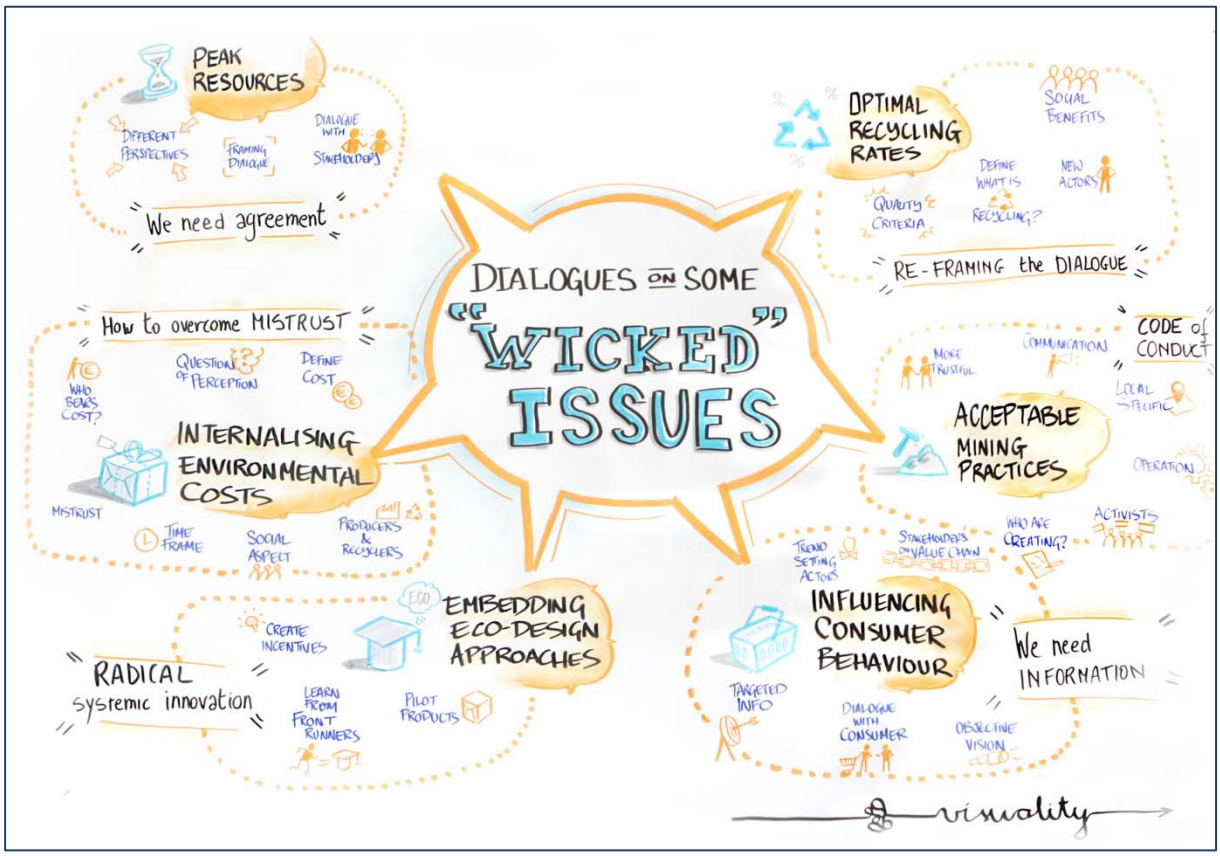
Participation procedures, formats and mandates need

- to follow certain rules and principles (e.g. better or appropriate to participative contexts balancing various stakeholders), in doing so to reflect the different settings

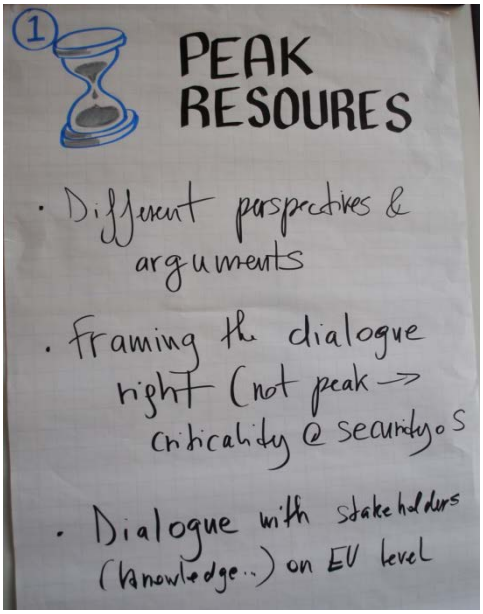
In the *subsequent discussion* it was highlighted that basic rules for good dialogues are applicable to all dialogue processes, but that in the mining sector it was especially important to invite a broad set of stakeholders. There is a misperception between what the public thinks what mining is and what the mining sector is actually doing, so the gap to bridge was wider. Furthermore, due to specificities of local contexts issues can never be solved by a blueprint format, but the format has to be adapted to the specific case. The difficulty lies in bringing the right stakeholders in, which may not have been reached in COBALT, as those that protest in front of mines are not part of the dialogues. The issue is even more complicated, as often mining companies have established good relationships with local citizens, but in the broader public suspicion against mining companies is high and there are cases where foreign protesters challenge mining proposals where no conflicts with local communities exist.

Finally, it was stressed that the European Commission is very open to include all types of stakeholders, but that there is both a misperception and a mismatch of communication about this. As capacities for a communication on eye-level are lacking, such capacities of civil society should be enhanced, for instance through projects such as COBALT.

During an ***interactive group work***, recommendations were developed in table groups on ***how to give more value and impetus to stakeholder dialogues on six "wicked issues",*** which emerged from the presentations and discussions of Day 1 of the closing conference:

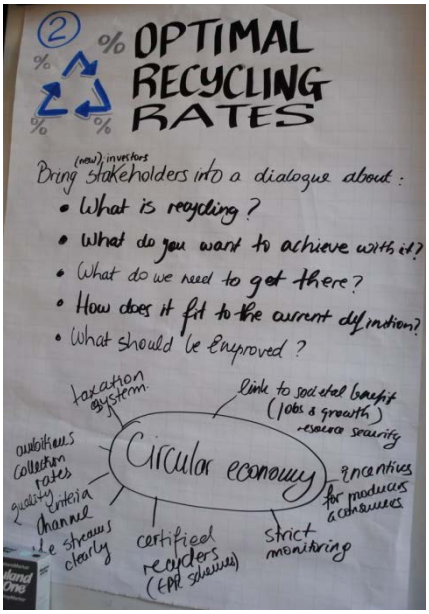


1. Peak resources



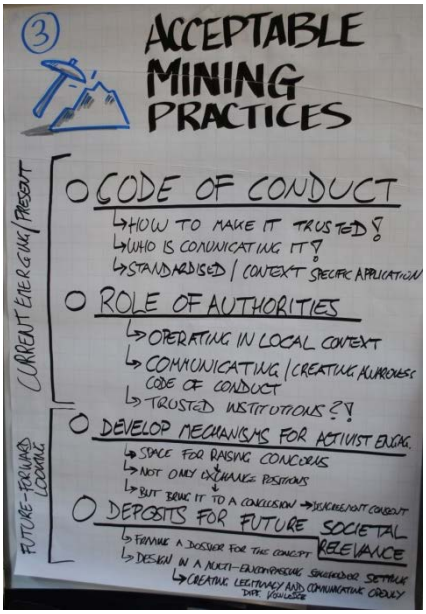
In exchanging different perceptions on and arguments for or against peak resources, the table group recommends framing the dialogue on this topic better, i.e. not speaking of peak resources, but rather of criticality and security of supply, which will be more likely to resonate with larger stakeholder audiences. Such a framing should then be used to create and foster dialogue at EU level, having relevant stakeholders (business, research, policy makers and civil society organisations) discussing the issue and bringing in (their) relevant knowledge.

2. Optimal recycling rates



The table group agreed that it is essential to bring (new) stakeholders (e.g. investors) into the dialogue and to openly and constructively discuss what would be economically, environmentally and socially optimal recycling rates. In this context, the dialogue participants should discuss (i) what recycling means to and (ii) what the (main) purpose of recycling is for different stakeholders, (iii) what we need to (do and put in place to) get there, (iv) how this fits to the current prevailing definition of recycling, (v) and hence what should be improved. In order to foster the importance of the Circular Economy narrative in the EU we need to enter into the dialogue discussions relevant issues and success factors, such as highlighting the societal benefits through jobs and growth as well as resource security; providing incentives to produces and consumers, e.g. through taxation systems; supportive framework conditions, including ambitious recycling rates, certifying recyclers, defining quality criteria and strict monitoring; channeling the waste streams clearly.

3. Acceptable mining practices in our backyard



According to the discussions in the table group, it was deemed crucial to develop and establish a code of conduct for mining operations. Here, a main challenge is how best to make the code of conduct trusted by local communities. This links to the question of what actors should communicate this code of conduct, e.g. who might be the most trustworthy player for the communication. Another challenge revolves around the need to both standardising the code of conduct, but at the same time making it strongly adaptable to the specific local context.

Local authorities should play an important role in this process as they operate on and are rooted in the local cultural and socio-economic context. They could thus be(come) key players for communicating on and creating awareness of the code of conduct of mining operations in a local community. However, this will depend on whether or not local authorities are considered trustworthy players in the local community.

Based on experience of participants in the table group, another discussion needed centers on how best to develop mechanisms to engage activists campaigning against mining operations. For instance, in different cases of mining conflicts, the opposing activists were not from the local community, but from other regions or even other countries. Hence, there should be ways of ensuring that the local community gets involved, too, and thus the chance to voice their concerns and views. Here, it was agreed that while providing space to voice

concerns is important, an engaging mechanism must not stop at exchanging positions, but to progress towards bringing it to a conclusion.

Lastly, the group agreed that, as a forward-looking dialogue, discussions should address deposits of future societal relevance, designing a concept for the deposits' use in a multi-stakeholder setting, communicating openly, inviting and integrating different forms of knowledge and thus building trust and.

4. Internalising environmental costs

The table group discussing the issue of internalising environmental costs in a constructive debate with points of disagreement put forward a set of important questions to ask when trying to giving more value and impetus to dialogue:

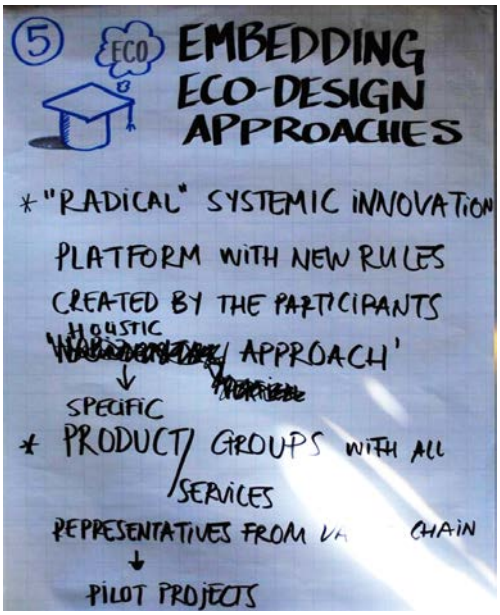
Is there a misconception in the sense that environmental costs are not yet internalized? In many European countries, industries already has to internalise some of their external costs, for instance through taxation.

It seems that many stakeholders do not really know or have different perceptions of what environmental costs are, hence the question arise how far we should go in defining what exactly environmental costs are, whether they are pre- or post-operational, what should be the considered time frame and altogether how far environmental costs should be internalized?

Furthermore, when speaking about internalizing costs, shouldn't then social and economic aspects also be considered, even though they will have to be assessed in a different way?

Who would be relevant stakeholders to involve? This needs to considered carefully in each specific situation as it can be difficult to understand and identify those who should be involved, depending not least on the question who bears the (major part of the) costs, whether society as a whole, consumers, or specific industries. In this context, mistrust and uncertainty as to which information and sources are credible and could be used in dialogues should be overcome.

5. Embedding eco-design approaches

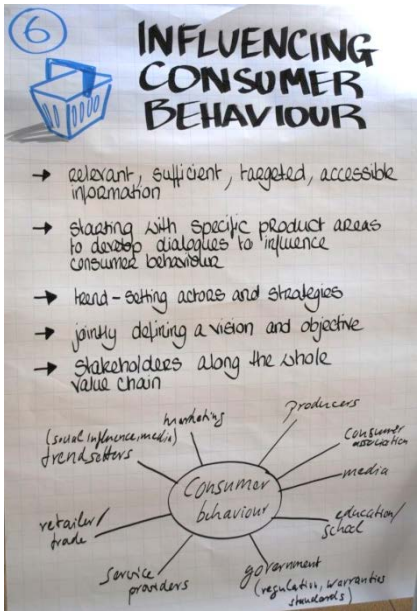


Through the table discussions the group agreed on the need for having a "radical" systemic information platform with new rules, which are created by the participants, and that pursues a holistic approach. In this context, in particular the capacities of CSOs to enter into this dialogue must be enhanced, e.g. through providing financial support for their participation.

Furthermore, the group highlighted that incentives are also relevant for industries to encourage rethinking of business models and attitudes. In relation to mining, miners could encouraged to view themselves as managers of materials along the value chain, not merely as those extracting raw materials. Through the use of incentives, industries could furthermore be encouraged to implement new measures, learning from front runners. This all should be seen in the context of thinking of new business models where services are sold instead of products.

Here, the group considered helpful the creation of specific product or services groups with different representatives from value chain and also trying to think of pilot projects testing and implementing new business models.

6. Influencing consumer behaviour



From the table group discussion emerged the crucial need to provide consumers with relevant, targeted, sufficient and accessible information in order to meaningfully engage consumer in the dialogue and enable them to make more sustainable purchasing decisions. The dialogue should start at a specific product area level, jointly defining a vision and objectives of why, how and for what purpose to influence behaviour. As consumer behaviour is not purely rational, but also depends on emotions, habits, etc., it appears crucial to include trend-setters into the stakeholder dialogue in order not only to provide information, but to make the expected or "wanted" behaviour trendy, attractive, emotionally relevant, cool, etc.

In such stakeholder dialogues, whether on specific product level or scaled-up, all relevant stakeholders along the value chain should be approached and invited for participation, inter alia consumer associations, producers, marketing, trendsetters, retail/trade (salespeople), service providers, government (legislation, standards), education/schools and media.

Under the title, ***"A new song for effective dialogue",*** each table group was then asked to highlight *3 key principles/messages for effective dialogue to enable progress on sustainable raw materials management*. The key messages were discussed through and with an expert panel. The messages below summarize those points that were considered most important:

1. **Listening**

   This includes learning from dialogues and be open to new ideas/views; listen in a benevolent way, i.e. have empathy for the 'opponents' position – to bridge different agendas. Be receptive to arguments and having trust.

2. **Discussion based on dialogue not on dogma**

   This includes creating a sense of common purpose. Setting for open discourse is a crucial factor for a trusted atmosphere.

3. **Neutral facilitation body**

   As issues are complex, they need to be translated as simple as possible. Processes should be as neutral as possible, but might not always be fully so, as they may have a goal. Therefore it is important that stakeholder engagement starts early (before decisions have been taken) and that facilitation is neutral. One challenge is participation fatigue. To counter this fatigue – and not add to it further – it is important to clarify the process and its possible outcomes, as not to create misunderstandings what can be achieved and leave participants dissatisfied.

4. **Time**

   There needs to be sufficient time for good processes. At the same time a balance between having time for the process and coming to a decision is important.

5. **Value chain**

   Use a "value chain approach" to involve stakeholders (policy makers, industry, CSO, researchers) is a key to success.

6. **Keep it simple**

   Keep the discussion as local and simple as possible. Aim for transparent and simple solutions in discussions. On the other hand oversimplification must be avoided.

7. **Capacity building** is important. To bridge the gap between lay people and experts, in order to find a mutual understanding. Furthermore uncertainty and risk need to be clear and accepted.

8. **Selecting the relevant people** (take your time)

   Sufficient time needs to be applied to select the right participants to dialogues. However, as "selecting" may be difficult, as you can only invite people to a process, to reach the people identified it is important to use the right channels and language. The European institutions need to build capacities explaining how the EU works and foster dialogues and participations. For this a certain cultural change is needed in EU institutions, as many barriers (i.e. even the room settings) exist for stakeholder participation on eye-level. A further challenge beyond current stakeholder groups is how to include the needs of future generations into the discussions.

9. **Creating a political and public debate**

   Is crucial as sustainable access to raw materials is a strategic key issue for society and therefore awareness is essential.

10. **Making information transparent and accessible**

    Including communicating on the technical limitations, for example the physical and technical limitations to substitution.

Fig. 1: Graphical recording of the recommendations elaborated

The results of the interactive group work was followed by a ***closing panel discussion*** about the lessons learned and measures to be undertaken in the future.

Dirk Fincke, UEPG, emphasized the need to explain the positive and negative impacts of mining honesty, including the uncertainties. Stakeholder (groups) need to clarify where they stand and how they can work together. Derek Osborn, director of stakeholder forum, stressed that capacity building is of utmost importance to have dialogues on eyelevel and to create trust among stakeholders, especially on the way to a Circular Economy which will need the support of a wide range of stakeholders to become a success.

Annica Sandström, LTU, stressed that despite all its merits collaborating approaches are not panacea (nor is there a blueprint for dialogues), they cannot solve conflicts or reduce uncertainty and complexity; but it does bring important issues on the table. In response to this, **Michelle Wyart Remy**, IMA Europe, said that she herself was sceptical towards the COBALT approach. But having been part of the process she acknowledged the progress reached by bringing different stakeholders to the table. She had experienced that there was general willingness to learn among the different groups that took part of the process. To further this progress however, she stressed that more knowledge on *why* people took part (or not) is needed. **Christian Hagelüken**, Umicore, agreed to this point made: while he considered a COBALT project and approach a success he pointed out that COBALT had a very protective atmosphere and included people that had a mindset for collaboration, which – independently of the sector – not all people obtain. The insights gained need to be transferred to “hot topics” where actual conflicts among stakeholders exist, to find out the merits of the methods and approaches chosen.

Michal Spiechowicz, DG GROW, emphasised his appreciation of the COBALT aim and project. Raising awareness for raw material needs will remain an important task in the future work of the European Commission and European projects alike. This will be reflected the upcoming H2020 programme for 2016/2017 and in these future projects can draw from the many ideas developed in the COBALT project to feed into raw material partnerships. COBALT and the future projects are important in contributing to the European Innovation Partnership on Raw Materials and the upcoming revised Circular Economy package as well as the eco-design directive.

7 Next steps forward

The conference participants helped elaborating recommendations on topics, formats and settings for effective stakeholder dialogue in the area of sustainable raw materials management, which will be further refined by the COBALT project team in cooperation with the COBALT Advisory Board Members after the conference. These recommendations will

feed into the “COBALT Lessons Learnt and Recommendations” document that will summarise the experiences made in the project with different stakeholder exchange formats and process design. This document will be handed over to the European Commission (DG GROW, DG Research) as part of COBALT’s aim to support the EIP and SIP implementation process.

A full conference documentation, including all PPTs of keynotes, working group summaries, a photo documentation, etc. are available for download under www.cobalt-fp7.eu.

9 Annexes

9.1 Annex I – COBALT Closing Conference Attendees List

Surname	Name	Institution	Country
Adamczyk	Leszek	ATMOTERM	Poland
Aguasca	Núria	TYPSA	Spain
Balbier	Justyna	Hydro	Belgium
Baricevic	Lana	Representation of the City of Zagreb to the EU	Belgium
Basiulyte	Milda	European Federation of Waste Management and Environmental Services	EU
Benton	Dustin	Green Alliance	UK
Berger	Gerald	WU WIEN - Institute for Managing Sustainability	Austria
Bermig	Carsten	European Commission, DG Enterprise	EU
Bleischwitz	Raimund	University College London	UK
Bontoux	Laurent	EC JRC	EU
Brander	Linus	SP Technical Research Institute of Sweden	Sweden
Brugger	Katrin	Montanuniversitaet Leoben	Austria
Callaert	Mara	Visuality	Belgium
Chevrel	Stephane	BRGM - French Geological Survey	France
Correia	Vitor	European Federation of Geologists	EU
Cowley	John	Mineral & Resource Planning Associates Ltd	UK
Daniëls	Johan	Federal Public Service Environment	Belgium
De Marchi	Alessio	International Waste Working Group	Germany
Drca	Maja	The Alliance for Beverage Cartons and the Environment	EU
Endl	Andreas	WU WIEN - Institute for Managing	Autria

Surname	Name	Institution	Country
		Sustainability	
Evans	Jayne	Beta Technology	UK
Fay	Eszter	European Environment Agency	EU
Fenneman	Verena	EC, DG RTD	EU
Fincke	Dirk	European Aggregates Association	EU
Fontboté	Lluis	IMA Europe / University of Geneva	Switzerland
Fraboulet-Jussila	Sylvie	The Finnish Innovation Fund Sitra	Finland
Garczynska	Magdalena	European Aluminium Association	EU
Gheoldus	Manuela	BIO by Deloitte	France
Gierk	Meike	Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety	Germany
Hagelüken	Christian	Umicore	Germany
Hejny	Horst	MinPol KG	Austria
Hirschnitz-Garbers	Martin	Ecologic Institute	Germany
Irles	Ingrid	Centre Balears Europa	Belgium
Karu	Veiko	Tallinn University of Technology	Estonia
Kazmierczyk	Pawel	European Environment Agency	EU
Langsdorf	Susanne	Ecologic Institute	Germany
Laroche	Marie	BIO by Deloitte	France
Lehmann	Karl	Ecologic Institute	Germany
Link	Lena	Extractive Industries Transparancy Initiative	Germany
Luaces Frades	César	ANEFA - Asociación Nacional de Empresarios Fabricantes de Áridos	Spain
Malapitan	Christopher	Visuality	Cyprus
Mazzetti	Chiara	Ecologic Institute	Germany
Miierlea	Sorin	National Association for Consumers' Protection	Romania
Miklovicz	Tamás	European Federation of Geologists	EU

Surname	Name	Institution	Country
Moré Ollé	Nuria	Council of European Municipalities and Regions	EU
Nedelcu	Anca	National Association for Consumers' Protection	Romania
Ontañon	Carlos	Government of Aragon	Spain
Osborn	Derek	Stakeholder Forum	UK
Palacios Nieto	Elena	TYPSA / DG Energy and Environment	Spain
Pino	Isabel	EuroGeosurveys	EU
Ragnarsdóttir	Vala	University of Iceland	Iceland
Rizo	José	European Commission, DG Environment	EU
Rosenkranz	Jan	Luleå University of Technology	Sweden
Ruggeri	Alessandro	Unioncamere del Veneto	Italy
Sand	Anders	Luleå University of Technology	Sweden
Sandström	Annica	Luleå University of Technology	Sweden
Schiweck	Sebastian	WirtschaftsVereinigung Metalle	Germany
Scius	Christophe	Suez Environnement	France
Šegavić	Dina	Europe Direct Karlovac	Croatia
Smok	Agata	Visuality	Belgium
Studenikin	Alexander	Russian Mission to the EU	Belgium
Stumpf	Emilie	CECED - European Committee of Household Appliances Manufacturers	EU
Thanou	Stella	former esbg	Belgium
Tischner	Ursula	Econcept	Germany
Toorens	Barbara	World Loop for WEEE collaboration	Belgium
van der Essen	Cédric	Federal Public Services Economy	Belgium
Volz	Andreas	Forschungszentrum Jülich GmbH	Germany
von Sperber	Elena	Ecologic Institute	Germany

Surname	Name	Institution	Country
Vrščaj	Darja	Namur University	Belgium
Wachholz	Carsten	European Environmental Bureau	EU
Warmenbol	Koen	Coalition of the Flemish North-South Movement - 11.11.11	Belgium
Woodward	Peter	Quest Associates	UK
Wyart-Remy	Michelle	IMA Europe	EU
Wysluch	Johanna Beate	Extractive Industries Transparancy Initiative Germany	Germany
Zimmermann	Fridtjof	Association of German Chambers of Commerce	Belgium

9.2 Annex II – COBALT Closing Conference Agenda

Closing Conference

"Sustainable raw materials management in Europe – Fostering stakeholder dialogue to deliver on the future"

Agenda

23-24 March 2015

Les Ateliers des Tanneurs, Rue des Tanneurs 58-62, 1000 Brussels, Belgium

Funded by the European Commission in FP 7 | Project No. 603509

23rd March 2015 – Day 1 "Challenges, best practices and the value of co-management"

Time	
8.45 – 9.30	***Registration and welcome coffee***
Event facilitator - Peter Woodward, Quest Associates	
Welcome and framing of the conference	
09.30 – 10.10	**Introduction** Peter Woodward, Quest Associates **COBALT project – stakeholder collaboration for sustainable raw materials management** Gerald Berger, WU WIEN - Institute for Managing Sustainability **Sustainable raw material supply in Europe – Welcome address** Carsten Bermig, DG Enterprise, European Commission
Session 1	**Future trends and challenges for sustainable raw material management in Europe**
10.10 – 11.10	**Future trends and challenges in the global supply of relevant raw material – the global resource nexus and economic implications** Prof. Dr. Raimund Bleischwitz, UCL Prof. Dr. Vala Ragnarsdóttir, University of Iceland **Q&A and table discussion**
11.10 – 11.30	***Coffee Break***
11.30 – 13.00	**Future needs in Europe for a sustainable raw material supply: issues and challenges along the value chain** - **Primary raw material extraction - challenges and needs;** Michelle Wyart-Remy, IMA Europe / Lluis Fontboté, University of Geneva - **Urban mining and recycling on global markets ;** Christian Hagelüken, Umicore / Barbara Toorens, World Loop for WEEE collaboration - **Product and eco-design;** Ursula Tischner, Econcept / Carsten Wachholz, EEB
13.00 – 13.50	***Lunch Break***
Session 2	**Governing and co-managing change**
13.50 – 15.00	**A general perspective on co-management in sustainability** Annica Sandström, LTU **Best practice examples for stakeholder co-management**

23rd March 2015 – Day 1 "Challenges, best practices and the value of co-management"	
Time	
	Sylvie Fraboulet-Jussila, SITRA; Johanna Beate Wysluch, EITI Germany; César Luaces Frades, ANEFA **Results from the COBALT project – Stakeholder dialogues and experiences with stakeholder collaboration** Andreas Endl, WU WIEN - Institute for Managing Sustainability
Session 3	**Sectors in transition – stakeholder involvement for raw material management and product design**
15.00 – 15.15	**Selecting workgroup and grabbing a coffee**
15.15 – 16.30	**3 parallel working groups**
Working group 1: Stakeholder involvement and sustainable primary raw materials extraction	
Working group 2: Stakeholder involvement and the circular economy	
Working group 3: Stakeholder involvement and (product) eco-design	
Session 4	**Working group insights and outlook**
16.30 – 17.00	**Feedback of working group headlines** **Outlook to day 2**
17.00	**End of day 1 and evening reception (drinks and snacks)**

24th March 2015 – Day 2 "Recommendations for stakeholder collaboration"	
Time	**Agenda item**
8.30 – 9.00	***Registration and welcome coffee***
Session 5	**Recommendations for effective stakeholder collaboration**
09.00 – 10.30	**Introduction to day 2** Gerald Berger, WU WIEN - Institute for Managing Sustainability **COBALT Lessons Learnt** Martin Hirschnitz-Garbers, Ecologic Institute & Manuela Gheoldus, BIO by deloitte **Interactive group work on recommendations for stakeholder collaboration and dialogue in raw materials policy and management in Europe (based on COBALT Lessons Learnt)**
10.30 – 11.00	***Coffee Break***
11.00 – 11.45	**Discussion of key recommendations in the plenary**
11.45 - 12.45	**Panel discussion on "*Fostering raw material dialogues for successful cooperative sustainable raw materials management in Europe*"** • Flor Diaz Pulido, DG GROW • Christian Hagelüken, Umicore • Michelle Wyart-Remy, IMA Europe • Annica Sandström, LTU • Derek Osborn, Stakeholder Forum • Dirk Fincke, UEPG
Session 6	**Next steps and outlook**
12.45 – 13.00	**Closing remarks – COBALT perspectives and next steps**
13.00	**End of closing conference**