

## Summary Document: Obtaining reliable data on mineral resources to support supply security and enhance strategic resources management

International Raw Materials Observatory, Brussels

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### Purpose and Objective of Document

This document provides an overview of emerging themes from an Expert roundtable on the use of classification systems based on the Standard Definitions of the Committee for Mineral Reserves International Reporting Standards (CRIRSCO) and of the United Nations Framework Classification for Resources (UNFC). The roundtable was hosted by the International Raw Materials Observatory on 24 January 2023.

The Expert roundtable was organised in collaboration with the United Nations Economic Commission for Europe (UNECE), the Pan-European Reserves and Resources Reporting Committee (PERC) and the European Federation of Geologists (EFG), and it brought together a small group of invited experts to discuss how to reinforce data confidence and transparency in exchanges between industry, investors, geological surveys, national governments and EU policy-makers on strategic mineral reserves, resources, resource potential and certainty of assessment.

This document summarises findings from the roundtable, held under the Chatham House Rule.

### Background Information

Long-term societal access to mineral resources is a strategic security and sustainability requirement for Europe's ambition to achieve the Green Deal. For this reason, reliable information on domestic and other mineral inventories is crucial to support the EU policy development, helping to identify infrastructure investment needs and guide research and innovation programmes. This information is also essential to Member States, industry value-chains, and investors. The two primary sources of information on mineral deposits in Europe are (mining or mineral exploration) companies and (national and/or regional) geological surveys. These organisations use different methods and standards in the reporting of mineral deposit estimates, among them are the CRIRSCO family of reporting standards and the United Nations Framework Classification for Resources (UNFC).

The CRIRSCO-aligned reporting codes, such as the European PERC Reporting Standard, the Australasian JORC Code, or the Canadian CIM Definition Standards and NI 43-101 legislation, were developed to provide the financial world with a tool to more reliably judge the viability of mineral exploration and mining projects. While originally the assessments focused on the geological, extraction and processing technology and related economic aspects, in recent years it became apparent that the potential viability of projects also depends on the environmental, societal and governance (ESG) context. Thus, the purpose of CRIRSCO-aligned reporting is to separate potentially viable projects from those that, for a variety of reasons, will not be viable. These reports use consistent terminology and provide guidelines for the quality assurance used in company estimates of mineral

resources and mineral reserves through the use of vetted experts, labelled ‘competent persons’ or ‘qualified persons’.

The UNFC was developed as an umbrella classification framework for governments, industry and finance sector to strategically assess their oil & gas and mineral inventories with a view to developing policy planning. In recent years the subject area was widened to include a variety of energy conversion systems (fossil fuel, renewables such as wind-, hydropower-, or geothermal-systems, as well as nuclear energy systems). UNFC draws on a wider range of data, from early-stage data obtained from geological reconnaissance or statistical forecasting to information collected by different reporting templates, including CRIRSCO. To facilitate longer-term strategic planning it also encompasses projects that are currently not economically viable, since the economic context, technologies and ESG context can change over time.

There appears to be a perception in industry and also among governments that the two systems do the same thing and are competing. Given that industry listed at the stock exchanges largely uses CRIRSCO-aligned standards to report to stock markets, there is a resistance to providing information using UNFC, as this is seen as an unnecessary duplication of work.

On the other hand, the EU has promoted over the past few years the use of UNFC due to its balanced approach among degree of confidence, feasibility and environmental-socio-economic factors and bridging among different classification potential, inter alia for their raw materials policies and projects.

There already exists a ‘bridging’ document between the two systems, published in 2015, that facilitates the data transfer from CRIRSCO-aligned reports (using the 2013 template) to the UNFC-2009 classes and categories.

## Summary of findings

### Implications of data diversity in national mineral inventories for the raw materials security policy in Europe

It was noted that data diversity in national mineral inventories across Europe (see [JRC database on National Reporting systems](#)) has a range of origins. Most national inventories are not aligned with either of the two reporting schemes, using national, including ex-Soviet /old Eastern Block reporting, thus making comparisons between EU member states difficult to impossible. There are also many intrinsic sources of uncertainty, such as varying cut-off values when reporting viability. This means that currently, compiling a consistent EU-level strategic assessment of mineral resources is not possible.

## Types of data on mineral raw materials deposits relevant to national and EU policymakers to support the implementation of the EU Green Deal

It was noted that CRIRSCO restricts its reporting to identifying ‘viable’ mineral resources that can be economically extracted and does not include mineral deposits that are ‘unviable’ with no short-term prospects of economic extraction based on current prices or technology. However, currently ‘unviable’ mineral deposits can be strategically very important, as they may become economically, technically, or viable from an ESG perspective in years or decades to come, when technology and societal needs evolve or the economic pressure increases. It is, therefore, important for policymaking that data on ‘viable’ as well as ‘unviable’ mineral deposits are collected at the national and EU levels with the information that is used to determine the viability at a given moment.

## Integration of information reported by companies (using the CRIRSCO standard) and information on mineral deposits that have no reasonable prospects for economic extraction in the near-term

It was noted that most Geological surveys are uniquely positioned to generate the most comprehensive overview of a nation’s geological endowment and, therefore, can contextualise exploration results. At the same time, CRIRSCO-aligned reports and on exploration results and exploitation activities provide detailed, high-quality data and information that enhances national inventories. To ensure the functionality of mineral inventory estimates that combine CRIRSCO, UNFC and other relevant data, it is essential to implement data traceability procedures and to ensure that data with different precision and uncertainties are combined consistently and systematically. This would require harmonising data handling by Geological Surveys at the European level and peer review through a network of practitioners.

## Using reporting standards (CRIRSCO-aligned and UNFC) to attract mineral investors to Europe

It was noted that the UNFC provides a broader high-level overview of potential opportunities, and the CRIRSCO reports show which of these are being actioned and acted upon. Hence, CRIRSCO-aligned reporting provides a selective perspective of mineral endowments as only ‘viable’ projects are effectively reported, and given the inherent assessment uncertainties, including changing economic conditions that determine the viability of the exploitation of a mineral deposit, the volume of reported resources may vary over time. In contrast, in strategic assessments, long-term considerations may outweigh short-term economic considerations. Consequently, it is likely that investors would turn for strategic information to UNFC and for operational information to CRIRSCO-aligned reports (where available) to obtain a complete set of information.

## On the idea that CRIRSCO and UNFC are in competition

Participants unanimously agreed that there is no real ‘competition’ between UNFC and CRIRSCO-aligned reporting. The narratives that support the idea of competition are rooted in a limited understanding of the purposes and mechanisms of the two schemes. UNFC is a sophisticated

classification tool that enables the strategic management of portfolios of different types of resources (from the company level to the country and transnational levels). But it in fact relies on primary data, including those provided through CRIRSCO-aligned reporting. Participants also agreed that the UNFC is well tailored for resource inventories, since it encompasses all ('viable' and 'unviable') deposits / projects. On the other hand, CRIRSCO-aligned reports provide information on a mineral project to investors, and the high-quality density of these data makes them very relevant for mineral inventories.

### On pathways to enhance UNFC and CRIRSCO cooperation

Participants agreed that the 'competition' issues and perceived resentments between the stakeholders using CRIRSCO and the UNFC should/can be overcome by better communication and by developing CRIRSCO/UNFC joint documents, training programmes and technical workshops. The suggestions on initiatives that would enhance UNFC/CRIRSCO cooperation included:

- The development and release of an updated CRIRSCO-UNFC 'bridging' document, based on the most recent versions of both systems,
- The organisation of regular meetings between stakeholders using both systems,
- The development of joint training courses/workshops for professionals working in the minerals industry and in Geological Surveys,
- The organisation of a workshop for policymakers to detail the complementarities of both systems,
- The production of joint outreach messages about UNFC/CRIRSCO complementarities, targeting different groups of stakeholders.