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Synthesis Report on Key Recommendations

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Executive Summary

The project Towards a World Forum on Raw Materials (FORAM) has developed and set up a broad stakeholder network that has been advancing the idea of a World Forum on Raw Materials. Project activities included (i) a methodological approach to map existing initiatives to understand the existing landscape of stakeholders, their interest and agenda, (ii) engaging and organizing them in a participatory and structured multi-stakeholder dialogue, (iii) developing a strategic position with purpose and vision, and (iv) testing a future World Forum on Raw Materials in a pilot event. This report is analyzing the essential outcome of all these activities to draw conclusions in the two areas of how to improve international cooperation and raw material governance by pointing towards key findings and successful methods and processes.

Improve international cooperation and knowledge exchange

The FORAM dialogue indicates that stakeholders believe, that the main barriers to international cooperation are mismatch priorities, communication barriers, the absence of clear objectives and the lack of knowledge and data harmonization, among others. This document presents six key recommendations that address these issues to improve international cooperation and knowledge exchange:

- Recommendation 1: A structured approach to identify and group existing initiatives, data availability and related stakeholders linked to raw materials, is a prerequisite to enter into stakeholder dialogues.
- Recommendation 2: International cooperation requires a participative and structured discussion.
- Recommendation 3: Dialogue should be guided by a common understanding of its purpose and the general aim.
- Recommendation 4: Dialogue needs to include stakeholders along the entire value chain of raw materials (primary and secondary) of all types (industry, government, IGO, NGO, civil society, academia) and all world regions.
- Recommendation 5: To cover the most pressing needs and to discover innovation opportunities in the raw materials sector discussion topics needs to reflect the entire value chain.
- Recommendation 6: Creating accurate data and making it accessible in a structured and user-friendly way is a crucial support for international cooperation and knowledge exchange.

Improve raw materials governance at global level

FORAM also generated more general conclusions related to improved raw materials governance as a side product of the main project’s objective. Recommendations are related to basically three areas:

- Enforcement of appropriate policies: Having a variety of good policies in place, the real challenge of politicians is not making the policy but enforcing it. Promoting, facilitating and monitoring transparency within the entire value chain of the raw materials has been seen as a key area for enforcement activities.
- Improving financial frameworks: that should allow for transparency in the global pricing of raw materials and help achieve a “closed loop recycling” and circular economy.
- More pro-active strategies towards better governance at corporate level: Successful examples for better governance, such as the Extractive Industries Transparency Initiative (among others), should be taken as a best practice example. In addition, it is recommended to integrate Sustainable Development Goals in the mining sector.
1 Introduction

The project Towards a World Forum on Raw Materials (FORAM) has developed and set up an EU based platform of international experts and stakeholders that has been advancing the idea of a World Forum on Raw Materials and strengthening international cooperation among G20 Member countries as well as other third countries active in the extraction, processing and recycling of mineral raw materials.

The project thus plays a key role in fostering international cooperation on raw materials, supporting the implementation of the Raw Materials Initiative and the Strategic Implementation Plan of the European Innovation Partnership on Raw Materials, in particular in terms of “establishing and maintaining strong and sustainable relationships with relevant international organisations and countries”, as described in the project’s Grant Agreement.

The project is comprised of a consortium of twelve international organizations with expertise in setting and fostering international dialogues in the field of non-energy abiotic raw materials. Together with its Advisory Board and the established platform of international experts and stakeholders (FORAM Stakeholder Network) the project to date has reached out to and got inputs from more than 200 decision-makers and thought leaders in the sector worldwide.

The FORAM project has been structured into 4 content related work packages, each of them contributing to the key recommendations on how to structurally improve international cooperation and for improved raw materials governance at global level.

Inception & Baseline: Understanding of the existing landscape

The Inception & Baseline work package developed a global mapping of existing initiatives along the life cycle of non-energy and abiotic raw materials. Results provide a sound basis for structuring and organizing a dialogue of the platform of international experts and stakeholders. This includes (i) definitions for a common language about raw materials at the different processing steps, (ii) a set of criteria for the mapping of initiatives, data availability and stakeholders linked to raw materials, (iii) a methodology including indicators and metrics for the assessment of the initiatives, and (iv) the assessment and mapping of international initiatives, stakeholders and available data.

This work package generated experience and a framework addressing the fundamental requirements for successfully strengthening international cooperation on raw materials and improve raw materials governance at global level.

Structure & Dialogue: Engaging and organizing the stakeholders

Based on the Inception & Baseline results, the work package Structure & Dialogue initiated the stakeholder dialogue by (i) setting up the stakeholder platform, (ii) structure and cluster stakeholder to converge interested and scopes, and (iii) establish an effective interactive dialogue.
This work package provided the project with a structured platform for the stakeholder dialogue and generated experience about how international cooperation in general can be structurally improved. Furthermore, the dialogue provided the project with some raw materials policy recommendations, given by the stakeholder platform.

**Strategic Planning: Understanding the policy context and a common vision and purpose**

The *Strategic Planning* work package analysed the current global context of raw material policy and by using the stakeholder process developed a common understanding of the vision and the strategic positioning of a future World Forum on Raw Materials (FORAM). As such this work package also provided valuable information about the strategic requirements for international cooperation and improvements for raw materials governance.

**Pilot Event: Test case on how international cooperation can be implemented effectively**

The key task of the *Pilot Event* work package was to test how results and recommendations from the project should be transformed effectively. The pilot was building upon the result and experiences of structuring and clustering the Stakeholder Network and the effective dialogue approach established throughout the project.

This report provides two kinds of recommendations:

1. A set of key recommendations on how to structurally improve international cooperation and knowledge exchange. Recommendations point towards key partners (type of stakeholders to involve), required process and focus topics.

2. An overview of policy recommendations for improved raw materials governance at global level. Such recommendations will be aligned with gained insights from all work packages that may go beyond the direct scope of the project (data collection, communication and networking) but need to be addressed.
2 Improve international cooperation and knowledge exchange

FORAM generated threefold experiences and insights which allows to draw recommendations on how structurally improve international cooperation and knowledge exchange. This includes (i) the analysis of the current stakeholder landscape (WP1 Inception & Baseline), (ii) the more strategic analysis of the desired objectives and direction of international cooperation (WP 3 Strategic Planning), and (iii) engaging the stakeholders in a dialogue (WP2 Structure & Dialogue, WP4 Pilot event).

The FORAM dialogue indicates that stakeholders believe, that the main barriers to international cooperation are mismatch priorities (of countries and stakeholders), challenge of data harmonization and ownership, fiscal regulatory uncertainties or inverse fiscal desires, lack of clear objectives, communication barriers and lack of knowledge. In addition, it became clear that the number of stakeholders and initiatives who should be engaged in international cooperation efforts is large and diverse. Engaging with the key groups of stakeholders will require substantive efforts and resources.

Recommendations to address these issues and to improve international cooperation and knowledge exchange are drawn in three areas, which are summarized in the following sub-chapters.

2.1 Required processes

**Recommendation 1:**
A structured approach to identify and group existing initiatives, data availability and related stakeholders linked to raw materials, is a prerequisite to enter into stakeholder dialogues.

The chosen approach of the FORAM to map existing initiatives, group those initiatives through a set of criteria and analysis and prioritize them through a methodology with indicators and metrics has laid a solid foundation for the expert and stakeholder network. Any future attempts to structurally improve international cooperation and knowledge exchange should include such a structured approach. This allows for being inclusive and to reduce the risk to forget any important stakeholders and initiative. In addition, a structured stakeholder analysis is crucial for balancing different interests in any future cooperation, hence allowing to develop a common understanding of the purpose and general aim of a cooperation.

FORAM has elaborated a comprehensive methodology for the baseline mapping, which should be considered and maintained for future cooperation activities. A comprehensive set of the main criteria for the mapping of initiatives, data availability and related stakeholders linked to raw materials and related topics have been developed through an expert review process and are available in Deliverable
1.1 “List of criteria for the mapping” of the FORAM project. Likewise, the method to prioritize them with indicators and metrics can be accessed in Deliverable 1.2 “Indicators and metrics for the mapping”.

As a result of the prioritization effort it is recommended that key information to understand the current stakeholder landscape should include the organizational structure of an initiative (is it a project, an organization or a panel, etc.), the type of stakeholder involved (government, academia, IPO, etc.) objectives and strategies (security of supply, resources efficiency, increasing overall sustainability, etc.), and the type of raw materials, which is addressed.

Recommendations 2:
International cooperation requires a participative and structured discussion.

It was a common understanding in FORAM that improving international cooperation requires a participative and structured discussion involving the different stakeholders.

Based on the baseline mapping of existing initiatives and individual stakeholders and by tapping into the broad stakeholder network of the consortium members, linked third parties and advisory board, FORAM has reached out to approx. 1000 individual stakeholders, whereas around 200 individuals committed to engage actively in the FORAM stakeholder network. Building up such a network is a continuing process and will remain a constant task for international cooperation. For future activities it is suggested to rely on the approach as developed and tested out in FORAM to ensure a structured discussion, consisting of:

- **Clustering the stakeholders by understanding the stakeholder’s key topics and needs through e.g. online questionnaires or interviews**: The questionnaires for stakeholders asked details about their profile (country/region, sector, value chain, position in the institution), the stakeholders’ opinions about current most pressing needs in the raw material sector, and their willingness and ability to actively engage in future international cooperation and knowledge exchange. Results of this process should be reviewed and consolidated by a core expert group, which in the case of FORAM consisted of the consortium and the advisory board. Ultimately this has led to the formation of **stakeholder target groups**.

  a) Innovation, Security of Supply and Growth
  b) Resource Efficiency, Environmental and Social Aspects
  c) Policies, Legal and Financial Frameworks
  d) International Cooperation and Outreach

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e) Research, Capacity Building and Education

- **Initiate dialogue for the stakeholder target groups in e.g. online conferences or webinars.** In the FORAM process the stakeholders were invited to share experiences about their needs, threats, priorities and preferences with the aim to initiate exchanges and interactions that facilitate better discussions around governance and sustainable access to raw materials and for better coordination of relevant raw material initiatives and actions. Concentrating on target groups in the first step of the dialogue had the advantage that stakeholders could concentrate on their most pressing needs and as such were more willing to engage actively in discussions.

- **Open up the dialogue in a physical event.** Based on the outcome of the online conferences, FORAM organized a pilot event, which allowed the stakeholders to meet each other physically and network, discuss pressing issues across all target groups in open plenaries and deepen focus key topics in workshops. Key topics for the workshops were (i) Knowledge Management, (ii) Policies and Strategies, and (iii) International Cooperation - Mineral Raw Materials Sourcing: from Competition to Cooperation. The chosen key topics were deducted as a direct result from the preceding target group online conferences.

**Recommendation 3:**
Dialogue should be guided by a common understanding of its purpose and the general aim.

International dialogue and knowledge exchange should be guided by a common understanding of the purpose and its general aims. This may sound obvious, however crucial is the participative processes to build consensus and ownership among the different stakeholders. As a key building block guiding the dialogue in the FORAM project, the consortium agreed that the organizational purpose of FORAM should be:

- to enhance international cooperation between all key-stakeholders on raw materials policies and governance.

Likewise, the project also advanced the vision, that FORAM:

- will become an authoritative, independent and neutral organisation that supports cooperative actions to safeguard a sustainable use, as well as a fair and reliable global supply of mineral resources.

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It has to be noted that the purpose and vision was developed with the general aim of the project to advance the idea of a World Forum on Raw Materials and as such will be different for future dialogues, depending on its key focus.

2.2 Key partners

**Recommendation 4:**
Dialogue needs to include stakeholders along the entire value chain of raw materials (primary and secondary) of all types (industry, government, IGO, NGO, civil society, academia) and all world regions.

As a starting point and for the FORAM project itself, the most obvious key partners were identified as coming from international / intergovernmental organisations, and forums or organisations who have similarities to FORAM in promoting international dialogues and cooperation. A list of such organisation can be accessed in FORAM deliverable 3.3 “Strategic position”. However, improving international cooperation and knowledge exchange requires various stakeholders along the entire value chain of raw materials (primary and secondary), which allows working towards converging interests from supply security to resource conservation. Furthermore, any international dialogue should include all types of stakeholders (industry, government, IGO, NGO, civil society, academia) due to the same reason.

In addition, all world regions should be covered with special focus on resource rich countries in Asia, Africa and South America, though resource poor countries should be included as well. The mapping of initiatives revealed that most initiatives have a ‘global’ focus followed by those with a focus on Europe. Around 10% of the initiatives have a national focus, and very few have a regional focus. During the mapping, no initiatives were identified that solely focus on Asia or South America. This is probably the reason why stakeholder who were willing to engage in the FORAM network predominantly were represented by Europeans and to some extend by North America, while resource rich countries from Asia, Africa and South America were underrepresented.

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It is recommended to extend this network with additional key stakeholders from especially resource rich countries from Asia, Africa and South America. At the absence of existing initiatives or networks in those regions, this will require substantial effort in order to get access to individual stakeholders from different sectors.

The FORAM stakeholder network already has relevant coverage related to the entire raw material value chain, with predominance in exploration, mining and processing of primary raw materials. Other sections of the value chain should be in focus when extending the network. Furthermore, the FORAM Stakeholders Network represents a heterogenous group of stakeholders covering various sectors, but mainly in research and industry. Especially for resource rich countries, such as China, additional representation from government entities is required.

A list of stakeholders, who were willing to engage in the FORAM stakeholder network can be accessed in the appendix of FORAM deliverable 2.1 “Composition and structure of the stakeholder network and the advisory board”\(^9\).

### 2.3 Focus topics

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<th>Recommendation 5:</th>
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<td>To cover the most pressing needs and to discover innovation opportunities in the raw materials sector discussion topics needs to reflect the entire value chain.</td>
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The FORAM dialogue process as discussed in Chapter 2.1 (mainly related to recommendation 2) has created different angles of the focus topics, all of them pointing to the need to reflect the entire value chain. FORAM believes that these topics are generic enough to cover the most pressing issues in the short and mid-term for an international dialogue. It is suggested to re-evaluate these topics on a regular basis by going through the proposed process to review the most pressing issues among the stakeholders, discuss them in target groups and group the key topics for discussion in a larger physical event. Especially the last consolidation step to define key topics will change on a regular basis, depending on the international political situation and the strategic demands. Different physical events might oscillate between different topics and not always concentrate on the same ones. The FORAM process and key topics are summarized in Figure 1.

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This project has received funding from the European Union’s Horizon 2020 research and innovation programme under Grant Agreement No 730127.
Recommendation 6:
Creating accurate data and making it accessible in a structured and user-friendly way is a crucial support for international cooperation and knowledge exchange.

Data availability or the landscape of existing databases for raw materials should be included in any stakeholder landscape analysis. FORAM stakeholders clearly indicated their willingness to share their data and knowledge for that purpose. In fact, there was a consensus among the participants that “Data” is a solution towards increasing international cooperation. Creating accurate data, improving unified data presentation systems, sharing the data and standard reporting are the first steps to take. The FORAM analysis has also shown that despite various raw materials data systems are available, there is still the need for harmonization between them. It was recommended that the European Union can set up an institute to take the responsibility of addressing all these issues.

The assessment of the recorded databases showed a distinct focus on primary raw materials. Against this, information on secondary raw materials are less provided. While reporting on primary raw materials has a long history, secondary raw materials are very heterogeneous in their content and in their origin and received more attention only recently. Common standards on data reporting regarding urban stocks (landfills, mining/metallurgical heaps, cities, urban mining) or secondary raw materials (specifications, origin) are required.
Related to this, the topic re-use is under-represented in the identifies databases. Based on this assessment it is not possible to state that re-use does not happen or that activities on re-use are not reported. Similarly, LCA databases shows that the life-cycle-wide use of primary raw material and the related environmental and social impacts are almost disregarded. It seems therefore worthwhile to add material input indicators like Raw Material Input (RMI) and Total Material Requirement (TMR) to address explicitly material resource use in the LCA framework to determine the environmental impacts by the resources taken from nature including unused extraction.
3 Improve raw materials governance at global level

Besides addressing the key challenge on how to improve international cooperation, FORAM also generated more general conclusions related to improved raw materials governance as a side product of the main project’s objective. Conclusion were drawn from two areas and tasks, namely from (i) engaging the stakeholders in a dialogue (WP2 Structure & Dialogue, WP4 Pilot event) and (ii) the policy context report\textsuperscript{10} (WP 3 Strategic Planning). An overview of the status of mineral policies and strategies worldwide is given in Figure 2.

Conclusions and recommendations can be summarized as follows:

• In most areas of Europe policies are available, but there is a need for appropriate regulatory and financial frameworks to implement them. Stakeholders concluded that the real challenge of politicians is not making the policy but enforcing it. Developing public awareness, acceptance and trust, capacity building of state administration, effective taxation and environmental funds were among the recommendations given to enforce policies. It was stressed that promoting, facilitating and monitoring transparency within the entire value chain of the raw materials is a necessity for the policy makers to consider.

• The Sustainable Development Goals of the United Nations should be integrated in mining sector to address and support the implementation of such challenges and overcome a negative reputation of the sector. It has been directly advocated by the minerals industry, that mining can make a strong contribution to achieve the Sustainable Development Goals.

• Stronger cooperation among nations is pivotal to achieve such goals and overcome some key challenges, which were identified as follows:
  
  o The global metals and industrial minerals markets remain characterized by complex and non-transparent global value chains which render the monitoring of global mineral flows daunting.
  
  o While developing countries (especially in Africa, Asia and Latin America) still struggle with poverty, hunger, inequality, malnutrition and other social problems, weak governance, corruption, illegal mining and trade of ‘conflict minerals’, developed countries need to tackle trade distortions, protectionism and risk of minerals supply (of importance for ‘critical raw materials’) and increasing strictness of environmental regulations.
  
  o Transversal issues to all nations are threats posed by volatilities in commodities prices, insufficient access to finance, climate change and the loss of biodiversity, a

widespread social opposition to mining projects, difficulties in access to land, water and energy supply as well as declining ore grades and productivity and an ageing mining workforce.

- The last decades have shown successful examples of cooperation in advancing towards greater transparency in the management of revenues with the Extractive Industries Transparency Initiative (EITI), now implemented in 52 countries, many of them mineral-rich and with weak governance problems (e.g. Democratic Republic of Congo). This initiative also inspired others which have been instrumental in improving governance in source and processing countries (e.g. EU Transparency and Accounting Directives, Canada’s Extractive Sector Transparency Measures Act) and should be taken as a best practice example for further governance improvement.

- Stakeholders also identified a further need to implement responsible sourcing in all sectors of the value chain and to incentivize the companies to practice or maintain these values. Various good examples of responsible sourcing initiatives (e.g. OECD Due Diligence Guidance, Kimberley process) and networks (e.g. Responsible Sourcing Network) were established which have helped avoiding conflict minerals from entering into value chains. Africa has become (and is expected to remain) the centre of such initiatives.

- Other governance challenges are still unsolved such as the need to enhance transparency in the global pricing of raw materials, mechanisms to deal with new potential severe trade distortions of strategic or critical minerals, mechanisms to reduce pressures by the mining sector in high biodiversity areas, the management of the artisanal and small-scale mining sector and human rights violations related to mining operations. Another key issue remains the role of industrialised nations in the industrialisation plans of developing countries (e.g. African Mining Vision). These topics should receive special focus in any future governance discussions.

- Stakeholders also recommended that legislations and financial frameworks should help achieve a “closed loop recycling” and circular economy. Policies and strategies to increase resource efficiency in the production and consumption systems are now gaining a place among the top priorities of industrialised nations (e.g. via the G7 Alliance on Resource Efficiency, the EU’s Circular Economy Action Plan, Japan’s Sound-material cycle society policy) while developing countries, which still have to build their stocks of metals, are not treating it as a priority (with some exceptions such as China’s Circular Economy Development Strategy). Globally, recycling nowadays has a modest place in the supply of minerals to the national economies.
This project has received funding from the European Union’s Horizon 2020 research and innovation programme under Grant Agreement No 730127
4 Conclusion & Outlook

The FORAM project has demonstrated that an effective approach towards improved international cooperation on raw materials is participative and uses a structured stakeholder dialogue. The dialogue needs to cover the entire value chain of raw materials.

Based on this findings FORAM has presented a Roadmap for the establishment of a World Forum on Raw Materials\textsuperscript{11}, which recommends using the FORAM partners, the FORAM network (Advisory Board and Stakeholder Network) and project results and materials for deepening and broadening the work in progress, mainly focusing on:

- evolving FORAM for discussing global rules under standard protocols,
- discussing the level playing field outside UN events and negotiation process (informal expert-based discussions), and
- holding data and knowledge together while leaving ownership to others.

It is anticipated that to initiate short term activities of the roadmap, a small group of most interested parties will work together in joint-activities, such as co-organizing events and developing joint policy statements. Initial steps will define how FORAM will progress in the medium to long term, which may include becoming an established platform with its own regular global and regional forums.

\textsuperscript{11} FORAM Deliverable 4.1 “Roadmap for the establishment of a World Forum on Raw Materials”