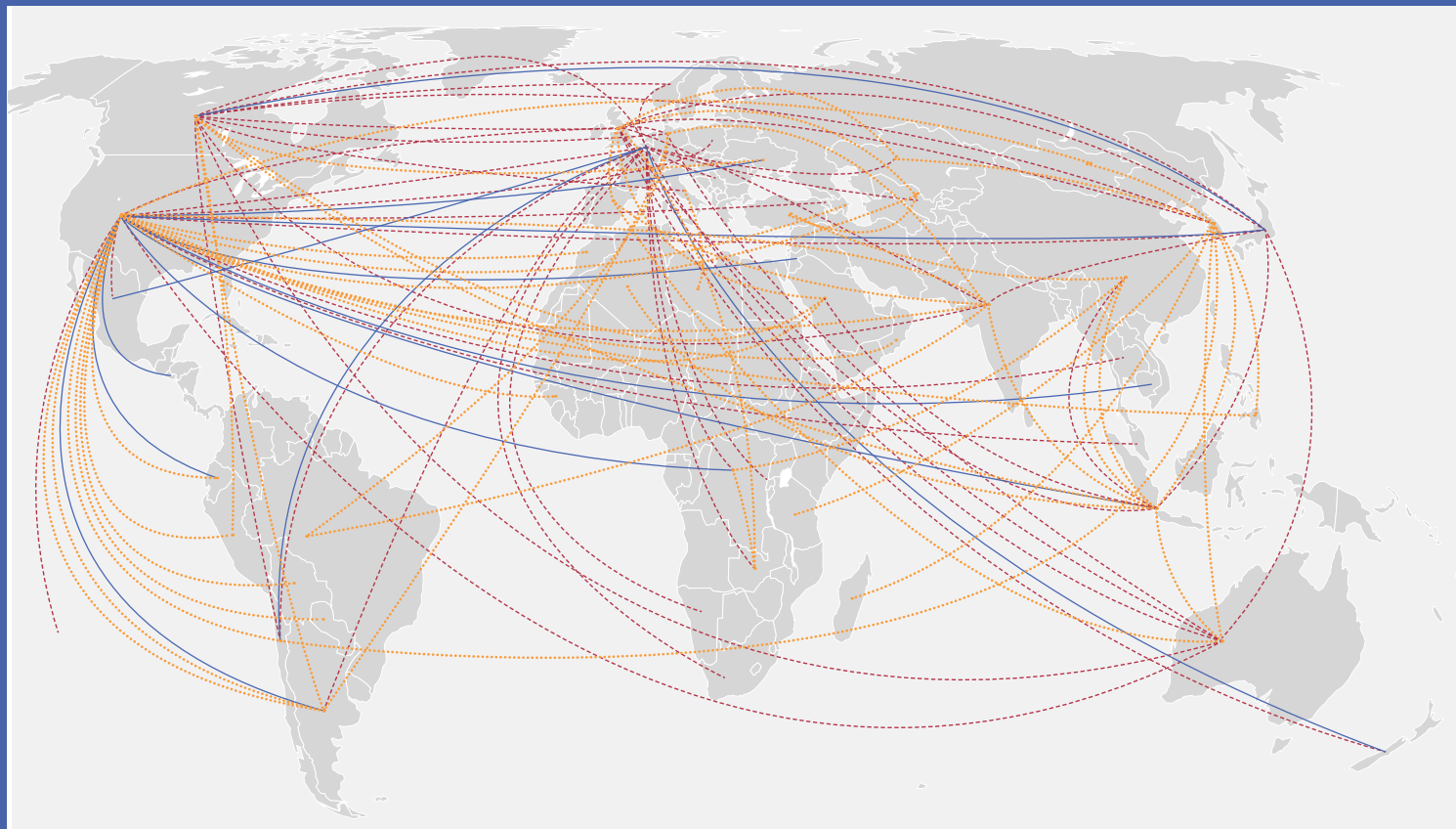
Critical minerals agreements: typology, trends and implications

Lorenzo Cotula, Anna Bulman, Jesse Coleman and Rose Mosi



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About the authors

Lorenzo Cotula is a principal researcher and head of IIED's law, economies and justice programme

Anna Bulman is director of human rights, policy & strategy at Change Collective

Jesse Coleman is founder and managing director at Change Collective

Rose Mosi is a senior researcher with IIED's law, economies and justice programme

Corresponding author: Lorenzo Cotula, lorenzo.cotula@iied.org

Acknowledgements

This report discusses trends in law and policy concerning critical minerals diplomacy. It reflects publicly available information within the stated research period, while recognising that the landscape of critical minerals diplomacy is changing very rapidly. The report examines the texts of critical minerals agreements for purposes of providing policy recommendations; it should not be deemed to constitute legal advice in any way.

The authors would like to thank Thierry Berger, Leila Kazemi, Liliane Mouan and Nicolás M. Perrone for their insightful comments, which strengthened the report; though the views expressed are the authors' alone.

Published by IIED, November 2026

Cotula, L, Bulman, A, Coleman, J and Mosi, R (2026) Critical minerals agreements: typology, trends and implications. IIED, London.

iied.org/22782iied

ISBN: 978-1-83759-244-9

This publication has been reviewed according to IIED's peer review policy, which sets out a rigorous, documented and accountable process. The reviewers were Thierry Berger, Liliane Mouan and Nicolás M. Perrone. For further information, see www.iied.org/research-excellence-impact

International Institute for Environment and Development
44 Southampton Buildings, London WC2A 1AP, UK
Tel: +44 (0)20 3463 7399
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Glossary and abbreviations

AGMS	Africa's Green Minerals Strategy
AI	artificial intelligence
ART	Agreement on Reciprocal Trade
ARTI	Agreement on Reciprocal Trade and Investment
Bilateral	involving only two states or polities
Binding	an agreement or provision that imposes a legal obligation on a party
CMA	critical minerals agreement
DRC	Democratic Republic of the Congo
Enforceable	an agreement or provision that one party can make the other party comply with through a legal remedy involving a dispute settlement mechanism
ESG	environmental, social and governance
EU	European Union
FORGE	Forum on Resource Geostrategic Engagement
Hortatory	language that expresses an aspiration or intent but does not create an enforceable legal obligation
iTA	interim trade agreement
Large economy	states or polities (such as the EU) that may be involved in any stage of the supply chain, with a recurring concern about developing critical minerals projects abroad and/or securing imports of critical minerals and/or related products. They may be a "developing" or "developed" economy under the United Nations Trade and Development (UNCTAD) classification and they may have substantial domestic mining sectors of their own. They include states and polities such as the US, the EU, the UK, Canada, China and India.
LDC	Least Developed Country, according to the United Nations (www.un.org/ohrlls/content/list-ldcs)
LMIC	low- and middle-income country
Mineral-rich LMIC	states classified as a "developing economy" by UNCTAD that possess critical minerals reserves, extract or seek to extract those resources and seek to develop the mining sector
MOC	memorandum of cooperation
MOU	memorandum of understanding
Multilateral	open to all states or polities to join
Plurilateral	involving three or more parties and only open to certain states or polities to join
UK	United Kingdom
UNCTAD	United Nations Trade and Development
US	United States

Summary

Competition for critical minerals has become central to international economic relations. Minerals needed for the energy transition and economic sectors such as defence, electronics, aerospace, artificial intelligence (AI) and other advanced technologies are at the centre of industrial policies and geopolitical rivalries. Large economies are seeking secure and diversified supply chains while reducing their dependence on strategic competitors. Low- and middle-income countries (LMICs), including Least Developed Countries (LDCs), that are looking to develop their mining sector ('mineral-rich LMICs') seek to transform their mineral endowments into tangible development gains. Their priorities extend beyond extraction to increasing domestic value addition, building industrial capacity, creating jobs, mobilising public revenues and strengthening social and environmental protections.

This report examines the fast-growing landscape of international critical minerals agreements (CMAs). Mapping 114 publicly known CMAs that were concluded between 1 August 2021 and 31 July 2026, it examines in greater depth 29 published texts involving one or more mineral-rich LMICs and one or more large economies. These agreements may be binding or non-binding and they may include two (bilateral) or more (plurilateral) parties. Limited transparency and disclosure in critical minerals diplomacy mean that this mapping and analysis cannot be considered exhaustive: texts for almost half the CMAs in our dataset have not been published and implementation documents (such as roadmaps for implementation) are even less accessible. These findings highlight the need for greater transparency in critical minerals diplomacy.

Collectively, CMAs create a new layer of international governance. While their legal enforceability is often limited due to the prevalence of non-binding instruments, they can shape expectations, signal political priorities, structure future negotiations, establish institutional channels and steer public and private investment. Their significance, then, lies not only in their legal value but also in their ability to shape state conduct, allocate bargaining power and influence the organisation of supply chains.

The global CMA landscape

The CMA landscape is defined by five key features:

1. The network developed rapidly, with a marked acceleration since 2025, reflecting the more competitive global geopolitical context. The upsurge is dominated by bilateral CMAs, producing a fragmented landscape in which producer countries negotiate independently with larger economies that often have greater economic and diplomatic leverage.
2. The network is global in scope but geographically uneven. Some countries appear more prominently than others, partly because of their strategic importance to critical mineral supply chains.
3. CMAs often form part of a broader bundle of transactions, sitting alongside trade agreements, investment commitments, infrastructure deals, development cooperation and commercial arrangements. So it is important to look beyond the agreement to consider the wider legal, political and commercial package it is part of.
4. CMAs interact with existing international trade and investment treaties, among other obligations under international law. For example, World Trade Organization agreements, investment treaties and regional or bilateral trade agreements create legal obligations that apply to critical minerals relations and may reinforce or be at odds with provisions in CMAs.
5. CMAs are dynamic instruments. Many establish implementation structures such as joint committees, roadmaps, technical working groups, action plans or periodic dialogues that determine how commitments are translated into projects, financing and regulatory decisions. This requires interrogating the signing of a CMA as a key step in a longer process, rather than a one-off event.

To make sense of this CMA universe, the report develops a typology based on: format (bilateral, plurilateral, regional and multilateral agreements); legal status (binding and non-binding); and country classification (mineral-rich LMICs, large economies). In quantitative terms, 45 of the 114 CMAs in our dataset are between large economies; 66 are between one or more mineral-rich LMICs and one or more large economies; and three are between mineral-rich LMICs. Only 60 have been published, and most of these are bilateral and non-binding. Of those, 29 are between mineral-rich LMICs and large economies.

Trends in CMAs between mineral-rich LMICs and large economies

Closer analysis of these 29 CMAs indicates that they use several approaches to secure critical mineral supply for large economies. These include provisions on increasing supply by developing the mining sector as well as provisions that promote supply chain integration through information sharing, networking, finance mobilisation, joint project development and similar activities.

Some CMAs go beyond these approaches and grant investors from the large economy priority access to mineral development projects, with some United States (US) deals framing rights of first offer in binding terms. Investment facilitation is another common approach: while many commitments are framed as high level and non-binding, others are more specific in directing investment facilitation efforts towards investors from the large economy and some establish binding investment facilitation and market access obligations.

Several US CMAs encourage fast-tracking of permitting, while other CMAs pursue investment promotion and facilitation through matchmaking or by sharing investment opportunity information. Priority in offtake is another, albeit less common, mechanism by which large economies seek to secure their critical mineral supply. CMAs typically provide for ongoing dialogue to monitor implementation and discuss issues after the agreement is signed.

Provisions on economic benefits for mineral-rich LMICs include language directed at maximising public revenues from mining activities. But CMAs that include such provisions tend to be unspecific and non-binding, while others include fiscal stabilisation clauses or bans on export duties that can undermine mineral-rich LMICs' revenue streams or constrain their industrial strategies. Many CMAs speak to local value addition, but often in hortatory terms. It is also common for CMAs to include provisions relating to enhancing local capacities through technology transfer, skill development, technical assistance and cooperation on innovation, research and development.

Most, though not all, CMAs acknowledge environmental, social or climate impacts associated with the mining sector and many include provisions for addressing such impacts. But these are predominantly hortatory in character and patchy in their substantive coverage. Those that do use binding language — such as provisions on environmental and labour laws in some US trade agreements — tend to create obligations for mineral-rich LMICs without necessarily offering commensurate support to fulfil them.

Policy recommendations

For mineral-rich LMICs

- Use inclusive participatory processes to develop an integrated strategy for critical minerals governance and development as a basis for any engagement with trading partners (which may or may not involve signing CMAs)
- Coordinate and cooperate with other mineral-rich LMICs to develop joint approaches and leverage collective negotiating power
- Proactively establish key parameters around the content of any CMAs, including clear avenues for harnessing mineral resources for economic transformation and robust social and environmental protections
- Review existing CMAs and renegotiate those that expose the country to burdens or risks not commensurate with economic, social and environmental benefits.

For large economies

- Critically analyse the underlying demand for critical minerals — including from defence, AI, energy and other strategic industries — and address it through intentional courses that prioritise human and planetary wellbeing, such as supporting peace efforts, regulating AI and promoting recycling, circularity and public transport systems
- Support LMIC efforts to coordinate on critical minerals diplomacy and be responsive to their agency in shaping CMAs that promote economic transformation and establish robust social and environmental protections
- Ensure proper resourcing and follow-up for CMA commitments towards mineral-rich LMICs; mobilise finance and knowhow to support LMIC policy priorities, including on value addition and economic transformation; and replenish aid agencies to support development-oriented initiatives in mineral-rich LMICs.

For both

- Advance critical minerals policy objectives in multilateral spaces wherever possible
- Enhance openness and transparency of process, including effective opportunities for parliamentary scrutiny and public participation in CMA negotiation and implementation, and publish CMAs and key implementation documents
- Monitor, track and iteratively enhance progress towards implementing CMA commitments such as around the amount of any finance committed and disbursed, technology shared, location of processing and value addition activities, local procurement, and effectiveness of environmental and social protections.

Critical minerals diplomacy is reshaping global economic governance at speed. Whether this new architecture further entrenches asymmetrical supply relationships or supports more equitable, transparent and development-oriented partnerships will partly depend on how CMAs are negotiated, written, disclosed, implemented and monitored.

1 Introduction

1.1 Critical minerals agreements in international relations

Competition over critical mineral supply chains has become a central feature of international relations. Driving demand for the minerals are sectors such as energy, defence, artificial intelligence (AI), aerospace, telecommunications and electronics (IEA, 2026a). In the context of intensifying geopolitical rivalries, large economies such as the United States (US), the European Union (EU), China, the United Kingdom (UK), Japan, India and South Korea are seeking secure access to mineral supplies, and often greater alignment from mineral-rich countries (see, for example, Payne, 2026). Meanwhile, many mineral-rich low- and middle-income countries (LMICs) — including countries that the United Nations classifies as Least Developed Countries (LDCs) — are seeking to leverage their resource wealth to transform their economies. This involves looking beyond extraction to maximise positive economic linkages, local value addition, domestic industrialisation, job creation and broad-based economic development (AfDB and IGF, 2025; Kabemba and Xaba, 2026).

Critical minerals diplomacy is a key arena where these different interests intersect, producing over time a rapidly expanding network of international critical minerals agreements (CMAs), also referred to as "agreements" in this report. Such agreements range from non-binding partnerships and frameworks to legally binding treaties (Sasmal, 2026). The agreements are closely linked to broader economic diplomacy processes, with international negotiations often being connected, directly or indirectly, to discussions on trade, investment, security and development cooperation (Mwambwa, 2026). Whether the rush for critical minerals further entrenches asymmetrical supply relationships or supports more equitable, development-oriented partnerships will depend, at least in part, on how any CMAs are negotiated, implemented and monitored.

This research report explores the changing landscape of CMAs, with a particular focus on agreements that involve LDCs and, more generally, LMICs. Specifically, the report maps and analyses the network of CMAs; develops a typology of CMAs to make sense of that network; examines the content of a subset of CMAs, particularly those concluded by LMICs and by LDCs; and discusses the wider implications of these agreements.

Box 1. Defining 'critical minerals'

There is no universally accepted definition of 'critical minerals' and approaches tend to vary across actors and over time (Darby, 2026). Although the term was once widely used interchangeably with 'energy transition minerals', it is now clear that global demand for these minerals is also driven by other economic sectors, including electronics, aerospace, defence, AI and other advanced technologies.

Public authorities in several jurisdictions have adopted official definitions and lists, often based on criteria such as economic significance and supply chain risks. In this way, criticality reflects an assessment of the value of a commodity from a particular standpoint, with different polities reaching different conclusions on which materials are most 'critical' to them. Criticality can also shift over time: a mineral considered critical today may become less critical in future, and vice versa, as technologies change, new sources of supply emerge or recycling and processing improve (IEA 2026b). Misalignments between sites where critical minerals are extracted, processed and ultimately used can raise major distributive questions about who bears the costs and who enjoys the benefits of critical minerals production and trade (Cotula, 2023).

Agreements do not always adopt the wording 'critical minerals', instead using other descriptors, such as 'strategic', 'important', 'green' or 'sustainable', or connecting the minerals to considerations about climate change, the energy transition or specific sectors, such as electric vehicle batteries. Agreements might describe the mineral component as 'raw materials', 'rare earths', 'deep sea minerals' or 'natural resource-relevant assets'. Some include definitional lists of minerals while others do not provide a term at all, simply describing a relevant product or sector — such as electric vehicle batteries — or a specific mineral, such as cobalt. In this report, we use the term 'critical minerals' for all descriptions, irrespective of the terminology used in a given agreement.

1.2 Definitions and methods

For the purposes of this report, a CMA is a written deal concluded between at least two states (or polities, to encompass entities such as the EU) that expressly addresses the general relationship or governance architecture related to the exploration, extraction, processing, refining, transformation, transportation, trade, disposal and/or recycling of critical minerals. This includes agreements solely focused on critical minerals and wider agreements that encompass minerals-specific provisions. The agreements can be bilateral or plurilateral and binding or non-binding.

The notion of CMA includes agreements that are formally part of international law as well as other instruments that, while falling outside the parameters of international law, aim to orient state conduct through more flexible arrangements for dialogue, coordination and cooperation. It also encompasses international treaties on trade and investment insofar as they include express provisions on critical minerals (beyond any more general commitments that are also applicable to mineral products or mining investments, and any commitments related to tariffs or quotas on critical mineral imports). As discussed in Box 2, the CMAs analysed in this report form only one part of a larger ecosystem of related agreements.

Our research covers CMAs concluded in the five-year period between 1 August 2021 and 31 July 2026, even if they did not come into effect in that period. We drew on information publicly available as of 1 August 2026, covering agreements that were publicly known to have been concluded. To find and cross-check agreements, we reviewed government websites that list agreements,[1] alongside other online CMA repositories,[2] and conducted internet searches for additional texts, government announcements, press releases and news reporting on critical minerals diplomacy. See Box 2 for additional information on our search parameters.

1 For example, EU CMAs are available at European Commission. Raw materials diplomacy. https://single-market-economy.ec.europa.eu/sectors/raw-materials/areas-specific-interest/raw-materials-diplomacy_en

2 Such as UK Critical Minerals. International partnerships. https://ukcriticalminerals.co.uk/business-investment/resources/international-partnerships/; APRI. Mapping Africa's green mineral partnerships. https://afripoli.org/projects/crm-mapping/; Resource Contracts. An online repository of petroleum and mining contracts. www.resourcecontracts.org and IISD. Trade & climate tracker. www.iisd.org/projects/trade-climate-tracker

The resulting dataset covers 114 CMAs (see Appendix 1 for the full list, with source links). The dataset includes both published and unpublished agreements (for the latter, we relied on available information about key parameters of the deals) but the more detailed analysis only discusses published agreements. The report refers to agreements by their short titles; the full title of the agreements and their associated shortening can be found in Appendix 1. Additional CMAs concluded during the five-year review period became publicly available after 1 August 2026; while these agreements are not covered in the dataset and the report, they can be accessed through the online repositories cited above.

Box 2. The parameters of our research

There are vast and complex constellations of arrangements that govern critical mineral supply chains. Beyond agreements between states or polities, these arrangements may involve mining companies, lenders, state-owned enterprises, certification bodies and other actors that play important roles in supply chain activities. This report covers a subset of this large universe. We applied filters to generate our dataset, providing necessary focus for the analysis but also inevitably excluding agreements that are highly relevant when considering the wider picture of critical mineral governance. Key filters included:

Form: agreements must be in writing and concluded between state or polity parties. The dataset excludes membership-based initiatives such as the G20 Critical Minerals Framework and the G7 Critical Minerals Resilience and Production Alliance.

Focus: agreements must be directed at establishing overarching critical minerals policy and governance frameworks, relevant to the entirety of the parties' territory or a strategic part of it (for example, with regard to framework agreements related to cross-border initiatives and infrastructure projects). This excludes contracts and other agreements related to specific mining projects.

Signatories: agreements must have been concluded by heads of state or government, or by sectoral ministries. This excludes agreements concluded by government-linked agencies such as the Japan Organization for Metals and Energy Security (JOGMEC) and Germany's Federal Institute for Geosciences and Natural Resources (BGR). It also excludes agreements by state-owned enterprises and state-directed companies such as South Korea's Korea Mine Reclamation and Mineral Resources Corporation and India's Khanij Bidesh India Limited.

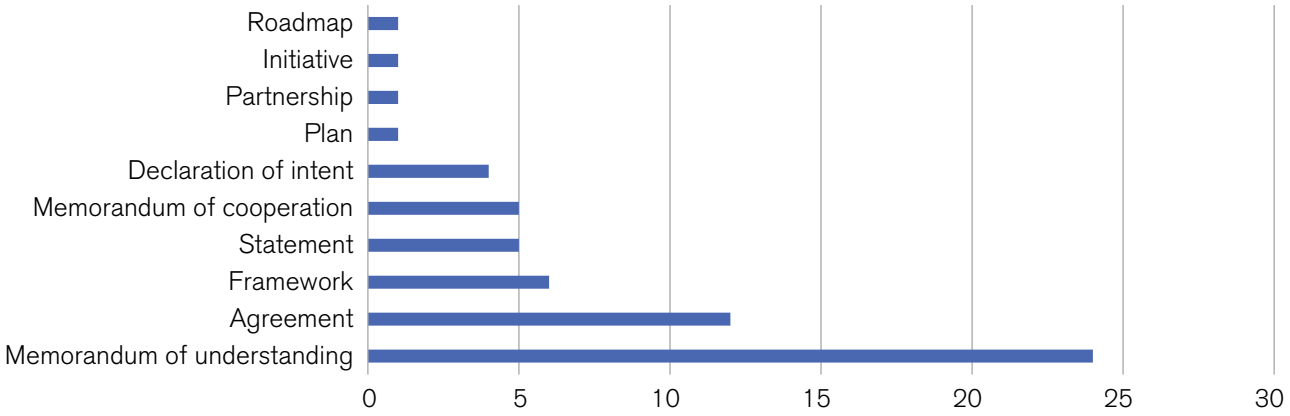
Subject matter: agreements must specifically address, in their title or text (or based on official announcements or relevant reporting, for unpublished agreements), critical minerals or related terminology, as set out in Box 1; link the mining sector to climate change, the energy transition, geopolitical competition or advanced technologies; and/or address a specific subsector (such as specific metals) or end product (such as batteries) relevant to these aspects. This excludes agreements that cover the entire mining sector, used extensively in the past couple of decades at least, with some concluded in the 1990s or earlier,[3] which deal with issues such as cooperation in geology and mineral resources. Because they apply to all minerals, these agreements are directly relevant to critical minerals policy. But practical considerations required us to restrict the research scope to critical minerals.

We recognise that these search parameters may have excluded many mining-related agreements from the dataset. In addition, government-linked agencies and state-owned enterprises play a significant role in some states' critical minerals diplomacy strategies, and critical minerals terminology was spearheaded, at least initially, by large economies such as the EU. This means that application of the search parameters may have resulted in certain states being underrepresented, relative to others, in the dataset. Additional research will be needed to fill these gaps, including research on South-South mining sector cooperation agreements.

3 For more information on these agreements, see APRI. Mapping Africa's green mineral partnerships. https://afripoli.org/projects/crm-mapping/

Determining what constitutes an agreement is not always straightforward, particularly when it comes to non-binding instruments. For a number of these, we adopted a case-by-case approach to include deals that, by virtue of their wording, content and import, embody soft agreements, irrespective of their official title or designation (Figure 1 depicts the range of names given to CMAs in our dataset). This means, for example, that we included joint statements if they contain forward-looking commitments between the parties, and excluded them if they are merely an account of what was discussed at a meeting. We also excluded jointly agreed documents that merely implement existing agreements.

Figure 1. The range of titles and their incidence in published critical minerals agreements



1.3 Report structure

The remainder of the report is organised as follows. Section 2 outlines key features of the evolving global CMA network. Section 3 develops a typology of CMAs, based on a set of key criteria, and reflects on trends related to different types of agreement. Section 4 discusses key features of CMAs between one or more large economies and one or more LMICs, including LDCs, that are looking to develop their mining sector (which we refer to as 'mineral-rich LMICs' throughout this report), zooming in on CMAs that involve LDCs. Section 5 outlines overarching reflections and key recommendations for policy and practice.

2

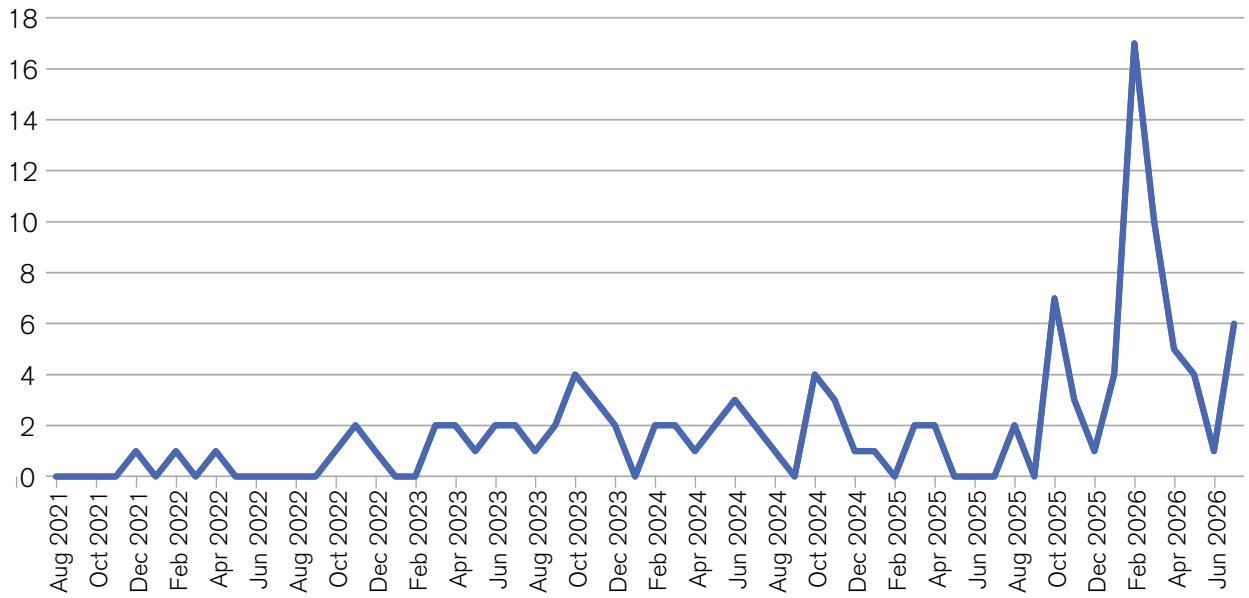
Key features of the evolving CMA network

Five key features shape the contours of the global network of CMAs. First, developments have been rapid, with a recent surge in agreements. Second, the network is global in scope but presents highly uneven degrees of geographic coverage. Third, CMAs are best understood as part of wider bundles of deals, rather than standalone transactions. Fourth, critical minerals diplomacy establishes a new layer of agreements that interacts with existing international treaties, such as on trade and investment. And fifth, CMAs are not static and often envisage institutions or processes. In this section, we discuss each of these features in turn.

2.1 Rapid developments, with a recent surge

Developments have unfolded rapidly, with a substantial network of agreements emerging within a relatively short period, and an acceleration in deal-making since late 2025, in connection with an increasingly competitive global geopolitical context (see Figure 2).

Figure 2. Number of publicly known CMAs concluded over the five-year research period

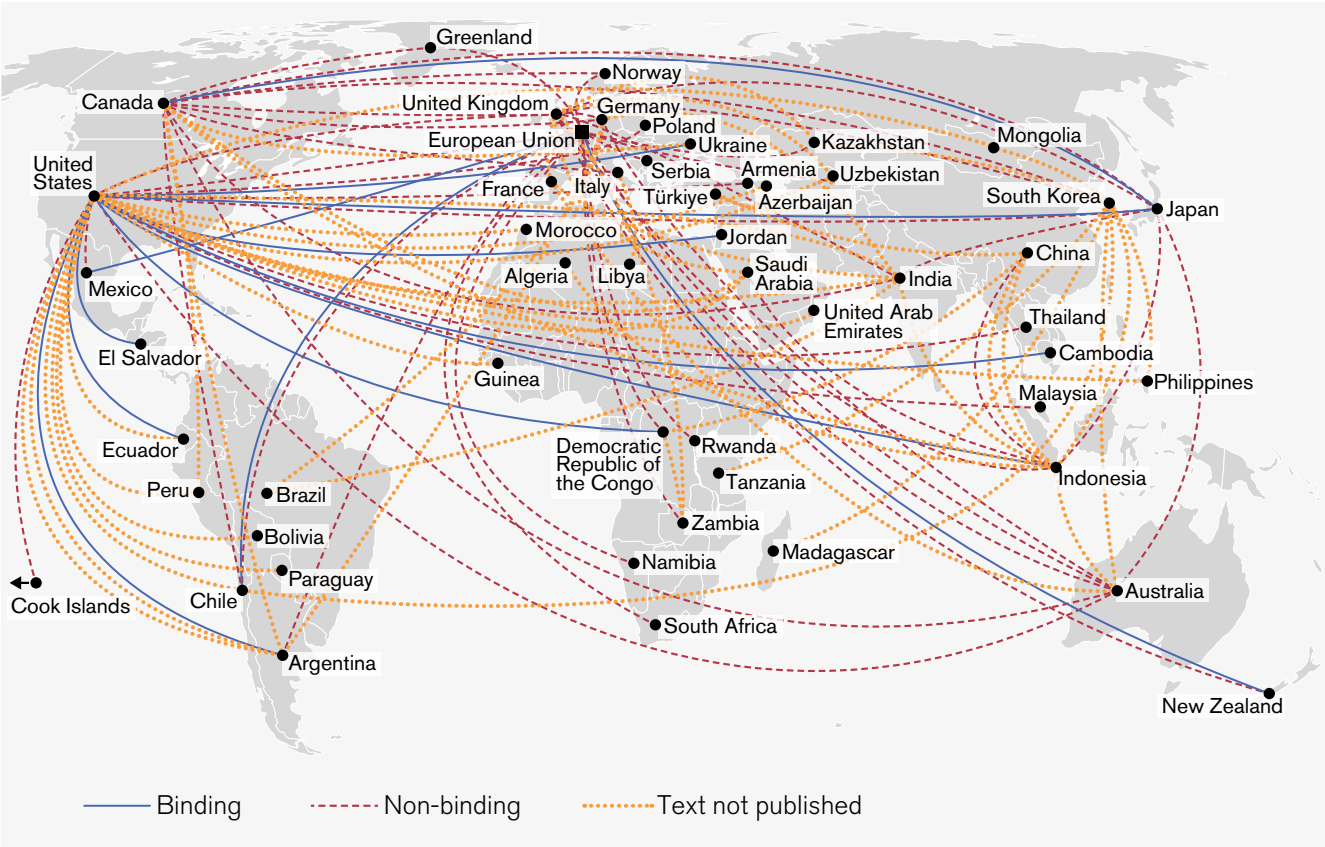


Among large economies, the EU has concluded bespoke bilateral CMAs since at least 2022, and has integrated 'energy and raw materials' chapters in its recent bilateral trade agreements. The US stepped up its deal-making from 2025 (see also Shagina 2026), concluding at least 33 agreements since then (of the 39 US agreements in our dataset). China has also stepped up its critical minerals diplomacy, concluding at least five bilateral government-to-government agreements since 2024.

2.2 A global network with highly uneven geographic coverage

The uneven degree of geographic coverage in the CMA network partly reflects the variable relevance of different countries to critical mineral supply chains. For example, while several states have not concluded any publicly known CMAs, the Democratic Republic of the Congo (DRC) — a key producer of copper, cobalt, coltan, manganese and other minerals — has concluded several CMAs, including with the EU, the US and China. Figure 3 visualises the network of published and unpublished bilateral CMAs, though the map does not include plurilateral or regional instruments.

Figure 3. The global network of bilateral CMAs



The picture is further complicated by the coexistence of bilateral CMAs with plurilateral and regional initiatives. Such initiatives have crystallised around shared interests based on economic and/or geographic commonalities. Examples include the G7 Critical Minerals Resilience and Production Alliance and the US-led Forum on Resource Geostrategic Engagement (FORGE) on the consumer side; and Africa's Green Minerals Strategy (AGMS) on the producer side. Such initiatives may involve the development of CMAs, as is the case with the proposed plurilateral Agreement on Trade in Critical Minerals, which is currently being explored by the US and others, and which would complement existing bilateral CMAs.

2.3 Part of wider bundles of deals, rather than standalone transactions

CMAs are best understood as part of wider bundles of deals that may include concurrent government-to-government agreements as well as deals that involve other parties. The conclusion of some CMAs, for example, has been accompanied by transactions involving loan or equity investments in specific critical minerals projects. This was the case of the US-DRC Agreement, which was followed by announced investments in mineral assets (Kumwenda-Mtambo, 2026). Appraising the content and import of developments in critical minerals diplomacy requires considering not just the content of CMAs per se, but also the wider transactions they are part of.

2.4 A new layer of agreements that interact with international trade and investment treaties

Critical minerals diplomacy establishes a new layer of agreements that interact with multilateral agreements — such as those related to the World Trade Organization — and bilateral and regional trade and investment treaties, as well as with other obligations under international law. While trade agreements that expressly address critical minerals issues are treated as CMAs for the purpose of this report (see Box 2), trade and investment agreements that do not are also relevant, as they can have a direct bearing on critical minerals governance. For example, an applicable investment treaty would typically protect any covered mining investments, including those catalysed by a CMA, while a trade agreement would shape the terms under which minerals are internationally traded.

New and existing agreements may be mutually consistent and reinforcing, but there may also be misalignments. For example, while newly concluded bilateral CMAs may commit or otherwise refer to promoting local value addition, existing trade and investment treaty obligations can restrict industrial strategy options for low- and middle-income treaty partners to pursue these objectives. In addition, CMAs that include investor or offtake prioritisation commitments may, depending on how they are implemented, conflict with existing obligations on investment and trade, which a mineral-rich country may owe to third parties (Coleman and Cotula, 2026).

2.5 Dynamic, not static instruments

Many agreements emphasise ongoing dialogue and cooperation between the parties throughout the implementation phase. For example, the agreements concluded by the EU typically envisage developing a joint roadmap to operationalise cooperation activities, while the US-DRC Agreement envisages establishing joint structures to oversee implementation on an ongoing basis. Trade agreements also typically establish joint committees. As such, it is important to appraise CMAs not as 'static' documents but as founding frameworks in longer-term processes aimed at catalysing dialogue and cooperation or, in some cases, exerting control over resources. This also means that efforts to inform and monitor developments in critical minerals diplomacy need to engage not just CMA negotiations but also the implementation phase.

3 A typology of CMAs

3.1 A typology based on three parameters

The broad notion of a CMA covers diverse realities. Publicly known CMAs vary in the parties they bring together, their legal status, their policy objectives, substantive content and implementation arrangements, and whether their text has been published by a party to the agreement. Some of these differences are interrelated. For example, the nature of the parties to a CMA is bound to have a bearing on its objectives and content: a deal concluded between two large economies to coordinate their supply chain resilience efforts will differ from a CMA signed between a large economy and a mineral-rich LMIC to facilitate access by the former to minerals located in the latter.

Interrogating CMAs with analytical clarity requires grounding any review, assessment and comparison in a typology of CMAs that can help to make sense of this diversity and, more broadly, of this rapidly evolving landscape. To this end, we developed a typology of CMAs based on three key parameters:

- **Format:** bilateral, regional, plurilateral, multilateral
- **Legal status:** legally binding, non-binding
- **Country classification:** mineral-rich LMICs, large economies.

Bilateral agreements involve only two parties. Plurilateral agreements involve three or more parties. They are distinct from multilateral agreements because they only involve certain states or polities, whereas multilateral agreements are open to all states or polities. Binding agreements are intended to create legal obligations. Depending on the circumstances, they may require ratification after signature. Just because an agreement is binding does not mean that every provision within it creates enforceable obligations; binding agreements can still contain hortatory provisions.

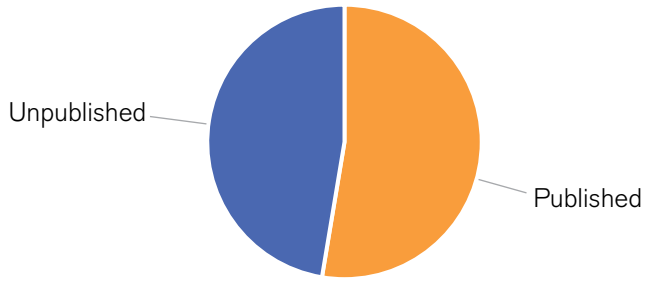
For the purposes of the country classification, a country is deemed a mineral-rich LMIC if it is classified as a 'developing economy' by United Nations Trade and Development (UNCTAD)[4] and possesses critical minerals reserves, extracts or seeks to extract critical mineral resources, and seeks to further develop the mining sector.[5] Meanwhile, 'large economies' may be 'developing' or 'developed' economies under the UNCTAD classification, and may be involved in any stage of the supply chain, with a recurring concern about developing critical minerals projects abroad and/or securing imports of critical minerals and/or related products; they may also have substantial domestic mining sectors of their own. Large economies include states and polities such as the US, the EU, the UK, Canada, South Korea, Japan, China, India and Saudi Arabia. In practice, there is no clear-cut way to delineate between overlapping national critical minerals positionings; we recognise that this country classification involves a degree of simplification and aim for the analysis to provide nuance where possible.

4 UNCTAD. Classifications. Data Hub. https://unctadstat.unctad.org/EN/Classifications.html

5 Although the World Bank classifies Chile as an upper-income country, UNCTAD classifies it as a developing economy. This, coupled with its large mineral reserves and value addition ambitions, means that we classify it as a mineral-rich LMIC for the purposes of this report.

The application of this typology to the CMAs in our dataset differed depending on whether the text of the agreement is published. Of the 114 agreements included in this analysis, texts for only 60 agreements had been published as of 1 August 2026 (Figure 4). Additional CMAs may exist that are not publicly known to have been concluded, skewing the published/unpublished split even further. This situation highlights a well-documented concern regarding lack of transparency in CMA negotiations (Dietrich Brauch et al., 2025).

Figure 4. Publication of texts of publicly known CMAs



Some large economies, including the EU and Japan, publish most or all of their CMA texts. Others, such as Canada and the UK, have published around two-thirds. The US has a mixed record of publication, and has published just over half of its CMA texts. South Korea and India have published very few. Of the South Korean agreements, only the texts of the CMAs with Canada and the UK have been published. We were unable to find texts for seven other South Korean agreements involving mineral-rich LMICs.[6]

For agreements that have not been published, we could only apply the format and country classification elements of the typology. Of 54 unpublished CMAs, 53 are bilateral, and only one is plurilateral. By country classification, 14 are between large economies, three are between mineral-rich LMICs and 37 are between mineral-rich LMICs and large economies.

3.2 Application of the typology to published texts

Format

Of the 60 agreements with published text, 57 are bilateral and three are plurilateral. The prevalence of the bilateral format can have implications for LMICs and LDCs, with negotiating power fragmented and large economies having a greater opportunity to shape terms based on their priorities.

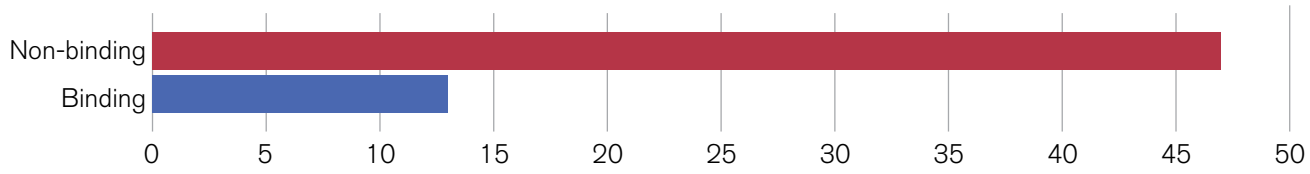
Legal status

Many CMAs expressly state that they are non-binding. Some do not specify this but it is implicit in the nature of the agreement that it is so — for example, the document is framed as a diplomatic memorandum.[7] Non-binding agreements account for 47 of the 60 published texts in our dataset, while 13 are binding (Figure 5). The majority of the binding CMAs are broad trade agreements that include critical minerals provisions. Although most CMAs do not create any legal obligations, they are designed to influence state conduct and can produce practical outcomes, depending on their provisions and the nature of their implementation arrangements.

6 Those being bilateral agreements between South Korea and Madagascar, Tanzania, Chile, Indonesia, the Philippines, Kazakhstan and Mongolia.

7 Methodological note: several agreements do not clarify whether they are binding or not and we had to make judgment calls. The legal status of all agreements in the dataset should be the subject of independent legal advice and readers should not rely on this analysis for that advice.

Figure 5. Published CMAs that are binding versus non-binding



Country classification

When disaggregated by country classification, the 60 published CMAs fall into two of the three categories:[8] between large economies (31); between mineral-rich LMICs (0); and between mineral-rich LMICs and large economies (29). The remainder of this section outlines some observations on the broad trends of these three different CMA categories.

CMAs between large economies

Some agreements in this category are focused on coordinating critical mineral supply chain resilience efforts and may be linked to wider initiatives such as FORGE or the G7 Critical Minerals Resilience and Production Alliance; examples include the EU-US Memorandum of Understanding (MOU) and the US-Japan Agreement. The agreements seek to do this through avenues such as: information exchange; coordination on and support with domestic responses to third-party policies that impact on supply chains;[9] deterring or restricting critical mineral and rare earth asset sales on national security grounds;[10] cooperation on assisting with geological mapping in jurisdictions other than their own;[11] and coordinated investment.[12]

Other agreements highlight interest in the parties' own domestic mining sectors. This includes the US-Australia Framework which, among other things, envisages measures to "accelerate, streamline, or deregulate permitting timelines and processes".[13] The EU-US MOU also provides that the parties are "expected to take measures to accelerate, streamline, or reduce permitting timelines and processes to obtain permits for critical minerals mining, separation, and processing within their respective regulatory systems, consistent with applicable law".[14]

The Canada-South Korea MOU focuses more on midstream opportunities in the critical mineral and electric vehicle supply chains for both countries, including advanced manufacturing, linking the agreement to climate goals and considerations. Some agreements, such as the Japan-India Memorandum of Cooperation (MOC), expressly include deep sea mining in the scope of cooperation.

Agreements between major producer countries, such as Canada and Australia, reflect shared producer priorities. This includes, for example, value capture through "linking upstream production with midstream technologies", encouraging "commercial partnerships and research collaborations" between diverse groups including Indigenous Peoples, and coordinating policy efforts on challenges such as "high capital costs and environmental, social, and governance (ESG)-driven objectives".[15]

8 Methodological note: for plurilateral agreements, if there was one party in a category then we counted that category.
9 For example, US-Japan Agreement, arts. 3(4), (6); EU-US MOU.
10 For example, US-UK MOU.
11 For example, US-UK MOU; EU-US MOU.
12 For example, US-UK MOU; EU-US MOU.
13 US-Australia Framework, s. I(3).
14 EU-US MOU, s. III. On these issues, see Andreotti, 2026.
15 Canada-Australia Declaration, objectives.

CMAs between mineral-rich LMICs

CMAs in this category can offer opportunities for horizontal cooperation and lesson sharing between producer countries. They can also provide arrangements to advance joint or coordinated initiatives that promote local value addition. This is reflected, for example, in the (unpublished) Zambia-DRC cooperation agreement to facilitate the development of a value chain in the electric battery and clean energy sector (ECA-SRO-CA, 2022). As domestic processing, refining and manufacturing capacities in some mineral-rich LMICs expand (as is the case with nickel refining in Indonesia), such countries may also seek to shore up complementary mineral resource supplies through South-South agreements — for example, by offering experience and technology in exchange for access to mineral supplies (Szedlacsek and Hertanti, 2026).

In practice, none of the published agreements that we identified in this category met the report's scope criteria, though as discussed in Box 2 there are broader mining sector agreements that would be relevant to critical minerals. These include the mineral cooperation agreements between Indonesia and Tanzania,[16] and between Indonesia and Kenya.[17]

CMAs between mineral-rich LMICs and large economies

Most of the agreements in our dataset that belong to this category involve the EU and US. Only four do not: the Canada-Chile MOU, the Indonesia-Japan MOC, the Indonesia-UK MOU and the China-Indonesia Statement. Of those, the China-Indonesia Statement stands out in terms of content and form, reading as an alternative development model manifesto involving countries that are presented as being "similar in the development phase, concept and path".[18] Trends in this category of agreements are discussed in depth in Section 4.

16 Resource Contracts. Indonesia and Tanzania, Mineral Cooperation Agreement, 2024. https://resourcecontracts.org/contract/ocds-591adf-4359567923/view#/pdf (PDF).

17 Resource Contracts. Indonesia and Kenya, Mineral Cooperation Agreement, 2023. https://resourcecontracts.org/contract/ocds-591adf-1037017957/view#/pdf (PDF).

18 China-Indonesia Statement, para. 2.

4

Analysing the content of mineral-rich LMIC-large economy agreements

This section discusses broad trends in the content of the 29 published CMAs in our dataset concluded between one or more mineral-rich LMICs and one or more large economies. The agreements mentioned in the text and footnotes are illustrative only; there is no intention to provide a comprehensive description of every agreement that covers a particular topic. The analysis focuses on the coverage of certain issues in the agreements through three main lenses:

- How the agreements seek to secure critical minerals for large economies
- The extent to which the agreements support mineral-rich LMIC policy objectives to maximise economic benefits
- Whether and how the agreements address social and environmental issues.

The findings indicate a broad spectrum of approaches to securing supplies, maximising economic benefits and addressing environmental and social issues. This ranges, for example, from highly specific, binding commitments to broad, aspirational statements of intent. But beyond this diversity of approaches, our review highlights recurring concerns about the content of published agreements, particularly regarding the extent to which the CMAs provide effective environmental and social protections and credible arrangements for revenue mobilisation, local value addition, skills development and technology transfer.

4.1 Developing and integrating critical mineral supply chains

Most large economy–mineral-rich LMIC CMAs seek to promote the development of mining sector supply chains in the mineral-rich country as well as to secure access to investment and, in some cases, offtake opportunities for the large economy. This overall framing reflects the key interests at play. For the mineral-rich LMIC, the CMA can be a tool to mobilise capital, technology, skills and market links to develop their mining sector and maximise its positive linkages with the national economy, to the extent that these are national development priorities. For the large economy, the agreement is primarily an instrument for securing, maintaining or improving control over critical mineral supply chains.

The policy tools through which the CMAs pursue these supply chain development and integration objectives vary extensively, as does the balance between the parties' interests and the extent to which CMAs address such interests. We discuss opportunities for mineral-rich LMICs to leverage economic benefits through the agreements in subsequent sections; this section briefly reviews arrangements for supply chain development and integration.

A first set of relevant provisions concerns approaches oriented towards developing the mining sector in its broadest terms. Examples include clauses that envisage cooperation on mapping mineral or geological resources,[19] or that foreshadow such work as part of a future deal.[20] Additional examples relate to the provision of (broadly defined) 'capacity building' or technical assistance, in connection with diverse aspects of mining sector development.[21]

Another approach is to promote supply chain integration through information sharing. Some provisions are quite general in scope — for example, "to enable implementation of this Partnership"[22] or for "resilient supply chains"[23] — while others are more specific about the "location of potential critical mineral deposits",[24] trade and investment opportunities,[25] critical mineral market data,[26] and minerals-related policies and regulations.[27] One of the most strongly worded provisions on information sharing is in the US-Cambodia Agreement on Reciprocal Trade (ART), which provides that "[a]t the request of the United States, Cambodia shall cooperate in providing information available to Cambodia…about investment activity in its territory by third countries".[28]

A further approach involves promoting supply chain integration through joint activities by the parties and entities domiciled within them. These can range from networking events to more targeted activities, such as joint efforts to mobilise funding for necessary infrastructure and joint project development via joint ventures or other forms of collaborative business models. This approach is reflected, for example, in the EU-DRC and EU-Zambia MOUs, which also emphasise cooperation on research and innovation and on adherence to international ESG standards.

Several agreements include provisions on promoting, facilitating and even prioritising investment from the large economy into the mineral-rich LMIC. Investment promotion and facilitation provisions may feature in country-neutral or country-specific terms. To the extent that they include such content, the EU MOUs tend to be fairly high level and country neutral, including provisions such as "enhancing their efforts to implement trade and investment facilitating measures"[29] or "facilitation of trade and investment linkages" into raw materials value chains.[30] The Japan-Indonesia MOC includes investment promotion and facilitation as an area of cooperation.[31]

On the other hand, the US-Argentina Agreement on Reciprocal Trade and Investment (ARTI) is more specific in directing investment facilitation efforts towards US companies.[32] Other agreements mandate facilitation, such as the US-Ecuador ART, which provides that "Ecuador shall work with the US to facilitate investment in critical mineral projects".[33] The US-Cambodia and US-Jordan ARTs also use binding "shall" language to require Cambodia and Jordan, respectively, to "allow and facilitate U.S. investment in its territory to explore, mine, extract, refine, process, transport, distribute, and export critical minerals … on terms no less favourable than it accords to its own investors in like circumstances".[34]

In a number of US agreements, investment promotion and facilitation provisions also encourage fast-tracking of permitting, using language such as 'accelerating', 'expediting', 'streamlining permitting timelines and processes' and 'granting timely approvals'.[35] The strength of wording ranges from "shall make every effort to grant timely approvals for accepted proposals" in the US-DRC Agreement, to the parties "considering measures to" streamline permitting in the US-Cook Islands MOU. Other CMAs also pursue investment promotion and facilitation through matchmaking or sharing information on investment opportunities.[36]

19 For example, Armenia-US Framework, s. I, para. 8; EU-Uzbekistan-MOU, s. 3, 4(I); US-Cook Islands MOU, s. 1(9).
20 For example, US-Mexico Plan, art. 2.
21 For example, Armenia-US Framework, s. I(8).
22 EU-South Africa-MOU, Implementation.
23 Canada-Chile-MOU, art. 2.
24 US-Mexico-Plan, art. 2.
25 For example, US-Thailand-MOU, Areas of Cooperation; US-Malaysia MOU, Implementation and Information Sharing; Kazakhstan-EU MOU, arts. II(3), IV.
26 For example, EU-Mexico Interim Trade Agreement (iTA), art. 5.1.6.
27 For example, Japan-Indonesia MOC, s. 2; EU-Mexico iTA, art. 5.1.6; Indonesia-UK MOU, art. 2.2(a).
28 US-Cambodia ART, art. 5.2(3).
29 Kazakhstan-EU MOU, art. II(3).
30 EU-Namibia MOU, art. 2.
31 Japan-Indonesia MOC, para. 2(3).
32 US-Argentina ARTI, art. 4(1).
33 US-Ecuador ART, Annex III, art. 5.1.
34 US-Cambodia ART, art. 6.1; US-Jordan-ART, art. 5.1.
35 For example, US-Cook Islands MOU, s. 1(3); US-Argentina ARTI, art. 4.1.2; US-DRC Agreement, art. VII.7; US-Malaysia MOU, Areas of Cooperation; US-Thailand MOU, Areas of cooperation.
36 For example, US-DRC-Zambia MOU, s. I.

While the EU MOUs often explicitly deny any preferential treatment,[37] several US CMAs include investment prioritisation provisions. In the US-DRC Agreement, US investor applications are to be prioritised and granted a right of first offer.[38] Other US CMAs use more hortatory language such as "expect to have", followed by clear language that investment from the US is to be prioritised.[39] The US-Argentina ARTI provides that Argentina "shall encourage Federal-level Argentine Government investment in mining infrastructure to enable access to the mining sector for U.S. companies".[40]

Priority in offtake provisions are another, albeit less common, mechanism by which large economies seek to secure their critical mineral supply. The US-DRC Agreement stands out for using the strongest language, providing that "the DRC and its [state-owned enterprises] shall include a right of first offer" on certain critical minerals "to U.S. persons and aligned persons".[41] The US-Argentina ARTI also seeks to prioritise US trade partners "over market manipulating economies or enterprises".[42] Other agreements are more ambiguous in their wording; this includes the Lobito Corridor MOU, which provides that the US and EU may leverage their "comparative strengths" in "[h]elping to identify and engage with potential commercial off-takers".[43] Other CMAs provide for preferential trading when certain conditions are met.[44]

Ongoing dialogue is a key part of the approach for integrating supply chains in most CMAs, with provisions typically outlining institutions or spaces for the parties to monitor implementation and discuss issues after the agreement is signed. Not all agreements feature details on these issues (for example, the US-DRC-Zambia MOU does not) and some — such as the Japan-Indonesia MOC — defer details to "be specified in a separate arrangement".[45] But most CMAs do provide content on how the agreements are to be implemented or developed.

The agreements often describe and assign responsibilities to specific bodies, such as a working group, joint cooperation council, steering committee or technical committee, multisectoral group or an existing institutional arrangement.[46] These bodies are usually tasked with pursuing implementation through regular or periodic (annual, biannual, ad hoc or on request) meetings, consultations and ministerials, and by developing roadmaps, action plans and work plans, usually within a set time period, such as six months.

The US-DRC Agreement establishes a joint steering committee comprising representatives from both sides and gives it a significant role in DRC mining sector governance. Under the agreement, the DRC must develop a list of critical mineral assets as part of a "strategic asset reserve", to which US firms have the right of first offer; the joint steering committee is tasked with maintaining the list and overseeing implementation of the agreement.[47]

4.2 Maximising economic benefits of the mining sector

As a broad generalisation, many mineral-rich LMICs are looking to maximise economic benefits related to developing their mining sector. That said, each country will have its own priorities and there is significant diversity in aims and approaches (Neema and van Staden, 2024). For example, policy objectives related to achieving economic benefits may include maximising public revenues, promoting local value addition and enhancing local capacity. Trade-offs may arise between multiple objectives and different countries may have diverse approaches for managing those trade-offs.

Maximising revenue

A core way that mineral-rich LMICs can seek to leverage benefits from critical minerals is by capturing resource rent through their fiscal regimes and making sure agreements support and do not undermine such regimes. Revenue is likely to be captured through multiple streams, such as taxation, royalties, fees and dividends through state equity participation (Omonbude and Mataba, 2024).

37 Such as those with South Africa, Uzbekistan, Zambia, Rwanda, DRC, Chile and Kazakhstan.
38 US-DRC Agreement, art. VII, Annex 2.10.
39 For example, US-Malaysia MOU, Areas of Cooperation 1; US-Thailand MOU, Areas of Cooperation 1.
40 US-Argentina ARTI, art. 4.1.3.
41 US-DRC Agreement, art. XI.2.
42 US-Argentina ARTI, art. 4.1.4.
43 Lobito Corridor MOU, art. 2(g), (h).
44 For example, US-Thailand MOU, Areas of Cooperation 5.
45 Japan-Indonesia MOC, para. 3.
46 For example, US-DRC Agreement, art III.7; Lobito Corridor MOU, art. 8.17; EU-Chile iTA, art. 10.13.
47 US-DRC Agreement, art. IV, VI, VII.

While many CMAs do not contain any provisions related to revenue, some — such as the EU's MOUs with Chile, Namibia and Argentina — feature language supportive of mineral-rich LMIC revenue priorities, albeit in unspecific and non-binding terms. The EU-Namibia MOU links the extractive industry with "domestic resources mobilisation and development" in the agreement's political context section. In their objectives sections, all three MOUs also include an "aim to support" the country's involvement in global value chains, its extractive industry or its resource deployment to drive domestic revenue mobilisation.

Some CMAs may constrain mineral-rich LMIC revenue streams. For example, bans on export duties, as found in the binding EU-Chile iTA and EU-Mexico iTA,[48] are primarily intended to address concerns about restrictions on the export of critical minerals — but also affect one potential avenue for revenue collection. In addition, the US-DRC Agreement provides that "the DRC intends to establish preferential fiscal, tax, and regulatory incentives for U.S. persons and aligned persons investing in [Strategic Asset Reserve] Projects and [Qualifying Strategic Projects], where such projects are located in specific areas".[49] While this language is hortatory, the article goes on to state that the DRC "commits to amend, within 12 months from the entry into force of this Agreement", its relevant laws to include a renewable fiscal stabilisation clause for an initial ten years and to align national legislation with the provisions of the CMA.[50]

Promoting local value addition

Value addition refers to activities in all steps of the value chain that add proportionally more value to a mineral, including processing, refining and manufacturing. Several CMAs contain provisions on promoting local value addition, though they are typically formulated in hortatory language. This may include acknowledging ambitions,[51] using the terms to describe activities within the value chain,[52] and exploring potential collaboration, cooperation or information sharing.[53]

Strategies to promote value addition are outlined in very broad terms. This includes developing midstream or downstream capacities,[54] trade and investment opportunities or general 'access' to minerals,[55] fair and competitive markets,[56] and support for a country to "have its resources increasingly deployed to underpin a sustainable and inclusive economic growth, the creation of local added value and domestic revenue mobilisation".[57]

Some agreements use somewhat stronger language, though even in these cases the wording is fairly general. In some EU agreements, extending critical minerals value chains in-country is framed as a 'right' that the parties are committed to.[58] The US-Thailand MOU provides that "[c]ooperation should prioritize development of domestic processing industries and value chains".[59] The Armenia-US-Framework envisages that "[p]riority is to be given to projects that locate separation, refining, value-added processing capabilities and site restoration within the Republic of Armenia".[60]

Some CMAs — particularly trade agreements that include minerals-specific provisions —restrict options for industrial strategies aimed at promoting local value addition. For example, the US-Indonesia ART requires Indonesia to remove restrictions on exports to the US of critical minerals.[61] In recent years, Indonesia relied on industrial strategy measures, including restrictions on the export of unprocessed nickel ore, to develop a significant domestic nickel refining sector (Cotula, 2023; Sasmal, 2025). Bans on export duties or restrictions also feature in the EU-Chile and EU-Mexico iTAs.[62] But while prohibiting price differentiation between exported raw materials and those sold to domestic processors, the EU-Chile iTA carves out an exception for measures that have "the objective of fostering value addition by supplying raw materials to industrial sectors at preferential prices".[63]

48 EU-Mexico iTA, art. 5.1.4, 1.4; EU-Chile iTA, art 2.7 (see discussion in Crochet and Zhou, 2023).
49 US-DRC Agreement, art. XII(2).
50 US-DRC Agreement, art. XII(2)(a).
51 For example, EU-Rwanda MOU, art. I; US-DRC Agreement, preamble.
52 For example, EU-Argentina MOU, s. II.
53 For example, Kazakhstan-EU-MOU, s. I(1).
54 For example, EU-Zambia MOU, s. 1; EU-Namibia MOU, Objective; EU-Argentina MOU, s. I(1); Japan-Indonesia MOC, para. 2(2); US-DRC-Zambia MOU, Preamble.
55 For example, EU-South Africa MOU, Objective d; US-Thailand MOU, Objective; Areas of Cooperation 1; US-DRC Agreement, art. II(8).
56 For example, EU-South Africa MOU, Objective e.
57 EU-Namibia MOU, Objective.
58 For example, EU-Uzbekistan MOU, s. 1, refers to each party's "right to extend raw materials and net-zero technologies value chains within their respective territories". Similar wording features in EU-Zambia MOU, s. 1.
59 US-Thailand MOU, Areas of Cooperation 1.
60 Armenia-US-Framework, s. I(2).
61 US-Indonesia ART, Annex, art. 6.1.
62 EU-Mexico iTA, art. 5.1.4, 1.4; EU-Chile iTA, art 2.7.
63 EU-Chile iTA, art. 8.5. The exception is subject to parameters specified in an annex.

Technology transfer, skill development and capacity building

Most CMAs touch on these issues. While some do not specify what technology, skill or capacity is being developed,[64] others do, specifying, for example, artisanal and small-scale mining,[65] regulatory compliance and enforcement,[66] illegal mining,[67] and global mining industry challenges.[68] The CMAs may refer to technology transfer, skill development or capacity building through the entire critical mineral value chain, or stages thereof,[69] or with regard to specific end products, such as electric vehicle batteries.[70]

While most agreements refer to the mining sector or value chain in general terms, the US-Thailand MOU is more specific, providing that investment projects will include "provisions for technology transfer, capacity building, and training of domestic personnel".[71] The US-Armenia Framework, while framed in hortatory language, also provides detail on what technology may be exchanged and how the workforce may be developed.[72] The US-DRC Agreement includes a provision whereby "[t]he United States intends to build DRC institutional capacity through the facilitation of internships and job-shadowing opportunities with U.S. mining companies".[73] The EU-Kazakhstan MOU specifies the institution through which the capacity, technology or innovation will be exchanged.[74]

Some CMA provisions restrict policy options for promoting technology transfer. For example, the legally binding US-Indonesia ART prohibits Indonesia from imposing or enforcing undertakings that would require US businesses to provide access to a particular technology as a condition for operating in the country.[75] Restrictions on technology transfer requirements may also flow from applicable trade and investment treaties (Cotula et al., 2026).

Cooperation on innovation, research and development

Provisions on cooperation on innovation, research and development are common in EU CMAs, less so in US agreements, and feature in the Canada-Chile, Indonesia-UK and Japan-Indonesia agreements in the form of expertise, experience or knowledge sharing. The wording is primarily in terms of aiming or intending to support, promote, facilitate, foster and/or cooperate on innovation, research and development. Such provisions can appear in multiple places, including the preamble,[76] the objectives,[77] as main areas/pillars of cooperation,[78] or within critical minerals chapters in binding treaties.[79]

Descriptions of what exactly is being researched, innovated and developed range from open-ended terms (such as "innovative technologies"[80]) to activities "along the raw materials value chain".[81] The latter includes advanced or sustainable exploration, earth observation, extraction, processing, refining, recycling and circularity, substitution of critical raw materials or monitoring of supply risks. Some CMAs go beyond value chain activities to address research and innovation more broadly. Notably, the EU-Kazakhstan MOU envisages comprehensive ambitions for the intended research program, with a strong environmental lean.[82]

64 For example, US-Malaysia MOU, Preamble.
65 For example, US-DRC Agreement, art. XV(2).
66 For example, EU-DRC Agreement, art. II(5).
67 For example, US-Ecuador ART, Annex III, art. 2.23.
68 For example, US-DRC Agreement, art. XIV(3).
69 For example, Kazakhstan-EU MOU, s. II(4); EU-Namibia MOU, s. 1, 2; EU-Chile MOU, s. I(1), II; EU-Argentina MOU, s. I.1, II; EU-Zambia MOU, s. 3; EU-South Africa MOU, Principles and Scope of Work 4, Objectives; US-DRC-Zambia MOU, s. II, preamble; US–Mexico Plan, art. 2; Indonesia-UK MOU, s. 1, 2(c); Japan-Indonesia MOC, para. 2.
70 For example, US-DRC Zambia MOU.
71 US-Thailand MOU, Areas of Cooperation 1.
72 US-Armenia Framework, s. 1.8, 1.9.
73 US-DRC Agreement, art. XIV(3).
74 EU-Kazakhstan MOU, art. II(4).
75 US-Indonesia ART, art. 3.4.
76 For example, US-Malaysia MOU, Preamble.
77 For example, EU-Chile MOU, s. I(1), II.
78 For example, Kazakhstan-EU MOU, s. I(1), II(4); EU-Argentina MOU, s. I(1); II; EU-Zambia MOU, s. 3, 4 ; EU-Uzbekistan MOU, s. 3, 4; EU-South Africa MOU, Objectives (g), Principles and scope of the Partnership (5); EU-DRC MOU, s. II; US–Mexico Plan, s. 2.
79 For example, EU-Chile iTA, art. 8.13; EU-Mexico iTA, art. 5.1.6.
80 For example, US-Malaysia MOU, Preamble; US–Mexico Plan, s. 2. Action Plan.
81 The language used in most of the EU-MOUs referenced in earlier footnotes of this subsection.
82 EU-Kazakhstan, s. II(4).

Job creation

A handful of agreements use high-level hortatory language linking mineral extraction with job creation.[83] In the US-Cambodia ART, job creation is linked to a requirement that Cambodia facilitate US investment.[84] The EU-Chile iTA bans performance requirements for local hiring percentages and requirements that Chilean (or other) nationals be in company senior management or boards of directors positions.[85]

4.3 Addressing environmental, climate and social issues

Mining and processing activities can cause deforestation, air pollution, water contamination and other forms of environmental degradation. As energy-intensive activities, they can be a major source of carbon emissions. They often involve the expropriation of land and resource rights and increase pressures on Indigenous and Afro-descendant Peoples and local communities. Workers' rights, the role of artisanal mining, and issues related to gender and gender-based violence are also recurring concerns in mining sector value chains (see, for example, Buxton, 2025).

Coverage of such environmental, climate and social issues in published CMAs is inconsistent. Although most agreements contain some reference to the environment, climate or people, some — such as the US-Malaysia MOU and the US-Thailand MOU — do not. The most common approach (especially, but not exclusively, in EU agreements) is to include overarching references to ESG standards, responsible business conduct and responsible or sustainable mining practices, with or without reference to specific international instruments.[86]

Where specific issues are mentioned, topics vary extensively. Issues that are mentioned in at least two agreements include: minimising or mitigating the climate and/or environmental footprint of mining and the mineral value chain;[87] decarbonisation of the mining industry;[88] referencing the Paris Agreement;[89] corporate accountability;[90] labour rights and standards, including working conditions and forced labour;[91] respect for human rights;[92] gender;[93] socioeconomic outcomes from activities in the critical mineral supply chain;[94] and project-level entry points, such as impact assessments.[95]

In this context, some important topics receive negligible or no coverage**.** These include: minimising negative social impacts;[96] community voice, empowerment and engagement mechanisms; Indigenous and Afro-descendant Peoples' rights;[97] land rights protections; specific protections for air, water and soil quality; specific protections for local ecosystems, biodiversity and nature; water use considerations; mine health and safety standards and practices; and disability and social inclusion.

83 For example, US-DRC Agreement, art. XI(1)(b); EU-Namibia MOU, s. 1.

84 US-Cambodia ART, art. 6.1.3.

85 EU-Chile iTA, art. 10.9(i), 10.10.

86 For example, US-DRC Agreement, art. II(10); US-Mexico Plan, art. 2; Japan-Indonesia MOC, para. 2; Canada-Chile MOU, Preamble; EU-South Africa MOU, Objective (f); EU-Namibia MOU, s. 1; EU-Chile MOU, s. I(1), II; EU-Argentina MOU, s. I(1), II; EU-Zambia MOU, s. 1, 3, 4; EU-DRC MOU, art. I., II.3; EU-Rwanda MOU, s. II(3); EU-Uzbekistan MOU, s. 1, 3, 4; EU-Chile ITA, art. 8.14(3)(a); Indonesia-UK MOU, art. 2.2(a); Japan-Indonesia MOC, para. 2(4).

87 For example, EU-Argentina MOU, s. I(1), II; EU-Uzbekistan MOU, s. 4.III; Indonesia-UK, s. 1.

88 For example, EU-South Africa MOU; Kazakhstan-EU-MOU.

89 For example, Kazakhstan-EU MOU, s. III; US-DRC-Zambia MOU, Preamble.

90 EU-Rwanda MOU, s. I; EU-Uzbekistan MOU; EU-Chile iTA, art. 8.14(c); EU-Mexico iTA, art. (d); EU-Namibia MOU, Objective; EU-Uzbekistan MOU, art. 1.

91 For example, US-DRC Agreement, art. II(8); US-Argentina ARTI, art. 2.9; US-Ecuador ART, art. 2.9; US-Cambodia ART, art. 2.8, Annex: arts 1.16, 1.17; US-Jordan ART, art. 2.9, Annex III: art. 1.13, 1.14; EU-Chile MOU, s. II; EU-Argentina MOU, s. II.

92 For example, EU-Rwanda MOU, s. I; EU-Uzbekistan MOU, s. 1; EU-Chile iTA, s. 10.12.

93 For example, Lobito Corridor MOU, art. 1; EU-Chile iTA, Trade and Gender Equality chapter.

94 For example, Kazakhstan-EU MOU, art. I(1); EU-Argentina MOU, s. I(1); EU-Rwanda MOU, s. II.

95 See EU-Chile iTA, art. 8.8; Lobito Corridor MOU, art. 1; EU-Argentina MOU, s. III; EU-Rwanda MOU, s. I; EU-Uzbekistan MOU, s. 1; EU-Argentina MOU, s. III; Indonesia-UK MOU, art. 2.1.

96 EU-Rwanda MOU, art. II.

97 Only the Canada-Chile MOU specifically includes Indigenous Peoples as collaborators in a provision on facilitating contact and collaboration as part of the MOU scope: Canada-Chile MOU, s. 2(b).

A few agreements — primarily those that are binding — feature more substantial provisions on environmental, climate and social protections. For example, the US trade agreements with Argentina, Ecuador, Cambodia, Jordan, Indonesia and El Salvador mandate the mineral-rich LMIC to adopt and enforce environmental protection laws.[98] While not legally binding, the Indonesia-UK MOU envisages that "the Participants will cooperate in … environmental rehabilitation".[99] But overall, the majority of environmental, climate and social provisions in both binding and non-binding CMAs are framed in hortatory terms.

One approach involves using strong language, such as 'shall' or 'will', coupled with tempering language, such as "strive to ensure,"[100] or locating it in a broader framing of cooperation.[101] Some provisions are fairly unspecific, discussing environmental, climate or social issues as part of a commitment to cooperating on a given topic (for example, decarbonisation[102]) or as an element of intended research cooperation.[103] Other types of non-committal language include 'envisag[ing] to ensure' an outcome (for example, that the impact assessment of joint future projects complies with the parties' laws[104]), or 'actively working to' achieve something (for example, creating alternative livelihoods for artisanal mining communities[105]). The non-binding Lobito Corridor MOU offers stronger language in providing that the project is "subject to economic, financial, environmental and social feasibility".[106]

Extracting and processing minerals in an environmentally, climate and socially responsible way requires resources and capabilities. So commitments on these issues are necessary but burdensome, especially for LDCs. Where CMAs establish environmental, climate and social protections, they could offer an opportunity for mineral-rich LMICs to secure the resources and related support they need to fulfil those commitments. In practice, the US ARTs with Argentina, Ecuador, Cambodia, Indonesia and El Salvador create environmental and labour obligations for the mineral-rich LMIC with no offer of support for their implementation. The US-DRC Agreement links the objective of facilitating greater US investment to improved labour standards in the DRC but does not elaborate on how that will occur.[107]

The EU agreements take a slightly more balanced approach, albeit without making specific commitments about what the EU will provide. For example, rather than impose obligations on one party alone, they frame commitments as applicable to both sides.[108] In other cases, they imply that the EU will provide support, such as technical assistance for implementation.[109] But where they expressly identify the EU as the party to provide support, the language is often open ended and unspecific. For example, the Lobito Corridor MOU provides that the European Commission intends to support project development, which "may include … [l]aunching preparatory studies, including on environmental and social impacts and feasibility of the project".[110]

4.4 A few overarching trends, focusing on LDCs

We accessed texts for seven CMAs involving both one or more large economies and one or more LDCs and found reports of a further five unpublished agreements. Figure 6 visualises the dates of signature of the published and unpublished CMAs involving LDCs.

98 For example, the US-Cambodia ART provides that "Cambodia shall adopt and maintain environmental protections, effectively enforce its environmental laws, uphold or institute as necessary strong environmental governance structures….": art. 2.9. The agreement goes on to require in the annex that "1. Cambodia shall ensure that its environmental laws and policies provide for, and encourage, high levels of environmental protection. 2. Cambodia shall effectively enforce its environmental laws"; art. 1.18. See also US-Ecuador ART, art. 2.10, Annex III art. 2.16; US-Jordan ART, art. 2.10, Annex III art 1.15 onwards.

99 Indonesia-UK MOU, art. 1.

100 For example, EU-Mexico iTA, Chapter 47, para. 4; EU-Chile ITA, art. 27.3(2).

101 For example, EU-Chile-ITA, art. 8.14.

102 For example, EU-South Africa MOU, Context.

103 For example, Kazakhstan-EU MOU, s. I(1); s.2.

104 For example, EU-Argentina MOU, s. III.

105 For example, US-DRC Agreement, art. II.10.

106 Lobito Corridor MOU, s. 1(l).

107 US-DRC Agreement, art. II.8(4).

108 For example, the EU-Chile iTA provides that the parties "shall ensure that an assessment of environmental impact is carried out prior to granting authorisation for a project or activity relating to energy or raw materials that may have a significant impact on population, human health, biodiversity, land, soil, water, air or climate, or cultural heritage or landscape;" art. 8.8.

109 For example, EU-Uzbekistan MOU, s. 1, 3, 4.

110 Lobito Corridor MOU, s. 2(h).

Figure 6. Dates of signature of published and unpublished mineral-rich LMIC—large economy CMAs involving at least one LDC

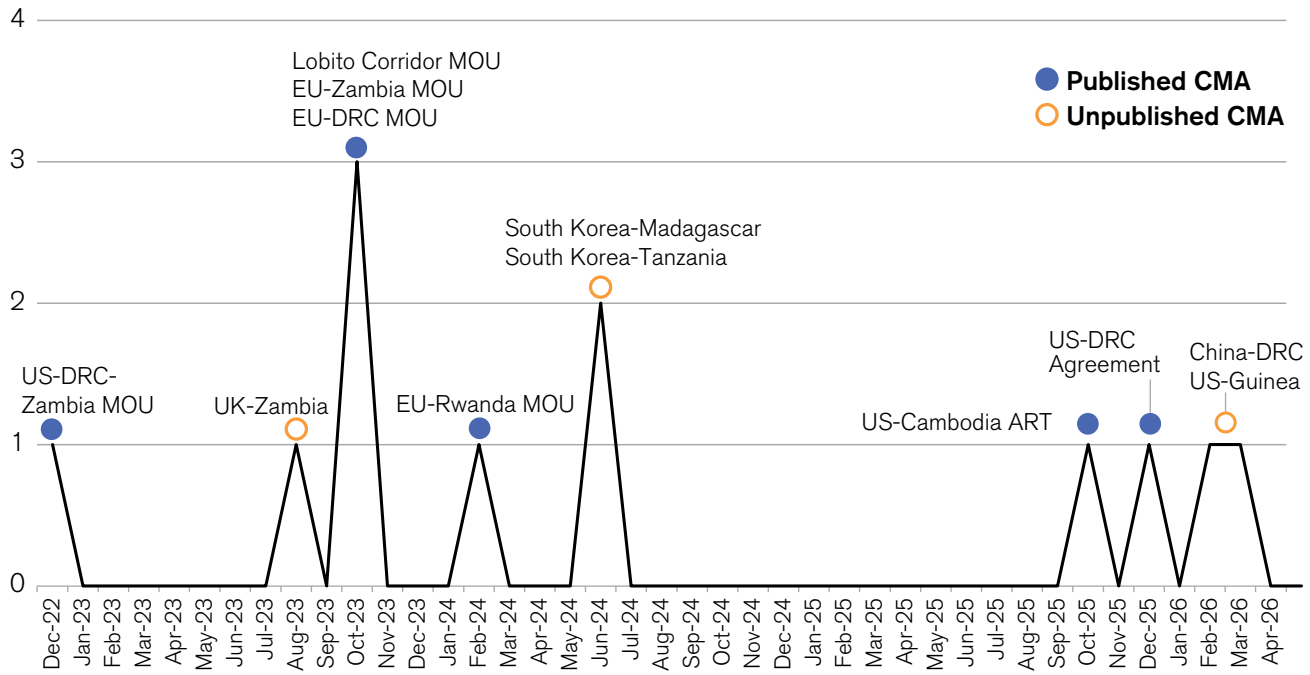
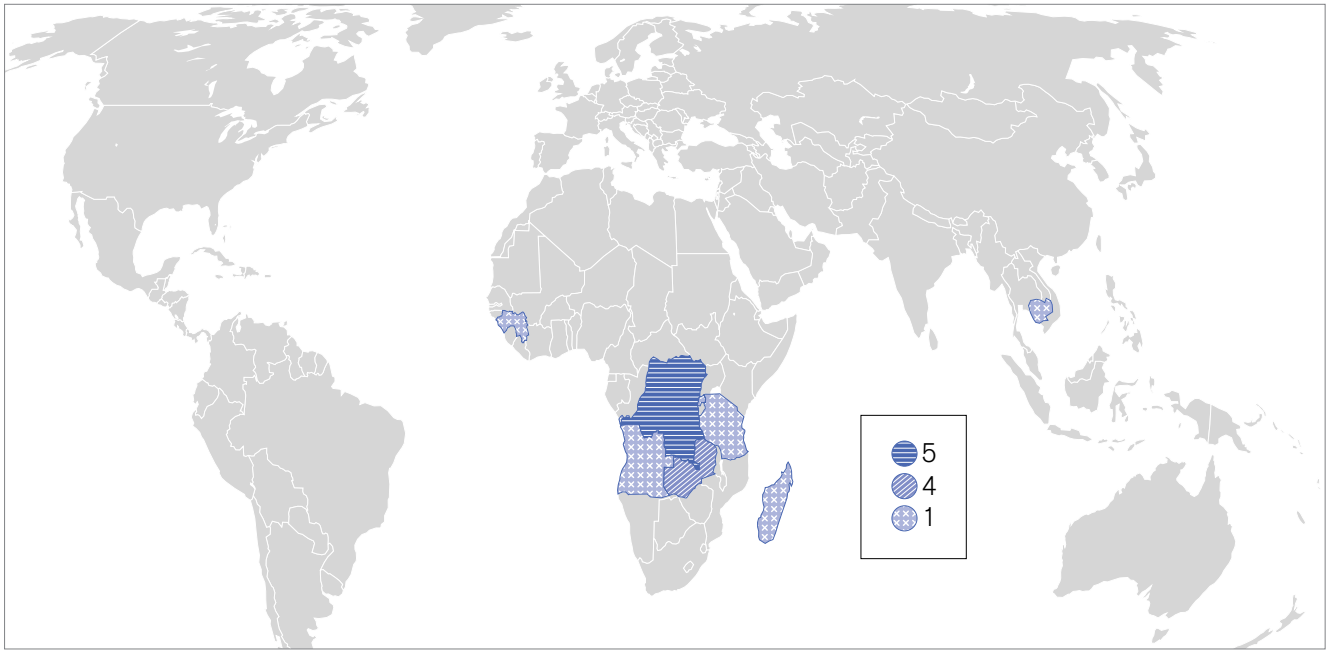


Figure 7 visualises the LDCs that are involved in CMAs with large economies, showing how many agreements each country has signed. The map highlights a certain degree of geographic clustering, particularly among the DRC, Zambia, Angola and Rwanda. In principle, geographic clustering might present opportunities for more concerted collaborative action among LDCs (see also Hermanus et al., 2026).

Figure 7. Number of published and unpublished mineral-rich LMIC—large economy CMAs involving at least one LDC



Note: The map includes plurilateral agreements, which is why the total exceeds twelve.

Overall, these LDC agreements corroborate trends that emerge across the dataset, including around language often being unspecific and/or commitments or obligations being distributed unevenly between the parties. Some of the terms that expose mineral-rich LMICs to the greatest burdens or risks feature in LDC agreements. This includes, for example, the investment and offtake prioritisation, tax stabilisation and institutional provisions in the US-DRC Agreement.

5 Conclusion

5.1 Key findings

The rapid expansion of CMAs is reshaping global economic governance around security of supply, industrial strategies and geopolitical competition. A complex network of novel international instruments has emerged over just a few years, including arrangements at bilateral and plurilateral levels, amid strategic rivalries among major economic powers.

While these agreements primarily relate to bilateral cooperation between states on the development and integration of critical mineral supply chains, their cumulative effect is far more significant. Collectively, the agreements reshape rules, relationships and expectations on the roles of states and markets and on the modalities of international cooperation, informing a more systemic shift in global economic governance.

For large economies such as China, the US and the EU, the primary aim of negotiating CMAs is to secure, improve or maintain control over critical mineral supply chains. For mineral-rich LMICs, including LDCs, negotiations often form part of wider efforts to promote mining sector development and national industrialisation through greater investment, value addition, skills development and technology cooperation.

The encounter between these policy objectives is evident in agreements that include provisions on both supply chain development and integration and local value addition. But even in these cases, commitments risk raising expectations without creating the conditions to fulfil them: unless backed by effective implementation, financing and cooperation arrangements, the deals risk reproducing extractive patterns, with mineral-rich LMICs remaining suppliers of raw materials, rather than active participants in the higher-value segments of the supply chain.

Beyond the diversity of approaches to the framing, format and language of CMAs, this review highlights recurring concerns about the content of published agreements. For example, core issues such as revenue mobilisation, local value addition, skills development and technology transfer receive highly variable degrees of coverage and are often framed in general and hortatory terms, lacking clarity on how they will be implemented and supported in practice. Some CMA provisions also establish constraints on measures to promote local value addition or technology transfer. There is little in the CMAs we reviewed that centres domestic resource use to support national development trajectories in LMICs — for example, through initiatives to harness mineral resources for energy access in those countries. Coverage of social and environmental protections is also patchy and often framed in hortatory terms. And where binding environmental and social provisions do exist, they may place obligations on mineral-rich LMICs without necessarily providing commensurate financial and technical support.

Some CMAs entail particularly far-reaching implications for mining sector governance and development in mineral-rich LMICs. The US-DRC Agreement, for example, grants the US significant control over DRC mining sector governance. The operation of bilateral working groups, joint committees and ministerials may create spaces for ongoing dialogue and cooperation. In conditions of asymmetric negotiating power, however, it may also entrench imbalanced outcomes. Meanwhile, the multitude of bilateral arrangements established through this fragmented approach to critical minerals diplomacy risks locking up already-limited governmental capacity in mineral-rich LMICs, especially LDCs.

These trends link to features of the CMA development processes that tend to place mineral-rich LMICs, and especially LDCs, at a disadvantage. Agreements are often negotiated bilaterally, under time pressure and in fragmented spaces where — judging by the wording of the CMAs concluded by any given state or polity[111] — the initiative often lies primarily with large economies. This 'transactional' context can expose producer countries to pressure from larger economies and drastically reduces opportunities for collective action — and thus collective bargaining power — among mineral-rich LMICs.

Our findings also highlight a lack of transparency in critical minerals diplomacy. While some states and polities systematically disclose the CMAs they sign, many agreements are not in the public domain. Where they are disclosed, the related implementation roadmaps and decision-making processes are often not accessible. Many national constitutions and laws require parliamentary approval of (at least certain types of) international treaties as a condition for treaty ratification.[112] However, many CMAs — as non-binding arrangements located outside the realm of international law — are designed to come into effect directly upon signature, without parliamentary scrutiny or approval. This context makes it more difficult for parliaments, civil society and the wider public to inform and scrutinise negotiations and promote accountability in both national policy and international diplomacy processes. A vast, complex and far-reaching international policy architecture has been rapidly emerging with little public oversight and participation.

5.2 Policy recommendations

Critical minerals diplomacy should be approached with careful consideration. This section outlines recommendations for policymakers in both mineral-rich LMICs and large economies.

Recommendations for policymakers in mineral-rich LMICs

- Develop a proactive, integrated strategy for critical minerals governance and development, as a basis for any engagement with trading partners. Such a strategy should be based on inclusive participatory processes, establish robust social and environmental protections and clear pathways for economic transformation, and clarify the role of critical minerals diplomacy in advancing these goals.[113] This may or may not involve signing CMAs.
- Coordinate and cooperate more closely with governments in other mineral-rich LMICs to develop joint approaches and policy positions and to leverage collective negotiating power (SARWatch, 2026). Depending on the context, regional institutions may be well placed to facilitate and support such coordination — for example, by pooling information and facilitating dialogue — and regional policy frameworks such as the AGMS can provide a basis for collective vision and joint positions (Allan et al., 2025).
- Proactively establish key parameters around the content of any CMAs. This may include: clear policy choices or even draft or template provisions on pathways to harness mineral resources for economic transformation; robust social, climate and environmental measures; and firm boundaries on what the country is or is not prepared to commit to. Address factors such as the specificity of each provision, who commitments or obligations should be placed on, and how their implementation will be financed or otherwise supported.
- Review the country's existing CMAs and renegotiate any that expose the country to burdens or risks that are not commensurate with economic, social and environmental benefits.

111 For example, several of the CMAs concluded by the US present significant similarities, as do several of the MOUs concluded by the EU.
112 For example, Constitution of Ghana of 1992, art. 75; in Zambia, the Ratification of International Agreements Act of 2016.
113 This may include strategies at both national and regional levels; see, for example, Olan'g et al., 2025 and African Minerals Development Centre, 2024.

Recommendations for policymakers in large economies

- Critically analyse the underlying demand for critical minerals — such as from defence, AI, energy and other strategic industries — and address that demand through intentional courses that prioritise human and planetary wellbeing. This may include supporting peace efforts, regulating AI and promoting recycling, circularity and public transport systems.
- Support LMIC efforts to coordinate on critical minerals diplomacy and be responsive to their agency in shaping agreements that promote economic transformation and establish robust social and environmental protections. Be responsive to their requests for renegotiating older agreements that do not align with these parameters. To be sustainable and resilient in the longer term, partnerships need to be considered just and deliver outcomes for both sides.
- Ensure proper resourcing and follow-up for CMA commitments towards mineral-rich LMICs, including on the provision of any technical or financial assistance in the areas of social and environmental protections and economic benefit sharing. Mobilise finance and knowhow to support LMIC policy priorities, including on value addition and economic transformation. Replenish aid agencies to support development-oriented initiatives in mineral-rich LMICs.

Recommendations for policymakers in both mineral-rich LMICs and large economies

- Advance policy goals related to critical minerals diplomacy in multilateral spaces wherever possible. This may include, for example, ongoing discussions in the context of the Just Transition Work Programme under the global climate talks and the World Trade Organization reform process.
- Enhance openness and transparency, including effective opportunities for parliamentary scrutiny and public participation in CMA negotiations. Extend constitutional requirements for parliament to approve treaties to the wider universe of CMAs that, while not legally binding, can have highly consequential reverberations for public policy. Publish agreements and key implementation documents in accessible formats and facilitate public participation during the implementation phase.
- Monitor, track and iteratively enhance progress towards implementing CMA commitments such as around the amount of any finance committed and disbursed, technology shared, location of processing and value addition activities, local procurement, and effectiveness of environmental and social protections.

A key role for civil society

Civil society plays an important role in critical minerals policy accountability in both mineral-rich LMICs and large economies. The critical minerals diplomacy landscape presented in this report highlights fragmentation, a lack of transparency and limited accountability in a rapidly evolving and highly consequential network of agreements. With deep connections to and understandings of national and subnational contexts and realities, civil society can work with governments to: support more coordinated action in critical minerals diplomacy; align policy and practice with local development objectives; secure effective social and environmental protections; and create frameworks that promote fair, sustainable distributions of costs, benefits, rights and obligations.

Appendix 1: List of critical minerals agreements analysed

This appendix lists the 114 agreements identified for and included in this analysis, based on the criteria laid out in Section 1. The dataset seeks to capture the vast majority of CMAs signed during the review period (1 August 2021–31 July 2026), based on data publicly available as of 1 August 2026. Limited transparency around CMAs means that the dataset cannot be considered exhaustive.

Published CMAs

There are 60 published CMAs, for which we have provided source links to full text and, where possible, created a permalink through perma.cc[1] (in the event that the live website is updated and the source link broken). Where direct permalinks to text were not possible, we have permalinked the landing page.

Agreement title	Short name	Month and year signed	Format	Source link	Perma.cc link
Between mineral-rich LMICs and large economies					
Agreement between the United States of America and the Kingdom of Cambodia on Reciprocal Trade	US-Cambodia ART	Oct 2025	Bilateral	Link	Link
Agreement between the United States of America and the Republic of Ecuador on Reciprocal Trade	US-Ecuador ART	Mar 2026	Bilateral	Link	Link
Agreement between the United States and the Hashemite Kingdom of Jordan on Reciprocal Trade	US-Jordan ART	Jul 2026	Bilateral	Link	Link
United States of America-Argentine Republic Agreement on Reciprocal Trade and Investment	US-Argentina ARTI	Feb 2026	Bilateral	Link	Link Annex
Strategic Partnership Agreement between the Government of the United States of America and the Government of the Democratic Republic of the Congo	US-DRC Agreement	Dec 2025	Bilateral	Link	Link
Interim Agreement on Trade between the European Union and the Republic of Chile	EU-Chile iTA	Dec 2023	Bilateral	Link	Link
EU-Mexico Interim Trade Agreement	EU-Mexico iTA	May 2026	Bilateral	Link	Link

1 If the permalink does not display the document, please select the 'screenshot' or 'live page' views.

Agreement title	Short name	Month and year signed	Format	Source link	Perma.cc link
Agreement between the United States of America and the Republic of El Salvador on Reciprocal Trade	US-El Salvador ART	Jan 2026	Bilateral	Link	Link
Agreement between the United States of America and the Republic of Indonesia on Reciprocal Trade	US-Indonesia ART	Feb 2026	Bilateral	Link	Link
Cook Islands-United States Framework for Securing of Supply in the Mining and Processing of Critical Minerals and Rare Earths	US-Cook Islands MOU	Feb 2026	Bilateral	Link	Link
Joint Statement between the People's Republic of China and the Republic of Indonesia on Advancing the Comprehensive Strategic Partnership and the China-Indonesia Community with a Shared Future	China-Indonesia Statement	Nov 2024	Bilateral	Link	N/A
Memorandum of Understanding between the European Union and the Republic of South Africa on a Strategic Partnership on Sustainable Minerals and Metals Value Chains	EU-South Africa MOU	Nov 2025	Bilateral	Link	Link
United States-Mexico Critical Minerals Action Plan	US-Mexico Plan	Feb 2026	Bilateral	Link	Link
Memorandum of Understanding between the Government of the United States of America and the Government of Malaysia Concerning Cooperation to Diversify Global Critical Minerals Supply Chains and Promote Investments	US-Malaysia MOU	Oct 2025	Bilateral	Link	Link
Memorandum of Understanding between the Government of the United States of America and the Government of the Kingdom of Thailand Concerning Cooperation to Diversify Global Critical Minerals Supply Chains and Promote Investments	US-Thailand MOU	Oct 2025	Bilateral	Link	Link
Republic of Armenia-United States of America Framework for Securing of Supply in the Mining and Processing of Critical Minerals and Rare Earths	Armenia-US Framework	May 2026	Bilateral	Link	Link
Memorandum of Understanding between the Department of Natural Resources of Canada and the Ministry of Mining of the Republic of Chile Regarding Cooperation on Critical Minerals and the Sustainable Development of Minerals and Metals	Canada-Chile MOU	Mar 2024	Bilateral	Link	Link

Agreement title	Short name	Month and year signed	Format	Source link	Perma.cc link
Memorandum of Cooperation between the Ministry of Economy, Trade, and Industry of Japan and the Ministry of Energy and Mineral Resources of the Republic of Indonesia on Cooperation in Critical Minerals	Japan-Indonesia MOC	Mar 2026	Bilateral	Link	Link
Memorandum of Understanding among the United States of America, the Democratic Republic of the Congo, and the Republic of Zambia Concerning Support for the Development of a Value Chain in the Electric Vehicle Battery Sector	US-DRC-Zambia MOU	Dec 2022	Plurilateral	Link	Link
Memorandum of Understanding on a Partnership on Sustainable Raw Materials Value Chains and Renewable Hydrogen between the European Union Represented by the European Commission and the Republic of Namibia	EU-Namibia MOU	Nov 2022	Bilateral	Link	Link
Memorandum of Understanding on Working Arrangements relating to the Development of the Lobito Corridor and the Zambia-Lobito Rail Line	Lobito Corridor MOU	Oct 2023	Plurilateral	Link	Link (zip download)
Memorandum of Understanding on a Strategic Partnership on Sustainable Raw Materials Value Chains Between the European Union and the Republic of Uzbekistan	EU-Uzbekistan MOU	Apr 2024	Bilateral	Link	Link
Memorandum of Understanding on a Partnership on Sustainable Raw Materials Value Chains between the European Union Represented by the European Commission and the Republic of Zambia	EU-Zambia MOU	Oct 2023	Bilateral	Link	Link
Memorandum of Understanding on a Strategic Partnership on Sustainable Raw Materials Value Chains between the European Union Represented by the European Commission and the Republic of Rwanda	EU-Rwanda MOU	Feb 2024	Bilateral	Link	Link
Memorandum of Understanding on a Partnership on Sustainable Value Chains of Critical and Strategic Raw Materials between the European Union Represented by the European Commission and the Democratic Republic of the Congo	EU-DRC MOU	Oct 2023	Bilateral	Link	Link

Agreement title	Short name	Month and year signed	Format	Source link	Perma.cc link
Memorandum of Understanding between the European Union and Chile on a Strategic Partnership on Sustainable Raw Materials Value Chains	EU-Chile MOU	Jul 2023	Bilateral	Link	Link
Memorandum of Understanding on a Strategic Partnership on Sustainable Raw Materials Value Chains between the European Union and the Argentine Republic	EU-Argentina MOU	Jun 2023	Bilateral	Link	Link
Memorandum of Understanding between the Republic of Kazakhstan and the European Union on a strategic partnership on sustainable raw materials, batteries and renewable hydrogen value chains	Kazakhstan-EU MOU	Nov 2022	Bilateral	Link	Link
Memorandum of Understanding between the Ministry of Energy and Mineral Resources of Indonesia and the Foreign, Commonwealth, and Development Office of the UK on a Strategic Partnership on Critical Minerals	Indonesia-UK MOU	Oct 2024	Bilateral	Link	Link
Between large economies					
Agreement between the Government of the United States of America and the Government of Japan on Strengthening Critical Minerals Supply Chains	US-Japan Agreement	Mar 2023	Bilateral	Link	Link
Canada-Japan Comprehensive Strategic Roadmap	Canada-Japan Roadmap	Mar 2026	Bilateral	Link	Link
Agreement between the Government of the United States of America and the Government of Ukraine on the Establishment of a United States-Ukraine Reconstruction Investment Fund	US-Ukraine Agreement	Apr 2025	Bilateral	Link	Link
Free Trade Agreement between the European Union and New Zealand	EU-NZ FTA	Jul 2023	Bilateral	Link	Link
Memorandum of Understanding between the Government of the United States of America and the Government of the United Kingdom of Great Britain and Northern Ireland for Securing of Supply in the Mining and Processing of Critical Minerals and Rare Earths	US-UK MOU	Feb 2026	Bilateral	Link	Link
Memorandum of Understanding between the European Union and the Republic of Serbia on a Strategic Partnership on Sustainable Raw Materials, Battery Value Chains and Electric Vehicles	EU-Serbia MOU	Jul 2024	Bilateral	Link	Link

Agreement title	Short name	Month and year signed	Format	Source link	Perma.cc link
Joint Declaration of Intent between Canada and Australia on Critical Minerals Cooperation	Canada-Australia Declaration	Oct 2025	Bilateral	Link	Link
Memorandum of Understanding between the Ministry of Mines of the Government of the Republic of India and the Department of Natural Resources of Canada Concerning Critical Minerals Cooperation	India-Canada MOU	Mar 2026	Bilateral	Link	Link
Joint Declaration of Intent Between Canada and Greenland on Critical Minerals and Energy Cooperation	Canada-Greenland Declaration	Mar 2026	Bilateral	Link	Link
Memorandum of Understanding between the Department of Natural Resources of Canada and the Department of Industry of Canada and the Ministry of Trade, Industry and Energy of the Republic of Korea on Cooperation in Critical Mineral Supply Chains, the Clean Energy Transition and Energy Security	Canada-South Korea MOU	May 2023	Bilateral	Link	Link
Quad Critical Minerals Initiative Framework among the United States, Japan, Australia and India	Quad Framework	May 2026	Plurilateral	Link	Link
Memorandum of Cooperation between the Department of Industry of Canada, the Department of Natural Resources of Canada, the Department of Foreign Affairs, Trade and Development of Canada and the Ministry of Economy, Trade and Industry of Japan, the Ministry of Foreign Affairs of Japan Concerning Battery Supply Chains	Canada-Japan MOC	Sep 2023	Bilateral	Link	Link
Joint Statement on Critical Minerals and Critical Raw Materials Cooperation (Canada-Italy)	Canada-Italy Statement	Oct 2024	Bilateral	Link	Link
United States-Australia Framework for Securing of Supply in the Mining and Processing of Critical Minerals and Rare Earths	US-Australia Framework	Oct 2025	Bilateral	Link	Link
United States-Japan Framework for Securing the Supply of Critical Minerals and Rare Earths through Mining and Processing	US-Japan Framework	Oct 2025	Bilateral	Link	Link
Joint Statement of Intent between Canada and the United Kingdom on Collaboration on Critical Minerals	Canada-UK Statement	Mar 2023	Bilateral	Link	Link

Agreement title	Short name	Month and year signed	Format	Source link	Perma.cc link
Memorandum of Understanding between the European Union and the United States of America on a Strategic Partnership on Critical Minerals	EU-US MOU	Apr 2026	Bilateral	Link	Link
Joint Declaration of Intent between Canada and Germany on Critical Minerals Cooperation	Canada-Germany Declaration	Aug 2025	Bilateral	Link	Link
Memorandum of Understanding between the Department of Natural Resources of Canada and the Ministry of Trade, Industry and Fisheries of Norway Concerning Critical Minerals Cooperation	Canada-Norway MOU	Mar 2026	Bilateral	Link	Link
The Government of the Republic of Poland and the Government of the United States of America Framework for Securing of Supply in the Mining Processing and Recycling of Critical Minerals including Rare Earths	Poland-US Framework	Apr 2026	Bilateral	Link	Link
Memorandum of Understanding between the European Union and the Government of Greenland on a Strategic Partnership on Sustainable Raw Materials Value Chains	EU-Greenland MOU	Nov 2023	Bilateral	Link	Link
Memorandum of Understanding between the European Union and the Kingdom of Norway on a Strategic Partnership on Sustainable Land-Based Raw Materials and Battery Value Chains	EU-Norway MOU	Mar 2024	Bilateral	Link	Link
Memorandum of Understanding between the European Union and Australia on a Strategic Partnership on Sustainable Critical and Strategic Minerals	EU-Australia MOU	May 2024	Bilateral	Link	Link
Joint Statement of Intent between Australia and the United Kingdom on collaboration on critical minerals	UK-Australia Statement	Apr 2023	Bilateral	Link	Link
Joint Statement of the Department for Business and Trade of the UK and the Federal Ministry for Economic Affairs and Energy of Germany: Co-operation on Critical Raw Materials	UK-Germany Statement	Apr 2026	Bilateral	Link	Link
UK-India Technology Security Initiative	UK-India Initiative	Jul 2024	Bilateral	Link	Link

Agreement title	Short name	Month and year signed	Format	Source link	Perma. cc link
Memorandum of Cooperation between the Department for Business and Trade of the United Kingdom of Great Britain and Northern Ireland and the Ministry of Economy, Trade and Industry of Japan on Critical Minerals	UK-Japan MOC	Oct 2023	Bilateral	Link	Link
UK-New Zealand Clean Energy Partnership: Memorandum of Cooperation	UK-New Zealand MOC	Nov 2025	Bilateral	Link	Link
Clean Energy Partnership between the United Kingdom and the Republic of Korea	UK-South Korea Partnership	Nov 2023	Bilateral	Link	Link
Joint Declaration of Intent on an Australian-German Value chain feasibility study between the Department of Industry, Science and Resources of Australia and the Federal Ministry for Economic Affairs and Climate Action of the Federal Republic of Germany	Australia-Germany Declaration	Apr 2023	Bilateral	Link	Link
Memorandum of Cooperation between the Ministry of Economy, Trade and Industry of Japan and the Ministry of Mines of India in the Field of Mineral Resources	Japan-India MOC	Aug 2025	Bilateral	Link	Link

Unpublished CMAs

The following table sets out the 54 CMAs reported by secondary sources. Without seeing the agreement text itself, we are unable to verify the agreement title. As such, the following should not be relied upon as official titles.

Reported agreement title	Month + Year Signed	Source Link
Between mineral-rich LMICs		
Zambia-DRC cooperation agreement to facilitate the development of a value chain in the electric battery and clean energy sector	Apr 2022	Link
Indonesia-Algeria memorandum of understanding on energy and mining	Dec 2023	Link
Türkiye-Uzbekistan memorandum of understanding to boost cooperation in the mining sector, focusing on critical minerals and rare earth elements	Jan 2026	Link
Between mineral-rich LMICs and large economies		
US-Argentina framework agreement to ensure the security and resilience of critical minerals supply chains	Feb 2026	Link
Canada-Argentina collaboration arrangement on critical minerals and mining sustainability	Mar 2025	Link
US-Argentina memorandum of understanding to strengthen cooperation on critical minerals	Aug 2024	Link
Azerbaijan-United States framework document on ensuring supply chains in the extraction and processing of critical minerals and rare earths	Jun 2026	Link
Bolivia-United States critical minerals memorandum of understanding	Apr 2026	Link
Chile-United States joint declaration for the establishment of consultations on critical minerals and rare earth elements	Mar 2026	Link
China-DRC memorandum of understanding on geological cooperation and mineral resources	Mar 2026	Link
United States-Ecuador bilateral critical minerals framework / memorandum of understanding on critical minerals cooperation	Feb 2026	Link
United States-Guinea bilateral critical minerals framework / memorandum of understanding on critical minerals cooperation	Feb 2026	Link
Canada-Indonesia MOU on critical minerals cooperation	Dec 2024	Link
China-Indonesia memorandum of understanding on broader mineral resource development	Nov 2024	Link
China-Indonesia memorandum of understanding on green mineral cooperation	Nov 2024	Link
United States-Mongolia memorandum of understanding on mineral resources	Jun 2023	Link
US-Morocco memorandum of understanding on cooperation and investment in the exploration and extraction of critical minerals	Feb 2026	Link
United States-Paraguay bilateral critical minerals framework / memorandum of understanding on critical minerals cooperation	Feb 2026	Link
Memorandum of understanding between the Department of Natural Resources of Canada and the Ministry of Energy and Mines of the Republic of Peru to advance cooperation on critical minerals and mining sustainability	Mar 2026	Link

Reported agreement title	Month + Year Signed	Source Link
Memorandum of understanding between the United States and the Republic of Peru concerning cooperation on critical mineral supply chains	Feb 2026	Link
United States-Philippines bilateral critical minerals framework / memorandum of understanding on critical minerals cooperation	Feb 2026	Link
United States-Uzbekistan bilateral critical minerals framework / memorandum of understanding on critical minerals cooperation	Feb 2026	Link
South Korea-Madagascar memorandum of understanding on critical minerals	Jun 2024	Link
Italy-Libya joint declaration on energy, critical raw materials and green technology	May 2024	Link
UK-Zambia Green Growth Compact	Aug 2023	Link
UK-Kazakhstan Critical Minerals Agreement	Feb 2026	Link
UK-Uzbekistan memorandum of understanding on collaboration in the critical minerals sector	Mar 2025	Link
Australia-Indonesia critical minerals collaboration mechanism	Nov 2023	Link
India-Indonesia memorandum of understanding on cooperation in the field of minerals and technology of steel supply chain	Jul 2026	Link
South Korea-Tanzania memorandum of understanding on critical minerals cooperation	Jun 2024	Link
South Korea-Chile mineral resources partnership	Jul 2026	Link
South Korea-Indonesia memorandum of understanding on cooperation in critical mineral partnership	Feb 2022	Link
South Korea-Philippines memorandum on critical minerals cooperation	Mar 2026	Link
South Korea-Kazakhstan critical minerals agreement	Jun 2024	Link
South Korea-Mongolia memorandum of understanding on critical minerals and energy	Jul 2026	Link
Indonesia - Saudi Arabia memorandum of understanding of strategic cooperation in the mining sector, especially the development of critical minerals	Apr 2025	Link
India-Brazil memorandum of understanding on cooperation in the area of rare earths and critical minerals	Feb 2026	Link
Germany-Argentina memorandum of understanding on critical minerals	Jul 2026	Link
Germany-Brazil joint declaration of intent to expand scientific and technological cooperation in the area of critical and strategic minerals	Apr 2026	Link
Türkiye-China memorandum of understanding to advance cooperation in all areas of mining, particularly critical minerals such as rare earth elements	Oct 2024	Link
Between large economies		
Australia-Japan critical minerals partnership	Oct 2022	Link
Memorandum of understanding to support the Australia-Canada-India technology and innovation partnership	Jul 2026	Link
France-India joint declaration of intent on cooperation in the field of critical minerals	Feb 2026	Link
Saudi Arabia-Canada memorandum of understanding to enhance cooperation in the field of mineral resources, including exploration, financing, and processing technologies	Jan 2026	Link
US-Saudi Arabia strategic framework for cooperation on securing uranium, metals, permanent magnets and critical minerals supply chains	Nov 2025	Link

Reported agreement title	Month + Year Signed	Source Link
Canada-Ukraine cooperation agreement to develop research, modernize geological data, and attract investment to Ukraine's mineral sector	Feb 2024	Link
US-UAE Framework on Securing Supply in the Mining and Processing of Critical Minerals and Rare Earths	Feb 2026	Link
India-US framework on Securing of Supply in the Mining and Processing of Critical Minerals and Rare Earths	May 2026	Link
India-United States Memorandum of Understanding to Expand and Diversify Critical Mineral Supply Chains	Oct 2024	Link
UK-France letter of intent formalising bilateral cooperation on critical minerals	Oct 2025	Link
UK-Saudi Arabia memorandum of understanding to collaborate on securing critical minerals supply chains	Jan 2025	Link
Australia-South Korea memorandum of understanding on cooperation in critical mineral supply chains	Dec 2021	Link
Australia-France bilateral agreement to cooperate on critical minerals supply chains	Sep 2023	Link
Germany-India joint declaration of intent on cooperation in critical minerals	Jan 2026	Link

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Knowledge Products

Research Report

November 2026

Law; Energy

Keywords:
Critical minerals, Least Developed Countries (LDCs), mining, transparency

Critical minerals diplomacy is rapidly expanding, with large economies competing to secure supply chains, while mineral-rich low- and middle-income countries (LMICs) seek development benefits. This report maps 114 critical minerals agreements concluded between 2021 and 2026. Analysing 29 of these agreements in greater depth, it assesses how they address investment, offtake, value addition, revenue, skills development, and social and environmental issues. Highlighting the risk that agreements prioritise security of supplies for major economies over producer country development objectives and social and environmental protections, the findings underscore the need for greater transparency and greater cooperation between mineral-rich LMICs.

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International Institute for Environment and Development
44 Southampton Buildings, London WC2A 1AP, UK

Tel: +44 (0)20 3463 7399
www.iied.org

The research was supported by a grant from Open Society Foundations.
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