

Klimat- och näringslivsdepartementet
Enheten för branscher och industri
Regeringskansliet
Stockholm
Sverige

Remissyttrande från RISE gällande EU-kommissionens förslag till förordning om kritiska och strategiska råmaterial - European Critical Raw Materials Act KN2023/02645

Summary

RISE is an independent state-owned Research and Technology Organization, RTO, with the task to strengthen Swedish competitiveness and sustainable development. RISE is the fourth largest RTO in Europe with more than 3 000 employees located on 30 sites in Sweden.

RISE have during the last years been actively involved in mapping resources, developing solutions for sustainable supply of CRM from primary, secondary as well as tertiary sources. Sweden's transition towards circular flow of material and fossil free energy accelerate the development. Thus, RISE performs research on system perspective, holistic view and sustainable evaluations. In recent years the question of supply and demand have attracted attention in relation to resilience and preparedness.

We see that the commission's proposal to a large extent address relevant topics such as benchmark and goals, strategic projects and definitions, circularity and environmental assessment.

RISE's views and comments on the present proposal mainly concern the parts that relate to definitions on strategic and critical materials, strategic projects and the proposal on stress test, permitting processes, value chain and a holistic system perspective including prolonged lifetimes and material recycling aspects. Harmonisation between environmental legislation including permit procedures, classification of hazard provided by CLP and REACH, and current product legislations (i.e. ESPR, Batteries Regulation) and envisaged regulation within the raw material scope is needed, as well as a sufficient degree of flexibility to deal with future scenarios.

Summary of key comments / recommendations

RISE support the act on establishing a framework for ensuring a secure and sustainable supply of critical raw materials.

- Criticality is a dynamic concept, we suggest working on legislation for a broader set of raw materials, rather than building initiatives or bureaucracy around a specific list for strategic and/or critical raw materials.

RISE Research Institutes of Sweden AB

Postal address
Box 857
501 15 BORÅS
SWEDENOffice location
[Address]
[Zip code] [City]Telephone / Telefax
+46 10-516 50 00
+46 33-13 55 02Confidentiality level
C2 - InternalE-mail / Internet
info@ri.se
www.ri.seReg.number
556464-6874
VAT number
SE556464687401

- We agree on the importance of having enough qualified staff and making them available in an efficient way for decision-making processes. As well as having sufficient financial, technical and technological resources at authority level.
- It is important that the timeline of the permitting process does not overshadow the quality of the work in terms of both ecological and social assessment and acceptance by the local community and society at large.
- We believe it is also important to make permitting processes adaptable for new innovative companies working to establish sustainable extraction of critical materials, for example through recycling or transformation in Europe..
- We are reluctant to link strategic projects only to lists of defined strategic and critical raw materials. Some things in the law refer to SRM (e.g. targets/benchmarks, streamlined permitting process targets, recognition as strategic projects), while other things refer to CRM in general (e.g. national resource planning and management), which can be confusing.
- We are hesitant to choose strategic projects too accelerated by permits and investment processes. Instead, the EU legislation on which national permitting processes are based (eg the Water Directive, biodiversity and endangered species) should be applied and clarified for mining and extraction of raw materials in general.
- It should be ensured that the EU regulations such as waste framework and the emerging circular models and initiatives are synchronized for the successful implementation of the regulation.
- We too recognize the importance of systematically monitoring supply risks from a life cycle perspective and taking into account value chains. We also support the development of stress tests consisting of an assessment of the vulnerability of the Union supply chain of relevant strategic raw materials.
- We are in favour of strengthening sustainability through a more circular framework and waste as a resource. However, we think it is important to highlight that the use of recycled materials should be made as a complement to domestic, sustainable, primary purchases until sufficient volumes of recyclable materials are in the cycle to not impede longevity.
- We lack a discussion on potential consumption reduction measures to ensure product value creation decoupled to material use.
- We are very positive to technical standards on European level, to support and harmonize the efforts on the common market. These should include social and environmental impact from raw materials sourcing and refinement, recycling actions, etc.
- We strongly support ensuring a level playing field for raw materials, components and products by requiring footprint documents regardless of whether the raw material, component or product is produced inside or outside the EU.
- We are very much in favour of encouraging and initiating more research and innovation, especially in the field of resource efficiency, recycling and substitution of key raw materials. Resource efficiency should cover not only the raw materials produced and their circularity, but also the use of the extensive residual flows resulting from mining, concentration and extraction.
- It is stated that only EU can solve the issue, not individual member states. But EU has created the regulation that to large extent hinders the development of prospects. Better to work on these for Raw Materials in general, rather than work on assigned exceptions.

Summary of actions that RISE can contribute with

Building on RISE's experience and expertise, the research institute can support Europe's development with, for example, the following initiatives:

- Provide available and qualified expertise for complex issues. Contribute to re-skilling and up-skilling of employees.
- Monitor supply risks from a life cycle perspective as well as a holistic value chain perspective. We can also develop, actively support and conduct stress tests, which consist of an assessment of the vulnerability of the Union's supply chain of the relevant strategic raw material to supply disruptions by estimating the impact of different scenarios that could cause such disruptions and their potential effects.
- Perform system calculations for long-term and optimal resource utilization to ensure that we follow the principles of a circular economy.
- Actively participate with input and expertise in standardization processes, based on our knowledge and experience metrology, standardization procedures and certification.
- A very broad knowledge of analysis and metrology in chemistry, raw materials, materials and products. Both tests related to physical properties, but also complex combinations and development of new measurement models that include sustainability in all dimensions.

Background

Raw materials are found at the beginning of all industrial value chains. The focus of this Regulation is on non-energy, non-agricultural raw materials that are important for the EU economy, the supplies of which are subject to a high level of supply risk. These critical raw materials (CRMs) are often indispensable inputs for a wide set of strategic sectors including renewable energy, the digital industry, the space and defence sectors and the health sector. At the same time, extraction and processing of CRMs can have negative environmental impacts, depending on the methods and processes used, as well as social impacts.

Table 1 refers to critical and strategic raw material list criteria related to Annex 1.

Critical Raw Materials	Strategic Raw Materials
Defined by economic importance for EU industry vs Supply risk.	Introduced with the CRM Act. Defined by relevance for: <ul style="list-style-type: none"> • the green transition, • the digital transition, and • defense and space applications.
To be updated every fourth year (previously every third year: 2011, 2014, 2017, 2020).	To be updated every fourth year.
Quantitative assessment by EC: <ul style="list-style-type: none"> • >80 materials used in the EU economy are assessed for supply risk and economic importance based on average data for the latest complete 5-year period. 	Qualitative scoping: <ul style="list-style-type: none"> • All raw materials screened within the criticality assessment are mapped according to use in and importance to the technologies that support the twin green and digital

<ul style="list-style-type: none"> • <i>Supply risk</i> is determined by global and EU supply concentration, EU import reliance, input of secondary materials, and technical substitutability. • <i>Economic importance</i> is calculated by the share of use in NACE 2-digit-level-sectors and their value added, taking into account the economic substitutability. • The raw materials passing the thresholds are so called critical raw materials. 	<p>transition, and defence and aerospace objectives.</p> <ul style="list-style-type: none"> • If the raw material is of high importance to a technology, additional factors are considered, based on a semi-quantitative approach laid out in Annex 1.
	<p>Complementary approach to ensure a more dynamic perspective on expected global demand and supply developments, and to identify the raw materials needed to achieve the EU's twin transition and defence and aerospace objectives.</p>

General comments

RISE Research Institutes of Sweden welcomes and support the proposal for a regulation to secure more sustainable and resilient raw materials supply critical for the green transition and would like to give the following input to the development of the EU CRM Act. In relation to low diversification, untapped potential and adverse social and environmental impacts of European mining, extraction and refinement often have a lower footprint (e.g., climate, biodiversity, water quality, and work force safety), than many of the producing countries our supply relies on, where environmental and working legislation is weak. Although the critical materials list has had its positive sides drawing attention to the problems with high supply dependence from outside EU, there are also risks. Many actors, including authority representatives and politicians, seem to miss-interpret the concept and think that “non-critical metals and minerals are not needed”. We also agree that more focus must be placed on the problem stated in future calls and funding, especially initiatives strengthening development of sustainable primary, secondary and tertiary extraction via waste and circularity frameworks. Actions that support entire value-chain actions are welcomed. This would support a level playing field for European actors as well as strategic non-European partnership.

Specific comments and opinions

RISE's comments are focused on the chapters and articles that concern technical and environmental aspects as well as the involvement of value chain actors. Comments are provided below on Chapters I-VI.

Chapter I - general provisions and definitions.

Regulation states that the general objective is to ensure the EU's access to a secure and sustainable supply of critical raw materials by pursuing four specific objectives: to strengthen EU's capacities along the different stages of the value chain, to diversify EU's imports of raw materials, to improve monitoring and risk mitigation capacities and to ensure a well-

functioning single market while improving the sustainability and circularity of critical raw materials. It sets benchmarks to mark progress on the first two objectives described here.

The benchmark is to reach:

- (i) Union extraction capacity is able to extract the ores, minerals or concentrates needed to produce at least 10% of the Union's annual consumption of strategic raw materials, to the extent that the Union's reserves allow for this;
- (ii) Union processing capacity, including for all intermediate processing steps, is able to produce at least 40% of the Union's annual consumption of strategic raw materials;
- (iii) Union recycling capacity, including for all intermediate recycling steps, is able to produce at least 15% of the Union's annual consumption of strategic raw materials.

RISE response These overarching goals seem relevant. The targets/benchmark for the SRM to 2030 reflects the view EU has. 10% from mining and 15% from recycling (and 75% of consumption from import) indicates that we are still hesitant to domestic mining. Related to primary sources, 10% for mining is already a bold target, since the processes takes so long time. For secondary and tertiary sources 15% for recycling is an ambitious target, since many products are new and still have a long time to EoL in parallel with exponentially increasing use (to meet the climate targets). So probably these targets are bold enough for the chosen “system as usual”, whereas we might have needed a systemic shift to manage even bolder targets. For instance we lack a discussion on potential consumption reduction measures to ensure product value creation decoupled to material use.

Chapter II - lists critical and strategic raw materials.

The lists are to be reviewed at least every four years, using the methodologies provided in Annex I and II. These lists set the scope of the different measures.

RISE response The critical materials list has defined scarcity related to specific elements with high demand, price, and availability in the market. Although the critical materials list has had its positive sides drawing attention to the problems with high supply dependence from outside EU, there are also risks. Many actors, including authority representatives and politicians, seem to miss-interpret the concept and think that “non-critical metals and minerals are not needed”. Criticality is also a relatively volatile concept, where the status of a certain raw material can change in 2-3 years due to technology development, geopolitics, opening or closure of a mine, or extraction from rest streams, which needs to be related to the time periods needed for investments and permitting processes (up to 20-30 years). Furthermore, many raw materials that are critical are mined as by-products from mining of a non-critical raw material, why this type of criteria-based decision-making soon can be problematic and increase unpredictability on the market. We suggest working on legislation for a broader set of raw materials, rather than building initiatives or bureaucracy around a particular list.

To further introduce a list of strategic raw materials may confuse the situation even more, since it may have a tendency to overlap with the strategic list and also due to future scenarios we again suggest working on legislation for a broader set of raw materials. Looking on how the lists have developed since 2011 there are uncertainties on short time perspectives regarding CRM and SRM. Previously identified non-critical raw materials such as iron, copper, zinc, nickel, and manganese still crucial for the green transition, and although these traditionally have a longer history of production within EU, a higher demand together with more difficult environment permits of today can affect these and impair European production capacity. In the proposal, copper, nickel and manganese are to be included in the list which again show volatility of the criteria for being critical/strategic. A CRM or SRM might also be biproduct of

a non-CRM/-SRM. How are these uncertainties handled? Will the introduction of a “new list” (SRM) break this trend or only cause more bureaucratise and unpredictability’s?

Chapter III - framework to strengthen the EU’s strategic raw materials value chain.

A framework that support EUs industry by selecting and implementing Strategic Projects, that will be eligible for streamlined permitting processes and facilitated access to financing opportunities, which will be also improved by better coordination.

Section 1 sets out the rules governing the selection and implementation of Strategic Projects, including the criteria for being recognised as a Strategic Project, the procedures for their recognition and implementation.

Section 2 sets out streamlined permitting processes for critical raw material projects and in particular Strategic Projects.

Section 3 aims to provide enabling conditions for Strategic Projects, including Member State support to accelerate their implementation, coordination of financial support and facilitation off-take agreements.

Section 4 lays out provisions to develop general exploration programmes in Europe to facilitate the development of exploration and extraction projects.

RISE response An effective one stop shop procedure seem highly attractive. We recognize the importance of having a sufficient number of qualified staff, and making them available effectively, as well as sufficient financial, technical and technological resources at authority level. Clarifications, advice, and tools are needed with respect to weighing impact versus societal benefit. It is also important that the time line for the permit procedure do not overshadow the quality of the work in relation to environmental assessment and social acceptance from local community and the wider society.

We have doubts about ONLY link strategic project to the lists of defined strategic and critical raw materials. Some things in the Act refers to the SRM (e.g., the targets/benchmarks, goals on streamlined permitting process, recognition as Strategic Projects), whereas other things apply to CRM in general (e.g., National resource planning and management), which may be confusing.

We are also hesitant towards selecting strategic projects for fast-track permits and investment processes (see comments under *Chapter II*). Instead, the EU legislation that national permit processes rely on (e.g., water directive, biodiversity and endangered species) should be clarified for mining and extraction of raw materials in general. We also think it is particularly important to make the processes adaptable for new innovative companies working to establish the extraction of critical materials through, for example, recycling or conversion in Europe. Exploration is needed, so great to instruct the national geological surveys to increase base mapping, but exploration needs capital investments and decent prospects that a mine can be opened. Is this legislation ensuring enough? Who wants to take the investment risk if a project might be considered strategic one year, but not the next? Better to make permitting process more streamlined and guided for all types of commodities, instead of a wobbly VIP line for a few?

Chapter IV – a mechanism for coordinated monitoring of critical raw materials supply chains and provides measures to mitigate supply risks.

It sets out a framework for systematically monitoring critical raw materials supply risks at different stages of the value chains. It also sets out a framework for risk mitigation by

coordinating strategic stocks strategic raw materials, by requiring large importers and manufacturers to regularly audit their supply chains, and facilitating the joint purchases of strategic raw materials.

RISE response We recognize the importance of systematically monitor supply risks with a life cycle perspective considering value chains. We also support the development of stress tests that consist of an assessment of the vulnerability of the Union's supply chain of the relevant strategic raw material to supply disruptions by estimating the impact of different scenarios that may cause such disruptions and their potential effects. This could be a valuable tool for strategic project prioritisation rather than selection via list for critical and strategic raw materials.

Chapter V - circularity of critical raw materials markets and lowering the environmental footprint of critical raw materials.

Section 1 sets out rules for Member States to adopt and implement measures on circularity, in particular with regard to waste streams with high critical raw materials recovery potential, and for Member States and extractive waste operators to assess the potential to recover critical raw materials from extractive waste sites. It also improves the circularity of permanent magnets by requiring information on the type and composition of permanent magnets incorporated in products as well as on their recycled CRM content. It provides, following a dedicated assessment, for the introduction of minimum recycled content thresholds.

Section 2 sets out rules for the recognition by the Commission of certification schemes related to the sustainability of critical raw materials. It also contains provisions regarding the declaration of the environmental footprint or critical raw materials placed on the EU market.

Section 3 contains rules on free movement, conformity and market surveillance related to products incorporating permanent magnets and CRMs for which the environmental footprint has to be declared.

RISE response We are in favour of strengthening sustainability through a more circular framework and waste as a resource. However, we also think it is important to highlight that the use of recycled materials should be made as a complement to domestic, sustainable, primary purchases until sufficient volumes of recyclable materials are in the cycle, so that recycling does not take place at the expense of shortening the lifespan of functional products. System calculations for long-term and optimal resource utilization are important and an issue where the institutes' knowledge can be put to good use.

We are also very positive to technical standards on European level, to support and harmonize the efforts on the common market. These should include social and environmental impact from raw materials sourcing and refinement, recycling actions, etc.

We are in high favour of ensuring a level playing field for raw materials, components, and products, by demanding footprint documents irrespectively if the raw material, component, or product is produced within or outside the EU. With our high environmental standards and legislation, it should be obvious that we measure our total footprint also when importing.

We are very positive to more research and innovation being encouraged and initiated, particularly on resource efficiency, recycling, and substitution of critical raw materials. The resource efficiency should not only involve the produced raw materials, but also the utilization of the voluminous rest streams emanating from the mining, concentration, and extraction processes.

The Commission propose to adopt calculation and verification rules for a specific critical raw material if it has concluded, having considered the various relevant environmental impact categories. To adopt such rules and an environmental footprint declaration we find positive in general but ONLY if aligned with other ongoing EU initiative on product pass ports (i.e. ESPR, Battery regulation).

Chapter 6 - strategic Partnerships

Member states ensure coherence between their bilateral cooperation with relevant third countries and the Union's non-binding Strategic Partnerships with third countries, whose scope at least includes critical raw materials value chain. To support the Commission in the implementation of the cooperation measures set out in Strategic Partnerships.

RISE response It is stated that only EU can solve the issue, not individual member states. But EU has created the regulation that to large extent hinders the development of prospects. Better to work on these for Raw Materials in general, rather than work on assigned exceptions. The SRM projects still needs to manage though interpretation of environment legislation, so how would a specific “quick line” help? Better to, on EU level, work on guidance and tools to help in goal conflicts for any raw materials, not only SRM.

Positive to the parts with Strategic projects in third countries, should meet the same sustainability standards as projects within EU.

Yours sincerely, Christina Jönsson
Vice president at RISE, Material and Production division

RISE Research Institutes of Sweden AB

