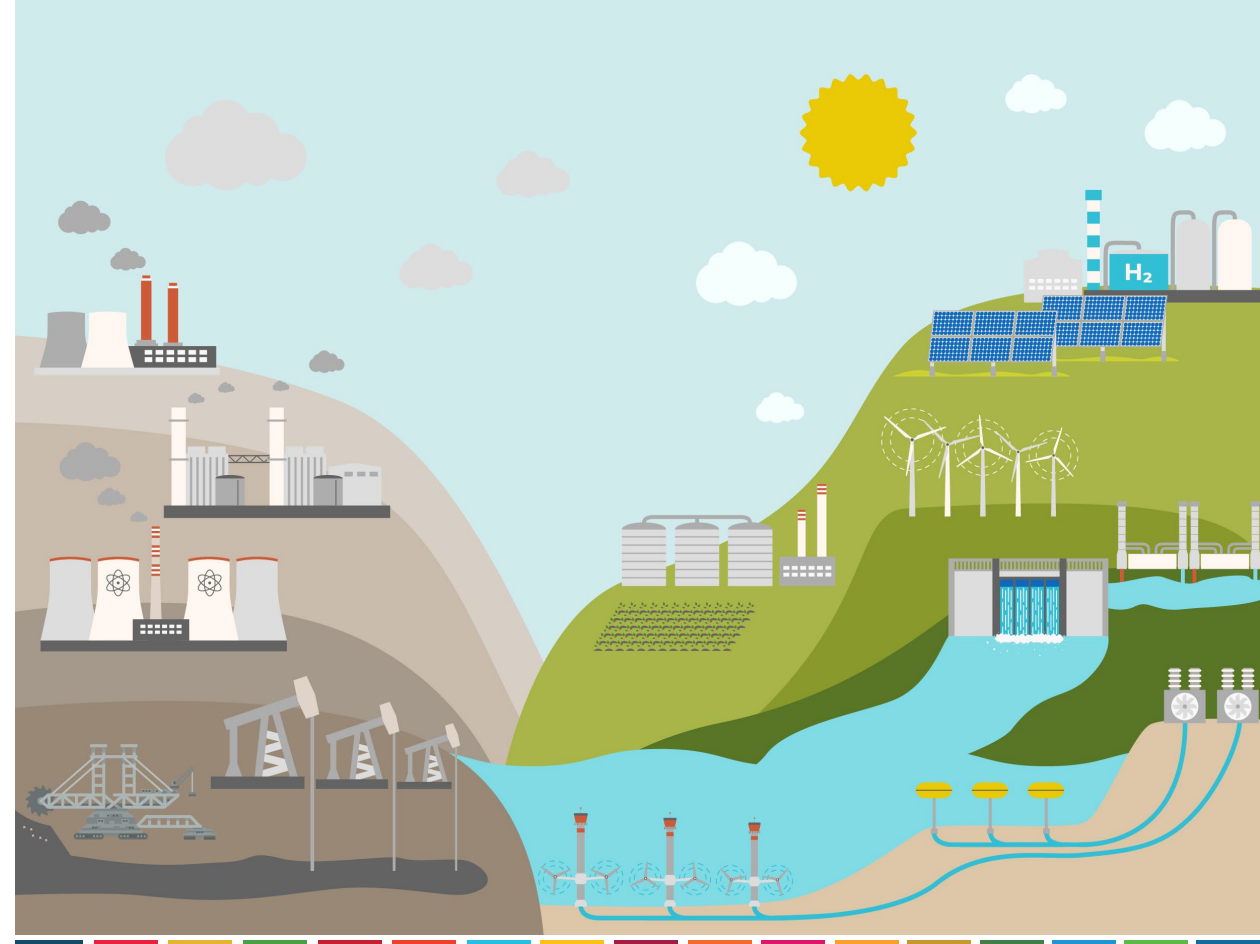


# Proposal for a Critical Minerals Markets Information System (CriMMIS) Trial



**RESOURCE MANAGEMENT WEEK**  
**2024**



**UNECE**

# A Critical Minerals Markets Information System



**Concept: A Critical Minerals Markets Information System (CriMMIS) drawing lessons from G20 Agricultural Markets Information System (AMIS).**

**The aims are to:**

- enhance market data standards;
- improve transparency; and
- lessen price volatility.

**Proposal: A 3-year trial hosted by a neutral inter-governmental organisation using an AMIS-like actor-agnostic approach for a well-defined set of globally accepted critical minerals.**

# Information asymmetries and other market failures in critical minerals markets result from a range of complex factors



## FACTORS FOR CONSIDERATION INCLUDE:

- **BY- OR CO-PRODUCT STATUS** OF MANY CRITICAL MINERALS AND METALS.
- **DISPARATE CLASSIFICATION AND REPORTING SYSTEMS.**
- **VARIABLE QUALITY OF AVAILABLE DATA** AND A GENERAL LACK OF GLOBAL TECHNICAL **STANDARDS.**
- THE RELATIVELY **SMALL SCALE OF VOLUMES** TRADED IN GLOBAL MARKETS.
- LACK OF TRANSPARENCY IN **PRICE-SETTING MECHANISMS.**
- **FACTORS MODIFYING THE DISTINCTION** BETWEEN "RESOURCES" AND "RESERVES" IN COMPANY REPORTING.
- **LONG LEAD TIMES AND POOR SUPPLY ELASTICITIES** IN RESPONSE TO DEMAND SHOCKS.

# Methodological options



**Issues for further discussion include:** information management and analysis; methods; participation and implementation.

**Globally scalable approaches to markets information system design** at varied stages of current use include:

- An on-line information system screening and publishing **open source** raw material production and prices monthly.
- A multi-level **data pooling network** at elemental, component, product and system agnostic value chain levels.
- Labelling of different data sources to form a **harmonised dataset pool** for material stocks and flows analysis.
- A **multi-level global company database** integrating public and private data for supply chain mapping.
- **Further possible approaches** enabling centralised data, decentralised distributed ledgers, and other models.

**Combining such disparate approaches** may, subject to resources, offer a practicable and comprehensive global approach.

**Sources:** [https://www.deutsche-rohstoffagentur.de/DERA/DE/ROSYS/rosys\\_node.html](https://www.deutsche-rohstoffagentur.de/DERA/DE/ROSYS/rosys_node.html). <https://ce-hub.org/knowledge-hub/ce-hub-technical-report-a-guide-to-public-data-resources-for-a-circular-economy-modelling-and-measurement-framework/>. R. Myers et al. 2019. YSTAFDB, a unified database of material stocks and flows for sustainability science. *Nature Scientific Data* <https://www.nature.com/articles/s41597-019-0085-7> M. Matthews. 2023. *Final evaluation of the global supply chains intelligence pilot and identification of potential future impacts* <https://www.gov.uk/government/publications/evaluation-of-the-global-supply-chains-intelligence-pilot-gscip-by-ipsos>. A. Pichler et al. 2023. Building an alliance to map global supply networks. *Science* 382 pp.270-272.

# A CriMMIS Theory of Change

## STRATEGIC OBJECTIVES AND IMPACTS

- **Lower probability and impact of global critical mineral price shocks.**
- **Assumptions: actor-agnostic approach; information-sharing; policy coordination; no external market shocks.**

## OUTCOMES

- |  |   |  |
|--|---|--|
| <ul style="list-style-type: none"> <li>• Improved market <b>transparency</b>.</li> <li>• Use of <b>international standards</b>.</li> <li>• <b>Understanding</b> of market dynamics.</li> </ul> | <ul style="list-style-type: none"> <li>• Enhanced <b>information-sharing</b>.</li> <li>• Openness to <b>alternative views</b>.</li> <li>• <b>Support</b> for development of international standards.</li> </ul> | <ul style="list-style-type: none"> <li>• Effective <b>policy dialogue</b>.</li> <li>• <b>Coordinated</b> policy response to market uncertainty.</li> <li>• <b>Decision-making by consensus</b> → intersubjectivity.</li> <li>• <b>Fewer isolated responses</b> to market uncertainty.</li> </ul> |
|--|---|--|

## OUTPUTS

- |   |  |   |  |
|---|--|---|--|
| <ul style="list-style-type: none"> <li>• Collection, evaluation and dissemination of market and policy <b>data on production, utilisation, stocks and trade</b>.</li> <li>• Development of market monitoring indicators and methods → <b>improved forecasts</b>.</li> </ul> | <ul style="list-style-type: none"> <li>• Improved capacity to inform <b>standards development</b> and <b>data validation</b>.</li> </ul> | <ul style="list-style-type: none"> <li>• Improved policy maker and stakeholder <b>group dialogue</b> through an Information Group and Rapid Response Forum</li> </ul> | <ul style="list-style-type: none"> <li>• <b>Comparative advantages</b> of member organisations enable CriMMIS to function smoothly.</li> </ul> |
|---|--|---|--|

## INPUTS

- |   |  |                            |                        |                               |   |
|---|--|----------------------------|------------------------|-------------------------------|---|
| Data science and supply or value chain <b>mapping</b> | Material flow and market <b>analysis</b> | <b>Capability</b> building | <b>Policy</b> analysis | Stakeholder <b>engagement</b> | <b>Administrative</b> staff and resources |
|---|--|----------------------------|------------------------|-------------------------------|---|

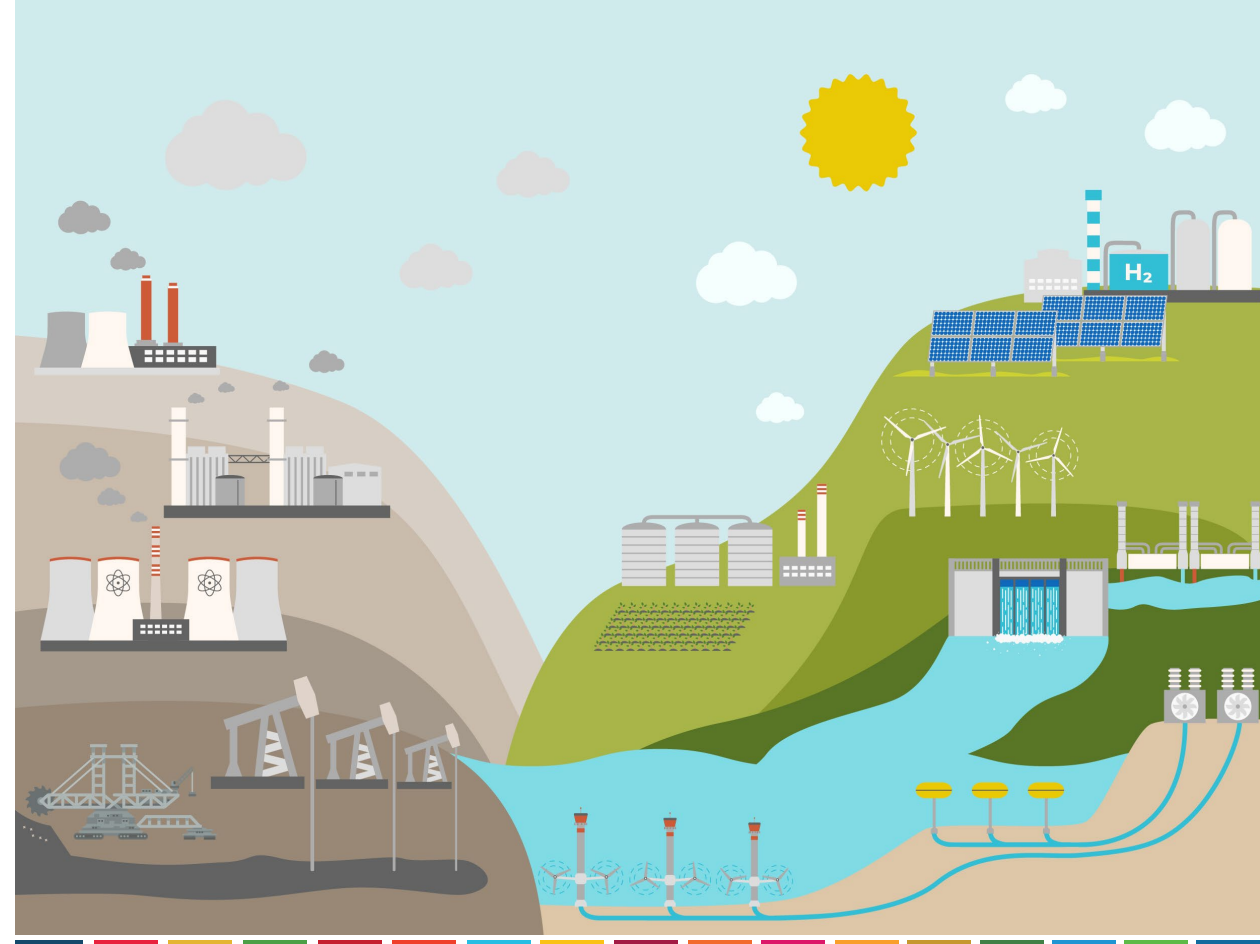
THE VIEWS EXPRESSED ARE THOSE OF THE AUTHOR AND DO NOT  
NECESSARILY REFLECT THE VIEWS OF THE UNITED NATIONS.

# Thank you!

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