

EuroGeoSurveys feedback on the proposed regulation for a Critical Raw Materials Act

Introduction

Achieving the energy transition and the Green Deal depend on sustainable use of the subsurface and its contained resources: critical raw materials (CRMs), geothermal energy, and space for storage of hydrogen, compressed air and other sustainable energy carriers, CO₂ or nuclear waste. At the same time, subsurface resources – including groundwater – must be protected against risks of energy and industrial applications, mining, agriculture, and climate change impacts. Data, information and knowledge of the subsurface are indispensable to achieve Europe's goals regarding CRMs. EuroGeoSurveys – and a future sustainable Geological Service for Europe – enables sustainable and responsible use of our subsurface resources. As the scientific reference partner of the EU, we deliver subsurface knowledge as the foundation of a sustainable future for Europe.

EuroGeoSurveys is a not-for-profit association, established in 1971, providing vital subsurface knowledge to support the EU's competitiveness, social well-being, environmental management and international commitments. EuroGeoSurveys coordinates a network of 37 Geological Surveys of Europe, a workforce of more than 10,000, collaborating through 10 scientific expert groups and 1 task force. We address European issues in the field of geoscience (science of the subsurface) and collaborate on projects that inform EU and national policy for the benefit of all European citizens. EuroGeoSurveys welcomes the proposed CRM Act as a positive action toward supporting and boosting the EU exploration and mining industry and increasing the resilience of EU raw materials supply chains, necessary to achieve the Green Deal. Specifically, we note the **recognition of the important roles that the National Geological Survey Organisations (NGSOs) and, collectively, EuroGeoSurveys (EGS) will play** in its implementation.

Key recommendations

- The **National Geological Survey Organisations (NGSOs)** are the **key national authorities** who have the required national subsurface data and knowledge to inform on Europe's CRM resources and potential and thus the NGSOs should play a role in implementation of the Act.
- The **European Geological Data Infrastructure (EGDI), supported by the NGSOs, should be the platform of choice** for delivery of CRM data (and other related subsurface data).
- The **national exploration programmes** (Article 18)
 - **should be managed by the NGSOs** with facilitation and support from EGS in relation to guidelines, best practices, and harmonization.
 - should be focused on pre-competitive data, knowledge, and services.
 - should include reprocessing of existing relevant data, as well as acquisition of new data such as geological mapping and modelling, strategic geophysical airborne surveying and geochemical surveying, to uncover new mineral potential, new ground-based tactical geophysical and geochemical surveys to uncover new mineral potential, including deep discoveries and offshore areas.
 - should exclude downstream studies involving, e.g., feasibility studies, resource calculations, and environmental impact assessments.
- The **activities related to recovery of CRM from extractive waste** (Article 26)
 - **Should be managed by the NGSOs** with facilitation and support from EGS in relation to guidelines, best practices, and harmonization, as well as technical and administrative support where requested.
- Regarding the **European Critical Raw Materials Board**:
 - The **NGSOs should be represented** on the subgroup bringing together national geological institutes or surveys to coordinate national exploration¹ programmes (Article 35/6b), supported by EGS.
 - The NGSOs should be represented on the subgroup bringing together national supply and information agencies covering CRMs (Article 35/6c), supported by EGS.
- **EGS should provide facilitation and support to the NGSOs** in their activities related to implementation of the Act, as well as administration and technical support where requested, particularly in regard to guidelines, best practices, and harmonization.
- We regard that the proposed **one-off cost of 182,4 million euro** (referred to in the Impact Assessment Report of the proposed CRM Act) **is considerably too low** to cover the whole EU for exploration.
- **EGS and NGSOs can contribute to strategic partnerships** with third countries, particularly given our strong networks in Europe, Africa, Latin America, Asia, and close relationships with Greenland.
- **EGS and NGSOs can support geoscience education** to reduce the widening skills gap in CRM-related fields.
- EGS involvement via supporting the roles of the NGSOs through guidelines, best practice, and harmonization, offers the possibility to implement some components of a **Geological Service for Europe**, reducing administrative burden to the Commission and to the Member States.

¹ The term 'exploration' as used in the proposed CRM Act is interpreted here as meaning pre-competitive data, knowledge, and services that would normally be provided by geological survey organisations.

The roles of EGS and the NGSOs in implementation of the Act

The National Geological Survey Organisations (NGSOs) of Europe are the key national authorities who have the required national data and knowledge to support implementation of the proposed CRM Act. EuroGeoSurveys recognizes the following roles where the NGSOs, with facilitation and support from EGS, should play a role in implementation of the Act:

Article 12: Planning

The NGSOs, with facilitation and support from EGS, can provide relevant CRM data and knowledge for use by national, regional, and local authorities in **land use planning**. For the purposes of implementing the Act, this data and knowledge can be delivered through an existing framework – the [European Geological Data Infrastructure \(EGDI\)](#) – and the associated Knowledge Hub under development through the [Geological Service for Europe \(GSEU\)](#) project.

Article 18: National Exploration Programmes

Article 18 refers to establishment of “national programmes for general exploration targeted at critical raw materials” including “measures to increase available information on the Union’s critical raw material occurrences, including deep ore deposits”.

EGS considers that such **national programmes should be focused on pre-competitive data, knowledge, and services** that are needed to reduce exploration risk and thereby increase investment attractiveness. From our perspective, these programmes should target onshore, offshore, and deep discoveries and should include:

- new geological mapping and modelling;
- reprocessing of existing relevant data;
- strategic geophysical airborne surveying and geochemical surveying, to uncover new mineral potential;
- new ground-based tactical geophysical and geochemical surveys, and drilling to uncover new mineral potential.

While subsets of the work listed above are already carried out by the NGSOs in many Member States, we stress that the existing level of work falls far from fulfilling the requirements of Article 18 and the ambitions of the Act. Considerable additional commitment of resources will be required.

Further-downstream studies involving, e.g., feasibility studies, resource calculations, and environmental impact assessments are outside the scope of such national programmes and should be left to exploration and mining companies.

EGS can provide a mature technical framework for ensuring the support and consistency of the national exploration programmes. EGS has an existing network of mineral resource experts – the Mineral Resources Expert Group, one of the largest of our expert groups, currently with 79 members from 35 countries. EGS and its members also have extensive experience via existing pan-European projects (GSEU, SCRREEN2, AfricaMaVal, EU-LA Policy Dialogues, EGDI, START) and previous projects (FRAME, Mintell4EU, Promine, euRARE, ProSUM) in mineral resources, including primary and secondary mineral resources, onshore and offshore. Specifically, regarding secondary CRMs, NGSOs can contribute data and expertise to the compilation of extractive waste databases of CRM potential. Through this network, we have the expertise, data, and

national and EU-level knowledge base to advise and support both national programmes and Strategic Projects. Coordination of national exploration programme reviews and updates between NGSOs, with support from EGS, could also inform future iterations of the CRM list. In this regard, we reiterate our previous advice from our response to the Call for Evidence that there is a strong need for construction materials, such as natural stone, sand, gravel and crushed rock for European near zero energy intelligent housing and infrastructures and that these raw materials should also be supported through the CRM Act. EGS and the NGSOs also have close connections with national mineral intelligence units, which are hosted within or in association with NGSOs (e.g., DERA, Ofremi). Furthermore, our expert knowledge and data is interconnected between expert groups in mineral resources, marine geology, water resources, energy, urban geology, spatial information and other areas where an interdisciplinary approach may be needed towards prioritization of land and subsurface use, and these expert groups have strong links with industry, academia, and local, national, and EU-level authorities.

EGS also has the existing data and knowledge infrastructure to serve as the framework for data and knowledge collection and delivery. From our extensive project work, we have existing INSPIRE standard harmonized datasets (FAIR), which are already publicly available. We are also central to efforts to promote and implement UNFC standards and training in Europe in partnership with UNECE, are active in the UNECE EGRM Bureau, are the largest community of UNFC practitioners and with the largest pool of potential UNFC experts and are in the process of establishing an International Centre of Excellence on Sustainable Resource Management (via GSEU), through which UNFC activities, including training, will be implemented. We have a common commitment to harmonized pan-European data and standards. We already have in place an open access web portal hosting the European Geological Data Infrastructure (EGDI), which is the logical framework for the website referred to in Article 18(5). We have in place cross border cooperation on minerals projects (referred to in 18(6a)), and have an existing integrated minerals database (referred to in 18(6c)). We recognize the importance of ensuring all these data to be widely available, subject to national legislation and consideration of strategic issues.

We note that the Impact Assessment Report (pg 106) lists a **one-off cost of 182,4 million euro to cover the whole EU for exploration** (dependent on MS existing capacity and coverage) plus 26 (Commission) +7 FTE (MS) engagement. The figure of 182,4 million euro is, from our knowledge, far from the reality of the cost of this ambitious programme. In particular, acquiring exploration-relevant scale geophysical and geochemical surveying data for the EU (e.g., aeromagnetics, gravity) will be far more expensive.

Article 26: Recovery of critical raw materials from extractive waste

NGSOs can contribute to knowledge of potential recovery of **CRMs from existing extractive waste** from mine dumps (implementation of measures for recovery required within 4 years) regarding quantities and concentrations and possibly technical and economic recoverability (26(3)). Similarly, NGSOs can also contribute approximate quantities and concentrations of raw materials in extractive waste sites. Depending on the number of waste sites and the existing data, the current 1-year deadline after entry into force may be too short for the required field visits, analytical work, data analysis, and reporting (26(4)).

NGSOs are best placed to carry out representative geochemical sampling for waste sites where such data does not already exist (6(b)). Where these data indicate potentially recoverable quantities of CRMs, the NGSOs are also best placed to carry out the required detailed analysis (6(c)), as required by 3 years from entry into force. Furthermore, the NGSOs can deliver the data in a database following UNFC (26(7)). These data and knowledge

services provided by the NGSOs can be supported by EGS with guidelines, best practices, and data harmonization.

Article 35: Composition and functioning of the European Critical Raw Materials Board

The NGSOs, supported by EGS, would form the subgroup bringing together national geological institutes or surveys to coordinate national exploration programmes, as identified in 35(6b). As some NGSOs are closely linked to national supply and information agencies (mineral intelligence agencies such as DERA and Ofremi), the NGSOs, supported by EGS, should also be represented on a subgroup bringing together national supply and information agencies covering CRMs, as identified in 35(6c). Also relevant is that EGS has a Mineral Resources Expert Group (MREG), representing relevant expert level knowledge from the MSs and with a demonstrated history of technical advisory work through GeoERA and GSEU projects, as well as directly towards the European Commission within the Raw Materials Supply Group. The subgroup identified in 35(6b), and with representation also on the subgroup listed in 35(6c) should comprise high-level representatives of the NGSOs with facilitation and support from EGS and with expert technical advice and support from MREG as required.

Regarding **indicators of performance** as defined in the Act, EGS and NGSOs can contribute toward “The amount of data and maps of EU mineral resources developed in the MSs.”

The EGS network can also contribute to **strategic partnerships with third countries**, particularly in Europe, Africa, Latin America, Asia, and Greenland, given our strong networks and EGS and member NGSOs involvement in current international projects encompassing mineral resources. Such projects and engagements include PanAfGeo and AfricaMaVal, the Minerals Network Development Platform and Policy Dialogues, and our active engagement with the Organisation of African Geological Surveys and the Association of Iberoamerican Geological and Mining Surveys.

The supporting Communication to the proposed CRM Act notes that “The establishment of viable CRMs value chains in Europe cannot take place without the proper development of skills (geologists, metallurgists, mechanical engineers, mine workers, sorters, recyclers and also high-tech professions relevant for the sector etc).” However, global geoscience student numbers have been in general decline for almost a decade. EGS and the NGSOs, as a large European expert network, already engage in geoscientific training (e.g., through the PanAfGeo project) in key fields required for boosting domestic CRM supply and could act to **support domestic training of geoscientists**.

Importantly, **we see the facilitation and support roles for EGS in implementation of the proposed CRM Act as a pilot for a component of a future Geological Service for Europe based on a sustainable network of NGSOs**.

We support an EGS-level response to ensure the EU consistency of the various programmes, and to support national-level requirements of and contributions to implementation of the CRM Act. We see EGS as a powerful and efficient tool for the EU in contributing to implementation of the Act, through implementing some components of the so-called Geological Service for Europe. The EGS-facilitated sharing of knowledge, guidance, capacity-building, and best practices (and, when needed, technical and administrative support on a case-by-case basis) will facilitate efficient data and knowledge delivery. This will reduce administrative burden and provide a more streamlined basis for EU-level subsurface management, decision support, resource classification, visualization, and integration of results with other types of geoscience data and information,

and linking of national and European scale data through a single open access gateway – the European Geological Data Infrastructure (EGDI).

Furthermore, the same coordinated NGSO efforts supported and facilitated by EGS could serve required geological data and advice for both the Net Zero Industry (NZI) and the CRM Acts. The collection, harmonized compilation, and delivery of such geological data through the same infrastructure will provide a better basis for subsurface management, decision support, resource classification, visualization, integration of results with other types of geoscience data and information, and linking of national scale and European scale data through a single gateway in the European Geological Data Infrastructure (EGDI). This will reduce administrative burden in implementing both the CRM and NZI Acts with the potential to also provide a framework for delivering subsurface data that may be required for emerging sectors and new and competing uses of the subsurface, that may include storage of fuel, heat, cold, water, infrastructure, etc. – all areas in which the NGSOs can provide valuable data, information, and knowledge.



The Geological Surveys of Europe

