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BRIDGING DIVIDES: BUILDING MULTI-STAKEHOLDER DIALOGUE ON EUROPE'S TRANSITION MATERIALS CHALLENGES

SYNTHESIS STUDY REPORT

APRIL 2024

Image credit: Michal Balada/shutterstock

SYNTHESIS STUDY OVERVIEW

PURPOSE

- Analyse the current challenges around the responsible scaling of supply of transition materials in Europe
- Map positions of key stakeholders across the value chain of transition materials from industry, civil society, policy making and academia
- Identify entry points for trust building between stakeholders on transition materials

METHODOLOGY

- Synthesis of published research and position statements from key stakeholders on the challenges around transition materials supply in Europe
- Synthesis of expert interviews with key stakeholders

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ACKNOWLEDGEMENTS

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We would like to thank the numerous interviewees across policy, industry, civil society and academia that have shared their insights with us

Date: November 2023 – February 2024

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SUMMARY (1/3) – SUPPLYING THE GROWING MATERIAL DEMAND FOR THE TRANSITION TO SUSTAINABLE ENERGY AND MOBILITY SYSTEMS IS A BIG CHALLENGE FOR EUROPE

1	**The European energy and mobility transition will require reliable and sufficient supply of key materials, e.g. lithium, cobalt, copper, nickel, the so-called "transition materials" or "critical raw materials". Ensuring this reliable supply will be a complex challenge for industry, policy makers and civil society over the next decades.** It will require European actors to strengthen trading relationships with resource-holding countries, grounded in local benefits, responsible mining practices and enduring socio-economic development in the resource-holding countries. It also requires a responsible scale-up of mineral extraction and refining alongside material recycling and demand-reduction efforts within Europe. This scale-up will be a challenging and highly sensitive topic for communities, civil society organisations and governments concerned about the environmental and social impacts of mining or refining operations
2	**This synthesis study written by Systemiq with support from the Open Society Foundations (OSF) draws on synthesis of published reports and position statements from industry, civil society and academia, as well as 15 one-to-one interviews with key protagonists from across this spectrum.** It aims to provide a synthesis of the key challenges and priority issues raised by these stakeholders. Additionally, the synthesis study identifies entry points for multi-stakeholder dialogue towards a resilient, just and environmentally responsible supply of transition materials for Europe in the decades to come
3	**The overall topic is strongly related to areas of the OSF mission to contribute to stable and just democracies globally.** Recent research has highlighted Europe's dependency on transition materials from outside Europe, in particular from autocratic regimes or unstable countries, with for example ~90 per cent of cobalt and ~85 per cent of copper mining extraction occurring in non-EU countries. Material demand from Europe will affect political systems, communities and the environment in resource holding countries. And the expected demand growth will increase this impact even further, for example a projected 2030 demand for battery-grade lithium in Europe that is 6 times higher than 2022 (additional supply equivalent to eight new lithium mines by 2030)
4	**The Critical Raw Materials Act (CRMA) introduces ambitious goals and accelerates targeted projects across the EU for domestic sourcing, refining and recycling within the EU as well building overseas trading relationships to support supply security.** The CRMA is strongly motivated by the conviction of European political leaders that supply security is central to the political stability of a democratic Europe and continued economic prosperity in a net-zero carbon emissions economy

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SUMMARY (2/3) – A LACK OF TRUST BETWEEN INDUSTRY, CIVIL SOCIETY AND COMMUNITIES COULD AFFECT THE RELIABILITY OF TRANSITION MATERIAL SUPPLY FOR EUROPE

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Three challenges around the responsible supply of transition materials are highlighted:

- Community opposition to new mining or material processing / manufacturing projects, which can slow or halt project developments
- Disagreement between stakeholders on future projected demand for transition material, likely supply contributions from recycling, and the contribution of demand-side reduction efforts such as material substitution and system-wide optimisation. Without greater alignment on the scale of transition material supply that is required in the next years, alignment on action steps is challenging
- Restricted access to European financing for new transition material mining and processing projects, even for those that meet the highest standards for environmental and social impacts

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The connecting thread between these major challenges is a breakdown in trust between industry, policy makers, civil society and communities. Trust that the findings from demand and supply models are reliable and unbiased. Trust that the mining and metals industry will learn from its legacy of failures and protect nature and communities in the places where it operates, and seriously engage with opportunities for recycling and demand-side reduction. Trust that standards for financing of responsible projects will be rigorous. As acknowledged recently by the International Council for Mining and Metals, trust is the most valuable commodity for the global mining and metals industry, and is currently at an "all-time low"[1]

7

Stakeholders find themselves in highly polarized debates and, after decades of deepening distrust between civil society and mining industry in particular, compromise on key points is hard to find.

8

Research and successful examples of multi-stakeholder trust building efforts highlight that trust can be rebuilt through actions (delivering on promises), transparency and open communication, and through active content-driven multi-stakeholder dialogue. There was broad agreement amongst the interviewees and in publications, that the responsible scale-up of transition material supplies in Europe would benefit from greater dialogue between industry and civil society

[1]ICMM (2023), The most valuable commodity is trust — Keynote speech to BMO Global Metals, Mining & Critical Minerals Conference (link)

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SUMMARY (3/3) – PRIORITY TOPICS ARE IDENTIFIED WHERE MULTI-STAKEHOLDER DIALOGUE COULD LEAD TO IMPROVED OUTCOMES FOR SOCIETY AND THE ENVIRONMENT, AND START TO REBUILD TRUST

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Priority topics for content-driven multi-stakeholder dialogue were identified using criteria of importance to stakeholders, system-level impact and potential for meaningful alignment or collective problem solving. We hypothesise that these issues could provide entry points for dialogue, interpersonal and organisational trust building, and ultimately, a joint search for facts and solutions:

1. Financing of transition material mining, refining and recycling projects
2. Improved permitting processes
3. ESG standard-setting for mining, refining and recycling
4. Demand-side action to "flatten the curve" of demand growth for transition materials
5. Scale-up of transition material recycling
6. Global trading relationships with resource-holding counties
7. Deep-sea mining
8. Green premium for responsible mining, refining and recycling
9. Prioritising and scaling up new technologies for mining, refining and recycling with lower impacts

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This synthesis study identifies an appetite for increased multi-stakeholder dialogue on transition materials in Europe, and a "menu" of topics for dialogue. The next step would be to design such a dialogue process in consultation with all stakeholders. This dialogue process could start with trust building, leading potentially into more balanced recommendations for policy and industry alike that consider a wider range of needs. Additionally, we hope that such an exchange could provide a balance to current increasingly polarized debate and make it healthier and more democratic

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Supplying the growing material demand for the transition to sustainable energy and mobility systems in a responsible way is a big challenge for Europe

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CHAPTER 3

POTENTIAL PATHWAYS FORWARD

Priority topics are identified where multi-stakeholder dialogue could lead to improved outcomes for society and the environment, and contribute to rebuilding trust

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CHAPTER 1 – CURRENT SITUATION

INSIGHTS BASED ON RESEARCH AND INTERVIEWS

Pressure is growing to increase responsible mining, refining and recycling of transition materials in Europe, in face of multiple challenges.[1]

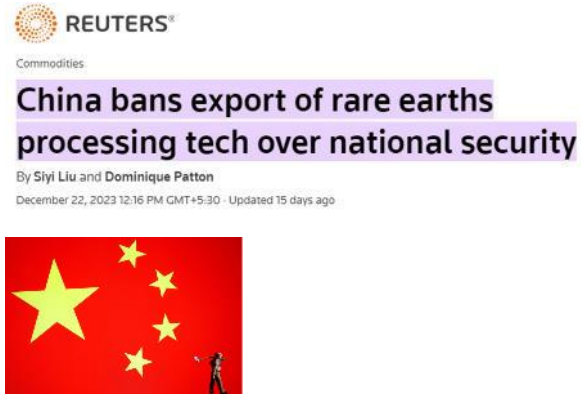
- **Resource security** for transition materials is on **top of the agenda of decision-makers** in policy, industry, civil society and academia.
- Currently, Europe is **highly dependent on non-European supply chains for transition material mining and refining.**
- **A variety of approaches will be needed to increase resource security** whilst also mitigating impacts on environment and people. Several robust studies consistently identify a small number of high-impact interventions to address these challenges.
- **New mining and refining is needed to close the supply gap without further increasing import dependency** in particular for battery materials.
- For the **projected demand for four key battery materials alone**, the EU **would require output from around 30 additional mines.**
- To meet domestic demand, Europe will have **to build equitable trade relationship with resource-holding countries.**
- The CRMA **introduces a goal of sourcing 40 per cent of refined material from the EU** to support supply security.

[1]Europe refers to the EU-27, plus UK and EFTA (Iceland, Liechtenstein, Norway and Switzerland). EU refers to the 27 Member States of the EU.

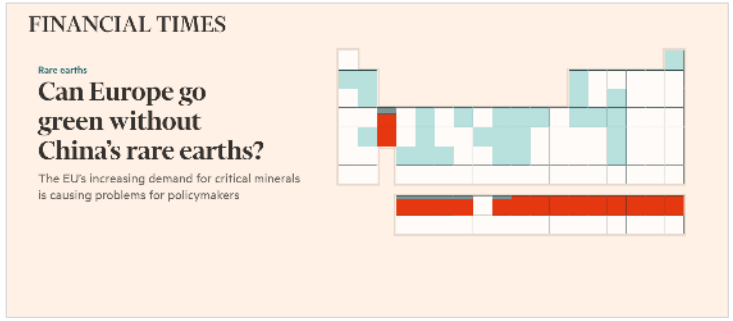
RESOURCE SECURITY FOR TRANSITION MATERIALS IS ON TOP OF THE AGENDA OF DECISION-MAKERS IN POLICY, INDUSTRY, CIVIL SOCIETY AND ACADEMIA

NEWS SNIPPETS[1]

16 March 2023



22 December 2023



20 September 2023

KEY TAKEAWAYS

- The **challenge of enabling a successful energy transition and building robust transition material supply chains has received significant attention** by decision-makers.
- The EU Commission has developed legislative **measures such as the Critical Raw Materials Act (CRMA)** which **aims to increase domestic supply of both primary and secondary transition material supply**.
- Both **upstream** and **downstream industry stakeholders** have **recognised the importance of transition materials and are increasingly getting active**.
- Finally, civil society aims to **ensure that transition materials are sourced in an environmentally and socially responsible way**.

Sources: [1]NYTimes (2023), The U.S. Can Counter China's Control of Minerals for the Energy Transition (link)
Financial Times (2023), Can Europe go green without China's rare earths? (link)
X (2023), Ursula von der Leyen (link)

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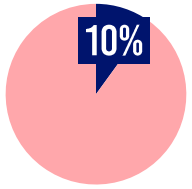
CURRENTLY, EUROPE IS HIGHLY DEPENDENT ON NON-EUROPEAN SUPPLY CHAINS FOR TRANSITION MATERIAL MINING AND REFINING…

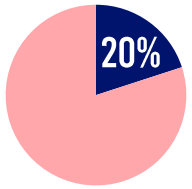
SHARE OF DOMESTIC EXTRACTION OR REFINERY FOR THE EU (WHICHEVER IS LOWER), IN [%] [1]

COBALT



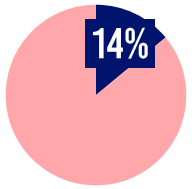
- EU supplies **10% of demand** from domestic mining.

NICKEL



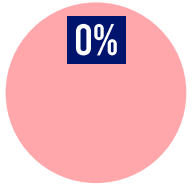
- EU supplies **20% of demand** from domestic mining.

COPPER



- EU supplies **14% of demand** from domestic mining.

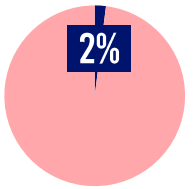
RARE EARTH ELEMENTS



- **No mining** and **minimal refining** in the EU.

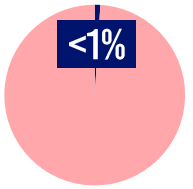
2020

PGM



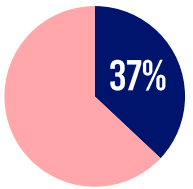
- EU only refines **2% of PGM demand**.

LITHIUM



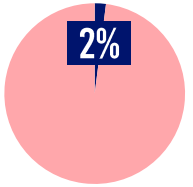
- **Minimal mining** and refining today in Portugal.

SILICON



- **EU** mines 70% but **only refines 37% of its domestic demand**.

GRAPHITE



- EU only **mines 2% of domestic demand**.

2020

[1]The figure gives the number for either the EU domestic supply of mined or refined material. The figure shows the number that is lower. Sources: US Geological Survey, KU Leuven, EU Commission: Critical Raw Materials Resilience (for Silicon, Graphite, PGM) in Systemiq (2022). Critical raw materials and Europe's energy transition

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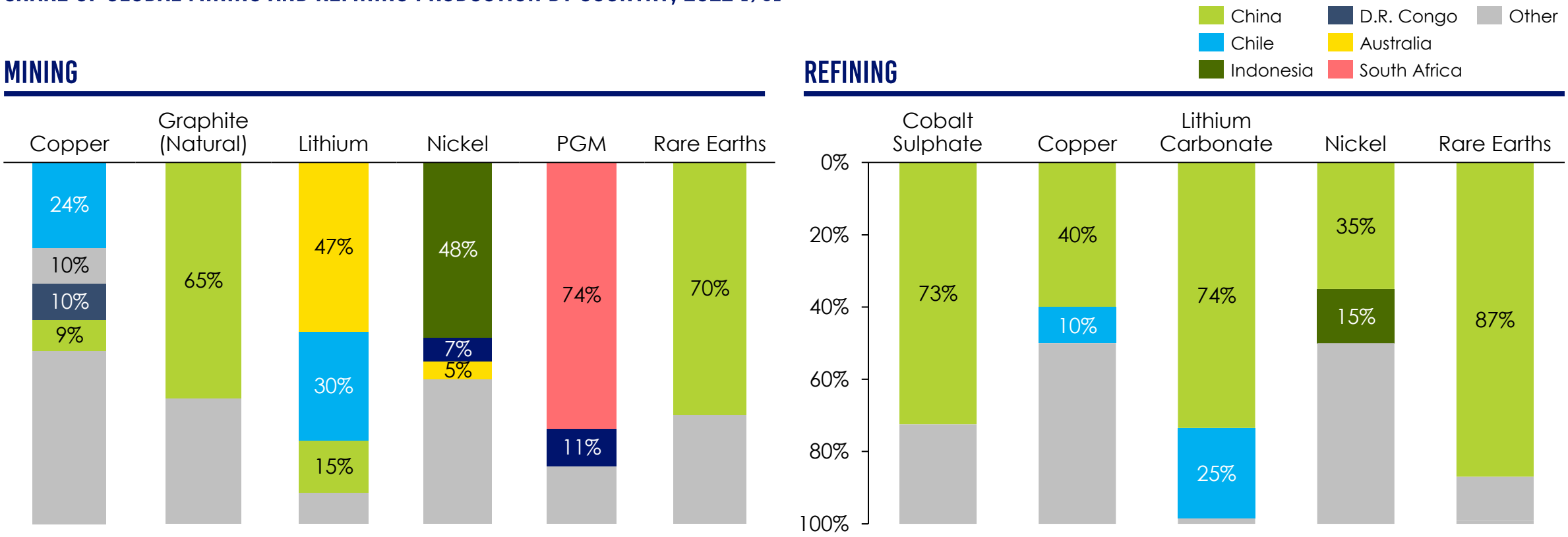
…AND TRANSITION MATERIAL SUPPLIES ARE HIGHLY GEOGRAPHICALLY CONCENTRATED GLOBALLY

SHARE OF GLOBAL MINING AND REFINING PRODUCTION BY COUNTRY, 2022 [%][1]



Sources: [1]US Geological Survey (2023), Mineral Commodity Summaries; IEA (2021), The role of critical minerals in clean energy transitions; BNEF (2022), Localising clean energy supply chains comes at a cost.
[2]Systemiq (2022). Critical raw materials and Europe's energy transition (link)

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KEY RESEARCH INSTITUTIONS AGREE THAT A VARIETY OF APPROACHES WILL BE NEEDED TO INCREASE RESOURCE SECURITY WHILST ALSO MITIGATING IMPACTS ON ENVIRONMENT AND PEOPLE

KEY RECOMMENDATIONS FOR ADDRESSING THE CHALLENGES AROUND TRANSITION MATERIAL SUPPLY

KU LEUVEN

- Fulfil **domestic mining potential**
- Maintain and increase **domestic refining output**
- Secure **sustainable imports from reliable partners**
- **Maximise recycling**, including new streams

ETC

- **Scale supply quickly**
- Minimise **environmental** and **social impacts**
- Navigate **concentration of supply**, **geopolitics** and **security of supply**
- Accelerate **technology**, **innovation** and **circularity**

IRP

- Mitigate the **underlying drivers of demand** for transition materials
- **Apply all circular economy levers** to transition materials and technologies that contain them
- Supply transition materials in accordance with the **highest environmental and social standards**

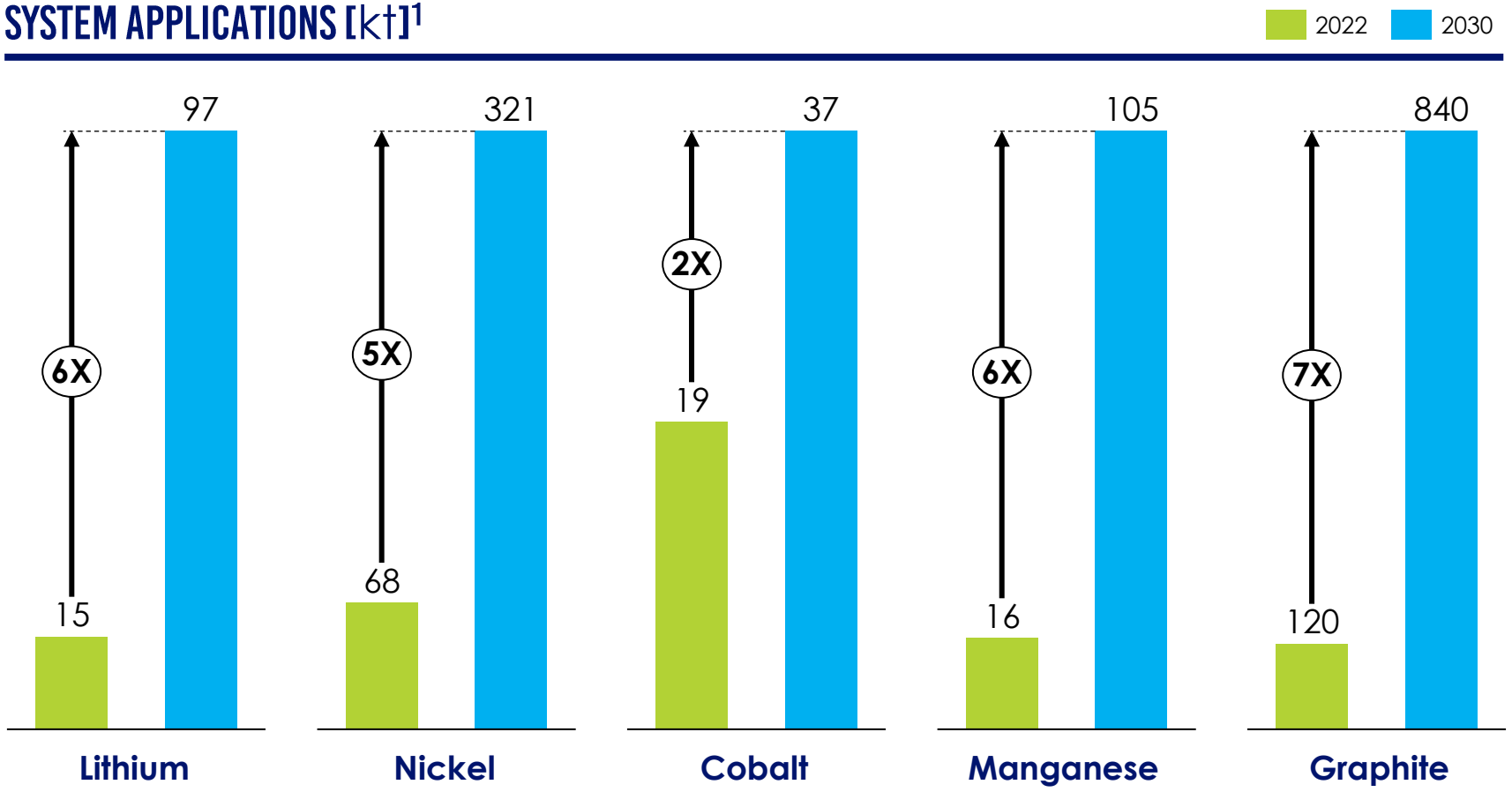
KEY POINTS

- Several robust studies **consistently identify a small number of high-impact interventions** to address the challenges.
- All three solution frameworks have **large overlaps, especially around scaling up and diversifying supply.**
- The biggest difference in prioritisation is around the **importance of demand-side circularity levers such as modal shifts or changes to urban planning.**

Sources: ETC (2023), Mineral Requirements for the Energy Transition
IRP (2023), Enabling the energy transition - IRP Co-Chair Opinion Piece
KU Leuven (2023), Metals for Clean Energy: Pathways to solving Europe's raw materials challenge

NEW MINING AND REFINING IS NEEDED TO CLOSE THE SUPPLY GAP WITHOUT FURTHER INCREASING IMPORT DEPENDENCY, IN PARTICULAR FOR BATTERY MATERIALS

ANNUAL EU DEMAND FOR BATTERY MATERIALS FOR BEVS AND ENERGY STORAGE SYSTEM APPLICATIONS [kt][1]



KEY POINTS

- **By 2030, the EU's requirements** for refined materials to meet its battery demand amounts to **~1,400 kt p.a. Of lithium, nickel, cobalt, manganese and graphite**.
- In fact, **current planning of additional capacity** would amount **only to ~180 kt p.a. by 2030, a shortfall of ~1,220 kt.**

[1]BEVs stands for Battery Electric Vehicles
All references to graphite in this study refer to natural graphite.
Sources: Systemiq analysis; Transport and Environment, European Response to US IRA (2022); BNEF (2023); IEA (2022), *The Role of Critical World Energy Outlook Special Report Minerals in Clean Energy transitions*

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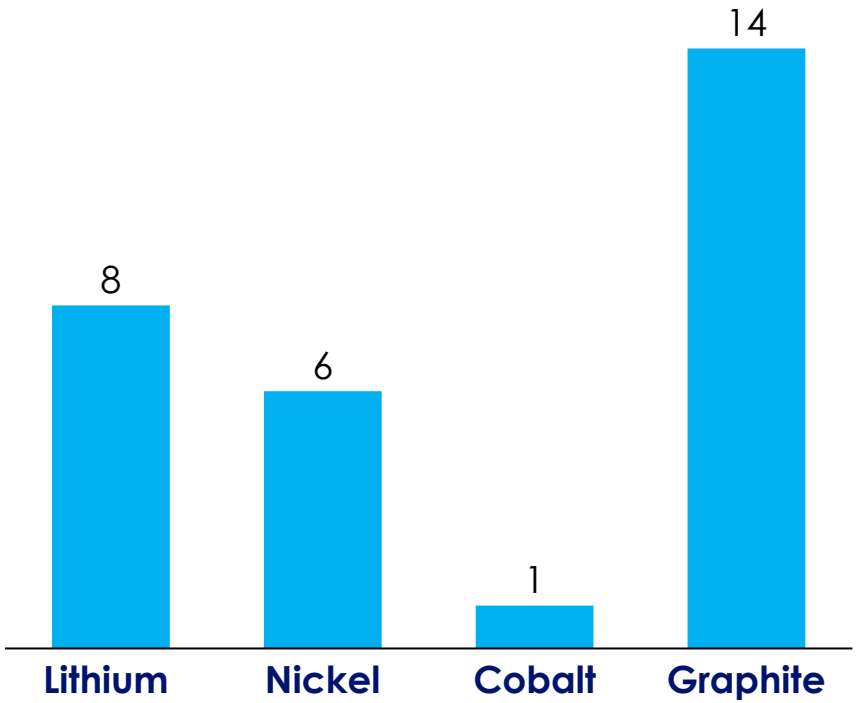
FOR THE PROJECTED DEMAND FOR FOUR KEY BATTERY MATERIALS ALONE, THE EU WOULD REQUIRE OUTPUT FROM THE EQUIVALENT OF ~30 ADDITIONAL MINES BY 2030

NUMBER OF ADDITIONAL MINES NEEDED FOR BATTERY MATERIALS FOR BEVS AND ESS APPLICATION BY 2030 [1]



KEY POINTS

- **By 2030, the EU would require output from the equivalent of around 30 additional mines globally for four key battery materials:** lithium, nickel, cobalt and graphite.
- **The order of magnitude** underlines the challenges outlined in Chapter 2.
- Under the CRMA, **a significant portion of these mines are aimed to be opened in the EU** to **decrease supply chain dependencies.**
- The rest of the additional mines **will have to come from overseas.**
- It is important to note **the long lead times of big mining project,** which makes it **difficult to scale up supply.**
- **Circularity levers** e.g. recycling and systemwide optimisation can partly mitigate the demand growth of transition materials and reduce the need for additional mines.

[1]BEVs stands for Battery Electric Vehicles. ESS stands for Energy Storage Systems.
All references to graphite in this study refer to natural graphite.
Sources: Systemiq analysis; ETC (2023) Material and Resource Requirements of the Energy Transition

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TO MEET DOMESTIC DEMAND, EUROPE WILL HAVE TO STRENGTHEN SUPPLIES FROM RESOURCE-HOLDING COUNTRIES, BASED ON EQUITABLE TRADE RELATIONSHIPS

NEED FOR OVERSEAS SOURCING OF TRANSITION MATERIALS

Europe is **dependent on overseas supplies of transition materials**, even if domestic mining, refining and recycling is scaled.

There are already efforts to build to **EU Raw Material Agreements** with countries such as **Australia**, **Uzbekistan** and **Latin America countries**.[1]

For the EU Raw Material Agreement, the EU plans to **deploy Global Gateway funding to help with local infrastructure development e.g. for renewable energy supply for mining and refining.**[2]

EXAMPLES

Industry interviewee: *"Diversifying transition material supply is **not merely a technical challenge**, but a **sensitive political challenge.** The political challenge requires careful measures to avoid the impression that the EU should just expand influence in and exploit resource-rich countries for the benefit of domestic industries. Stakeholders need to come together to solve this."*

Civil society interviewee: *"We need to **move beyond our traditional approach to foreign aid** that has been focusing on projects such as building local schools and hospitals. What the local communities really need is **local value creation** and well-paid green jobs. This is what we need to work towards."*

EQUITABLE TRADE RELATIONSHIPS

Avoid neo-colonialist extraction:

- The focus of stakeholders should be to build trade relationships that are based on **just transition principles.**

Local value creation

- An important condition for an equitable trade relationship is **to support resource-holding countries with local value creation** e.g. material refining and battery assembly.

Support socio-economic development

- Mechanisms could be put in place to **ensure that profits are partly re-invested locally to support local socio-economic development.**

Sources: [1]Benchmark Source (2024), "Ultimately, it's about making sure that we keep real jobs here in Europe." Q&A with the EU's Peter Handley (link)
[2]European Commission (2023), First Global Gateway Forum: EU and partners commit over €3 billion in partnerships for a better tomorrow (link)
Statements are based on internal and external expert interviews, as well as research.

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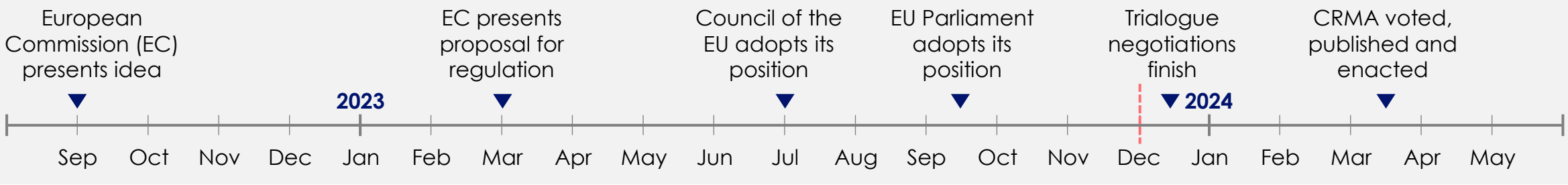
THE CRITICAL RAW MATERIALS ACT (CRMA) INTRODUCES A GOAL OF SOURCING 10 PER CENT OF MINED AND 40 PER CENT OF REFINED MATERIAL FROM THE EU TO SUPPORT SUPPLY SECURITY

CRMA TIMELINE



CRMA CONTENTS[1]

- Codifies into law the list of more than 30 critical raw materials[2]
- Develops mechanism to monitor critical raw materials supply chains and adopts measures for mitigating supply risks
- Sets benchmarks to improve domestic capacities by 2030:
  - **At least 10 per cent of EU consumption from extraction within the EU**
  - **At least 40 per cent of EU consumption processed and refined within EU**
  - At least 15 per cent of EU consumption sourced from recycling by 2030
  - Not more than 65 per cent of EU consumption, at any stage of processing, should come from a single third country

Benchmarks are **non-binding objectives** to be supported by policy measures (e.g. classification as strategic projects, access to financing, streamlined permitting process).

Council of the EU and EU Parliament positions suggest raising benchmark's ambition to 50 per cent.

General consensus is that benchmarks are unlikely to be met for all critical raw materials.

EU NET-ZERO INDUSTRY ACT (NZIA)

- Establishes same 40 per cent benchmark for strategic net-zero technologies
- Clarifies this benchmark is applicable across value chain (including components), and not only for end products

Sources: [1]Systemiq analysis; Proposal for regulation – Critical Raw Materials Act; Freshfields Bruckhaus Deringer (link)
[2]EU Critical Raw Materials that are relevant for both mobility and renewably energy: Bauxite, Cobalt, Gallium, Indium, Lithium, Natural graphite, Phosphorus, Silicon metal, PGM, HREE, LREE. For the full list, please see: EU Commission (2020), Critical Raw Materials Resilience: Charting a Path towards greater Security and Sustainability (link)

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CURRENT SITUATION

Supplying the growing material demand for the transition to sustainable energy and mobility systems in a responsible way is a big challenge for Europe

CHAPTER 2

STATE OF THE DEBATE

A lack of trust between industry, civil society and communities could affect the reliability of responsible transition material supply for Europe

CHAPTER 3

POTENTIAL PATHWAYS FORWARD

Priority topics are identified where multi-stakeholder dialogue could lead to improved outcomes for society and the environment, and contribute to rebuilding trust

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CHAPTER 2 – STATE OF THE DEBATE

INSIGHTS BASED ON RESEARCH AND INTERVIEWS

We extensively researched published content from and conducted numerous interviews with key stakeholders. Three challenges around the responsible supply of transition materials are highlighted:

1. **Community opposition** to new mining or material processing / manufacturing projects, which can slow or halt project developments.

2. **Disagreement between stakeholders on future projected demand for transition material**, likely supply contributions from recycling, and the contribution of demand-side reduction efforts such as material substitution and system-wide optimisation. Without greater alignment on the scale of transition material supply that is required in the next years, alignment on action steps is challenging.

3. **Restricted access to European financing** for new transition material mining and processing projects, even for those that meet the highest standards for environmental and social impacts

Underlying these challenges, there is **mutual distrust** between the key stakeholder across the transition material value chain, especially between industry and civil society.

WE EXTENSIVELY RESEARCHED PUBLISHED CONTENT FROM AND CONDUCTED NUMEROUS INTERVIEWS WITH KEY STAKEHOLDERS TO IDENTIFY AREAS OF HIGH IMPORTANCE AND OPENINGS FOR DIALOGUE

CONSULTED PRIMARY AND SECONDARY SOURCES

Responses to the CRMA (selection): Eurometaux, International Council on Mining and Metals (ICMM), World Wide Fund for Nature (WWF)

Position papers (selection):

- Eurometaux (2023), Europe's metals industry calls for a Green Deal Industrial Plan embracing the fully supply chains
- Eurometaux (2023), Critical Raw Materials Finance Call
- T&E (2023), Paving the way to cleaner nickel
- European Environmental Bureau & others (2023), A Partnership of Equals? – How to strengthen the EU's Critical Raw Materials Strategic Partnerships

Reports (selection):

- Energy Transition Commission (2023), Mineral Requirements for the Energy Transition
- International Energy Agency (2021), The Role of Critical Minerals in the Energy Transition
- Joint Research Centre (2023), Solutions for a resilient EU raw materials supply chain
- International Resource Panel (2023), Enabling the energy transition - IRP Co-Chair Opinion Piece
- KU Leuven (2023), Metals for Clean Energy: Pathways to solving Europe's raw materials challenge
- WWF (2023), Extracted Forests
- Friends of the Earth Europe (2023), Mining the Depths of Influence
- T&E (2023), EU strategic partnerships for a resilient and sustainable supply of raw materials

CONDUCTED INTERVIEWS

Civil society: T&E, WWF, Cultural Survival, IRMA

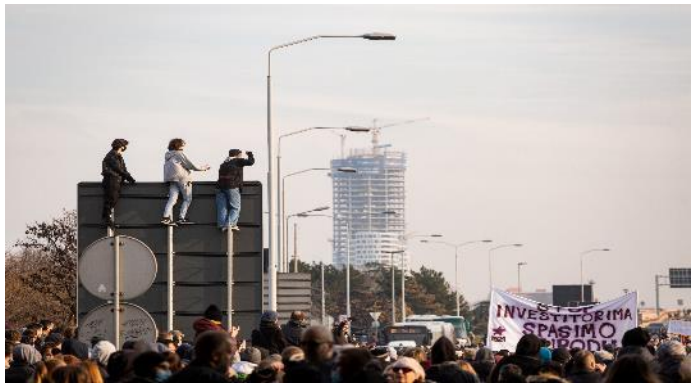
Industry: Eurometaux, International Council on Mining and Metals (ICMM), ETC, Li-Cycle Holdings, Levin Sources, RockTech Lithium, Enel Group

Academia: International Resource Panel (IRP)

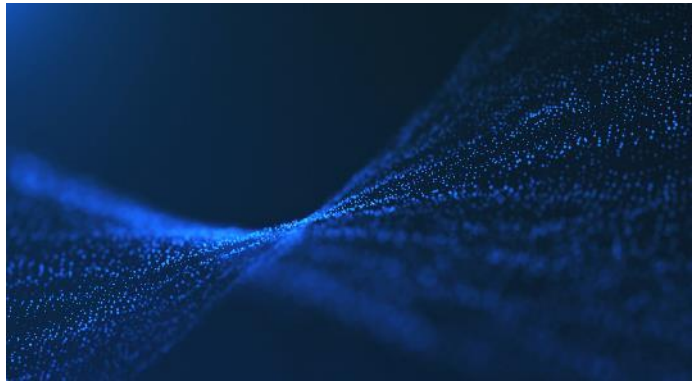
Finance: Lombard Odier, BNP Paribas, European Bank for Reconstruction and Development

THREE CHALLENGES AROUND THE RESPONSIBLE SUPPLY OF TRANSITION MATERIALS ARE HIGHLIGHTED

CHALLENGE 1: COMMUNITY OPPOSITION TO MINING PROJECTS



+ CHALLENGE 2: LACK OF ALIGNMENT ON SUPPLY AND DEMAND DATA



+ CHALLENGE 3: ACCESS TO FINANCING

The **three problems are interrelated** because data uncertainty fuels opposition to specific transition material projects and to improving access to concessional financing.
The challenges will be addressed in detail in the following slides.

[1]Selection of examples is based on research, as well as expert interviews
Image Credits: p1: Strokach Anastasia/shutterstock, p2: Kidney Stone/shutterstock, p3: William Barton/shutterstock

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CHALLENGE 1: COMMUNITY OPPOSITION TO NEW MINING OR MATERIAL PROCESSING / MANUFACTURING PROJECTS, WHICH CAN SLOW OR HALT PROJECTS

Examples

RESISTANCE AGAINST LITHIUM MINING IN PORTUGAL

Portugal, holding 60,000 tonnes of lithium reserves, is Europe's top lithium producer, mainly for ceramics. The Barroso area, noted for its scenic pastures and a Food and Agriculture Organization heritage site, hosts **some of the richest lithium deposits.**[1]

However, lithium mining in Barroso has **faced fierce local opposition from landowners, farmers and activists**, stating that "governments are trying to clean up cities by polluting villages."[1]

RESISTANCE AGAINST LITHIUM MINING IN SERBIA

Rio Tinto aims to mine lithium at Jadar, in Western Serbia. Serbia is **estimated to contain around 1.3 per cent of the world's lithium reserves** and could have a value of up to $4bn.[2]

However, the **Serbian government paused the project because of mass protest of local communities.**[2]

RESISTANCE AGAINST RARE EARTH ELEMENTS (REE) MINING IN NORTHERN SWEDEN

There are significant REE deposits in the Kiruna area, likely to be the **biggest REE deposit in Europe**. There is currently no other REE mining in place in Europe.[3]

Indigenous Groups have criticised the project as "colonialist" and staged protests against it.[3]

Sources: [1]Reuters (2023), Europe's mining quest faces hurdle: angry locals (link)
[2]Economist Intelligence Unit (2023), Serbia revives lithium mining plans with EU agreement (link)
[3]LKAB (2023), Europe's largest deposit of Rare Earth Metals is located in the Kiruna Area (link)
Image credits: p1: Alexandre Rotenberg/shutterstock, p2: Kidney Stone/shutterstock, p3: Tommy Alven/shutterstock

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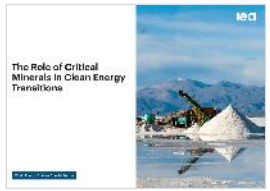
CHALLENGE 2: THERE STILL IS A LACK OF ALIGNMENT ON TRANSITION MATERIAL SUPPLY AND DEMAND PROJECTIONS

DIFFERENT REPORTS ON TRANSITION MATERIALS IN THE LAST THREE YEARS



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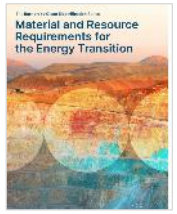

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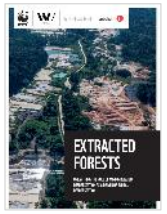

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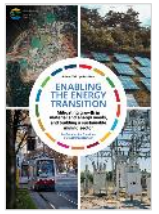

December 2023

KEY QUESTIONS TO BE ANSWERED FOR TRANSITION MATERIALS

CONTRIBUTION OF DEMAND-SIDE MEASURES

Example question: What is the contribution of demand-side measures such as system-wide optimisation e.g. modal shifts to mitigate demand growth?

CONTRIBUTION OF SUPPLY-SIDE MEASURES

Example question: What are the recycling rates of different transition materials across different geographies and how could it mitigate demand growth?

MATERIAL FLOWS ACROSS GEOGRAPHIES

Example question: What are the inter-state trade flows of transition materials black mass?

KEY TAKEAWAYS

- The **disagreements** between stakeholders on **future projected supply and demand** for transition materials **contributes to mistrust between stakeholders.**
- These **misalignments may risk delaying action** on **solving the challenges** around the **responsible supply of transition materials.**

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CHALLENGE 3: EU FINANCING RULES AND CONCESSIONARY FINANCING VEHICLES DO NOT SUPPORT TRANSITION MATERIAL PROJECTS SUFFICIENTLY

THE EU INNOVATION FUND IS NOT USED EFFECTIVELY FOR TRANSITION MATERIAL PROJECT FINANCING

There have been demands by key stakeholders to **reform and expand the EU Innovation Fund to make it applicable to transition material projects**. The Innovation Fund is a large EU funding programme for the demonstration of innovative low-carbon technologies.[1]

As of now, it is **difficult for growth companies to get funding for their disruptive transition material projects**, as the process is complex, expensive and time intensive.

THERE IS NO AT-SCALE PUBLIC FUND AVAILABLE FOR TRANSITION MATERIAL MINING AND REFINING PROJECTS

In addition to the EU Innovation Fund, there are **demands for a larger-scale public fund**, similar to for example the Critical Minerals Infrastructure Fund in Canada that will provide up to "$1.5 billion in federal funding to enable the sustainable development and expansion of critical minerals in Canada."[2]

CURRENTLY TRANSITION MATERIAL MINING AND REFINING IS NOT CLASSIFIED UNDER THE EU TAXONOMY OF SUSTAINABLE INVESTMENTS

Mairead McGuinness, the EU's financial services Commissioner, **wants to incorporate mining in the EU Taxonomy.** This is because EU member states "are going to have to do **more mining**" and **there would need to be access to concessional financing to make this happen.**[3]

However, there is **no timeline in place and the criteria have not been announced**. In addition, some civil society stakeholders demand that transition material mining is not included in the EU taxonomy for sustainable investments.[3]

Sources:[1]Transport and Environment (2023), Expansion of the EU Innovation Fund needed for Battery Supply Chain (link)
[2]Government of Canada(2023), Critical Minerals Infrastructure Fund (link)
[3]Bloomberg (2023), EU Courts Further Controversy by Adding Mining to Green Rulebook (link)
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UNDERLYING THESE CHALLENGES IS MUTUAL DISTRUST, ESPECIALLY BETWEEN INDUSTRY AND CIVIL SOCIETY

	CIVIL SOCIETY DISTRUSTS MINING INDUSTRY	MINING INDUSTRY DISTRUSTS CIVIL SOCIETY
REASONS	• **Historical legacy of past environmental and social wrongdoings** of the mining industry, especially in low-income countries. • Fear that **industry lobbying has an outsized influence on European policy making** and academia and therefore special interests gaining undue significance. • **Lack of engagement and personal relationships** between industry and civil society stakeholders.	• **Perception that civil society will seek to block the permitting** of transition material projects **under all circumstances.** • Past NGO campaigning that criticised industry wrongdoings and **named and shamed companies publicly in an emotional way.** • **Lack of engagement and personal relationships** between industry and civil society stakeholders.
EXAMPLES	• **Various examples of environmental and social wrongdoings** e.g. copper mine collapse in Congo; the Brumadinho disaster in Brazil and the Jukan Gorge descruction in Australia. • **Industry lobbying of the CRMA** that has been criticised by civil society.[1]. • **Civil society interviewee:** "*After all the wrongdoings in the past, trust in the mining industry is fundamentally broken.*"	• **Various examples of long permitting times** due to civil society lawsuits e.g. Serbia's Jadar Lithium mine. • **Various NGO naming and shaming campaigns** e.g., Greenpeace Switzerland on Glencore.[2] • **Industry interviewee:** "*Let's be honest. Some NGOs will try to block the permitting of mining in Europe no matter what.*"

Sources: Hypotheses are based on internal and external expert interviews, as well as research.
[1] Friends of the Earth (2023), Mining the Depths of Influence – How industry is forging the EU Critical Raw Materials Act (link)
[2] Greenpeace Switzerland (2019), Glencore (link)

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CHAPTER 3

POTENTIAL PATHWAYS FORWARD

Priority topics are identified where multi-stakeholder dialogue could lead to improved outcomes for society and the environment, and contribute to rebuilding trust

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CHAPTER 3 – POTENTIAL PATHWAYS FORWARD

INSIGHTS BASED ON RESEARCH AND INTERVIEWS

There was broad agreement amongst the interviewees and in publications, that the responsible scale-up of responsible mining and refining of transition materials in Europe in line with the CRMA would benefit from greater dialogue between industry and civil society.

Nine priority topics are identified where active content-driven multi-stakeholder dialogue could lead to improved outcomes for society and the environment, and contribute to rebuilding trust:

1. **FINANCING**: Financing of transition material mining, refining and recycling projects is a focal point for debate and there are different reforms to financing already underway in parallel.
2. **PERMITTING**: There is room for improved permitting processes that could be more efficient and transparent while maintaining public consultations and upholding environmental and social safeguards.
3. **STANDARD-SETTING:** Stakeholders agree that harmonised ESG standards for mining, refining and recycling are necessary, and a dialogue process could help stakeholders understand each other's position better.
4. **DEMAND-SIDE ACTION**: In circularity overall, demand-side levers that aim to "flatten the curve" of demand growth over the next years are controversial, but would benefit from greater dialogue.
5. **RECYCLING:** Interviewees agree that scaling up transition material recycling is essential and requires multi-stakeholder support
6. **GLOBAL TRADING**: Trade relationships with resource-holding countries are highlighted by many stakeholders, with a particular emphasis on ensuring that resource-holding countries and local communities realise enduring socio-economic benefits, and the environment is protected.
7. **DEEP-SEA MINING:** Deep-sea mining is a highly controversial issue and a priority for many stakeholders, also a potential entry-point for dialogue because of potential alignment between actors from industry and civil society
8. **GREEN PREMIUM**: A premium for materials from recycling or responsible mining and refining is desirable for stakeholders across the spectrum, but requires cooperation and alignment to realise this in many value chains.
9. **TECHNOLOGY:** Prioritising and scaling-up new technologies for mining, refining and recycling with lower socioeconomic or environmental impacts which could be the basis for dialogue and collaborative action between stakeholders.

THERE WAS BROAD AGREEMENT AMONGST THE INTERVIEWEES AND IN PUBLICATIONS, THAT THE RESPONSIBLE SCALE-UP OF TRANSITION MATERIAL SUPPLIES IN EUROPE WOULD BENEFIT FROM GREATER DIALOGUE BETWEEN INDUSTRY AND CIVIL SOCIETY

SYNTHESIS OF KEY POINTS FROM INTERVIEWS AND PUBLICATIONS

- Key centrist European policy makers and industry stakeholders are **focused on building green industry in Europe** e.g. renewable energy production and battery electric vehicles. This is to both **to strengthen Europe's economy and accelerate the energy-mobility-transition.**
- More moderate civil society stakeholders **agree that the supply needs to be scaled responsibly**. However more activist civil society representatives doubt that the supply needs to get scaled because they emphasise the potential for demand-side action.
- A dialogue process could help each side question their assumptions and build trust. While the full spectrum of opinion on scaling up the supply of transition materials is wide, **more moderate civil society stakeholders, as well as industry and policy makers could benefit from a dialogue process that builds trust.**

EXAMPLE QUOTES

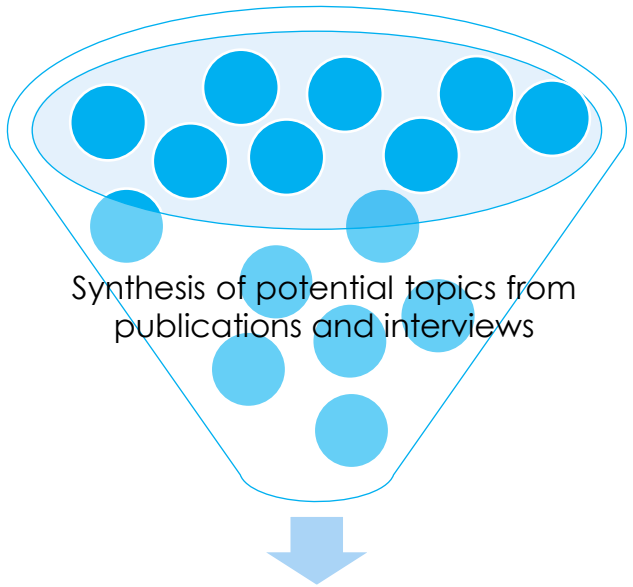
2022 State of the Union Address by President von der Leyen: "*We will identify strategic projects all along the supply chain, from extraction to refining, from processing to recycling. And we will build up strategic reserves where supply is at risk.* ***This is why today I am announcing a European Critical Raw Materials Act.***"[1]

Civil society interviewee: "*Most, if not all, civil society stakeholders suggest that overall transition material supply needs to increase to meet the goals of the energy transition. However, there needs to be an* ***honest debate about the scale of the increase.*** *Many civil society stakeholders think that the increase does not have to be as big as suggested by industry.*"

Private finance stakeholders: "*I wonder whether the activist NGOs have seen the numbers on the projected demand of transition materials?* ***How can they deny that we need to scale-up supply?***"

Sources:
[1]EU Commission (2022), 2022 State of the Union Address by President von der Leyen (link)

PRIORITY TOPICS FOR CONTENT-DRIVEN MULTI-STAKEHOLDER DIALOGUE WERE IDENTIFIED USING CRITERIA OF IMPORTANCE TO STAKEHOLDERS, SYSTEM-LEVEL IMPACT AND POTENTIAL FOR MEANINGFUL ALIGNMENT OR COLLECTIVE PROBLEM SOLVING



9 priority topics identified using criteria

Criteria used to select **priority topics** for content-driven multi-stakeholder dialogue*:

1. **Issues that are important to many stakeholders**, including the interviewees
2. **Issues that have potential for system-level impact on the supply/demand** for **transition materials** or the environmental, social or economic impacts of the transition metal value chain
3. Issues that have **potential** for some level of **meaningful alignment** or **collective problem-solving**

*Definition of multi-stakeholder dialogue and this proposed approach to content-driven multi-stakeholder dialogue draws on extensive practice and research, well summarised in the Guidance Note from the Global Environmental Facility Scientific and Technical Advisory Panel (May 2020; https://stapgef.org/sites/default/files/publications/STAP%20multi-stakeholder%20dialogue%20May%202020.pdf)

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THE INTERVIEWS AND RESEARCH HAVE SHOWN THAT THERE ARE NINE PROMISING ENTRY POINTS FOR MULTI-STAKEHOLDER DIALOGUE

- Financing of transition material mining, refining and recycling projects
- ESG standard-setting for mining, refining and recycling
- Improved permitting processes
- Scale-up of transition material recycling
- Demand-side action to "flatten the curve" of demand growth for transition materials
- Deep-sea mining
- Global trading relationships with resource-holding countries
- Prioritising and scaling up new technologies for mining, refining and recycling with lower impacts
- Green premium for responsible mining, refining and recycling

1. FINANCING (1/2): FINANCING OF TRANSITION MATERIAL MINING, REFINING AND RECYCLING PROJECTS IS A FOCAL POINT FOR DEBATE

CATEGORY	DESCRIPTION	EXAMPLE
1 INDUSTRY CHALLENGES	**Industry stakeholders stated that the EU does not provide additional funding for transition material projects** and there is **no business case** for scaling these projects. Given the **high capital investment costs**, companies (especially early growth companies), are struggling to get sufficient financing to build up their capacity for primary and secondary transition material supply.	**Transition material recycling company interviewee:** *"The current EU Innovation Fund is not fit-for-purpose for innovators because the application lacks accessibility (not on a rolling basis and expensive) and lacks predictability (only around 10 per cent chance of success)."*
2 STATE SUPPORT	Industry and finance stakeholders argue that the **state's help is needed to set up the required associated infrastructure for mining and refining** (e.g. electric grids and roads) and to provide the local community with economic and social benefits. They also propose **state funding for third-party mediators** that resolve conflicts between the project developer and the community.	**Industry interviewee:** *"For our refining project in Europe we get around five per cent of state funding. In Japan, we could get around 50 per cent and, in the US, at least 25 per cent."*
3 CIVIL SOCIETY FEARS	More activist civil society stakeholders demand that transition material mining is not included in the EU taxonomy for sustainable investments, as they see mining as **inherently "unsustainable".**	**Friends of the Earth:** *"It is nonetheless vital that the inherently destructive practice of mining does not find a backdoor into being classified as a sustainable investment in the EU's Taxonomy."*[1]
4 ESG CONCERNS	Many **EU banks operate in accordance with FPIC and the Equator Principles** and therefore will **only provide financing if there is the consent of local indigenous communities.**[2] Even if the national government is fast-tracking the permitting, banks will carry out their own due diligence. Therefore, **the financing could take longer than the permitting.**	**European private finance interviewee:** *"If the local community does not support the mining project, we will not provide financing. There may then be non-European bad banks that step in and provide financing anyhow."*

Sources: [1]Friends of the Earth (2023), Mining the Depths of Influence – How industry is forging the EU Critical Raw Materials Act (link)
[2]FAO (2021). Free, Prior and Informed Consent (link)
Statements are based on internal and external expert interviews, as well as research.

1. FINANCING (2/2): THERE ARE TWO DIFFERENT REFORMS TO FINANCING ALREADY UNDERWAY IN PARALLEL, TO THE EU TAXONOMY AND THE EU INNOVATION FUND

DESCRIPTION OF ENTRY POINT FOR MULTI-STAKEHOLDER DIALOGUE

There are currently discussions to reform different financing mechanisms that apply to transition material projects on an EU and national level. Interviews have shown that the **EU Taxonomy** and the **EU Innovation Fund** have priority and that there are reforms underway for both. Stakeholders may find consensus on **transition materials mining and refining to be included in the EU Taxonomy** that follows specific **environmental and social standards** such as a multi-stakeholder standard setting. Finally, deeper dialogue on reforms to EU-level funding is needed, including potentially reform to the EU Innovation Fund, or financial support for capital investments in mining and refining projects that meet high ESG standards.

RATIONALE FOR INCLUSION

While some more activist civil society actors are against classifying any mining or refining as "sustainable" for investments, there seems to be room for compromise among most relevant stakeholders **to support mining that follows "responsible" practices.** The multi-stakeholder open letter to the EU Commission by Eurometaux, T&E, Rio Tinto and others show that **financing – under appropriate, credible conditions for responsibility** – may be a promising entry point for trust building.[1]

EXAMPLES

Industry interviewee: *"There are already promising plans by some policy makers to **reform the EU Innovation Fund** and make it more applicable to transition material mining and refining projects. We are hopeful that reforms may come soon."*

Civil society interviewee: *"Most moderate civil society stakeholders would agree that transition material mining and refining needs **more public investments**."*

Multi-stakeholder open letter to the EU Commission: *"In the short to midterm, the **funding should come from the expansion of the EU Innovation Fund**, including under the STEP proposal. This could be done by replicating the pilot concept of the EU Hydrogen Bank to the critical minerals sector, and opening dedicated calls for proposals, including grants, to that effect."*[1]

Sources: [1]Transport and Environment (2023), Expansion of the EU Innovation Fund needed for Battery Supply Chain (link)
Statements are based on internal and external expert interviews, as well as research.

2. PERMITTING (1/2): BOTH INDUSTRY AND CIVIL SOCIETY ARGUE - FOR DIFFERENT REASONS - THAT CURRENT PERMITTING PROCESSES DO NOT WORK WELL

CATEGORY	DESCRIPTION	EXAMPLE
1 IMPLICATIONS OF CRMA	Stakeholders disagree on the permitting implications of the CRMA. **Industry supports the plan to have strategic projects that limit total permitting times to two years**. On the other hand, **civil society is deeply critical of the CRMA's changes to permitting.** They fear that the rights of Indigenous Groups, as well as local communities and the environment could be infringed upon.	**Civil society interviewee:** *"We do not think that from a legal perspective the two-year permitting process that has been proposed by the CRMA will be feasible. There still will be legal challenges."*
2 INDUSTRY CHALLENGES	Industry **sees the long permitting times as a significant business risk and hopes that the CRMA will shorten them**. For industry, lengthy permitting times contribute to companies deciding to invest their resources in other regions."	**Transition material recycling company interviewee:** *"We are very concerned that permitting could delay our ramp-up of recycling facilities in Europe."*
3 CIVIL SOCIETY	Civil society organisations **strongly oppose plans to streamline permitting, as they fear that it may worsen social and environmental impacts.** Civil society organisations are particularly concerned about the impacts on Indigenous Groups. They demand the ILO's provision on the Free Prior and Informed Consent (FPIC) be included in the CRMA.	**Civil society interviewee:** *"FPIC provides a full declaration on Indigenous Rights and should be the mandatory requirement for all projects in Europe."*
4 TRUST AND HISTORICAL LEGACY	The conflict on permitting is a **historical legacy**, as civil society deeply distrust industry stakeholders, especially upstream companies such as mining companies. This is because of **past environmental and human rights impacts from mining, especially in low-income countries**.	**Civil society interviewee:** *"It is absurd that mining companies get away with reaping enormous profits and simultaneously not taking responsibility for the negative externalities that they create."*

Sources: Statements are based on internal and external expert interviews, as well as research.

2. PERMITTING (2/2): THERE COULD BE IMPROVED PERMITTING PROCESSES THAT COULD BE MORE EFFICIENT WHILE MAINTAINING PUBLIC CONSULTATIONS AND UPHOLDING ENVIRONMENTAL AND SOCIAL SAFEGUARDS

DESCRIPTION OF ENTRY POINT FOR MULTI-STAKEHOLDER DIALOGUE

Multi-stakeholder dialogue could focus on a **more transparent and efficient permitting process** that ensures comprehensive stakeholder consultations. A permitting process that moves faster than they have historically whilst also ensuring comprehensive environmental and social impact assessments and consulting stakeholders from the start could be viewed as beneficial by all parties, including by industry if it avoids later backlash and protest. Innovative means to accelerate could be discussed.

RATIONALE FOR INCLUSION

Permitting is one of the biggest sources of disagreement between stakeholders on transition material projects, especially creating conflicts between civil society and industry. Given the legacy of distrust, making progress on permitting will be difficult. Nonetheless, **all stakeholders agree that the current permitting processes in Europe do not work well and therefore need reforms.** This could be the starting point for dialogue.

EXAMPLES

Civil society interviewee: *"**FPIC should be fully respected**, as local communities are likely to block any project if FPIC is not granted. Industry fully embracing **FPIC would avoid later public backlash** and increase public acceptance of reshoring mining and refining to Europe overall."*

Industry interviewee: *"As of now, the **permitting processes in Europe for mining and refining do not work for us**. It **undermines our business case** and is a major reason why other jurisdictions such as Canada are more attractive for us."*

Civil society interviewee: *"Beyond the issue of local stakeholder consultations, **everyone agrees that the permitting process often is badly organised,** takes too long and is too bureaucratic. An optimised process would increase transparency and stakeholder acceptance on all sides."*

Sources: Statements are based on internal and external expert interviews, as well as research.

3. STANDARD-SETTING: STAKEHOLDERS AGREE THAT HARMONISED ESG STANDARDS FOR MINING, REFINING AND RECYCLING ARE NECESSARY AND A MULTI-STAKEHOLDER DIALOGUE PROCESS COULD HELP

DESCRIPTION OF ENTRY POINT FOR MULTI-STAKEHOLDER DIALOGUE

The **misalignment on Environmental, Social and Governance (ESG) standards leads to a myriad of different standards** that have overlaps and are used differently by different stakeholders. **Harmonisation could accelerate the shift towards responsible transition material mining, refining and recycling.** Industry stakeholders prefer industry-led standards, whereas civil society stakeholders are critical of them and insist on standards that have a multi-stakeholders governance. A dialogue process could **help each side understand each other's perspective and move towards effective and harmonised standards.**

RATIONALE FOR INCLUSION

Fragmented ESG standards are problematic for industry, government and civil society alike. Disagreements on standard-setting approaches (and the standards themselves) are deeply entrenched and therefore greater dialogue could help bring stakeholders closer together.

EXAMPLES

Industry interviewee: *"We support comprehensive standards **but would like to remain flexible on what standard companies should choose**. Some of them are too costly and businesses should have the freedom to choose what standard works best for them."*

Friends of the Earth Europe: *"**The abundance of industry demands for self regulation rather than legally binding requirements paid off.** The Commission's CRM Act proposal provides the option for Strategic Projects to be individually certified as part of a recognised certification scheme,, as an alternative to complying with the upcoming EU law on due diligence."* [1]

Civil society interviewee: *"Why would we let businesses monitor their own actions without oversight from other stakeholder groups? **There is little to no incentive for industry-led initiatives to uncover and punish misdemeanours and breaches of environmental and social standards.** In addition, any standard can only serve as data points and cannot replace due diligence processes."*

Sources: [1]Friends of the Earth Europe (2023), Mining the Depths of Influence
Statements are based on internal and external expert interviews, as well as research.

4. DEMAND-SIDE ACTION 1/2: STAKEHOLDERS DISAGREE ON THE IMPORTANCE AND FEASIBILITY OF DEMAND-SIDE ACTIONS TO "FLATTEN THE CURVE" OF DEMAND GROWTH

CATEGORY	DESCRIPTION	EXAMPLES
1 LACK OF PRIORITISATION OF DEMAND-SIDE	Civil society contends that industry stakeholders and government policy makers **give too little attention to demand-side circularity levers**, as they require significant changes to business models. The debate mirrors similar conflicts for other materials such as plastics.	**Civil society interviewees:** *"Recycling is just not enough. No one gets serious about demand-side action."*
2 SYSTEMIC VS. FOCUSED DEMAND-SIDE LEVERS	There are generally **two distinct types of demand-side levers**. The first set of demand-side levers are **systemic and optimise energy intensive systems** to minimise transition material demand growth e.g. modal shifts. The second set of demand-side levers are not all-encompassing and more specific in their scope e.g. higher material efficiency.	**International Resource Panel Co-Chairs:** *"We can improve overall energy feasibility by optimising material energy intensive systems (mobility, housing, nutrition and others)."*[1]
3 PROGRESSIVES VS. BUSINESS-AS-USUAL POLICY MAKERS	In general, there is an **active interest in demand-side measures** from European policy makers. However, **conservative and free-market liberal policy makers oppose any measures that go in the direction of de-growth or that appear to undermine GDP growth**. On the other hand, **left-leaning and Green politicians are open to the full spectrum of demand-side levers.**	**Critical Raw Materials Act Revisions:** *"Need to undertake efforts to incentivise technological progress and resource efficiency in order to moderate the expected increase in European Union consumption of CRMs."*[2]
4 ACTIVIST VS. PRAGMATIC CIVIL SOCIETY PLAYERS	NGOs exhibit a range of ambitions on demand-side levers. More pragmatic civil society stakeholders such as WWF advocate for a full spectrum of demand-side levers, while still **recognising that transition material primary supply scale-up is necessary**. Other NGOs are more activist and **oppose "capitalist" growth models** that imply a necessary scale-up of transition material primary supply.	**Civil society interviewee:** *"The more transition materials we demand, the higher will be the risks to Indigenous Peoples."*

Sources: [1]IRP (2023). Enabling the energy transition: Mitigating growth in material and energy needs and building a sustainable mining sector. Potočnik, J., Teixeira, I. An opinion piece of the International Resource Panel Co-Chairs.
[2]Proposal for a REGULATION that establishes a framework for ensuring a secure and sustainable supply of critical raw materials and amending Regulations (EU) 168/2013, - Analysis of the final compromise text (link)
[3]European Commission (2023), Proposal for a new end-of-life regulation (link)
Statements are based on internal and external expert interviews, as well as research.

4. DEMAND-SIDE ACTION 2/2: MULTI-STAKEHOLDER DIALOGUE COULD TEST ARGUMENTS AND ASSUMPTIONS TO INCREASE UNDERSTANDING OF THIS TOPIC ON ALL SIDES

DESCRIPTION OF ENTRY POINT FOR MULTI-STAKEHOLDER DIALOGUE

Civil society and academia have long advocated for demand-side action in fighting the triple planetary crisis and achieving circularity overall, **however it is controversial among industry and policy makers how to best activate these levers.** Nevertheless, stakeholders could start a dialogue process and aim to find common grounds on feasible demand-side measures to mitigate the underlying demand growth for transition materials.

RATIONALE FOR INCLUSION

Diverging expectations regarding the scale of transition materials needed may delay action to achieve at least a baseline of indisputably required volumes. Demand-side action is often debated "on principle" rather than through analysis of opportunities and challenges for specific materials, sectors and value-chains. In fact, industry has often played a key role in demand-side action e.g. through material reduction/substitutions during high price cycles ("thrifting"). **Multi-stakeholder dialogue could create a more granular discussion and increase mutual understanding of the benefits and limits of demand-side action.**

EXAMPLES

Industry interviewee: *"We think that **demand-side policies e.g. measures that go towards resource taxation would greatly accelerate circularity** and help address the challenges around transition materials. As of now, **repairing products** that contain transition materials **e.g. electronics, is often more expensive than throwing them away.** We need to change this."*

Civil society interviewee: *"**Demand-side action is the elephant in the room** that no one talks about. And we find that highly frustrating because it is a big blind spot in the CRMA."*

WWF report: *"As the countries and regions with the highest levels of demand-driven mining-related deforestation, **China, the EU and USA must take concrete steps towards bringing down overall demand for mineral products** and **set targets for the reduction of primary mineral commodities** across all economic policies and strategies."*[1]

Sources: [1]WWF (2023), Extracted Forests
Statements are based on internal and external expert interviews, as well as research.

5. RECYCLING (1/2): MOST STAKEHOLDERS ARE UNITED IN THEIR AIM TO SCALE-UP RECYCLING AS A KEY LEVER TO SCALE UP SUPPLIES OF TRANSITION MATERIALS, AND REDUCE IMPACTS

CATEGORY	DESCRIPTION	EXAMPLES
1 POTENTIAL OF RECYCLING	Most interviewees were **united in their opinion that recycling for transition materials is highly promising for Europe** and could be an important lever to **achieving the aims of the CRMA.**	**Civil society interviewee:** *"While transition material recycling is not a silver bullet, we need to scale it up as soon as possible. That is central to building a successful circular economy."*
2 PRIORITY FOR FINANCE STAKEHOLDERS	Scaling upstream circularity levers is a priority for private finance stakeholders. **Recycling of transition materials is an area where European firms might have a competitive advantage** because of the potentially better availability of scrap materials due to upcoming regulations such as the End-of-Life Vehicles Directive.[1] This **could lower costs of production, increasing overall margins** and making the companies more attractive for private finance investors.	**Private finance interviewee:** *"While we find companies that focus on European transition material mining not so interesting, we think that European transition material recycling firms are highly interesting investment opportunities for us."*
3 LACK OF RECYCLING FEEDSTOCK	Transition material recycling companies are **concerned that Europe does not have sufficient recycling feedstock to ramp-up secondary supply.** This is because end-of-life products such as batteries are exported to other geographies e.g. end-of-life electric vehicles. Industry and finance stakeholders therefore **support policy intervention and funding to increase the collection and recovery of transition materials.**	**Industry interviewee:** *"Without sufficient domestic transition material feedstock, there is no way we can scale-up recycling facilities. Shipping it back from China just is not feasible."*
4 LIMITS OF RECYCLING	**Recycling of transition materials is highly relevant for all stakeholders in Europe, but it will mainly take effect after 2030** when the products that contain transition materials (e.g. electric vehicles) may come back end-of-life.	**Industry interviewee:** *"Recycling cannot save Europe for now. It will only become highly significant in 10+ yeas. Until then, we need primary supply."*

Sources: [1]European Commission (2023), Proposal for a new end-of-life regulation (link)
Statements are based on internal and external expert interviews, as well as research.

5. RECYCLING (2/2): ESPECIALLY TRANSITION MATERIAL RECYCLING PROJECTS COULD PROVIDE AN ENTRY POINT FOR TRUST BUILDING

DESCRIPTION OF ENTRY POINT FOR MULTI-STAKEHOLDER DIALOGUE	Recycling of transition materials could be a promising entry point for trust building between opposing stakeholders, as it has emerged as a priority lever across all interviews and stakeholder groups. The **recycling capacity** for transition materials is still nascent in Europe and will need to get scaled rapidly to meet the **15 per cent target of the CRMA.** In the long-term, recycling capacity needs to go beyond the 15 per cent target to build a fully circular economy for transition materials in Europe.
RATIONALE FOR INCLUSION	There is a **high degree of existing consensus on scaling up recycling capacity**, and this is a topic that would benefit from greater multi-stakeholder dialogue, alignment and collective action. **Scale-up of recycling requires coordinated action** across industry value chains as well as targeted support from government policy makers. Civil society actors have a key role to play in advocating for scale-up of responsible recycling, standard-setting and supporting consumer engagement.

EXAMPLES

Industry interviewee: *"Europe is uniquely challenged on getting a sufficient supply of transition materials in the next decade. This is why we need to* ***go all-in on circularity measures****, including scaling up recycling capacity."*

Civil society interviewee: *"Recycling of transition materials is something that all stakeholders can agree on. The CRMA is highly ambitious on recycling but* ***unfortunately does not propose specific measures to achieve the target.*** *There is a big gap to fill by stakeholders across the value chain."*

Private finance interviewee: *"While we find companies that focus on European transition material mining not so compelling, we think that* ***European transition material recycling firms are highly compelling investment opportunities for us.****"*

Sources: Statements are based on internal and external expert interviews, as well as research.

6. GLOBAL TRADING (1/2): EUROPE NEEDS TO DIVERSIFY AND STRENGTHEN TRADE RELATIONSHIPS WITH RESOURCE-HOLDING COUNTRIES AND ENSURE THAT THE RELATIONSHIPS FOLLOW JUST TRANSITION PRINCIPLES

CATEGORY	DESCRIPTION	EXAMPLE
1 JUST TRANSITION	Different stakeholders across all stakeholder groups have demanded that **Europe's trade negotiations do not block equitable access to transition materials** for lower-income countries that do not have the same resources to secure sufficient supply for the energy-mobility-transition in their countries. Policy makers and industry stakeholders are aware of this problem but especially policy makers are under pressure to build their own domestic green industry and thus may focus less on the just transition dimension.	**ICMM:** *"Efforts to stockpile critical raw materials would be detrimental to the stated goals of the energy transition, as it could potentially result in inequitable access to critical minerals that would disproportionately impact low-income countries."*[1]
2 CLAIMS OF NEO-COLONIALISM	Connected to the topic of just transition, stakeholders have **raised concerns about neo-colonialist extractive trade relationships** that do not benefit the local communities. They argue that **trade relationships need to become mutually beneficial**, and that Europe needs to offer both knowledge and capacity transfer, as well as development support, in return for transition materials.	**Industry interviewee:** *"High-income countries need to offer a good support package to resource-rich countries. The support should help them with minimising social and environmental impacts and supporting local economic development."*
3 PUBLIC ACCEPTANCE IN RESOURCE-HOLDERS	While Europe's plans to **build up a diversified transition material trading** network are ambitious, civil society stakeholders point out that in resource-holding countries, public acceptance for this may be lacking. Therefore, **civil society stakeholders argue that Indigenous rights, as well as social and environmental standards, need to be fully respected**, otherwise companies will face public resistance.	**Civil society interviewee:** *"We see roads being blockaded; mines being shut down. Public acceptance globally for mining is low."*

Sources: [1]ICMM (2022). ICMM Comments for the European Commission's Proposed Critical Raw Materials Act (link)

6. GLOBAL TRADING (2/2): A MULTI-STAKEHOLDER DIALOGUE COULD FOCUS ON PRINCIPLES FOR TRADE RELATIONSHIPS INCLUDING SOCIAL AND ENVIRONMENTAL IMPACTS IN RESOURCE-HOLDING COUNTRIES

DESCRIPTION OF ENTRY POINT FOR MULTI-STAKEHOLDER DIALOGUE

Stakeholders agree that **trade relationships** with low-income countries **should not be extractive** and **one-sided,** but follow **just transition principles**. This means that local communities need to **benefit socio-economically** from transition material projects, otherwise society risks to repeat the extractive business models from fossil fuels. A dialogue process between stakeholders could investigate the best measures to address this.

RATIONALE FOR INCLUSION

Strong global trading relationships grounded in mutual benefits, environmental protection and social justice are seen as beneficial by the full spectrum of stakeholders. Each stakeholder group has specific knowledge on how to support local communities in low-income countries and a dialogue process could help exchange expertise.

EXAMPLES

Industry interviewee: *"Diversifying transition material supply is not merely a technical challenge, but a **sensitive political challenge**. The political challenge requires **careful measures to avoid the impression that the EU should just expand influence** in and exploit resource-rich countries for the benefit of domestic industries. Stakeholders need to come together to solve this."*

Civil society interviewee: *"We need to **move beyond our traditional approach to foreign aid** that has been focusing on projects such as building local schools and hospitals. What the local communities really need is **local value creation** and well-paid green jobs. This is what we need to work towards."*

Finance interviewee: *"**China's dominance** of transition material supply chains is a **big concern for us** as Europeans. The **dependence is highly problematic** and needs to be reduced by building **equitable relationship** with Global South countries."*

Sources: Statements are based on internal and external expert interviews, as well as research.

7. DEEP-SEA MINING: HIGHLY CONTROVERSIAL ISSUE COULD BE AN ENTRY-POINT FOR DIALOGUE BECAUSE OF POTENTIAL ALIGNMENT BETWEEN (PARTS OF) INDUSTRY AND CIVIL SOCIETY

DESCRIPTION OF ENTRY POINT FOR COLLABORATION AND TRUST BUILDING

Deep-sea mining of minerals on the sea-bed is a highly controversial topic that is seen by some stakeholders as a necessary or even desirable method to meet growing demand for transition metals. Other stakeholders are highly concerned about the impact on marine ecosystems. The topic is growing in significance after Norway's parliament approved the practice in January 2024. The issue may **counterintuitively provide an entry-point for multi-stakeholder dialogue** between industry and civil society, **because parts of the industry share concerns of civil society organisations and advocate for pausing deep-sea mining for the foreseeable future** and until environmental impacts have been conclusively researched.

RATIONALE FOR INCLUSION

Deep-sea mining is an important and controversial topics in its own right, and also could undermine the urgency to resolve the challenges around the responsible transition material supply on land (if deep-sea mining is viewed as a panacea). Many **industry interviewees have expressed their current scepticism or outright opposition to deep-sea mining exploration**. There is potential for common ground and dialogue between industry, environmental NGOs and some government policy-makers – for example focused on the necessary conditions or tests that would need to be met to consider supplies of transition materials from deep-sea mining.

EXAMPLES

Industry interviewee: "***Deep-sea mining is not part of our strategy planning*** *and we do not consider it relevant for our purpose. A moratorium would be the best option, as we need more time to conclusively study the potential environmental damage."*

Business coalition statement: **"***The numerous risks of deep-sea mining to ocean health, fisheries, sustainable development and to important climate functions, point clearly to the need for precaution. Until these matters are sufficiently addressed,* ***we, the undersigned, support a moratorium on deep-sea mining as a matter of precaution*** *and commit not to source minerals from the deep seabed; to exclude such minerals from our supply chains; and not to finance deep-sea mining activities."*[1]

German government: *"Germany wants further exploration of the deep-sea.* ***But we want to strengthen the precautionary approach to deep-sea mining.*** *For this reason, no applications for commercial mining of raw materials in the deep-sea should be supported until further notice."*[2]

Sources: Statements are based on internal and external expert interviews, as well as research.
[1]Stop Deep-Sea Mining (2023), Statement (link)
[2]Bundesministerium für Umwelt, Naturschutz und Nukleare Sicherheit (2023), Schutz der Meere – Deutschland unterstützt bis auf weiteres kein Tiefseebergbau (link)

8. GREEN PREMIUM: THERE COULD BE ALIGNED INTERESTS IN DEFINING THE CRITERIA AND APPROACH FOR SECURING A GREEN PREMIUM THAT IS BASED ON TRANSPARENT PRINCIPLES

DESCRIPTION OF ENTRY POINT FOR MULTI-STAKEHOLDER DIALOGUE	Currently, **companies that mine and refine transition materials following high sustainability criteria do, in most case, not receive a green premium** (a higher market price based on the environmental or social credentials of their product). Therefore, it is difficult for them to compete with "bad players" that do not adhere to environmental and social standards to save costs. High regulatory standards in Europe create higher costs for operators compared to other regions. Unless miners and refiners can charge a higher price for their products, the European domestic industry may become uncompetitive. The topic is also highly relevant for importation of transition metals and differentiation based on responsible environmental or social practices by companies operating in resource-holding countries.
RATIONALE FOR INCLUSION	Many **industry interviewees have expressed their current scepticism** that responsibly-managed transition material mining, refining or recycling will have a sustainable business case in Europe due to higher production costs than in other regions. This has been echoed by some civil society stakeholders and therefore this topic could be a promising entry point for trust building. Green premium activation is a controversial topic in Europe, with growing attention on perceived "greenwashing" from sub-standard eco-claims – so this topic would benefit from multi-stakeholder dialogue and collective action.

EXAMPLES

Industry interviewee: "***German automotive companies do not pay a higher price for our refined materials***, *even though our refining follows the highest environmental standards, especially on CO_2 emissions. But they do not care, they only care about sufficient supply and price.*"

Civil society interviewee: "*We live in a capitalist almost fully globalised world. The market for transition materials is tough.* ***As of now, it is all about prices.*** *That may change as companies may need to report their Scope 3 emissions, as well as impacts on biodiversity.* ***But now, European companies have a disadvantage as their production costs are higher*** *than in other regions in most cases.*"

McKinsey article: "*The copper market is undersupplied, with demand outpacing supply through 2030 due to modern applications.* ***Purchasers will focus on accessing copper, (...), with little incentive to pay premiums for low-CO_2 grades***."[1]

Sources: Statements are based on internal and external expert interviews, as well as research.
[1]McKinsey (2022). Capturing the green premium value from sustainable materials. (link)

9. TECHNOLOGY: PRIORITISING AND SCALING-UP NEW TECHNOLOGIES FOR MINING, REFINING AND RECYCLING WITH LOWER SOCIOECONOMIC OR ENVIRONMENTAL IMPACTS

DESCRIPTION OF ENTRY POINT FOR COLLABORATION AND TRUST BUILDING

New technologies such as precision mining, tailing reprocessing, advanced sortation and automated or remote-controlled equipment **can help minimise the social and environmental adverse impacts of transition material mining projects.** Similarly, technologies such as electrolytic refining with renewable energy or hydrometallurgical processes can minimise the environmental impacts of refining. Stakeholders could come together and discuss how to scale these promising solutions across Europe and how to gain a competitive advantage over other markets with lower adoption rates.

RATIONALE FOR INCLUSION

Most stakeholders agree that new technologies can help minimise impacts of mining and refining in Europe and help to scale up recycling. There is a **high willingness for greater collaboration** across stakeholder groups. Technologies often come with trade-offs that would benefit from multi-stakeholder dialogue. For example, increasing automation could make mining more benign to workers and the environment, but also reduce the number of local jobs created.

EXAMPLES

ETC report: *"Novel approaches to the reprocessing of tailings can play a major role. Freeport-McMoRan estimate they **have up to 17 Mt of residual copper that could be extracted through new solvents and reagents or through reprocessing (e.g., flotation), and globally this could reach around 57 Mt."***[1]

IRP Co-Chair opinion piece: *"The impact of transition materials extraction is vastly preferable to continued fossil fuel use. (..) However, the potential climate, biodiversity and health impacts along the whole value chain should not be underestimated. Moving downstream in the value chain, **refining is often the step with the greatest environmental impact due to the high temperatures involved** (often above 800°C), which are frequently generated by coal combustion."*[2]

EY report: ***"**The Mining Microbiome Analytics Platform project, a collaboration between mining companies, **identifies microbes that bind to minerals for nonchemical-based extraction and remediation strategies.** For example, microbes can bind to selenium to prevent toxic levels in mining waste from leaching into water. **Remediating slag containing residual copper could introduce microbes that bind with the copper and enable extraction."***[3]

Sources: Statements are based on internal and external expert interviews, as well as research.
[1]Hann (2022), Copper tailings reprocessing in ETC (2023), Mineral Requirements for the Energy Transition
[2]IRP (2023), Enabling the energy transition - IRP Co-Chair Opinion Piece
[3] EY (2023). Top 10 business risks and opportunities for mining and metals in 2024 (link)

CONCLUSION: THIS SYNTHESIS STUDY IDENTIFIES AN APPETITE FOR INCREASED MULTI-STAKEHOLDER DIALOGUE ON TRANSITION MATERIALS IN EUROPE, AND A "MENU" OF TOPICS FOR DIALOGUE

STUDY KEY TAKEAWAYS

- Solving the challenges around the responsible supply of transition materials, taking in account of both an unavoidable increase of transitions materials supply and feasible demand-side actions is **a generational challenge for Europe with wide implications for society and many complex challenges that still need to be solved.**
- **Increased multi-stakeholder dialogue, particularly between industry and civil society organisations**, could contribute to solving these complex challenges and help to ensure that scale up of transition material supplies brings socio-economic benefits in Europe and minimises environmental impacts. **This dialogue needs to have representation of Global South stakeholders.**
- **Mistrust between industry and civil society is a barrier that must be overcome** through careful design of a dialogue process, drawing on successful examples in the recent past.
- **This synthesis study provides promising evidence of an appetite for increased multi-stakeholder dialogue from various different stakeholders and provides a menu of potential topics for dialogue.**

"There are some topics that we will never find consensus on with industry. But a dialogue process is nonetheless vital. We need to talk to the other sides, otherwise myths and hearsay spread."

Civil society interview for this study