



POLICY BRIEF

Issue No. 1, March 2014

www.cobalt-fp7.eu

Open and respectful stakeholder dialogue for sustainable raw materials management in Europe

Summary

- *European raw materials policy pursues a three-pillar approach: (1) enhancing sustainable use of European domestic mineral sources, (2) fostering resource efficiency, recycling and substitution, and (3) securing access to resources, good governance, and creation of local value added in developing countries. The European Innovation Partnership (EIP) on raw materials is a core strategy to support this.*
- *Meeting the increasing demand for raw materials within existing planetary boundaries requires a (more) sustainable management of natural resource along the entire raw materials value chain. This will mean (i) improving the socio-economic and environmental performance of mining operations; (ii) making products less material intense, less environmentally damaging, more durable and easier to reuse and recycle; (iii) fostering more sustainable consumer choices; and (iv) enhancing global justice by avoiding the shifting of social and environmental burden to developing countries,*
- *Strong political will, increased stakeholder cooperation and mutual understanding are necessary to ensure fair, inclusive and transparent licensing procedures for mining operations; to establish value chain collaboration and enable consumer power to make value chains more sustainable; to encourage and promote more systemic innovation and enhance financial support correspondingly; to continue dialogue striving for joint action on contentious issues around respecting planetary boundaries and reducing primary raw material consumption.*
- *Dedicated and influential actors and a catalysing environment are key for securing a continuous and successful dialogue into the future.*

[European raw materials policy context](#)

[Need for sustainable raw materials management](#)

[Stakeholder perspectives on sustainable raw materials management](#)

[Dedicated leadership](#)



1. What is the European Raw Materials Policy context?

Overall, Europe's economy and society's well-being largely depend on the secure supply and use of natural resources, and raw materials in particular.

The strategic importance of secure supply as well as efficient and sustainable management of raw materials are focus areas in EU's policies since the adoption of the **Raw Materials Initiative** (European Commission, 2008) through to the latest policy initiative, the **European Innovation Partnership (EIP) on raw materials** from 2012. Following a **three-pillar approach to improving access to non-energy and non-agricultural raw materials**¹ (see Figure 1) raw materials

management must include: (1) sustainable use of European domestic mineral sources, (2) fostering resource efficiency, recycling and substitution, and (3) an international dimension of securing access to resources, good governance, and creation of local value added in developing countries.

The EIP on raw materials aims to **reduce the EU's import dependency on raw materials by 2020** by accelerating innovations that ensure secure, sustainable supplies of both primary and secondary raw materials or prevent wastage of key raw materials during all their life cycle (European Commission, 2012b). In this endeavour, the EIP attempts to bring together a **wide range of different stakeholders along the entire value-chain** (Member States' governments, companies, NGOs, research institutions, etc.) to develop joint strategies, pool together capital and human resources, and ensure the implementation and dissemination of innovative solutions within Europe.

In September 2013, a **Strategic Implementation Plan (SIP)** was adopted that specifies the following action areas with the aim to implement the EIP's objectives:

Technological	Non-technological	International
e.g. developing environmentally friendly and resource efficient technologies for raw material production; coordinating raw material research and innovation	e.g. improving public trust, communication and transparency for exploration and mining activities; preventing illegal waste shipments	e.g. facilitating global raw materials governance; improving health, safety and environmental performance of mining activities worldwide

Innovation is fostered both through funding and collaboration structures, as well as through launching an open call for **raw materials commitments**. Actors from the private, public and non-governmental sectors, including academia, are encouraged to commit themselves to raw material related innovation actions in order to mobilise a substantial part of the European raw materials community and, therefore, extend the potential impact of the EIP.

¹ I.e. including metallic minerals, industrial minerals, construction materials, wood, natural rubber.

EU raw materials policy integrates domestic extraction, boosting recycling and international resource access.

EIP on raw materials fosters innovation and stakeholder dialogue along the value-chain.

Implementation plan for the EIP on raw materials sets action areas and issues call for commitments.

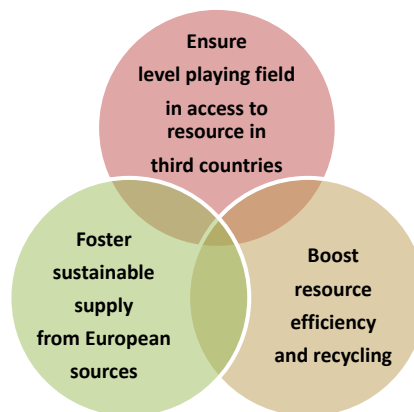


Figure 1: Pillar-based approach of EU raw materials policy

Source: adapted from Pellegrini (2013)



2. Need for sustainable raw materials management

Global trends impact on European raw material needs.

Overall, the functioning of Europe's economy and society's well-being largely depends on the secure supply and use of natural resources, and raw materials in particular. However, with world population projections estimating more than 9 billion people in 2050 and rapid economic growth in newly industrialising countries, raw material demand continues to rise strongly (UNEP, 2011; Dittrich et al., 2012). These **socio-economic trends put a strain on resource availability and access to resources**, but will also generate significant amounts of waste and emissions. In the long term, humanity will likely surpass planetary boundaries and could thus adversely affect its own well-being and that of the environment (Rockström et al., 2009; UN GA, 2012; UN, 2010).

Sustainable raw materials management must balance needs both globally and over time.

Therefore, a (more) sustainable management of natural resource use by humans – integrating economic development, protection of the environment, and equitable access to and distribution of resources – must be the baseline for continuous improvement of the quality of life and well-being for present and future generations (UN, 2012). Essentially, a **balanced consideration of economic, environmental, and social aspects throughout the entire raw materials value chain is required**. This will have to entail, for example, reducing mining waste and ensuring socially acceptable conditions for affected communities on equal footing to economic considerations as part of the regulatory framework for licensing procedures for primary raw material extraction. This concerns mine operations in Europe and beyond, e.g. facilitating transparency and good governance in the sector of conflict minerals (e.g. by adopting EITI standards) (Intergovernmental Forum on Mining, Minerals, Metals and Sustainable Development, 2010). Beyond supply issues, a sustainable raw materials management must also consider

- how, where and what for raw materials are used, and
- to what extent their use is contributing to societal well-being.

Human health and environmental impacts must be minimised along the entire value-chain.

Therefore, raw materials management along the entire life cycle should guarantee minimised impact on human well-being in terms of health and welfare as well as on the natural environment. This must be seen from a **perspective of global justice**, where intra-generational equity is enhanced as regards the fairness of distribution of resources (e.g. equitable access to raw materials and their use) and risks (e.g. minimisation of ecological burden shifting) (UN, 2012, para. 19-20). Data on raw material use within the EU shows shrinking material consumption, but indicates that this has come at the expense of shifting resource extraction and environmental impact to upstream countries – therefore, at the global level, an EU citizen's material 'footprint' has become substantial (Dittrich et al., 2012; Eurostat, 2012; EEA, 2010).

Production and consumption patterns must be addressed simultaneously.

Complex, internationally linked value-chains and consumption and production patterns require a **holistic life cycle perspective of sustainable raw materials management**. From a production perspective, products need to become less material intense and environmentally damaging, more durable and easier to dismantle and recycle. In the context of consumption, psychological, economic and practical settings, e.g. infrastructure or technological lock-in must be overcome to enable more sustainable consumer choices.



Traditional solutions won't be sufficient to stay within planetary boundaries.

In the long term, sustainable raw materials management might require to fundamentally question the way that **production and consumption systems** predominantly work: absolute decoupling of resource use and environmental impacts from economic development or shifting the focus from growth to well-being may be the responses, necessitating global concerted efforts. The EU affirms the necessity to respect planetary boundaries to ensure prosperity and well-being of society overall (European Commission, 2012a, 2013).

Concerted efforts and true stakeholder participation are key to success.

Whatever the level of ambition, and whatever the time-line for action, the required efforts to make raw materials management more sustainable must be **concerted actions**. Hence, related decision-making processes necessitate the engagement and commitment of different stakeholder groups, including governments, industry, academia, CSOs and individual consumers (UN, 2012, para. 43). Concerned stakeholders should have the opportunity to participate in decision-making processes, both in the political and in the societal sphere. In this regard, it is the also responsibility of governments to facilitate and encourage public awareness and enable participation by making information widely available and implement inclusive decision mechanisms.

3. The COBALT Opening conference: a means for open dialogue and mutual understanding

The COBALT Opening Conference, that took place in Brussels on 28-29 November 2013, brought together more than 80 stakeholders from all over Europe. The event was designed to **enable the different stakeholders** (a) to **bring in their different experiences and perspectives**, and (b) to **reflect upon each other's viewpoints** in of the context of the European raw materials policy debate. Hence, factors which are facilitating an open and respectful dialogue - where various stakeholders get together, meet at eye-level, and are interested to share and explore even contentious issues - are seen as most important. The items outlined below, which are the result of a series of post-event interviews with conference participants, summarize the **main pillars for an open dialogue**.

Setup facilitating open dialogue must create spirit of mutual respect and listening.

A setup facilitating open dialogue and mutual understanding		
Atmosphere and spirit	Structural and organisational conference set-up	Selection of conference presenters and topics
The process and quality of how the interaction and the topics are addressed; e.g. the hosting organisation's attitude in preparing, organising and running the event.	Arrangements are seen as most useful that provide for (i) strong inputs of participants, i.e. working group sessions; and (ii) open discussion of participants' responses to pre-defined topics in the plenary	Conference inputs by a broad variety of stakeholder groups (i.e. a diverse number of key-notes, panellists) touching upon different topics (e.g. through different working groups) from various point of views

4. Stakeholder perspectives on sustainable raw material management

The presentations, discussions and debates during the COBALT Opening Conference revealed certain key issues where further action is considered necessary. In general, due to existing world views, institutions, constellations and framework condition, some of these key issues – so called **“wicked issues”** – would require strong political will and increased stakeholder cooperation to be implemented.



Wicked issue 1: How to identify and ensure best practice in value chain collaboration for sustainable raw material management?

Wicked issue: value chain collaboration requires to establish and maintain mutual understanding.

Value chain collaboration seems difficult for raw materials where

- (i) direct linkages to consumers or extractors are rather small, and*
- (ii) the number of customers is very large, so that the different value-chain contacts remain more discrete rather than linked.*

Holding meetings where participants take up the perspective of other players in the value chain will help fostering a mutual understanding of different visions, existing barriers and of potential synergies. However, when translating such experience into the real world, prevailing and dominating views and interests of value chain actors cause deviation from mutual understanding. Hence, both catalytic environments and catalyzing actors are needed allowing to break free from such lock-in situations.

Wicked issue 2: How to prioritise different areas for funding for innovation?

Wicked issue: more systemic innovation needs stronger political and financial support.

When funding innovation, it should be differentiated between fast and slow wins. Fast wins are innovations that lead to quick returns on investments, but to rather incremental changes only. Slow wins, in contrast, are characterised by innovations having long(er) pay-back periods, but the potential for achieving more disruptive, system change.

As many SMEs cannot wait for long(er) pay-back periods, they would need more funding and multi-actor partnerships for such disruptive innovations. Furthermore, as incremental changes will not be sufficient in the long term to solve resource and environmental issues, more far-reaching transformations need to be addressed. These comprise inter alia funding future education programs which go beyond disciplinary borders, and towards systems thinking to integrate the various and complexly interconnected aspects (i.e. creating these wicked problems). While, in general, the EIP's approach for technological and non-technological innovation was welcomed by conference participants, the kind of innovations addressed in the EIP are more on the side of fast wins. Therefore, these will likely not enable the societal responses needed to face the looming challenges of the 21st century.

Wicked issue 3: Is it feasible for consumers to be informed about the product sustainability? Is it possible for informed consumers to drive sustainability up the value-chain?

Wicked issue: consumer power making value chains more sustainable fails at scale.

Whether or not consumers will be able to drive sustainability up the value-chain depends on the scale of sustainability sought for: sustainable consumer decisions may much more easily translate to improving environmental and social performance of products and processes than triggering a reduction in resource consumption overall. Here, business opportunities arising from reducing consumption seem hardly conceivable under the present prevailing paradigm in many businesses. Therefore, focus should be put both (i) on educating current business leaders and entrepreneurs, and (ii) in particular on educating the next generation, so that future generations can become more sustainability oriented leaders and consumers. This will have to be a collective journey towards a joint vision.



Wicked issue 4: How can (domestic) raw material extraction be made more socially and environmentally sustainable?

Wicked issue: fair, inclusive and transparent licensing procedures depend on good governance.

Impacts of extractive industries on local communities and the environment are a well-known dilemma, both within and beyond Europe. While in general a number of rules apply to extraction, e.g. licensing procedures before exploration and mine installation, which should be fair and transparent involving the public, there are cases where corruption and insufficient governance mechanisms cause neglect of such licensing procedures. A follow-up interview series with conference participants confirmed that the extractive industry's environmental as well as social impacts are among the most severe ones along the whole raw material value chain.

The provision of credible and comprehensive information and truly involving local communities in such process is crucial to make extraction process more socially and environmentally sustainable. Such information and participation will allow an authentic dialog that could help to co-optimize the different interests of governments, workers of a mining operation, and the population being affected by pollution, forced removal, etc.

Wicked issue 5: How to best integrate the different perspectives on raw materials management in the context of biophysical limits and social needs?

Wicked issue: consensus for joint action does not (yet) include systemic action.

The conference discussions indicate that consensus on focus actions for sustainable raw materials management depends on the issue in question.

Fostering a circular economy through closing material cycles, improving recycling, urban mining, and also substitution of raw materials plays a prominent role in European raw materials policy and emerged as a mutually shared focus for further action. Similarly, participants agreed on the need to make mining activities both within and beyond Europe socially and environmentally more sustainable. In contrast, the issue of planetary boundaries, requiring a reduction of primary raw material consumption (along with virgin material extraction), was met with some hesitation which suggest requiring an open, intense and longer-term debate.

The following table provides a selection of promising action areas in the European Innovation Partnership's Strategic Implementation plan potentially tackling COBALT wicked issues.

European Innovation Partnership addressing COBALT wicked issues

[Wicked issue 1](#): best practice in value chain collaboration

Action area n° II.3: Public Awareness, Acceptance and Trust

"Incorporate recent best practice examples of communication with stakeholders tailored for EU conditions"

[Wicked issue 2](#): funding for innovation



Action area n° I.1 Improving R&D&I coordination in the EU

“... collaboration between the EU and MS authorities, industry and research community; and improving the awareness of the related needs and initiatives in the society”

Wicked issue 3: consumer product sustainability information

Action area n° II.4: Product design for optimised use of (critical) raw materials and increased quality of recycling

“... development and uptake of environmental product declarations (i.e. “type III” declarations as described in ISO 14025, which are primarily intended for use in business-to-business communication)... linked to the further refinement of a product environmental footprint methodology”

Wicked issue 4: (domestic) sustainable raw material extraction

Action area n° I.3: Innovative extraction of raw materials

“Alternative mining: Developing safe and environmentally sound alternative techniques”

Wicked issue 5: raw materials management in the context of biophysical limits and social needs

Action area n° III.3: Health, Safety and Environment

“Establish and foster exchange of information with countries engaged in sustainable mining in order to develop a set of best practices to label exemplary mining operations worldwide...”

5. Conclusion

One of the main outcomes of the COBALT Opening Conference was the need to **foster a continuous and open dialogue** to create a comfort zone **where differing views can be expressed and respectfully debated** to identify joint areas of action. While there will be no need to initially agree on the issues and steps forward as such, **there will have to be agreement on the process and quality needs of the dialogue** (establishing clear rules and process design), so that contentious and wicked issues can be raised and avenues for joint action be identified.

Continuous and open dialogue needed along agreed rules.



Dedicated and influential actors and a catalysing environment are key for successful dialogue.

More systemic innovation should be fostered, including education in system thinking.

Recommendation: implementing a time-sequenced mix of existing and more systemic interventions.

Concerning **contentious and wicked issues**, the debate highlighted that the perspectives of actors prioritising economic needs and those prioritising environmental and social needs require better alignment. In this context, **mutual understanding of different visions and perspectives is essential**. However, in order for such understanding to be established and maintained in daily practices along the value chain, a meaningful dialogue must include **actors with willingness to participate and with access to or influence on decision-making processes**. Furthermore, it needs a skilfully catalysing actor, creating or ensuring a catalysing environment and framework conditions. Here, the European Innovation Partnership on Raw Materials seems very promising, but may need even more clearly defined and dedicated leadership from within the three involved Commission DGs.

Additionally, through the different actions areas, the EIP's Strategic Implementation Plan should encourage and fund innovation with longer pay-back periods and potential for more systemic change needed to tackle the looming challenges of the 21st century. In this context, innovation and funding will also need to be directed towards educating future generations so that they can become more sustainability oriented leaders and consumers.

Drawing from the major lines of discussion and the results of the working groups at the COBALT Opening Conference, one potentially promising option could be to discuss a **time-sequenced mix of joint actions over the decades to come**:

- 1) put the initial focus on fostering the already existing political as well as business efforts and structures towards increasing recycling, substitution and resource efficiency; and
- 2) over the next two decades, jointly advance the efforts on respecting planetary boundaries through more systemic interventions, and also considering ways of reducing and more equally distributing the consumption of primary raw materials.



6. References

- Dittrich, M., et al., (2012): *Green economies around the world? Implications of resource use for development and the environment*. Vienna. 2012.
- European Environment Agency, (2010). *The European environment - state and outlook 2010: Synthesis*.
- [Eurostat \(2012\). Update of Analysis of DMC Accounts: Environmental Data Centers on Natural Resources and Products. 2012, p. 27.](#)
- European Commission, (2008). *The raw materials initiative — meeting our critical needs for growth and jobs in Europe*. COM(2008) 699 final
- European Commission. (2012a). *Living well, within the limits of our planet - Proposal for a general Union Environment Action Programme*. COM(2012) 710 final
- European Commission. (2012b). *Making Raw Materials available for Europe's Future Wellbeing. Proposal for a European Innovation Partnership on Raw Materials*. COM(2012) 82 final.
- European Commission. (2013). *A decent live for all: Ending poverty and giving the world a sustainable future*. COM(2013) 92 final
- [Intergovernmental Forum on Mining, Minerals, Metals and Sustainable Development. \(2010\). Mining and Sustainable Development managing one to advance the other – A Mining Policy Framework.](#)
- Pellegrini, M. (2013). How innovation can deliver solutions for raw materials and the EU's needs: Objectives of the European Innovation Partnership on raw materials. Presentation to the COBALT opening conference, 28/29 November 2013, Brussels. Available from <http://www.cobalt-fp7.eu/conference>
- Rockström, J. et al. (2009). *Planetary Boundaries: Exploring the Safe Operating Space for Humanity*. Ecology and Society 14 (2): 32.
- UNEP (2011) *Decoupling natural resource use and environmental impacts from economic growth*, A Report of the Working Group on Decoupling to the International Resource Panel.
- UN GA (General Assembly) (2012). Rio+20 Outcome Document. The Future We Want. New York: United Nations. Para.: 1, 44, 58c, 76h, 156, 189.
- UN (2012). Resilient People, Resilient Planet: A future worth choosing. United Nations Secretary-General's High-level Panel on Global Sustainability. New York: United Nations.
- UN High Level Panel on Global Sustainability (2010). Sustainable Development – From Brundtland to Rio 2012 – Background Paper. New York: United Nations.

Authors

This policy brief was written by Martin Hirschnitz-Garbers, Andreas Endl and Gerald Berger.

Acknowledgements

We are grateful for the contributions of several experts whose perspectives were incorporated into this policy brief via questionnaires and interviews.

The COBALT project has received funding from the European Union's Seventh Framework Programme for research, technological development and demonstration under grant agreement no 603509

