Netherlands Commission for
Environmental Assessment

Sustainability Analysis

Mineral Resource Governance in the Global Energy Transition

A qualitative survey of views from minerals rich countries

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Abbreviations

ASM	Artisanal and small-scale miner
BMZ	Federal Ministry for Economic Cooperation and Development, Germany
CSDDD	Corporate Sustainability due diligence directive
CSO	Civil Society Organisation
DRC	Democratic Republic Congo
EITI	Extractive Industries Transparency Initiative
E&S	Environmental and Social
EV	Electric Vehicles
FPIC	Free and Prior Informed consent
GIZ	German Agency for International Cooperation
IFC	International Finance Corporation
IRMA	Initiative for Responsible Mining Assurance
LMIC	Low and Middle Income Country
MoU	Memorandum of Understanding
MSP	Multi-Stakeholder Platform
NCEA	Netherlands Commission on Environmental Assessment
NGO	Non-Governmental Organisation
NRGI	Natural Resource Governance Institute
PPDF	Public Private Dialogue Forum
SDG	Sustainable Development Goal
SME	Small and Medium Enterprise
UK	United Kingdom
ZCCM	Zambian Consolidated Copper Mines

Summary

This Sustainability Analysis study focuses at identifying and unpacking the underlying governance challenges in low- and middle-income countries (LMICs) regarding the exploitation and international trade of transition minerals in these countries. For these countries, the rise in demand for transition minerals (particularly spurred by the energy transition) leads to dilemmas in terms of how to benefit from economic opportunities while also dealing with potential negative side-effects. In line with its objectives, this Sustainability Analysis study generated insights on these dilemmas and the underlying institutional and governance challenges to deal with these dilemmas. These insights emerged from the views and responses from a diversity of stakeholders who were interviewed (from public, private sectors and civil society). The interviews were related to case studies (Chile, Zambia, Guinea, Indonesia, Ghana, Senegal), which were selected based on criteria of diversity (in terms of continents and minerals) and practical reasons. For each country, the study focused on one or a few transition minerals, and where available and useful was focused on one recent specific strategy or policy (contents, history, development, process). It links key development and related action dilemmas to underlying institutional and governance issues. The case studies varied in depth and number and nature of stakeholders who were interviewed. The studies were validated by respondents in each country. This report summarises the findings from the case studies and presents cross-cutting insights.

A flow of five leading questions was used for the interviews and analyses of responses. This has been helpful to move from a meta level (of broad development dilemmas) to insights on context-specific action dilemmas and governance challenges and then identify practical actions that contribute to overcoming these challenges. This means that it has provided a structure and guidance to support the involved LMIC's stakeholders to move from perceived dilemmas and challenges (when being confronted with a rapid increase in demand of transition minerals in their country) to actionable insights on the underlying governance challenges (as identified by respondents). This report is structured along this flow of five questions which are answered in chapters 1 - 5:

- Which development dilemmas do you see for your country?
- Which action dilemmas do you see for your government?
- How do you view your government's responses to these dilemmas?
- How do you evaluate your government's internal practices and governance systems?
- How do you believe your government may improve its internal practices?

It is our hope that this study will spark the dialogue with and between decision-makers on both sides of mineral resources value chains in a process of learning-by-doing. Following the flow of the five leading questions, case-by-case validation and further unpacking of the mentioned dilemmas and coping strategies could help such dialogue, both in the case study countries and beyond. The questions could first of all serve as a starting point for insightful conversations within a certain supply country, for

example between national, regional and local authorities. Or between public, private, and civil society actors. Further downstream, stakeholders aiming to promote and support sustainable governance of mineral resources, can use generic or more country-specific insights to check their own assumptions and revisit their strategies. In the study, several organizations and initiatives are mentioned by name for playing a constructive role in improving international initiatives and legislation in supplying LMICs. On the demand-side, identification of the common denominators of these and similar organizations can be used to reflect upon effective directions for international cooperation and positioning.

Introduction

'A world powered by renewables is a world hungry for transition minerals. For developing countries, transition minerals are a critical opportunity – to create jobs, diversify economies, and dramatically boost revenues. But only if they are managed properly. The race to net zero cannot trample over the poor. The renewables revolution is happening – but we must guide it towards justice.' – United Nations Secretary-General António Guterres[1]

The rise of demand for transition minerals: a sense of urgency for low- and middle-income countries

There is an exponential increase in market demand for certain types of minerals. This increase is particularly – but not only – spurred by the energy transition.[2] For example, in the EU, electric car production accounts for 50-60% of the total demand for critical minerals. For cobalt, graphite and lithium, over 90% of demand is for EVs.[3] Wealthy countries already use six times more natural resources per capita than low-income ones.[4] The extraction and trade of transition minerals is intensifying new geopolitical tensions and reinforcing long-standing patterns of exploitation and inequality. In 2022, China stood as the largest importer of critical minerals, accounting for 33% of the global total, followed by the European Union at 16%, and Japan and the United States both at 11%.[5] According to some estimates, 384 new mines will 'need' to be excavated in the next 10 years just to meet climate goals.[6] The top five countries with companies controlling the minerals supply chain are Canada, the UK, Australia, China and the USA.[7] This rise in demand creates opportunities for low- and middle-income countries (LMICs) that have rich supplies of these minerals, but it also raises concerns about potential negative social and environmental side-effects in producer countries and especially for the communities involved.

The following facts and figures support the sense of urgency regarding transition minerals in LMICs:

- Many of transition minerals are concentrated in countries already struggling with conflict, rent seeking and economic instability, spanning from Ukraine in Europe to the Democratic Republic of the Congo (DRC) in Africa. As a result, there is the risk that the race for transition minerals will exacerbate

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[1] Quote from UN Secretary General appointing a Panel on Critical Energy Transition Minerals, April 2024. also in UN Secretary-General's Panel on Critical Energy Transition Minerals, 2024, *Resourcing the Energy Transition: Principles to Guide Critical Energy Transition Minerals Towards Equity and Justice*

[2] The increase is likely to be further fuelled by the rise in defence spending and the weapons industry.

[3] Somo, 2024, *Overconsumption of transition minerals will cost us the earth*

[4] UNEP and International Resources Panel, 2024. *Global Resources Outlook 2024*

[5] World Trade Organisation, 2024, *High demand for energy-related critical minerals creates supply chain pressures*

[6] Benchmarksource, 2022, *More than 300 new mines required to meet battery demand by 2035*.

[7] EnergyMonitor, 2023, *The countries controlling the critical minerals supply chain: in four charts*

human rights abuses, negatively affect the natural environment and biodiversity, deepen inequality and fuel global unrest.[8]

- A recent study identified 5,097 mining projects involving about 30 transition minerals needed in the energy transition, of which 54% are located on or near Indigenous peoples' lands.[9]
- In early 2025, four copper mining companies operating in Zambia, including one British and three Chinese firms, have been accused of releasing toxic mining waste into the Kafue River's watershed causing an environmental disaster, with devastation of livelihoods and fish resources.[10]
- Research indicates that women and girls, Indigenous peoples and environmental defenders are disproportionately harmed by mining. Albeit progress being made, local communities may still be excluded from decision-making and see little economic benefit from extraction.[11]

Building on the urgent challenges embedded in the above quote, facts and figures, the Secretary-General's Panel on Critical Energy Transition Minerals developed a series of guiding principles and actionable recommendations drawing from existing international norms, commitments, and legal obligations.[12] To implement these principles, a range of actions is proposed, which require finance, institutions and building capacities. Likewise, there is a proliferation of international voluntary sustainability standards and certification systems, as well as directives and regulatory requirements in consumer countries -such as the Corporate Sustainability Due Diligence Directive, the Battery regulation etc - but there are concerns about effective implementation. In practice, many don't appear to meet the criteria needed to actually shift the dial towards better practices in the industry, and instead risk rubberstamping the bare minimum.[13] As to producer countries and the steeply increasing demand for critical minerals, increasingly there is reference to underlying challenges related to institutional capacities and governance they face, which, if not being addressed, will not lead to a systemic transition as is urgently needed.[14]

In this report, we give the floor to professionals from minerals supply-side countries, many of whom suggest that international initiatives and legislation in producer countries can be improved. More is needed: in their view, it is crucial that governments in producer countries take the lead in deciding how to

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[8] Global Witness, 2025, *The critical minerals scramble: How the race for resources is fueling conflict and inequality*

[9] 85% of the world's lithium reserves, 75% of manganese, 57% of nickel, 66% of copper and 44% of iron reserves overlap with Indigenous peoples lands. Source: The Conversation, 2022. *54% of projects extracting clean energy minerals overlap with Indigenous lands, research reveals*

[10] Climate Home News, 2025. *"Catastrophic" acid spills at copper mines test Zambia's plans to boost production*

[11] Publish what you pay. *Responsible Transition Minerals*

[12] See footnote 1 above

[13] see for instance: NRGI, 2024. *The Consolidated Mining Standard Initiative Must Dig Deeper*

[14] BMZ, 2024. *Voluntary Sustainability Standards and Mineral Sector Governance: Synergies and Practices*

develop their mineral value chains for 'the common good', that is to serve long-term interest of all stakeholders in their societies (to 'orchestrate' development). To do so, governments require adequate policy space, clear legislation and leadership to decide and implement what they consider to be a sustainable development pathway. Reality is that LMICs are often forced to outsource their ambitions and become dependent on external actors for capital and expertise.[15]

During this process and to structurally benefit from the demand for transition minerals, governments in countries with rich supplies of transition minerals encounter several challenges. These relate to capacities for public governance[16] of the transition minerals supply chains. Governments are faced with dilemmas and concerns as to a more equitable distribution of benefits for all citizens and creating opportunities for diversification of the economy, broader access to energy, and sustainable growth and development. We ask ourselves: do decision-makers, at national and sub-national levels, have the capacities and systems to balance the intended benefits and the side-effects for their populations?

Objective

This exploratory study was carried out by the Netherlands Commission on Environmental Assessment (NCEA). The NCEA works in low- and middle-income countries in Africa, Asia and Latin America and, in doing so, has built up experiences in conducting assessments and studies with key stakeholders in diverse policy areas, increasingly mining and extractives. The NCEA's programme Sustainability Analysis aims to better understand why development ambitions of LMICs often are not effectively realized and developments do not seem to be sufficiently sustainable in the long term. We consider a development 'sustainable' when there is an outcome that balances both economic, environmental and social aspects. The NCEA has no opinion on what this implies for the sustainability norms as to specific development decisions like laws, policies, plans, programmes and projects, as that always requires political trade-offs. Following the UN's Sustainable Development Goals (SDGs), which were unanimously adopted by the UN General Assembly and have therefore been endorsed by most countries, we assume that supply-side countries should determine for themselves what they believe to be sustainable, for example in the sense of 'just' or 'fair' and/or environmentally sustainable.

The immediate objective of this Sustainability Analysis is to generate insights on:

- the development dilemmas and underlying governance challenges in supply-side countries regarding the exploitation and international trade of transition minerals

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[15] W. Gyude Moore, 2025. *Analysis: The risk of outsourcing Africa's ambition*

[16] World Bank in *Managing Development: The Governance Dimension*, 1991, defines governance as 'the manner in which power is exercised in the management of a country's economic and social resources for development'. Theories of public management distinguish between the main domains that exercise power in processes of development: government (public governance), market (corporate governance) and civil society (civil society governance).

- the related governance requirements and capacities that can help to deal with these dilemmas, as expressed and perceived by stakeholders in supply-side countries – focussing on public sector
- how these governance requirements can be supported and how capacities to deal with them can be improved.

The NCEA aims to support any government to make well-substantiated and more sustainable planning decisions. This can be done through any form of impact assessment – in this case a sustainability analysis by national actors. This analysis should help explore the options to support LMICs to develop their part of global transition minerals value chains, and to do so in a way that they themselves consider to be (economically, socially and environmentally) sustainable. This also means making planning decisions that more effectively reach their goals in a world where geopolitical players in the value chain put their own interest first.[17] In this study we don't elaborate on dilemmas related to the political economy at national and global level. We assume that governance will improve by a combination of balanced interdependency – no politician can act alone in rules-based governance – and of improving collaborative and trust-building skills.

Method

We conducted case studies in the following countries with a focus on different minerals: Chile (focus on lithium), Zambia (copper), and Guinea (iron and bauxite). For these three countries, case study reports are available as a background to this main report. In addition, there is fragmented information available from Indonesia (nickel) and Ghana (lithium). For these two countries, no case study reports have been written so far. In addition, we make use of an example of oil and gas development from Senegal, in which we find governance systems comparable to those for transition minerals. We emphasise that the case studies are a means to gaining insights on the underlying institutional and governance issues that constitute challenges for governments in dealing with development dilemmas related to transition minerals. The case studies are not meant to be exhaustive in terms of providing all relevant background on the transition minerals value chains (i.e. technical and market related issues).

The approach used to develop the case studies should be regarded as somewhat experimental. While we had pre-designed a set of questions, we gradually adjusted the flow of key questions based on the views of respondents (and have used this to structure this report, see below). We asked respondents from diverse stakeholder groups, including governments, private sector and civil society, which kind of challenges they perceive and what governance requirements they think are needed to deal with these challenges. Respondents were requested to substantiate their views with publicly available

[17] See e.g., Diene, Chinery, Fitzgerald & Scurfield, 2025. *As the West Turns Inward, Can Africa Leverage Its Mineral Power?* Natural Resource Governance Institute

documentation, whenever possible. We generalised these insights, showing the variation between countries and between respondents from the public, private and civil domains.

As the inner workings of governments can be a sensitive issue, we invited respondents to be as honest as possible and offered them anonymity. It turned out to be more difficult and time-consuming than we thought to find individuals who felt comfortable communicating openly with us, especially those working for a government. In the 5 selected countries altogether, we interviewed 24 respondents (17 from civil society and 5 from private sector), of whom 3 had worked within their government's administration in the past. The two remaining respondents occupy high-level policy roles in government ministries. In Guinea, Chile and Zambia, we worked with local experts who contributed significantly to the case study insights based on his/her own expertise and contacts, and who validated the case study report. They also contributed to contacting relevant respondents.

The case study countries were selected based on two main criteria. Firstly, the aim was to have a diversity in countries (continents) and transition minerals. Secondly, selection took place on pragmatic grounds, having contacts and experts locally available. The selection may not be representative for other supply-side countries, and the views of respondents may not be representative for their country. Overall, we believe that the diversity of case studies and respondents, in combination with in-country experts and interviews with international organisations (EITI, IRMA, NRGI) has allowed us to identify a set of key development dilemmas and governance challenges that are expected to be validated and further developed in future studies (see Chapter 6). For now, in this report we provide examples from the case studies, to support our findings.

Research questions

As mentioned above, in the dialogue with respondents five key questions evolved. These questions examine the government's role. In all the case study countries, the respondents think that their governments are the weakest part of the governance system but expect them to lead – 'orchestrate' – the development of mineral value chains; only governments can negotiate with market players about investment approval conditions. This mainly involves the national government working with civil society, the private sector, local governments, and foreign entities. This leads to the main research question:

How do diverse stakeholders in supply-side countries perceive how their government deals with opportunities and risks created by the rising global demand for transition minerals in their country?

To answer the central question, we discussed with stakeholders the five following questions.

1. Which development dilemmas do you see for your country that are related to specific minerals value chains? While the rise of global demand for minerals creates opportunities for minerals-rich countries, there are also significant (social and environmental) risks. Stakeholders may perceive dilemmas in

balancing opportunities and risks. These may be shared by all respondents, e.g. 'how to balance investments with value added in the country?', and there might be dilemmas where respondents have different views, such as 'should we rapidly develop added value with high risk for the population or should we take more time to assess and address risks to populations?'

2. Which action dilemmas do you observe in the policy processes of the government to respond to development dilemmas? Ideally, governments respond to these development dilemmas through explicit or implicit strategies and interventions. In doing so, respondents identified challenges encountered by governments in the design and implementation of strategies and interventions to deal with development dilemmas. These can be referred to as 'action dilemmas'. We differentiate between two sub-questions:

- What are action dilemmas of an operational nature (to intervene in the critical minerals value chain)?
- What are action dilemmas related to communication (to involve societal actors in making strategic choices)?

3. How do you evaluate the way in which your government responds to the action dilemmas? Here, we ask for the perception of stakeholders in their government's handling of the action dilemmas mentioned above. We also look at the initiatives taken by civil society / NGOs and private sector. We differentiate three sub-questions:

- How do you think your government identifies and addresses its operational action dilemmas?
- How do you think the government communicates with societal actors for making strategic choices?
- How do you think civil society and private sector have organised themselves and taken initiatives in response to development dilemmas?

4. How do you evaluate your government's internal practices and governance systems? In all case studies, outsiders (and some insiders, too) said that they believed that their government could do better. With this question, we focus on the underlying governance systems and try to unpack this by looking at internal practices. Is there a lack of political will to involve the private sector and civil society? Is it about a lack of capacity or experience in taking responsibility and overcoming action dilemmas? Is there a lack of capacity in aligning relevant ministries? In our sub-questions we make a subdivision between:

- Political will and the capacity of the administration
- Inclusive decision-making
- Underlying practices and factors

5. How do you believe your government may improve its internal practices and governance systems? If government capacity and governance systems for dealing with the complexity of possible futures for the minerals value chain is a bottleneck, respondents may be able to identify practical options to improving

governance capacity. 'Practical' means that something concrete can be done about it. In our sub-questions we make subdivisions between:

- What may your government change about its practices?
- How could your government benefit from any external support to improve its practices?

Structure

In chapters 1 to 5, we summarise the interviewed stakeholders' response in line with the above 5 main questions. In chapter 6 we explore further steps. As noted above, case study reports are available as background documents for Chile, Zambia and Guinea. They can be accessed on the NCEA's website (www.eia.nl/en/sustainability-analysis).

1 Which development dilemmas do you see for your country?

Respondents indicate that countries with abundant resources face challenges when deciding how to develop their minerals. Although opinions vary, everyone agrees that these challenges are important. We refer to these as development dilemmas. Respondents believe that it is the government's duty to address development dilemmas through responsible decision-making on strategies and policies regarding the minerals value chain.[18] They do not think that these issues can be solved solely by following international voluntary standards or due diligence practices.

Respondents see the following main development dilemmas:

1. Opening the country and its mineral resources to global markets and extractivism to benefit from current market opportunities, while also maintaining state control and autonomy. There is a prevailing view among respondents from all case study countries that expanding the market beyond what criticists may call an 'extractivist' perspective[19] is necessary. That is, we see a consensus on the need to add as much economic value to raw materials as possible before they are exported. Failing to do so would mean missing a unique opportunity. Most governments look for ways to enhance the share of processing, although export of raw material still dominates. In Guinea, for example, the government is now using legal means to force international companies to build processing plants. Indonesia issued a ban on export of raw nickel[20].

2. The share of economic benefits for the state in the sector. According to prevailing national consensus, state agencies advocate for greater national involvement to capture a larger share of economic benefits. At the same time, when confronted with demands from governments, private companies might try to resist fiscal regulatory frameworks, may (threaten to) refrain from investments or move to other resources-rich countries. The dilemma is, how hard should the country push? In practice, one can see different approaches or practices. While Chile pushes towards more state control where lithium is concerned (unlike its copper chain), most other countries depend mainly (Zambia and Indonesia have some state co-owned mines) or exclusively (Guinea, Ghana) on mining multinationals.

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[18] This finding also shows two kinds of cognitive dissonance. First, of citizens who expect the government to do better and more, but what about their willingness to contribute in terms of taxes? Second, of development partners, by focusing on democracy as in elections or supporting civil society, but what about directly supporting governments?

[19] Wikipedia, Extractivism: 'Extractivism is the removal of natural resources particularly for export with minimal processing.' It is generally considered to be not in the interest of LMICs.

[20] IEA, 2024. *Prohibition of the export of nickel ore*

3. Short-term revenues or upholding social and environmental standards for long-term sustainability. NGOs have long called for vulnerable ecosystems to be protected, as these are often serviceable to the local population. They ask the state to ensure that companies respect environmental and social norms and that local communities benefit from national revenues. However, tighter social and environmental requirements could also have (short-term) implications for government revenues and other economic benefits for a country, despite benefits in other domains. Finding the right balance often remains a dilemma for countries and decisions aren't always taken based on in-depth analyses. Except for Chile, short-term revenues seem to receive higher priority over compliance with environmental and social standards in the case study countries.[21]

4. Investing resource wealth to directly benefit public goods and society at large. In most of the case study countries, revenues from mining represent a major share of national income. However, scepticism remains whether these resources will be equitably distributed or disproportionately benefit (for example) urban centres, thus perpetuating (regional) inequalities. It is difficult to allocate revenues in such a way that all parts of the population are satisfied. Most respondents see this dilemma in a general sense, not just for the mining sector. This refers to the paradoxes involved in deciding how natural resource revenues should be distributed to the citizenry and transformed into productive economic assets.[22] In addition, information about the rapid demand for strategic minerals and recent discoveries raises expectations and heated debate with fears of a 'pre-source curse' (as for instance expressed on lithium reserves in Ghana).[23]

5. Avoiding overreliance on raw mineral revenues and investing in economic diversification. The short-term benefits of mineral extraction include fiscal revenues and (a certain level of) job creation, which potentially bolster local and national economies. Diversifying the economy is essential, though, for the long term and could focus on industries such as renewable energy, and other value-added manufacturing. Mining minerals would be important, as its revenues would be a prerequisite to enable economic diversification, by investing them in the wider economy and development of transferable know-how. In contrast, there can also be a tension between mining and diversification, if revenues become an obstacle to diversification.

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[21] A published quote from Timer Manuring, chairman of Indonesia's Auriga Nusantara NGO: 'My ultimate goal would be to stop deforestation in Indonesia completely, but I understand that's not realistic. The next best thing would be to limit forest and biodiversity loss as much as possible.' (source: IUCN)
[22] N Barma et al., 2012. *Rents to riches? : the political economy of natural resource led development*.
[23] In Ghana the new lithium reserves are seen as a new opportunity and reference is made to avoid the 'gold curse' by which negative impacts prevailed over benefits for local communities. (Jonas Nyabor, 2024. *Can Ghana's lithium boom avoid the 'gold curse'?*). The 'pre-source curse' is also referred to in the case of Ghana's oil discovery, where the mere prospect of resource wealth led to fiscal imprudence.

2 Which action dilemmas do you see for your government?

The **development dilemmas** outlined in the preceding section pertain to the set priorities and sequencing of objectives and measures taken for developing a minerals value chain. These pathways yield diverse outcomes—both advantages and risks—affecting different stakeholder groups. While there may be agreement on the set of objectives to be met, in practice economic objectives tend to receive priority. At the national level, these development dilemmas have implications for all stakeholders, prompting the question: 'What actions, and in what sequence, should I take in light of the potential responses from other actors?' This scenario gives rise to action dilemmas for participants within a governance framework.

We will now focus on **action dilemmas.** These emerge in policy processes that seek to respond to development dilemmas.[24] In policy processes – internally and in interaction with other actors – governments develop their intervention strategies, but in their design and implementation they tend to run into action dilemmas. Underlying causes are often found at the level of governance systems and capacity constraints.[25] We first describe the policy processes and then list the action dilemmas.

2.1 Which intervention strategies are developed by your government?

During interviews, respondents focused their responses on recent policy processes and intervention strategies that were designed and implemented regarding strategic minerals. Subsequently, we focused our desk studies and analysis on these recent policy processes. The analysis included the history of minerals in the country, which according to respondents often shaped the new strategy, and the process that led to formulation of the new strategy or policy. Following is the focus per country:

- *Chile*: National Lithium Strategy launched in 2023, followed by a range of follow-up activities including experiences with concrete contracts with companies and their implementation, as well as underlying legislation and bills.

[24] Policy processes are not only large documents (plans, programmes, policies) in which the government communicates an overarching strategy. These can also manifest in a large number of small decisions coming out of the government to intervene directly in the economy (like tax laws, development permits) or in other interactions, mainly negotiations, that happen behind the scenes.

[25] We approached this by open questioning, to identify cases of well-known governance dilemmas such as the 'prisoner's dilemma' or the 'stag hunt' (or 'trust') dilemma. Dilemmas are complex by nature because outcomes often depend on the actions of others. In most cases, no actor has sufficient power to move forward alone. In addition, trust in *intentions* is not sufficient; overcoming dilemmas also requires trust in *competency* (capacity). This highlights the need for *credible commitments* where actors demonstrate through their actions that they are reliable and thus guarantee policy stability, enforce bargains over time and sanction deviations from agreements.

- *Zambia*: the National three million metric tonnes copper production strategy by 2031 and the National Critical Minerals Strategy for the period 2024-2028, both launched in 2024, followed by a range of follow-up activities including specific legislation and bills.
- *Guinea*: Intensified negotiations with foreign mining industries with the aim to create more added value and increased local revenue. This happens almost entirely behind the scenes, with no specific policy process or intervention strategy defined (so far).
- *Ghana*: debate on the conditions of the agreement for lithium mining at the Ewoyaa mine (2023) and following process of the National Mining policy (in 2024)
- *Indonesia*: In the past, the government strategy mainly revealed itself through action, like banning the export of raw nickel and giving production permits. After the 2024 elections, the government was reorganised, and it is unclear if and how the strategy may change[26].

2.2 Which action dilemmas do you observe in these policy processes?

According to respondents, governments are confronted with action dilemmas when undertaking strategies and interventions to respond to the development dilemmas. Instead of listing the action dilemmas in this section, and then describing opinions from respondents on how these action dilemmas were dealt with in section 3, we have lumped these two levels of insights, thus explaining the action dilemmas and showing insights in the responses to these dilemmas at one go within the next section.

[26] For more details see e.g., box 10 in Karkare, 2024, *Resource nationalism in the age of green industrialization.*

3 How do you view your government's responses to these dilemmas?

In this section, we outline how respondents view the way their government has responded to the action dilemmas: have these been adequate, effective and consistent? What are the remaining challenges? The responses lead to insights into the responsibilities, requirements, and capabilities of governments in addressing the action dilemmas. We make a distinction between two types of action dilemmas and related responses: operational dilemmas and communication dilemmas. Here, we use 'operational' for *what* 'interventions in the economy' or *where* (e.g. should I raise taxes or not? Or should I be looking at state-control in mines?). We use 'communication' for 'creating expectations of *how* the government will intervene in the economy' and for 'engaging other stakeholders in the decision-making process'.

3.1 How do you think your government identifies and addresses its operational action dilemmas?

In a general sense, both economic actors and NGOs emphasise the need for level-playing field in strategies, policies and regulations. However, they mean different things.

- The private sector sees credibility in terms of a framework of common rules and standards that prevent some businesses from gaining an unfair competitive advantage over others and ensure equal opportunities to newcomers.
- NGOs, on the other hand, focus on the (re)distributive aspects. They see main government responsibility being to adopt laws and regulations on ESG issues, local content and benefit sharing, as well as involvement of artisanal and small-scale miners.

We now list the action dilemmas with underlying questions (in italics), main findings from the case studies and further details from the case studies about how governments deal with these dilemmas. Given that action dilemmas can occur at different stages of policymaking, we follow this sequence which includes four main phases – although some action dilemmas may overlap multiple phases, and other categorizations may be possible and adjusted later if needed:

A. Strategy design
B. Design of legal backing (laws and regulations)
C. Implementation and law enforcement
D. Monitoring.

Phase A. Strategy design

Action dilemma A1. What is the ideal model for ownership of mineral resources, e.g. concession-based or government ownership systems to facilitate wider benefits from the mineral resources (beyond private profits) and ensure effective functioning for profitable operations? *Concessions are closest to private property, while a contract limits significantly the disposition power of the contractor.*[27]

Insights

This is a critical issue in the design of new strategies. The case studies show that strategic thinking is shaped by history, context and type of mineral, and cannot be independent of state capabilities. In all countries, the outcome is shaped by interactions between the government and private sector. Where in Chile, concessions were the preferred option in copper. While for lithium Chile works with public-private alliances with variable shares for the state. In Indonesia, it is the government driving resource-based nationalism (by attracting private investments). In both Zambia and Guinea, the trajectory since independence has led to significant changes in the merits of state ownership, and given relatively low capabilities, the state plays a limited role when it comes to ownership.

- In *Chile,* lithium is defined as a state-owned strategic mineral. However, state-owned enterprises have struggled with internal management challenges and lack of expertise to effectively engage in lithium-related activities. Two main companies now lead lithium exploitation in two strategic salt lakes. One was originally state-owned and transitioned to a publicly traded company with multinational ownership[28]. The other is one of the world's leading producers of lithium. Both operate in Chile through agreements and under regulatory oversight by the *Chilean Economic Development Agency (CORFO)*, with their contracts set to be reviewed as part of the new National Lithium Strategy (NLS) in the upcoming years. For other salt lakes, there are the options of public-private alliances, whereby the state will hold a majority share, or the state as a majority or minority participant, or the private sector will take the lead in development. While associations with state companies are possible, they won't be mandatory.
- In *Zambia,* the ownership of mines has undergone radical changes. Initially a private industry under the colonial administration, the mining industry was nationalised in the early 1970s, with the creation of the state-owned Zambian Consolidated Copper Mines (ZCCM). ZCCM became responsible for the provision of social services and public goods for mine workers and their communities, but this coincided with the slump in copper prices reducing ZCCM's income. Today, the Government retains minority interests in most of the large copper projects through its holding company Zambia

[27] A concession is the closest to private property. For example, a concession can be freely transferred by its owner. Government consent is not required. A contract limits significantly the disposition power of the contractor. Without government consent a contract cannot be transferred to another concessionary. Indeed, a new contract would usually be needed for changing concessionaries.

[28] https://www.sqm.com/acerca-de-sqm/informacion-corporativa/somos-sqm/

Consolidated Copper Mines Investments Holdings Plc (ZCCM-IH), except Mopani mines which are 100% state-owned.

- In *Guinea,* most major iron and bauxite mines are foreign-owned, and this is not seen as a problem or a dilemma. According to a respondent, the state maintains a minority stake of 15%, extendable in all mining projects. In the exceptional case of the firm CBG, the State owns 49% of the property.
- In *Indonesia,* the state has pushed for increased national ownership in the nickel sector through a state-holding firm that has been driving its resource-based industrialisation, and by setting divestment rules for foreign firms with clear targets.

Action dilemma A2. To what extent can government raise revenues for the state without companies moving to other countries? *Despite having weak revenue administration, governance and capacity, many low-income resource-rich countries resort, in practice, to overly complex, multi-rate fiscal regimes. To what extent are these countries able to sustain such commitments over time and maintain their credibility to potential investors? To what extent can a progressive and flexible fiscal regime be installed?*[29]

Insights

On the issue of revenues for the state, respondents refer to sensitive negotiation processes prior and during the design phase, especially between government and private sector. Both in Chile and in Zambia the government was pushed by the private sector to adjust its initial intentions to obtain a large share of government benefits. In Zambia, this was done through the Public Private Dialogue Forum (see next section).

Action dilemma A3. To what extent should the government invest in local added value and reduction of the proportion of export of raw materials? *To what extent should the government be in the business of processing, or rather be ensuring that private investments come into processing (for which they create enabling conditions by focusing on stronger regulatory frameworks, infrastructure, and imposing conditions of local content etc.)? Should this include a regional market for added value facilities such as battery production plants? Against which conditions? And to what extent would investments in upgrading local skills development and service delivery create opportunities for local employment?*

Insights

In all countries there are initiatives to increase local added value processing through alliances with companies. However, both in Chile and in Zambia the proportion of raw material export remains high and existing added value industries remain under-developed. Government decisions to strengthen backward linkages with local suppliers – to promote a higher portion of local content in inputs and services – may

[29] N Barma et al., 2012. *Rents to riches? : the political economy of natural resource led development*. World Bank

be more likely to lead to development benefits than raising the degree of processing of output, which meet barriers of the distance to markets for manufactured or semi-manufactured products.

- In *Zambia,* potential suppliers of goods and services to the Zambian mining industry face obstacles in trying to achieve competitiveness. Local players often are not able to access credit because local institutions do not have suitable products, development cooperation shies away from the mining sector, and European development finance institutes have a threshold which is way above what these actors are able to achieve. The strengthening of backward linkages with local suppliers – to promote a higher portion of local content in inputs and services –presents a promising way of increasing the positive impact of mining on the local economy. Such linkages are more likely to lead to development benefits than raising the degree of processing of output, which meet barriers of the distance to markets for manufactured or semi-manufactured products. In 2022, the USA signed an MoU with the Democratic Republic of Congo (DRC) and Zambia on electric vehicle battery (EVB) value chains. The MoU stipulates that both Zambia and the DRC will develop a value chain that integrates mining and manufacturing of EVBs. The agreement is aimed at strengthening the value chain for production of batteries for electric cars at a regional level. So far only a pre-feasibility study has been done.
- *Indonesia* issued a ban on export of raw nickel.[30]
- In *Guinea,* the government recently intensified its legal efforts to force foreign mining companies to process ores before export, even acknowledging that contracts without processing have already been signed. CSOs pushed government for co-financing a rigorous feasibility assessment on local added value processing industry.
- *Chile* has refining facilities for copper. Lithium technologies are more complex. The country aims to develop alliances with global firms to develop joint ventures in cathode production and recycling technologies. These are midstream manufacturing facilities which have different dynamics and players that engage in it. Chinese firms have announced plans to establish cathode material production facilities in Chile, investing over USD 500 million and creating 500 jobs. The decision was facilitated by government, which granted the Chinese firm the status of a specialised lithium producer, enabling access to preferential prices for lithium carbonate quotas. Industry associations and local business groups supported the initiative.

Action dilemma A4. To what extent will investments in local content – communities and Small and Medium Sized Enterprises (SMEs) – be effective if not supported by national / regional development plans?
What support do SMEs need to develop a viable business without competing with foreign suppliers?

Insights

Local content policies may include mechanisms to promote local materials, products, contractors, suppliers, and service providers in the mining value chain, as well as measures to encourage partnerships between foreign investors and locals in the mineral value chain. This includes quota for companies to comply with. However, in all case studies it was shown that these individual company-based initiatives will not be effective to enhance local development, if not embedded in national or regional development

[30] IEA, 2024. *Prohibition of the export of nickel ore*

policies. Also, though some mining companies have put supplier development programs in place, there is a limit to what local mining companies can do without a regulatory environment that enhances supplier competitiveness. Barriers for local suppliers include high costs, in particular for finance, electricity, land and labour, and inability to meet the strict requirements of modern supply chain management practices, including requirements relating to quality, flexibility, and reliability and speed of delivery.[31] The case studies show that local content policies require careful design as effective local content policies require supportive policies to help local suppliers overcome these barriers. A good example would be the process of developing a local content policy in Zambia, partly financed by the African Development Bank, see below. In addition, local content requirements can also violate World Trade Organization rules and result in costly disputes, so should be carefully designed to align with obligations under international trade law.

- In *Zambia,* these capability deficits are partly shaped by the inadequate availability of local skills in the mining sector. In Zambia a study on local content was partly financed by the African Development Bank, including extensive consultations, and has resulted in a local content policy approved by government and stakeholders, ready to be implemented in coming years.
- In *Chile,* local content capabilities were well developed in the copper mineral sector during recent decades, but these experiences are only partly applicable to the lithium sector which is very different.
- *Ghana,* in 2016, established the Minerals Development Fund to provide financial resources for the benefit of mining communities and related matters. There are currently several agreements of mining companies with communities including a community development fund and a community development agreement (CDA) with affected communities.[32] However, CSOs refer to the need for government to set basic parameters[33] for the CDA to empower communities to participate in and oversee development for long-term gains. Leaving these obligations entirely to the company risks a flawed process that could undermine expected benefits to communities. The new mining policy should set minimum standards[34] for CDAs and in doing so draw from the lessons learned[35] from its own experience as well as those from other countries[36].

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[31] There is also an unspoken barrier lack of transparency on requirements but also on opportunities, meaning that companies tend not to share the availability of opportunities to the public but only with the 'internal circle' of trusted suppliers reducing the opportunities of other suppliers to be part of those bidding processes. Also, when a supplier company looses a certain biding process they do not know why they lost, thus they cannot improve to perhaps next time win.

[32] Such as the Ahafo Social Responsibility Agreement between the Ahafo Mine Local Community and Newmont Ghana Gold Limited and the Agreement between Newmont Ahafo Development Foundation and Newmont Ghana Gold Limited.

[33] Columbia Center on Sustainable Investment, 2016, *Emerging Practices in Community Development Agreements*

[34] See B&FT Online, 2023, *Ghana Mining Expo pushes for community development agreement policy*

[35] See Columbia Center for Sustainable Investment. *Implementing the Ahafo Benefit Agreements: Seeking Meaningful Community Participation at Newmont's Ahafo Gold Mine in Ghana.*

[36] See Columbia Center for Sustainable Investment. *Community development. Requirements: Laws, Best Practices, and Community Development Agreements Database*

- *Both In Chile and in Zambia,* much attention has been given to developing standards of supporting local communities that private sector needs to comply with. On the social side, one priority is to enhance benefit-sharing for communities. Many mining companies put a lot of effort and funding into their corporate social investment activities. This takes many forms, and some are more effective than others. There is criticism of green washing as some approaches, especially narrow social investment approaches are imposed in a non-consultative and ad hoc manner.

Action dilemma A5. Is it worthwhile to invest in artisanal and small-scale miners to benefit from increased mineral demand? *In most African countries, artisanal and small-scale mining (ASM) represents a large proportion of mineral production and creates considerable local employment.[37] To what extent should ASM miners be specifically targeted in local content policies, given their weak capacities to deliver and often working in an informal, hazardous, unhealthy and illegal way?*

Insights

The ASM sub-sector remains a major challenge with low formalization and compliance levels. In many African countries the artisanal and small-scale mining (ASM) sector remains a major activity employing many though with low formalization and compliance levels. In *Zambia*, the National Critical Minerals strategy has a section on ASM and has been undertaking reforms including encouraging citizens to form cooperatives for the ASM. Capacity building and formalising ASM and small and medium-sized enterprises (SMEs) in copper is not enough. They should receive capital to be able to professionalise. There is also the need for making available geological mapping and exploration on the ASM sub-sector to ramp up their production. The subject of ASM did not come up in the interviews for Indonesia and Chile.

Phase B. Design of legal backing (laws and regulations)

Action dilemma B1. To what extent are specific laws and regulations required to provide clarity and policy stability and thus avoiding changes due to political turn-over, while also allowing for flexibility to make changes depending on market dynamics? *To what extent can a country make use of existing laws and*

[37] According to the Africa Mining Vision, this mining vision also comprises the potential of artisanal and small-scale mining to stimulate local/national entrepreneurship, improve livelihoods and advance integrated rural social and economic development. Africa Natural Resources Management & Investment Center (ANRC), 2022. Options for Establishing a Local Content Regulatory Unit for Zambia's Mining Sector. African Development Bank. Abidjan, Côte d'Ivoire

regulations for existing minerals, or should these be redesigned for every new strategic mineral due to its specific characteristics? Which political room for manoeuvre exists for the design of such interventions?[38]

Insights

Respondents have emphasized that besides formulating and communicating a strategy with production ambitions, there is the need for laws and regulations which allow stakeholders to know their rights and claim penalties in case of non-compliance. A voluntary standard like IRMA can complement the role of government by helping create market support for responsible environmental and social performance. It appears that governments often assume that laws and regulations for existing minerals will suffice. However, every new (transition) mineral is different, in terms of market value and risks, and will require new or adapted laws and regulations, with specific details. This means legal, social and environmental expertise is required. This may be found among external parties or can be developed in collaboration with non-governmental actors.

- In *Chile,* the copper value chain has been very well developed over the last decades (representing 50% of its export revenues) and is supported by a robust legal and regulatory framework related to concessions. However, lithium requires a completely new set of policies and laws as it is based on public-private partnerships. These will include laws and regulations oriented at capturing state revenues, benefit sharing, local content, social and environmental standards. NRGI in Chile is playing an important role in developing these new laws and regulations.
- In *Guinea* and *Indonesia,* some respondents are mostly confused about the non-economic part of their government's strategy[39], especially how to ensure society at large benefits instead of maximizing revenue from the value chain. They have the opinion this is not clearly spelled out in the existing policies.
- In *Ghana*, the terms of the contract with an international mining company to exploit lithium triggered the need to review and update the existing Mining policy which dated from 2014 to ensure that the country maximises the benefits and minimises the harms from its minerals, particularly in light of increasing demand for transition minerals. Ghana enacted the Green Minerals Policy in August 2023 to simplify entry for critical mineral industry players, foster local content development and establish a footprint in the global energy transition market. By addressing fiscal barriers, the policy is spurring new exploration and production projects.

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[38] Politicians have their own ideas on what the acceptable options are. They can be more or less directive (limiting options for consideration). Some options that seem rational may then be politically declared irrational or taboo. Where this is a constraint to room for manoeuvre of their government services, political rivals, NGOs and companies with competing ideas can ask questions. In case of competing interests, the art of governance is to agree and to disagree at the same time (collaborate within the space of common goals, opposing outside that space. This may be called 'coopetition' (e.g., Brandenburger & Nalebuff, 2021, *the rules of coopetition*). It creates the dilemma of trusting rivals or not.

[39] The economic part of Indonesia's strategy is much clearer, see e.g., Kim, 2023, *Linking economic nationalism with global value chain Indonesia's nickel sector industrial policies*.

- In *Zambia*, NGOs have been providing training of companies and government / parliament leaders, have undertaken a due diligence assessment of mining companies to inform government, and have been reviewing the 1995 land laws, to update these to better reflect current needs for E&S issues related to copper mining.

Action dilemma B2. To what extent can environmental and social (E&S) risks be addressed by developing context specific national standards, or can government also rely on standards in demand-side countries?

Insights

In all case study countries, there are respondents who believe that national E&S standards fall short. While there is consensus that national E&S frameworks should be context dependent, there is also a tendency to copy-paste from international frameworks, which may lead to confusion about these frameworks. Many respondents emphasise that a national multistakeholder process is required to make these frameworks country-specific and work in practice. One salient issue is that of applying free prior and informed consent (FPIC) by affected communities, and specifically Indigenous rights holders to whom FPIC applies under the UN Declaration on the Rights of Indigenous Peoples. There is also the assumption that international organisations adhere to standards from the countries or regions where they are based, thus implicitly leaving control to demand-side countries.

- In *Indonesia*, it was said that the government thus far sees no need to apply the FPIC principle (Free, Prior and Informed Consent by affected populations), or to demand traceability of raw material. As far as this is a dilemma to the Indonesian state, a clear decision has been taken.
- In *Chile*, E&S standards are aligned with international standards adopted by the main companies. Given the FPIC rights of local communities (as part of the ILO convention signed by Chile) there is the option that stakeholders involved decide for the non-exploitation of lithium at certain salt flat locations. The government has addressed this problem by engaging local communities in the development of agreements with companies but seems to have avoided the possibility of communities not accepting the exploitation as such.
- In *Zambia*, recently a devastating spill occurred when the tailings dam holding mining waste from a Chinese copper company burst its walls and released 50 million litres of acidic effluent into the river. The spills have sparked outrage at a time when the government plans to quadruple copper production. Acid leaks from mining waste are not new in Zambia. Mining companies have previously been accused of cutting corners to maximise output and accountability for disasters has been slow to follow[40]. If the government is serious about increasing mining production, it must also invest in regulatory agencies to ensure compliance and protect our environment.
- In most case study countries, respondents stated governments were delaying revenue development and thus implicitly leave control to demand-side countries. Demand for minerals – even commodities in general – in their view develops much faster than their government can handle. It takes time to agree on and to implement high standards (like in the Indonesia indigenous rights bill and no-go

[40] John Vidal, 2015. *'I drank the water and ate the fish. We all did. The acid has damaged me permanently'* and BBC, 2021, *Vedanta mine settles Zambian villagers' pollution claim*

zones for uncontacted people). Where regulations are not yet in place, it matters what standards demand-side countries want to apply to their own companies and to supply-side countries: they can use their leverage, including by implementing best environmental and social practices even when these are not yet required by law. On the other hand, the national revenue interests may prevail when making choices, like in Indonesia the choice between working with the Japanese (for Electric Vehicles - EVs) or for hybrid cars (mainly Chinese).

Action dilemma B3. To what extent should the state balance investments in capacities to govern strategic minerals at national and at sub-national level? *Sometimes part of the public governance is decentralised without granting sub-national authorities the funding necessary to develop capacity and take on new responsibilities. To what extent should strategy and policy for transition minerals already specify tasks and responsibilities for national and sub-national authorities?*

Insights

Respondents in Chile and Zambia refer to the fact that many reserves of strategic minerals can be found in remote areas where staffing of regional mining bureaus is insufficient. Enforcement of regulations in the mining sector, especially also including sub-national levels, requires human and financial resources. These issues came up only after the design phase. One NGO in Zambia noted the inconsistency of emphasizing the need to improve environmental management, while at the same time no additional budget was made available for the environmental agency at sub-national levels, where existing and new mineral exploration activities are found. Engaging sub-national levels in policy making may improve resulting policies and feasibility in implementing these.

Phase C. Implementation and law enforcement

Action dilemma C1. To what extent did the government take into account, in developing its minerals strategy, to have the human and financial resources to implement the strategy, or does it assume external sources will also contribute?

Insights

All respondents assume that the government needs to take a proactive role in implementing the transition minerals strategy and underlying policies. They expect this to include making available government human and financial resources for value chain development, local content, economic diversification, human resources, institutions and research. While in Chile the contribution by the state to implementing the new lithium strategy is significant, in the other countries there is a strong call for investments by external parties. Financial resources for implementing strategies can be obtained by increasing taxes and thus raising revenues from mineral resources exploitation. It would be good to be clear and transparent on this from the onset of developing the strategy.

- Respondents in Zambia and in Guinea do not trust the government when it emphasises the importance of environmental standards, and at the same time not raising the budget for the environmental agency that is responsible for enforcement. However, some civil servants responded that outsiders don't always understand the dilemmas of government that emerge from simply not having the competency (financial resources, powers, knowledge, skills) to deliver or being limited by a political room for manoeuvre emerging from politician's personal dilemmas (e.g., sticking to political promises, other personal loyalties[41]).

Action dilemma C2. To what extent should the government be responsible for E&S legislation and law enforcement and oversight on social, environmental and financial / fiscal laws and regulations that are requested by society, or also assume that foreign companies meet international standards? *There is pressure to raise taxes, state royalties and percentage revenues, and to improve environmental and social standards and the systems to enforce laws and regulations. However, even if there is political will, improving the national system of E&S management requires capacities and skills, is time consuming and costly.*

Insights

Many respondents, both from private sector and from civil society, raise the issue of government not making available sufficient human and financial resources for adequate law enforcement. Failing to do so undermines the intention of a level playing field through policies, strategies and regulations. In practice, foreign companies and the international standards they use are often already exceeding producer country policies, and in such cases enforcement by the producer country government could be viewed as less critical. However, respondents state that primary responsibility lies with producers countries and therefore refer to the need to strengthen capacities for law enforcement, both at national and at sub-national levels. There may be options to collaborate with NGOs and private sector in sharing responsibilities for law enforcement.

- In *Ghana*, CSOs emphasised the importance for government to enhance the capacity of the regulator and tax authorities to effectively monitor costs and assess profits from mining. This includes building capacity at sub-national level, which is where mining activity takes place, but where most respondents indicated this capacity is lacking.
- In *Zambia*, it was noted that just 10 companies out of over 4,000 contribute over 80% of all taxes from the mining sector. This can be explained by the fact that these companies control the market virtually in its entirety and are exporters while the thousands of others are small, often informal, players with low productivity etc. If capturing a higher share of revenues is the concern, then what in fact needs to happen is strengthening of state capacity to detect transfer pricing which large mining companies engage in on a large scale to reduce their overall liabilities to government.

[41] Remember the well-known Karl Deutsch quote 'power is the ability to afford not to learn'.

- In *Senegal,* it is noted that the problem of supply-side countries relying on international standard of the demand-side countries is, even if those rules are more stringent to national regulation, they won't be able to sanction them for breaking those international rules without any national regulations basis. It is recommended for supply-side countries to domesticate all relevant international standards in their national framework and to provide for exemplary penalties in the event of non-compliance.

Action dilemma C3. To what extent should government investment in skills development, research institutes and innovations for government to avoid high dependency on technical knowledge by specialised private sector companies?

Insights

For some critical minerals like lithium, exploitation requires highly specialised skills, and companies involved can accumulate substantial institutional business power. This, combined with ineffective regulation, may create a significant power asymmetry. Public investments in a national research institute, or collaboration with universities and research centres, may reduce this dependency.

- In *Chile*, relevant information on lithium is held by two private companies. These companies have evolved into a duopoly. The state doesn't have the necessary information to regulate effectively and to make informed decisions about this industry. It thus becomes exceedingly difficult to terminate contracts or impose sanctions and legal actions against these companies if needed. Over nearly a decade, the state-owned company has expressed intentions to develop its lithium assets, yet these efforts have been impeded by technical constraints. This has led in the National Lithium Strategy to prioritise the creation of the National Lithium and Salf Flats Institute to develop more knowledge specifically in lithium and thus reduce that knowledge gap.

Phase D. Monitoring compliance

Action dilemma D1. To what extent is government responsible to track whether strategies on transition minerals deliver real benefits, prevent misuse of funds, promote accountability, and build public trust, or can this be delegated to third parties? *Is it sufficiently clear who has the responsibility to track progress and make necessary adjustments on strategies to manage transition minerals? This includes monitoring compliance of Environmental and Social Impact Assessments submitted by mining companies, ensuring that approved projects adhere to commitments related to managing social impacts, such as resettlement, local hiring, and economic development initiatives.*

Insights

In most countries, respondents referred to the challenge of monitoring the implementation of private sector initiatives, and the extent to which they would be sustainable overtime when the mines close, or when they change hands. Especially local content policies should be based on real data because if not properly created they might not be effective. One option would be to develop a collaborative approach with NGOs, who currently criticize the overall impact of local content strategies.

- In *Chile,* lithium companies should formalise their relationships with indigenous communities through agreements, such as the 2016 *Convenio de cooperación, sustentabilidad y beneficio mutuo* with the Consejo de Pueblos Atacameños (CPA). This includes a 0.5% tax allocated to the CPA for environmental monitoring, laboratory instruments, and administrative expenses. These funds are used primarily for infrastructure projects and scholarships, with mechanisms in place to ensure transparency and participatory decision-making, such as annual budget approval assemblies and joint environmental monitoring protocols.
- In *Zambia*, monitoring of recommendations developed by the multistakeholder platform including government are being monitored by Transparency International.

3.2 How do you think the government communicates with societal actors for making strategic choices?

Here we focus on action dilemmas related to communication with actors outside the government, to involve societal actors in making strategic choices.

Action dilemma 1. What are efficient systems of transparency of government decisions and their justifications? Should the government organise dialogues about its strategic choices from the onset, or can stakeholders be informed and involved at a later stage?

Insights

Some respondents indicate that the government can give information on their strategies only when strategies have reached the stage of being implemented, e.g. when contracts are signed, not to weaken its position in negotiations with investors. Others indicate that strategic decisions on minerals development should be openly debated as a package when strategies are being developed. In other words, they think that the government is more secretive than necessary. Governments raise the fact that participation and transparency at an early stage takes time, thus risks that investors move to other countries, and requires administrative capacities. Peer pressure can help convince government to organise dialogue on strategic development issues. In Chile, the participatory process of formulating building blocks for a new strategy on lithium did not take long, but final adoption by government took long because of political turn-overs.

- In *Chile*, the first step for developing the National Lithium Strategy (NLS) was the National Lithium Commission established in 2014 which submitted a final report in January 2015 outlining recommendations for the exploitation of lithium. This commission was a multidisciplinary body composed of experts from diverse fields. However, since then several political turn-overs occurred, causing that the new NLS was only finalised and adopted in 2023, shifting the focus from strategic governance to contract oversight. Some private sector stakeholders assert that the public dialogue on the NLS took so long that investors shifted to other supply countries.
- In *Senegal*, some NGOs and International institutions like the IFDD (Institut de la Francophonie pour le Développement Durable), and the EITI (of which Senegal is a member) made additional demands to the government to involve external stakeholders in the decision-making process. The government,

which had organised annual conferences on sustainable development (CNDD) since 2015, for the 3rd conference in 2018 brought together all stakeholders related to developing oil and gas. Resulting recommendations were to enact a law on local content, a law on the management of oil & gas revenues, a law on the intergenerational fund, and a fund dedicated to local content (training, entrepreneurship). Also, a strategic framework for decisions on the oil & gas development was developed through a Strategic Environment and Social Assessment (SESA). The aim was to create more coherence in government actions, identify and address the legal, institutional and technical gaps to ensure sustainable management of the extractives sector and develop guidelines for various concerns (environment, compensation, grievance management etc). An interministerial group as created to engage with stakeholders in policy design and a series of platform meetings were held, at national and at sub-national level, where the larger public and decentralized governments were invited. In several years a new strategic framework for the sector was developed, creating a level playing field for the oil companies. The SESA was cofinanced by a World Bank loan. The most involved ministries indicated that the interministerial group and the way it conducted its planning and assessment interactively was a successful case of innovative governance.[42]

Action dilemma 2. Under what conditions can multistakeholder platforms (MSPs) and dialogues be effective in the process of developing strategies for transition minerals?

Insights

Respondents agree that it is useful for governments to organise multi-stakeholder platforms (MSPs) and dialogue about the future of minerals, its own role and the role of other actors. Most respondents expect effective (MSPs) to seek consensus on actions to be taken by all participating actors and neutral in terms of not pushing any ministry's own agenda in the dialogue, allowing a balanced exchange of opinions. Political theories suggest that MSPs and other forms of citizens' consultations are a public good that needs to be financed and initiated by the government[43]. From respondents in the case study countries, we observe significant differences. While in Zambia and Ghana several MSPs were organized by NGOs, inviting government to participate, in the other countries the initiative was taken by government. However, also in the latter case international assistance has been accepted. Ideal-typical MSPs hardly exist and in some countries the government organises none. In Guinea[44] and Indonesia the government did not communicate until after it had made operational decisions, when it is too late for other points of view.

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[42] See interviews with the responsible directors of energy and environment in NCEA, 2023, *Strategic Environmental Assessment: Past, Practice, Prospects*

[43] This is elaborated in NCEA, 2024. *Improving governmental capacity to address sustainability dilemmas in global value chains*.

[44] In Guinea, there is the case of the national mining commission, where a representative of civil society sits. This commission gives an advisory opinion on the mining agreement before its promulgation.

We identified few MSPs that were organised by the government without any support from international actors like donors. Two examples of MSPs supported from external sources are the following.

- The Extractive Industries Transparency Initiative (EITI), which requires countries to establish a Multi-Stakeholder Group (MSG) as part of the sign-up process to become an EITI Candidate country.[45] In the EITI, governments are part of national-level MSPs. These MSPs include multiple ministries from government and have been used for other purposes such as dialogue on new strategies or policies.
- The Initiative for Responsible Mining Assurance (IRMA), a voluntary international standard-making body governed by a multistakeholder board, with equal voting and veto power across public and private sectors.[46] Governments do not occupy any one of IRMA's six 'houses'—mining companies, purchasers of mined material, investors and finance, affected communities, NGOs, and organized labour—although IRMA regularly engages with governments as a key stakeholder through international and regional intergovernmental partnerships (e.g. UN bodies) and on national and subnational levels, including through a recently formed international Government Task Force for Responsible Mineral Value Chains. IRMA also has a national-level forum in Indonesia that values government engagement.

Action dilemma 3. Under what conditions will communication and engagement with stakeholders in making strategic choices be effective and not too costly and time consuming? *Establishing expectations regarding government intervention in the economy is an interactive process that allows the government to gather insights from various stakeholders before making decisions. These can be lengthy processes, as there may be a need to (re-) establish relations of mutual trust, before any useful dialogue can take place. This would then take place behind closed doors and could be a combination of bilateral and multiple-stakeholder dialogues. Also, stakeholders require insights in what is done with their responses and how decision makers use their inputs.*

Insights

Most respondents believe that it is the responsibility of their government to communicate with external stakeholders about the way in which it intervenes, will intervene, or might intervene in the economic system and what justifies such economic action. The case studies show experiences using a diversity of communication methods: public appearances in the media, organising public hearings, inviting selected stakeholders to MSPs and dialogues, organising consultations for all or a limited group of relevant stakeholders. Consultations or reviews of strategies and policies are different from MSPs as they include invitations to provide written feedback or participate in one-off meetings within a limited time span. Such consultations are being adopted as a formal good practice in most countries but are observed not to replace the dialogue that can be moderated on MSPs. Such dialogue may be crucial to develop trust and understanding, despite contrasting interests. Some respondents believe their government often adheres to lobbying private sector interests before opening the floor to the interests of other stakeholders. This seems to occur more often if the public justifications of government decisions are not well understood,

[45] EITI, *How to Become an EITI Implementing Country*
[46] IRMA, *Governance*

not considered credible, or not trusted. This risk seems higher if there is little two-way strategic communication or where the government communicates its (draft) decisions only after operational decisions like signing contracts with companies (of which we have examples in all case study countries).

- In *Zambia*, according to a high official of the Ministry of mines and minerals development, the development of the Zambia Critical Minerals Strategy followed a participatory approach and broad consultation with key stakeholders to ensure inclusiveness and transparency. Also, the proposed Mineral regulations Bill has made provisions for consultation for land right holders and owners during the licensing approval process. However, according to NGO respondents, these policy review processes are a formal exercise: organising consultations is one thing but taking on recommendations from consultations is another thing which from their perspective is very limited.
- In *Chile*, the development of National Lithium Strategy (NLS) did not initially involve consultations with local stakeholders, including indigenous communities. The NLS lists as one of its strategic pillars to initiate a consultation process with stakeholders for specific contracts with companies. However, some NGOs did not participate in the follow-up consultations because it was not clear beforehand how the outcomes would be used. In response, the government committed to conducting indigenous consultation processes in areas directly affected by lithium extraction, aiming to ensure that the rights and concerns of these communities are addressed in the implementation of the NLS.

A reflection by the NCEA is the following. The existing situation may be that the government is used to communicating only after it signs contracts because it has experienced that NGOs will always be critical and cannot be seen as partners. So, who should take the first step towards building up mutual trust? Should it be the government inviting NGOs for dialogue before it signs anything with firms first? Should NGOs first assure the government that they are acting in the best public interest, for example by respecting the governments' due confidentiality toward firms? In some countries (e.g., Senegal) a situation has grown that specific NGOs are invited to early dialogue that have shown to be constructive despite fundamental differences. In Zambia, inviting ministries to MSPs organized by NGOs contributed to building up mutual trust.

3.3 How do you think civil society and private sector have organised themselves and taken initiatives in response to development dilemmas?

Insights

Where private sector and civil society actors find that their government insufficiently engages in dialogue about strategic development choices, in several case countries they try to fill that void. They organise their own MSPs and generate joint insights and recommendations. In both Zambia and Ghana NGOs have thus contributed to their government deciding to revise or develop new strategy or policies. Influencing government works better if government is not only invited to MSPs initiated by non-governmental actors but are jointly organised, funded and co-chaired by government which then 'co-owns' the resulting insights. There is a close link with the degree to which private sector organises itself in branch

organisations and society organises itself as NGOs. In LMICs, donors may support NGOs or the MSPs that they organise and thus be important enablers. The Public Private Dialogue Forum (PPDF), initiated with support by the IFC, is instrumental in discussing thematic issues and advising government. Private actors can be effective in supporting or co-funding research institutes and management / monitoring systems that generate reliable data that can be used to evaluate new technologies and innovations.

- In *Zambia,* a number of multistakeholder platforms was formed to advise government and it actually managed to influence government strategy. The government was then able to make more or less credible promises on what it would do to intervene in the economic system, and its justification for these choices was accepted by most actors. The following MSPs have all been instrumental in contributing to public debate and informing decision-making:
    - The Zambia Extractive Industries Transparency Initiative (ZEITI) platform. Zambia joined the Extractive Industries Transparency Initiative in 2012. As required by the EITI Standard, a Multi-Stakeholder Group (MSG) oversees ZEITI implementation. It consists of members from government, industry and civil society.
    - The Zambia Alternative Mining Indaba (ZAMI) platform. Since 2013 it is a platform for multistakeholder dialogue, with participants from government, civil society, mining industry, and international partners to discuss governance of Zambia's mineral resources in light of the global energy transition.
    - The Pamoja Critical Minerals Alliance (PCMA). Created in 2023 it is a membership-driven movement for CSOs, indigenous people, activists, academia, media, labour movements to monitor the impact of increased extraction of critical minerals.
- In *Zambia*, the Public Private Dialogue Forum (PPDF) launched in 2022 by the President of Zambia, with financial support from the International Finance Corporation (IFC) over a period of eighteen months. The PPDF operates through working groups on sector specific issues, of which one is the Mining Technical Working Group. President is the Association of Zambian Mineral Exploration Companies. The majority of members are from private sector. The working groups are currently active in discussing thematic issues and advising government on next steps in implementing the new copper strategy.
- In *Ghana*, the Natural resources Governance Institute (NRGI), with external donor support, organised a stakeholder dialogue involving the Ministry of Lands and Natural Resources, the Minerals Commission, civil society organizations, industry, academia and media, to discuss the agreement with an international company to exploit lithium reserves. NRGI and the Minerals Commission jointly organised a dialogue for revision of the Minerals policy. Government committed to further engagement with stakeholders, both on the lithium agreement pending parliamentary ratification and on revisions to the mining policy and law. However, this has not yet been realised following change of policy after elections. Ghana is member of the EITI.
- In *Guinea* respondents indicated that the government did neither actively participate in their platforms, nor organised a wider dialogue itself. Guinea is an EITI member though, and there is the EITI multi-stakeholder group composed of the state, civil society and the private sector.

- In *Indonesia*, IRMA organised its own multistakeholder platform in March 2025, inviting the government. Previous IRMA engagement started in 2021[47] and included a full-day government-hosted IRMA forum in 2022 as well as NGO roundtables and engagement across sectors. IRMA's early engagement in Indonesia is further described in BMZ (2024).[48] Indonesia joined EITI in 2010[49] and in 2023, after convening with Indonesian authorities, launched an Extractive Industries Data Portal. Also mentioned here by Publish What You Pay Indonesia. 'It (EITI) is serving as a platform for dialogue between industry, government and civil society.' For example, an EITI meeting on December 21, 2023, in South Tangerang. (Source: EITI website, accessed March 2025).

Examples of Government co-ownership of MSPs.

- In *Zambia*, the ZAMI in 2024 was co-chaired by government which lead to wider participation, also by private sector. The ZAMI resulted in joint formulation of concrete recommendations by government and NGOs. Since 2021 the ZAMI has been hosted at subnational levels to enhance bottom-up advocacy and capacity building. This includes provincial indabas / meetings on the Copperbelt, North-Western and Luapula provinces. This helps to raise awareness and build capacities at sub-national level.
- In *Ghana,* consultations around the revision of the 2014 Minerals policy were co-organised by NRGI and the Ministry of Mining, with co-funding by the government.
- In *Indonesia*, when IRMA was first introduced through a government-hosted forum, it took many months and a series of roundtable conversations to clarify that IRMA is not part of the Government of Indonesia but is an independent initiative; while IRMA engages with governments around the world as part of its work, IRMA is governed by and accountable to affected communities and NGOs, alongside mining companies, purchasing companies, investors and finance, and organized labour.
- In *Senegal,* in the margins of a government-organised MSP, representatives of several foreign extractives companies proposed that the government invites them to a joint dialogue and to that end to organise themselves in an 'association of foreign extractives companies in Senegal'.
- In *Guinea,* the past 4 years the NGO Action Mines Guinée has been organizing FOCOMINES, the forum of communities in Guinea's mining areas. The collective of NGOs, the CODEC, has supported the reform of the law on the compensation and resettlement of communities impacted by mining projects.

[47] IRMA, *Engaging Indonesia*

[48] BMZ, 2024. *Voluntary Sustainability Standards and Mineral Sector Governance: Synergies and Practices*

[49] EITI, *Indonesia*

4 How do you evaluate your government's internal practices and governance systems?

In the previous chapter we identified challenges for government to address the action dilemmas. We now summarise what respondents have mentioned as internal practices and governance issues that can be seen as underlying causes of these challenges. Not all respondents were able to comment on what happens behind the scenes of their government, so our summary here becomes less unequivocal.

4.1 Political will and the capacity of the administration

Respondents in all cases observed that external actors can be effective to push their government to open up the decision-making process to a wide range of stakeholders. Respondents outside the government sometimes blamed politicians for lack of political will to open their strategic process (like in Guinea), or to only partially involve some non-governmental actors. The capacity to open a broader dialogue on development dilemmas depends on a push (external, civil society or private sector) for government to open up the process of decision making, as well as pure political will[50], and also on the internal practices that need to be well-organised to enable the government to deal with complexity. And there is always a limit to the complexity it can deal with.

- In *Chile* there was a strong push from the private sector to open up the political decision-making process of exploitation of lithium.
- In *Zambia*, the external push came from NGO platforms, which matched with the ambitions of a new president. In Ghana, NGOs successfully pushed for a reform of the mining policy.
- In *Guinea*, pressure may have had little effect on political will to open their internal thinking processes.
- In *Senegal*, the first major oil and gas projects were managed and signed mainly by the technical bodies of the Ministries of Finance and Energy. It was only after pressure from NGOs and local communities on the environmental and social issues at stake when the first projects were launched that the government involved all relevant agencies in the negotiation stage with private companies. An oil and gas negotiation committee is put in place by decree to optimise the government's technical expertise.

[50] There can be many reasons for politicians not to engage in dialogue about certain development options other actors propose. Options can be politically inconvenient for many reasons, and a political-economy analysis may shed light on this (see Karkare, 2024, *Breaking the gridlock: Navigating the political economy of Africa's energy systems,* for an example of the African energy transition). Such an analysis may give clues as to what constructive dialogue may be about. However, ideally actors should make such a political-economy analysis together to make it meaningful for dialogue (joint fact finding as first step in cocreation).

In all cases, respondents refer to the risk of elections and frequent policy changes to create uncertainty and disrupt ongoing processes.

- In *Chile*, in 2016 the (left wing) administration formalised the National Lithium Policy, which was halted in 2018 after elections and then picked up again in 2023.
- In *Ghana*, towards elections disagreement emerged with respect to initial commitments by government, as parliament was dissolved, and the Ministry of Mining got a new minister.
- In *Indonesia*, respondents indicated that the culture of government makes it hard to organise more inclusive processes. After the 2024 elections the government was restructured and reorganised and civil servants had to start from scratch building up their knowledge. In combination with a hierarchical culture – communicating outside the government only after permission from 'above', this led to administration paralysis. If 'above' is only one minister, these 'orders' are unlikely to consider complexities related to interests represented by other ministers nor experiences at sub-national level. However, promising initiatives may occur as driven by external support, as 'In 2022, two ministries conducted an analysis of the alignment of the country's legal framework with the IRMA Standard. These ministries are involved with the development of the strategic planning framework for promoting the development of energy transition minerals and the electric vehicle (EV) battery industry in Indonesia, including nickel.'[51]

A communicated policy should be credible to both the private sector and NGOs. For the private sector, it is critical that government develops a level playing field, with strategies are backed up by robust laws and regulations and capacity of law enforcement. Both NGOs and private sector expect government to show commitment and consistency in terms of making available human and financial resources to realise the set ambitions in their strategies or policies. NGOs specifically ask governments to claim a high proportion of revenues, to reinvest in society (local content, benefit sharing). In Zambia, the claim of tripling copper production may seem unrealistic, but even NGOs stated that it shows government ambition.

4.2 Inclusivity in decision-making

In all countries, the hierarchy is the default backbone of internal government decision-making. However, if challenges get complex, there is increasing need for 'silos'[52] in the administration (ministries) to work together and act as one and effectively, in terms of ambitions, knowledge, responsibilities and competencies. To do so, we noticed in the case studies two extremes:

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[51] BMZ, 2024. *Voluntary Sustainability Standards and Mineral Sector Governance: Synergies and Practices*

[52] The word 'silo' may have a negative connotation, but that is not our intention. Any organisation that has complex tasks needs to have a work division and therefore needs a hierarchical structure with internal collaboration challenges. The top structure of a government are ministries, but there can be more organisations in the government that act more or less independently. See NCEA, 2024, *Improving governmental capacity to address sustainability dilemmas in global value chains* for more elaboration.

- A government that decides to take in maximum expertise and insights before it decides on policies and programs, tends to include more silos in strategy co-creation. This contributes to a higher quality of decision-making by taking into consideration more stakes and build-up of commitment to collaborate on implementing policies and programs. *Chile and Zambia* find themselves more on this side of the spectrum, following a stepwise approach from strategy to implementation regulations and arrangements, although in both cases the governments first took the decision to boost production (in Zambia to triple copper production).
- A government that 'goes for speed' will tend to limit discussion and decision-making to only a few silos. *Indonesia and Guinea* are on this side of the spectrum. A consequence of limited involvement of 'silos' and thus limited insights, in practice means that less attention is given to enforcement of legal standards, as regulatory 'silos' have been less involved, and less public justification of the strategies being decided on. This often leads to less credibility (trustworthiness) in the eyes of many. An ambitious president or a minister can set targets for its administration and implement these without full regard of their impacts and alternative options to reach public goals. The consequence is that there is less time for strategic dialogue between responsible ministries inside the government – and therefore a 'whole of government' approach in external interactions becomes more difficult.
- In *Senegal*, the government has adopted lessons from its oil and gas experience (see above) in the mining sector by strengthening coordination between relevant ministries, research institutes and a few NGOs representing civil society. For example, the ministers for energy and environment have set up an interministerial working group (the same that did the SEA, see above) involving representatives of the government's technical departments. Like in the case of oil and gas, this group is institutionalised and it has the formal task to interact with research institutes, companies and NGOs with the aim of ensuring coordination, defining guidelines and regulations to manage environmental and social risks and guaranteeing public participation in the decision-making process through a strategic environmental assessment of the sector. Respondents believe that it works but could be improved by involving sub-national government and stakeholders, which is a practical challenge.

4.3 Underlying practices and factors

In the view of respondents, it is the responsibility of the government to organise internal government practices in such a way that it acts 'as one', without losing more time for internal coordination than leading politicians find acceptable. We have asked respondents what practices and underlying governance systems could be improved. They all identified – or at least recognised after being asked– the following critical but influenceable practices and underlying governance factors[53]:

[53] These challenges may occur in any country where the government needs to deal with complex societal challenges. With a sudden challenge like a surge in demand for critical minerals, the limitations become more obvious to the respondents.

1. **Skilled staff**. Technical skills are required to make the government a credible negotiator vis a vis the private sector; staff with experience in the private sector is of great value because they know how companies operate and therefore can put in place clauses which will be effective in protecting economic/social/environmental interests of the state or which can be more efficiently monitored. The same staff also needs to be able to understand the strategic context and to engage constructively with other hierarchies in the government to find common ground. Skilled expertise can be enhanced by professional training. An African School of Governance has, for example, recently been established to support the managerial skills that most staff-members, working in complex environments, need to have to some extent. However, experienced personnel should remain in their position for some time to benefit from the knowledge they build up when they are on-the-job.
2. **Culture of collaboration and learning in the government**. This is about the need for a collaborative management culture, as well as a culture whereby lessons are shared that then form the basis for continuous improvement. Individuals may understand what is needed, but individually they cannot easily change collaborative attitudes and practices. Respondents in all case studies mention that MSPs, whereby different ministries have been invited and participated, have strengthened inter-ministerial collaboration. In many cases, MSPs are initiated and supported by external actors, such as NGOs (case of *Zambia* and *Ghana*, EITI), private sector (case of *Chile*), or external donors (IFC, GIZ).

- **Dedicated moderators.** Respondents see the need for having dedicated moderators who can lead inter—ministerial dialogue aimed at common understanding and consensus on the role of each ministry in the governance of the minerals chain. This is important both at strategic and at operational levels. Dedicated moderators can also be helpful when organising MSPs. Respondents mostly referred to moderation at top level. For example, the minister of environment being skilled and neutral enough to moderate agreement between ministries. It is less common in case study countries that dedicated mediators work at lower levels in the hierarchy. Respondents believe that moderators are mainly managers or politicians who support government 'silos' to communicate 'as one' with private actors and NGOs. Several also acknowledge that moderation is a difficult skill that not every manager or politician possesses.[54]
- **Skilled negotiators.** Different from moderators, respondents refer to the need for capable and mandated negotiators who understand public interests and who also understand the legal and financial and market economic aspects, including the business of mining companies. They should know the limits of their mandate, for example which issues need wider support before creating a fait

[54] In the Netherlands, professional moderators are like a 'guild' (a professional class). There are organisations in the government which provide such professionals. Some specialise in moderating MSPs (see e.g. Overlegorgaan Fysieke Leefomgeving (a unit supporting environmental deliberation). The NCEA in the Netherlands operates a 'knowledge moderator': it can help parties agree on shared facts because it is widely seen as neutral.

accompli by signing contracts. Effective negotiators often have a professional background in civil society and/or private sector and/or public sector.

- In *Chile,* negotiations on a new contract that were finalised in 2019 granted Albemarle an increase in lithium production at the Salar de Atacama in exchange for fulfilling various tax obligations, community engagement commitments, and R&D processes, all aimed at promoting greater industrialization around lithium. In terms of taxation, Albemarle's royalty payments to the state increased by 60%. Regarding community relations, Albemarle was required to raise its royalty payments to the communities residing in the Salar. If communities have strong and transparent governments, these payments could help them building badly needed infrastructure and services, and thus contribute to local economic development. Additionally, from 2017 and throughout the duration of the agreement, Albemarle committed to contributing up to $12 million annually to one or more non-profit research and technological development entities to develop technology focused on the use and/or application of solar energy, non-metallic and metallic mining, as well as applied research studies. Furthermore, the new contract stipulated that Albemarle must sell 25% of its production at preferential prices to companies designated by the Production Development Corporation (CORFO), under similar conditions to those previously established with the mining company SQM.

- In *Senegal*, a negotiation committee for oil and gas is composed of representatives of different ministries including Energy, Finances, Environment, Fisheries and Labour. This committee is set up by decree. Respondents in Senegal see a lack of attractiveness of salaries in the administration compared to the private sector, making it difficult to recruit enough experienced people from the extractive private companies to reinforce the performance of the ministries in contract negotiation, implementation and monitoring.

- **Improved commissioning of consultants.** Where some of the collaborative capacities above are not sufficiently available in the civil service, consultants may be commissioned to fill that gap. This does not only imply preparing analytical reports, but also moderating ownership of joint action in the government. Such consultants may provide technical knowledge e.g. on legal or technical issues, or moderate collaboration between ministries or stakeholders. For government, it is critical to formulate crystal clear terms of reference for such consultants on their tasks, including the terms of the ministry remaining in charge. For instance, it will be useful to instal a steering committee headed by the ministry. If such a steering committee does not yet exist, they may be tasked with exploring the possibilities to establish it. Respondents mention the problem that in many cases external consultants are not neutral. Other respondents (in *Guinea* and *Indonesia*) indicated that they find it difficult to define the tasks of such consultants, and that they don't know where they can find support to do so (as it can't be a paid consultant).

- In *Senegal*, an interministerial group hired a consultant to support a planning and assessment process (structured by the SESA procedure) through a project funded by the World Bank. This working group

had elaborated a ToR of different studies and the approval meeting of different reports and technical documents. The group's process of learning by doing was supported by the NCEA[55].

- In *Chile*, government commissioned and installed a technical commission in 2014, as well as an interministerial taskforce in 2022, to inform the National Lithium Strategy. The National Lithium Commission was a multidisciplinary body composed of national experts from diverse fields. It was chaired by Minister of Mining, with Deputy Minister of Mining serving as Executive Secretary. Other notable participants included Minister of Economy, a chemical engineer, an economist with expertise in natural resource economics, an environmental law expert, and representatives of indigenous communities. International experts were consulted on specific technical issues.

- **Bottom-up governance and sub-national focus.[56]** Respondents refer to weak government capacities at subnational levels, whereas increasingly strategic minerals are found in remote areas where government institutions are weak. E&S assessments require skilled staff on the ground at subnational levels. Government would be expected to take a more bottom-up approach, meaning that staff from subnational administrative levels should be strengthened and engaged in decision-making. An evaluation by EITI[57] concludes that MSPs at subnational levels more than at national level have direct connections with local stakeholders and their concerns on the ground. On the other hand, at subnational level it is more difficult to organise meaningful dialogue on more abstract national legislation and policy.

[55] See interviews with the responsible directors of energy and environment in NCEA, 2023, *Strategic Environmental Assessment: Past, Practice, Prospects*

[56] For sake of simplicity we refer to sub-national level to include both decentralised state agencies (which is also termed 'deconcentration') and delegation of power to 'lower' levels of government (also termed 'devolution'). In the latter case regions, provinces, municipalities, etc. have their own elections and sovereignty - sources of power and finance untouchable by the state. Whilst all forms of decentralisation have similar benefits, the principle of subsidiarity holds that social and political issues should be dealt with at the most immediate or local level that is consistent with their resolution. This means that powers should be devolved where possible, and centralised (even if deconcentrated) where necessary.

[57] Voconiq and Square Circle, 2023, *Independent evaluation of the EITI. Summary report*.

5 How do you believe your government may improve its internal practices?

We asked respondents what they believe is needed to further improve performance of their government. They understand that complexity and fast changing circumstances create an enormous challenge for the government if it wants to orchestrate development of minerals value chains in everyone's interest. But most also think there is potential to improve the internal practices and governance issues that constitute underlying causes of challenges for government to address action dilemmas (as indicated in the previous chapter). While measures are being taken, many think that human and financial resources remain insufficient to significantly improve governance systems. There are also inequal relations between stakeholders and government silos, grown habits and mindsets, and cultural barriers that may need to change. This is not just a matter of training civil servants.

Some also indicated that in their view demand-side countries have a responsibility to help them realise improvements. Demand-side countries might help reduce the complexity of the supply country's development dilemmas (listed in 5.1) and supply-country's abilities to respond to these dilemmas and deal with action dilemmas (listed in 5.2). Respondent views on how the latter support can be organised is summarised in 5.3.

5.1 Mitigating the supply-side country's development dilemmas

Some respondents think that demand-side countries may play an important role in making their foreign-owned mining companies comply with international standards.[58] If this can help to credibly avoid or mitigate the roughest edges in terms of impacts resulting from minerals activities, some of the development dilemmas mentioned in chapter 1 may become smaller. Apart from that, demand-side countries and foreign companies can support badly needed co-investments and technical expertise.

This role of demand-side countries could be enhanced in some countries by private sector alliances that promote their members to commit to international voluntary standards (like IRMA standards and corresponding independent third-party audits by accredited assessment bodies). This could reduce the burden on the supply-side governments as they develop skills to design their own regulations and build stronger monitoring capabilities. This may be the more realistic option if countries do not have that capacity themselves and may not have the opportunity to develop a credible enforcement system soon enough - including at subnational levels. However, international voluntary standards are no substitute for the important role of governments to establish, improve, and enforce legal frameworks. A voluntary

[58] This is particularly relevant for European companies, as Europe is major trading hub for many minerals, as well as a centre for financial and insurance issues related to transition minerals.

standard like IRMA can complement the role of government by helping create market support for responsible environmental and social performance. This would also require supply-side countries to domesticate relevant international standards in their national framework and provide for legal frameworks and exemplary penalties in the event of non-compliance.

Demand countries may have better possibilities to enforce voluntary standards to companies based in their countries; the EU in particular has a good arsenal of such legal requirements - Corporate Sustainability Due Diligence Directive, Battery Passport, Responsible Mining directives etc..

However, not all major companies may 'walk their talk' or may be obliged by their own country to apply strict standards, and in that case not all demand-side countries may be willing and able to enforce standards. More importantly, international standards do not foreclose autonomous national planning decisions. To achieve transitional changes, changes in governance systems of transition minerals value chains in producer countries will be leading, including mining codes, requirements in the permitting process, law enforcement and monitoring.

In practice, foreign companies and the international standards they use are often already exceeding producer country policies, and in such cases enforcement by the producer country government could be viewed as less critical. There can be a problem with local companies and the ASM sector, which is at odds with the objective of enhancing local content. In *Zambia*, it was mentioned that non-members of the Zambia chamber of mines may remain problematic free riders. *Chile* for example, has the state-owned National Mining Company ENAMI agency to support local companies, and also the mandate of CORFO is to support SMEs. This can be an area for further analysis in the next stage of this study by differentiating governance requirements for large mining operations from SMEs and particularly ASM sector.

5.2 Supporting supply-side countries' government planning, decision-making and implementation

From respondents' ideas on what is needed in their countries, we identified some common viewpoints that are summarised in the stream of reasoning hereunder.

- **Most respondents believe that here is potential to improve practices and governance systems of their governments, to overcome challenges in the exploitation of transition minerals.**
- **Most respondents believe that external support in realising these improvements will not be sufficient.** Most respondents find it insufficient to offer financial support or budgets to hire consultants. Some even find this counter-productive because they believe (and may have the experience) that consultants are not neutral. But technical knowledge of government staff members is not the only or not even the main issue impeding effective decision-making.

- **Many respondents refer to underlying causes in terms of internal practices and governance systems, such as inter-ministerial coordination**. Ministries and government agencies need to coordinate and align themselves behind the scenes to cocreate own integrated thinking. In the views of most respondents this internal alignment is often a weak link in the governance system.. As a result, stakeholders cannot negotiate with government in an effective way.
- **Means of communication like multi-stakeholder platforms (whether organised by donors, NGOs, private sector or government) may support but cannot replace inter-ministerial collaboration**. Respondents noted that inviting participants from government ministries to MSPs helps to better communicate with them and can even contribute to improve inter-ministerial collaboration. However, the real work will take place behind the scenes and may also require structural support in terms of financial resources and skills.
- **Respondents refer to the need to establish structures and design responsibilities that are less susceptible to political interference**. This means, for instance, that dialogue platforms and inter-ministerial coordination measures should not be dependent upon political will but would be institutionalized.

This leads to the following priorities for improving governance systems of producer countries:

- **Institutionalising communication mechanisms such as MSPs to enhance co-creation (or joint fact finding[59])**. There is a clear opinion by non-government actors that communication with government creates potential to improve collaboration, and can also stimulate alignment between different government actors. Non-government actors therefore refer to the need that government institutionalises and formalises communication mechanisms such as MSPs, dialogues or consultation processes, and not leave this to ad hoc events dependent upon external initiatives and funding. This may contribute to build up trust and willingness to follow-up. This would also make them less vulnerable to policy changes. EITI refers to experiences it has initiated where MSPs are followed up by inter-ministerial coordination.[60] One example is the Public Private Dialogue Forum (PPDF) in Zambia which consists of sector-based working groups where different ministries participate. Several

[59] Cocreation and joint fact finding are close cousins. Joint fact finding underscores that just by dialogue about facts actors can find common ground, which enables the emergence of synergetic action – which would then be cocreation. Joint action does not necessarily imply joint decisions. Each cocreating actor can still make its own formal decisions, justifying the approved actions by referring to synergy with other actors. See for example, Ansell, Sørensen & Torfing, 2022, *Cocreation for sustainability*. The UN SDGs and the power of local partnerships. Open access book.

[60] For example, reference is made to the Inter-Ministerial task team (IMTT) for implementation of report recommendations in Nigeria. See EITI, 2016, *Developing, implementing and monitoring recommendations from EITI reporting*.

respondents in Zambia referred to the PPDF as the place where government decisions are being prepared (not taken).

- **Making communication more evidence-based by using results from monitoring and evaluation of effectiveness of regulations.** Government oversight, inspections, law enforcement and monitoring could be supported by a technical advisory body and identifying relevant private sector stakeholders to be consulted on major regulations changes under consideration.[61] In Zambia, the Public Private Dialogue Forum that was initiated by the IFC, with the Zambia Chamber of Commerce and Industry task force on Mining, and the Zambia Extractive Industries Transparency Initiative could form the basis for such structure. Although an industry association would not represent the wide range of perspectives of impacts of regulations, they would be able to share the views of industry.
- **Supporting learning on the job.** Some respondents showed an interest in innovative arrangements for supporting learning-on-the-job, and they mention examples of such arrangements that already exist. Key to any such arrangement is the neutrality of the supporting country's agents vis-à-vis the development decisions considered by supply-side countries. At best, it can provide additional knowledge of development options and their impacts.

5.3 How could your government benefit from any external support to improve its practices?

While discussing possible external support with respondents to improve government practices, the following ideas on innovative arrangements emerged:

- **Technical support for governments to develop policies, strategies, contracts and supportive legislation, and implementation arrangements[62]**. These are one-off activities that can be done by national technical working groups and/or consultants. But not all supply-side country governments can afford that. If they formulate the right terms of reference (ToR), optimal use can be made of local expertise, supported by foreign expertise only if necessary. Consultants also may facilitate learning and agreement between ministries. Governments should decide by themselves on commissioning support activities with clear ToR to help government in dealing with perceived challenges. However, some respondents indicated that they need support on writing such ToRs, a support they are not getting from donors who finance their consultants. This may include the cocreation, with their client, of the terms of the ministry remaining in charge (e.g. by installing a steering committee headed by the ministry). In short, they refer to the combination of advisory support and learning on the job.

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[61] IFC, 2024, *Zambia private sector diagnostic report*

[62] For example, deciding if and how supply countries want to align their national legislation to international standards (BMZ, 2024, *Voluntary Sustainability Standards and Mineral Sector Governance: Synergies and Practices)*

- **Long-term (flexible and low average intensity) arrangements with 'strategic patience'.** More long-term government-to-government arrangements[63] are needed to support governments on emerging issues along-the-way, especially to support learning-on-the-job and exchange between countries and ways to work with moderators and consultants. For example, on how to write terms of references for consultants who are not only asked to do analyses, but also to moderate wide ownership of concrete implementable decisions of the ministries that touch the issue. This presupposes an open agenda how this can best be done (flexible budget, programmatic approach, availability to work together on an as-needed basis). Strategic patience implies that the pace of learning follows the pace of policy processes, which is inherently unpredictable. This should allow civil servants and their leaders to develop their capacity to collaborate and to take the lead for achieving complex goals (coherent policies).
- **Initial establishment of multi-stakeholder platforms, public-private partnerships and co-funding financial mechanisms.** In the previous section we refer to the usefulness of MSPs, and these being institutionalised and formalised by government. Respondents also refer to the fact that awareness on the usefulness of MSPs has been raised by external support, being donors (GIZ, IFC) or international organisations like EITI. Thus, to generate this awareness and learning about the effectiveness of MSPs, external support may be very useful. Effectiveness could be related to MSPs supporting governments to create conditions for added value and local content policies to be effective (human resources, infrastructure, regional economic plans, research, monitoring systems, ..), also to gather information around what is already in place for local content, understanding who are the suppliers what they need and how can they improve.[64] A good example is the PPDF in Zambia, which was supported by IFC, with effective technical working groups for different sectors including mining.
- **Support to research institutes in minerals sector.** There is need for support to national research institutes or universities to work on relevant subjects and stimulating and enabling researchers to take positions in government ministries. A case in point is the establishment in Chile of the Institute for Lithium and Salt Flats with research to advance topics such as new brine extraction methods, lithium recovery and reuse, biodiversity in salars, impact modelling of salar exploitation, etc. This support could go hand-in-hand with learning on the job.
- **Evaluation of investments oriented at system and mindset change outcomes.** Evaluations of neutral support provided by demand-side countries to producer countries, oriented at supporting national

[63] The supporting agency can also be a privately (co-)funded 'neutral-enough' dedicated international organisation with enough 'strategic patience', like the Extractive Industries Transparency Initiative (EITI) and Initiative for Responsible Mining (IRMA). IRMA advocates ambitious standards for responsible mining, and it is seen as neutral enough by respondents. EITI advocates transparency. The NCEA itself advocates transparent evidence-based government planning. It supports problem-owners in the government with learning on the job when they organise transparently, including terms of references for consultancy work.

[64] Managing the donors: one step further – not suggested by any respondent – may be that supply-side country governments convene their donor group in their country to 'coordinate the donors'.

governments decision-making on transition minerals, require another mindset in terms of evaluating effectiveness. 'Improved decision-making' is difficult to evaluate independently from a distance, especially so if the direction of decisions is itself controversial. However, this is not entirely new terrain and tools to evaluate how interventions contribute to more effective autonomous governance can be developed. Such tools should aim at the impact on quality of joint fact finding and cocreation across weak linkages in the governance system, as perceived by the same actors.

Possible next steps

In line with its objectives, this Sustainability Analysis (SusAn) study has generated insights on the dilemmas for development of supply chains of transition minerals in supply-side low and medium income countries (LMICs). But mostly, it aimed to identify and unpack the underlying institutional and governance challenges to deal with these dilemmas. These insights emerged from the views and responses of a diversity of stakeholders who were interviewed (from public, private sectors and civil society). The interviews were related to case studies (Chile, Zambia, Guinea, Indonesia, Ghana, Senegal). For each country, the study focused on one or a few transition minerals and, where available and useful, was focused on one recent specific strategy or policy (contents, history, development, process). This was done in order to identify underlying institutional and governance issues. The present study had an exploratory character, and its findings showed patterns at a meta level. The aim of this exploratory study has been neither to provide detailed (technical) insights on transition minerals value chains nor details on the identified institutional and governance issues for every country or mineral value chain.

The case studies summarise the responses by stakeholders who were interviewed (and relevant publications) and identified insights, in line with the flow of questions. The case studies were validated by respondents in each country and were found to be useful in linking key development and related action dilemmas to underlying institutional and governance issues. Also, several respondents mentioned that these insights constitute an added value, by raising issues that existing studies may mention but often do not elaborate in further detail and in an actionable way. Our next step has been to summarise the insights from the different case studies and identify common patterns that would be of general value (country and mineral agnostic), supported by examples from the case studies. This resulted in this overview report.

This sustainability analysis study has been experimental, and interview questions have been adapted to better suit the main objectives of this study, being to generate insights on key underlying institutional and governance challenges related to transition minerals in LMICs. We believe that the resulting flow of questions has been helpful to move from a meta level (of broad development dilemmas) to insights on context-specific action dilemmas and governance challenges, and then identify practical actions that contribute to overcome these challenges. Thus, the flow of questions can be seen as a structured guidance to support LMIC's stakeholders concerned to move from perceived dilemmas and challenges (when being confronted with a rapid increase in demand of transition minerals in their country) to actionable insights on the underlying governance challenges.

As a next step, the NCEA intends to collaborate with other organisations that aim to support LMICs in governing their minerals value chains autonomously. We want to share experiences with other organisations and make an inventory of the tools that are being used, jointly look at the complementarity of these tools, and at how this sustainability analysis may fit in. We aspire for this collaboration to lead to shared insights on potential analytical tools for minerals governance, and on how LMIC stakeholders can

apply these tools in a structured process of learning-by-doing to cocreate a governance system that is more effective. This could require facilitation by external moderators, on-the-job peer to peer coaching, brokering of reflexive dialogues, etc. Here, our respondents indicated that certain international organisations have played a constructive supporting role (EITI, IRMA, NRGI, and NCEA were mentioned in interviews, but other organisations from Africa, Latin America and Asia can also be involved).
More specifically, a governance diagnostic tool is suggested, of which the purpose could be to 'support the public sector to gain actionable insights on the underlying institutional and governance challenges for themselves in dealing with development dilemmas related to transition minerals in their country'. Some further details are:

- The tool would be essentially a *diagnostic tool*, ideally used during the design phase, to help in defining the 'problem' rather than giving the 'solution', but can also be used for reviews, reflection sessions, or learning on the job
- While the focus is on *decision-makers from public sector*, the tool could also be used by non-governmental actors, and would ideally be used in collaborative sessions with a diverse group i.e. policymakers, civil society, private sector representatives
- By using the tool in a collaborative way, the usefulness of the tool would also be in *joint learning and thus creating the basis for trust* required to attain effective policymaking and enforcement with other actors than simply policymakers
- The focus is on getting *a broad systems perspective and gaining actionable insights*, meaning that the insights show perspectives of broad solution strategies and also stimulate decision-makers to define concrete actions
- The tool's aim will be to provide guidance to decision-makers and stakeholders *to define for themselves* what they find important, and in doing so can communicate and be transparent how they have come to certain decisions
- For now, the focus is on *the sector of transition minerals*, as from this study we can provide examples from this sector, and this is a highly relevant and urgent subject for many countries.

Contents of the tool that we have in mind could include guidance in the form of open questions, options that the moderator can use to inspire the discussion, and examples of 'good practice' (emerging from this study and from experiences of other organisations).

The process of using the tool could be one of joint fact finding and cocreation, during which groups of actors from the (multi-stakeholder) governance system reflect on their own situation. The tool could be used in dialogues or multi-stakeholder settings, stakeholders who know each other or do not know each other yet, and include actions already being taken, professional practice and dilemmas. What can best be done will vary by country, depending upon the starting point and history in a country. The process could be facilitated by an experienced moderator who is neutral and not related to any demand-side country or interest group (be it public, private or civil society).

The tool could potentially be used as a diagnostic tool by governments in different phases of their policy cycles (formulation, decision, implementation, evaluation). It could be applied in stakeholder groups overarching interdependent parts of the governance system (public – private – civil; sectors; national – decentral). If well facilitated, the diagnostic should also inspire cocreation of concrete actions.

Annex 1. Glossary

A **policy** is a course of action adopted by a public authority, a company, or an organisation of civil society, such as an association or foundation pursuing the goals of its members. Endorsing the SDGs is a policy, as the endorser promises to take actions coherent with the SDGs where possible.

Deliberation, **dialogue** and **joint fact finding** are more or less synonyms: they refer to a (within limits) open exchange to discover common ground on which to build actions in the common interest. **Cocreation** is a close cousin. Joint fact finding (and deliberation, dialogue) underscores that just by sharing facts actors can find common ground, which enables the emergence of joint action – which would then be cocreation. Joint action does not necessarily imply joint decisions. Each cocreating actor can still make its own formal decisions, justifying the approved actions by referring to synergy with other actors

A **multistakeholder platform** (MSP) is a place that facilitates dialogue between different stakeholders. Usually an MSP is supposed to connect representatives of all domains (societal sectors).

A **policymaker** is anyone who can influence the adoption of policies, such as politicians, civil servants, and the staff of CSOs and companies. Our definition excludes large unorganised groups of activists demonstrating for or against policies, even if they can influence policymakers' agendas.

A **policy incoherence** occurs when several underlying policy goals, such as SDGs, work against each other because of how they are pursued in other action-oriented policies.

A **transition or transformation** is a change of a complex system such as a global value chain. Transitions are S-shaped—slow start, acceleration, and slow re-stabilisation. Many observers assume that multiple transitions will be needed to achieve the SDGs.

A **sustainability dilemma** arises when business-as-usual policies fail to initiate a transition or transformation that may remove a policy incoherence. In that case, a policymaker must trade off the here and now interests of direct stakeholders with those of indirect stakeholders there and then, such as elsewhere in the world and for future generations.

The **governance context** of a policymaker is a **governance system**. It consists of actors that influence the rules of the state and the economy. This includes the public, private and civil sectors, all of which have policymakers who include politicians, chief executives, their staffs and so on.

A **governance arrangement** is an organisational measure that changes a part of a governance system, for example by enabling dialogue or by mandating early accountability. It affects the distribution of power. This can also be **institutionalised**.

There are three **societal sectors**. The **public sector** is the government: multi-levelled—local, regional, national, supranational—and multi-sectored or siloed. It consists of a **legislative power** (parliament), an **executive power** (Ministers and their administration) and a **judiciary power**. **Civil society** (also called voluntary sector) includes labour unions, for example, employer's unions, branch organisations, and civil interest groups such as environmental and consumer NGOs. Citizens are also connected to the governance system via elections. The **private sector** consists of companies rooted or active in a country. Often the word **domain** is preferred over societal sectors, as there are also sectors of the economy.

Strategic capacity is the ability of policymakers to observe incoherencies between their goals (most countries adhere to the SDGs for example) and dilemmas and to act accordingly, and the ability of the governance systema to enable such observation, debate and action. This is in line with the more general definition: the capacity to over a long period to act consistently in coherence with long-term goals.

COLOPHON

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