



# POLICY BRIEF

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## Towards sustainable mineral production - the role of industry and civil society

### Summary

- *Sustainable mineral production*
- *The 2nd Regional Civil Society - Industry Dialogue and the stakeholder perspective on sustainable mineral production*
- *Conclusion*

### 1. Sustainable management of raw materials and sustainable mineral production

The European Commission has acknowledged the importance of raw materials supply for our economy and society and has already taken a number of initiatives aimed at tackling the challenges in raw materials supply and commodity markets.

[The Raw Materials Initiative](#) and the [European Innovation Partnership \(EIP\) on Raw Materials](#) aim to contribute to sustainable management of raw materials across the value chain (exploration, extraction, processing recycling and substitution) through innovation, co-operation and exchange of best practices between stakeholders. In 2013, the High Level Steering Group of the EIP adopted the [Strategic Implementation Plan \(SIP\)](#) which sets objectives as well as priority action areas targeting specific stakeholders in the value chain. Some key areas targeted by the SIP address challenges and opportunities around primary raw

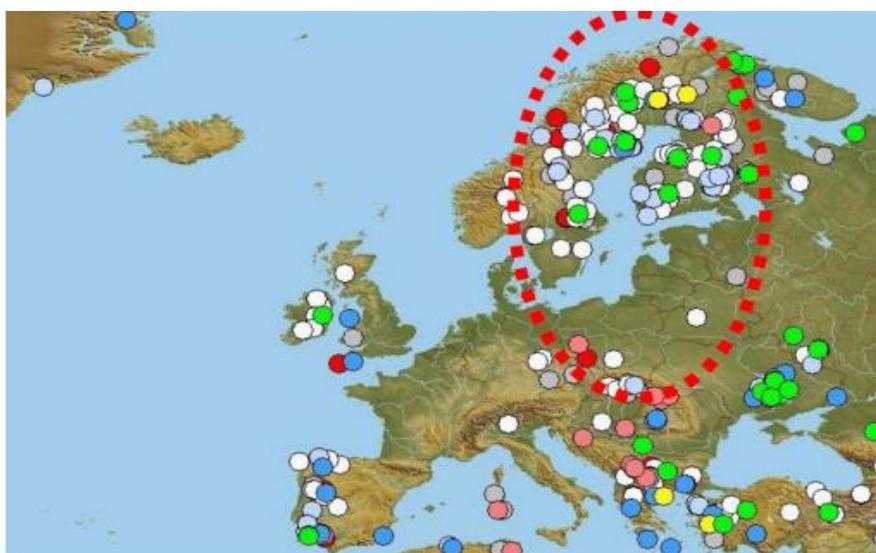
Mineral production within the sustainable management of raw materials



materials production, such as: access to mineral potential in the EU, minerals policy framework, innovative extraction of raw materials etc.

**There is a need to secure an increased raw materials supply in Europe**

Access to mineral deposits in the EU is one of the key priority areas of the SIP. In the context of growing raw material demand and required self-sufficiency within the EU, new deposits of raw materials have to be found on shore and off shore. Thus, it is crucial to secure an increased raw materials supply from European sources. In Europe, most of the explorations of new deposits take place in Finland, Sweden and Poland and to a lesser extent in Ireland, Portugal, Spain and Eastern Europe. These countries also register the highest number of mining activities in Europe as illustrated in the map below:



**Figure 1: Existing and planned mining projects in Europe (M. Ericsson, Raw Materials Group, 2012)**

**The North Sea Region offers an attractive exploration potential of minerals and metals**

The North Sea Region offers indeed an attractive exploration potential especially of iron ore, base metals, gold, nickel, molybdenum, platinum-group metals and diamonds, as well as a range of industrial minerals for use in fertilizer production, construction and specialist applications. The Nordic contribution to the global mined production soared in the past two years, with Sweden, Finland and Norway all registering higher world rankings. In that sense, ore production is expected to nearly double during the coming 10 years (Raw Materials Group, 2012).

However mineral production faces challenges from various perspectives: environmental, social and economic involving thus various key stakeholders, from



industry to public authorities, academia and civil society<sup>1</sup>. Finding a balance between the three considerations is one of the main challenges in sustainability.<sup>2</sup>

## 2. The 2nd Regional Civil Society - Industry Dialogue and the stakeholder perspective on sustainable mineral production

The 2<sup>nd</sup> Regional Civil Society-Industry Dialogue, which took place on 8 October 2014, brought together a group of high-level participants for a discussion on the topic of sustainable mineral production. The group considered the roles of various key actors – and, in particular, industry and civil society – in driving sustainable mineral production, and evaluated the potential for inter-stakeholder collaboration on this topic.

The presentations and discussions which took place during this Dialogue pointed to certain key or wicked issues.

### Wicked issue 1: the sustainability challenges of the mining sector

*Sustainability in the mining sector needs to take into consideration three dimensions: the social, environmental and economic. In general, one of the main challenges for sustainable development in this sector is to find the appropriate balance between these three dimensions.*

*For example, social challenges could arise when the mining company does not assume responsibility for safety standards or does not support development of the local community. Nowadays, mining companies undertake more efforts to interact with civil society, for example, via public information sessions.*

*A mining project could also be challenged by environmental concerns such as the impact on land, air, water, biodiversity etc. Environmental impacts need to be assessed prior to the start of the mining project in order to minimize these through all the stages of the mine's life cycle. Premature mine closure can also represent an economic challenge as the mining of the remaining mineral is normally not profitable.*

### Wicked issue 2: the role of new methods in improving stakeholder collaboration

*Nowadays society mainly has a negative perception of the mineral extractive industries fostered by the media showing events such as accidents, trapped miners, bad working conditions etc. This image can only be improved through*

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<sup>1</sup> UNEP (2000), Mining and sustainable development II Challenges and perspectives, Industry and Environment Volume 23 Special Issue 2000

<sup>2</sup> Anders Sand (2014), Sustainability in Minerals and Metals Production, presentation at the "2nd Regional Civil Society - Industry Dialogue and the stakeholder perspective on sustainable mineral production", Copenhagen, 8 October, 2014



*dialogue and increased interaction between the two parties. A concrete example of tools facilitating collaboration between the mineral extractive industry and society are Earth Observation (EO) based methods. These scientific tools contribute to reducing the environmental and societal footprints of all phases of a mining project while fostering a dialogue between industrialists, regulatory bodies and society.*

*For example, EO methods involve society in developing meaningful indicators to be related to quantities measured by EO tools in order to ensure that stakeholders' expectations are taken into account and that the mining operation is feasible. Furthermore stakeholder interaction is facilitated by the easy-to-use and understand EO information output (such as posters, 3D presentations etc.), which create a common language and base for communication between the different actors in the mining sector.*

### **Wicked issue 3: key factors enabling a successful network of sustainable mining**

*In order to promote the development of more responsible and sustainable mining practices, a continuous dialogue and co-operation between the different stakeholders is necessary. A national platform of exchange could facilitate this co-operation as shown by the Finnish Network of Sustainable Mining developed and supported by SITRA. Some key factors enabling a successful network should include: compliance with the law, transparent information on mining activities, systematic and comprehensive structural risk management, settling any conflicts of interest in advance, ensuring the well-being of employees and promoting employment, taking into account the operational needs of other economic activities (such as land use conflicts) etc.*

*If attention is paid to the needs of stakeholder groups, fewer conflicts arise. Therefore, key stakeholders from the mining industry should be involved in the platform: mining companies, local residents, workers' organisations, NGOs, environmental protection organisations. Actors not directly involved in extractive sector activities and related impacts such as public authorities, researchers, technology suppliers provide information and knowledge if necessary. Taking into consideration national framework conditions (e.g. structural composition of the extractive industry, heritage of past conflicts, relations with civil society stakeholders etc.) this best practice example has the potential of being implemented as a blue-print in other EU Members states contexts.*

## **3. Conclusion**

The 2<sup>nd</sup> Regional Dialogue reinforced the idea that sustainable mineral production can only be achieved if the **three sustainable development dimensions are taken into account: social, environmental and economic**. At the same time, the event shed light on the fact that it is very difficult to balance these three dimensions and that an **open, transparent and continuous dialogue** between the mining industry and its stakeholders is crucial. Various **methods such as EO tools are at the same time able to improve communication**, while **monitoring and reducing societal and environmental footprints**. Also, successful **national**

**Inter-stakeholder exchange and collaboration can help drive a more sustainable mineral production**



**networks of sustainable mining** (i.e. Finnish Network of Sustainable Mining) which could serve as best practices already exist. This type of stakeholder networks could, for example, be replicated in other European countries. However, developing such a network and building trust between stakeholders necessitates both time and commitment.

As discussed above, **inter-stakeholder exchange and collaboration supports the transition towards more sustainable mineral production**. Each key stakeholder has a role to play in driving sustainability, and core competencies to bring to the table.

For instance, **industry** has an understanding of the economic, social and environmental context of mining and can promote new technologies and standards for sustainable management. As an example, stakeholders discussed about the possibility of reassessing the potential of mining waste as a secondary resource. This was illustrated by Tasman Metals, a Swedish mining company, developing nepheline<sup>3</sup> buttons from Norra Kärr “waste material” to be suitable for roof and floor tiles and sanitary ware.

**Stakeholders' role in driving sustainability in the mining sector**

**CSOs** can serve as the link to the local communities raising awareness of the social impacts of the mining project and creating momentum for dialogue with other actors. Stakeholders have pointed out that sustainable mining should not only minimise the impact on local communities but also maximise opportunities for participation of these communities through employment contracting and training.

Finally, **researchers** can generate and share technical and other knowledge, innovate within the sector and provide best available technologies. The European project EO-Miners has shown that research can play a great role in creating opportunities for collaboration amongst stakeholders via new technologies and tools assessing and, in particular, appropriately communicating environmental and social impacts of mining.

**Enabling factors of a successful collaboration**

Dialogue participants suggested that in order to enable successful collaboration the **creation of a multi-stakeholder network of sustainable mining** built on cooperation and trust is crucial. As the Finnish Network of Sustainable Mining case study has shown, it is essential to create a voluntary stakeholder network of

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<sup>3</sup> Nepheline, also called nephelinite, is a mineral which is found in volcanic rocks with low silica, and in their associated pegmatites.



sustainable mining in order to encourage **open and balanced dialogue** and **promote more responsible practices** for mines. It has been pointed out by stakeholders that it is important to create this network as a **participative process** in order to ensure clear understanding of different actors' goals and visions and a balance of their different interests. **Transparent information** on mining activities as well as promotion of responsible mining – i.e. ecologically, socially and economically sustainable – should be **key principles** to which stakeholders commit.

#### Authors

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