



Mineral Resource Governance And The Global Goals: An Agenda For International Collaboration

Report of activities to implement
**United Nations Environment
Assembly Resolution on Mineral
Resource Governance**

(UNEP/EA.4/Res.19)

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Acknowledgements

The United Nations Environment Programme wishes to thank all individuals and organizations that have generously contributed their expertise, time, and energy.

The report was prepared by the United Nations Environment Programme, Economy Division, Consumption and Production Unit and Law Division, International Environmental Law Unit, with support of our technical partner, the Sustainable Minerals Institute of The University of Queensland.

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The report and the implementation of the resolution was made possible through the financial assistance of the Government of Switzerland. Special thanks to Martine Rohn and Laura Platchkov.

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Layout and graphic design: Strategic Agenda

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Citation: United Nations Environment Programme and the University of Queensland (2022). Mineral resource governance and the global goals: an agenda for international collaboration. Report of activities to implement United Nations Environment Assembly Resolution on Mineral Resource Governance (UNEP/EA.4/ Res.19)



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Executive Summary

Developing an agenda for international collaboration on mineral resource governance

United Nations Member States have signalled a need for greater international cooperation on the topic of mineral resource governance. The fourth session of the United Nations Environment Assembly (UNEA), held in Nairobi, Kenya, from 11-15 March 2019 adopted UNEP/EA.4/Res. 19 on Mineral Resource Governance.

The resolution requests the Executive Director of the United Nations Environment Programme, on the basis of reports such as those prepared by the International Resource Panel and United Nations Environment Programme-GRID, to collect information on sustainable practices, identify knowledge gaps and options for implementation strategies, and undertake an overview of existing assessments of different governance initiatives and approaches relating to sustainable management of metal and mineral resources, and report thereon to the UNEA at its fifth session.

This report provides an overview of activities pursuant to the implementation of the resolution. It outlines includes an analysis of the current state of mineral resource governance and the sustainable management of metal and mineral resources. In particular it presents the findings of a series of 23 consultative meetings held between July and November 2020, during which 1,280 people, from 123 countries shared knowledge, challenges and good practice examples related to mineral resource governance. A further 111 written submissions were received from stakeholders from 61 countries (including government officials from 37 member states). The outcomes of the consultation process provided the basis upon which recommendations and suggested actions were presented for consideration by the UNEA.

Key Findings

1



Minerals underpin global development and are fundamental to the achievement of the 2030 Agenda on Sustainable Development and its 17 Sustainable Development Goals (SDGs) and 169 targets. However, the SDGs themselves do not contain reference to minerals, mining, or miners in the language of the goals and targets. This gap provides impetus for current efforts to define an agenda for international cooperation on mineral resource governance under the mandate of UNEA resolution 4/19.

2



The United Nations has played an important role in the development of key mineral governance initiatives that have strengthened human rights and reduced conflict (Kimberley Process Certification Scheme and the United Nations Guiding Principles on Business and Human Rights), reduced the environmental impacts of cyanide and mercury use (International Cyanide Management Code and the Minamata Convention on Mercury), fostered cooperation and capacity building (Intergovernmental Forum on Mining, Minerals, Metals and Sustainable Development), improved the sustainability of artisanal and small-scale mining (Yaoundé Declaration on Artisanal and Small-scale Mining in Africa and the Mosi-oa-Tunya Declaration on Artisanal and Small-scale Mining, Quarrying and Development), introduced sustainability standards for project finance (International Finance Corporation Performance Standards on Environmental and Social Sustainability), encouraged broad-based economic development (Africa Mining Vision), and improved the management of tailings storage facilities (Global Industry Standard on Tailings Management).

3



Notwithstanding the proliferation of governance initiatives with relevance to minerals production and use, the sector continues to be characterized by significant environmental, social and economic challenges which have been further exacerbated by the COVID-19 pandemic. The regional consultative meetings identified concerning trends relating to the absence and, in some cases, the roll-back of environmental regulations, increased conflict and risks to environment and land defenders, and high rates of impoverishment due to the economic cost of COVID-19.

4



Global consumption is driving increased demand for minerals. More than 150 billion tonnes of rock are mined each year, to produce around 65 billion tonne of mineral product, 72 billion tonne of waste rock and 13 billion tonne of mine tailings waste. There are huge disparities in the scale of production of different commodities. For example, the total historical production of gold fits into just three Olympic-sized swimming pools, while the yearly production of sand, gravel and crushed stone (aggregate) would not fit in 14 million Olympic-sized swimming pools. Metals represent less than 3% of global mineral production, even while they account for the vast majority of mineral wastes. Industrial minerals and construction materials represent 84% of global mineral production, with energy minerals accounting for 13%.

5



The safety and stability of tailings facilities has become a major governance issue. As many as 10% of tailings facilities have reported notable stability concerns or failure to be confirmed or certified as stable at some point in their history. Active upstream-type facilities report a higher incidence of stability issues (18.3%) than other facility types, and this elevated risk persists even when these facilities are built in high governance settings.

6



Climate change and the renewable energy transition, as well as urbanisation and infrastructure investment, are creating substantial new demand for a range of minerals and materials. At the same time, ore grades are in decline for many metal commodities, meaning that more waste is produced for each unit of metal produced. In the absence of a significant shift in the mineral intensity of the global economy, achievement of the SDGs will require a substantial additional sum of mineral resources.

7



Large-scale mineral extraction in much of the developing world remains an enclave economic activity with few long-term linkages to local economies, thus missing opportunities to take advantage of multiplier effects and stimulate the larger economy for economic transformation. Unsuitable legislative frameworks, poor local implementation capacity, and vested political interests were some of the challenges identified during regional consultative meetings as hampering local economic linkages and equitable distribution of risk and benefit. Meanwhile, the local minerals and materials (so-called Development Minerals) most needed for domestic economic development (e.g. infrastructure, agriculture and manufacturing) have received insufficient attention. Artisanal and small-scale mining, despite the associated environmental and social challenges, is a large and under-recognised provider of employment and livelihoods in the developing world, and is often relied on in times of economic uncertainty, such as the current COVID-19 pandemic.

8



Indigenous peoples, mining-affected host communities, civil society actors, and environment and land defenders have become the target of violence, criminalisation, threats, and dispossession of their lands. However, positive trends are also evident in some regions (e.g. North America, Australia, and some parts of Asia and Latin America) with greater recognition of indigenous rights and increasing prevalence of agreement making between indigenous peoples and resource developers, including cases of substantial benefit sharing, involvement in environmental and cultural heritage management, employment, and business development.

9



Oversight of the mineral sector at the state level is mixed, but generally insufficient to ensure that the sector contributes positively to the achievement of the SDGs and avoids harm to people and the environment. A poor governance environment has been demonstrated to deter responsible investors from jurisdictions and leave only those tolerant of a high-risk operating environment – simultaneously constraining the opportunities of development from minerals and exacerbating environmental and social problems. While states are responsible for the governance of mineral resources within their jurisdictions, international cooperation can support states to ensure that domestic governance efforts are aligned with actions towards the achievement of sustainable and equitable development.

10



The governance landscape of mining is diverse. The mineral sector consists of a wide range of commodities, produced by a diverse range of actors, subject to different forms of regulation that include: international legal instruments, international standards, domestic law and regulation, industry standards, corporate standards and policies, multi-stakeholder and civil-society led initiatives, conditions on finance and shareholder activism, social pressure, institutional and individual capacity building. A high burden exists for mineral-intensive developing countries to regulate the sector, while insufficient support is available for local capacity building. These issues were raised in regional consultative meetings especially in Africa and Asia.

11



Responsible production, transparency, conflict and supply security are the predominant thematic issues shaping mineral supply chain due diligence approaches, while issues related to environment and community development have been under-emphasised. Supply chain due diligence was an issue of importance raised during European regional consultative meetings, while specific issues around supply chain leakage in the gold sector were raised in Latin America and Africa.

12



A large number of voluntary international and industry standards have been created to address sustainable development in the mineral sector. While these standards and frameworks have disseminated new norms and strengthened oversight, their influence is not as deep, into the body of the industry, or as wide, across the diversity of entities that make up mining, as is necessary for truly transformative change. Greater harmonisation and alignment are required due to the sheer number of initiatives. Further support to raise awareness of and capacity to implement these standards is also necessary, for governments, policy makers and industry (especially in regions such as Asia and West Asia where the regional consultative meetings identified low awareness levels).

Options for Priority Action

The following options for priority actions are proposed for consideration by all relevant stakeholders.



Material intensity of recovery following the coronavirus disease (COVID-19) pandemic

Minerals, in particular in the context of infrastructure development and the metals associated with renewable energy, will play an important role in the infrastructure-related stimulus packages to “recover better” following the COVID-19 pandemic. The sourcing of those minerals, in particular mineral aggregates, from sustainable and responsible mineral supply chains could play an important role. In that context, there is a need for urgent dialogue on the role of mineral resources in “building back or recovering better” following the COVID-19 pandemic. That dialogue could be enhanced through parallel efforts to consider:

- a. The role of the minerals sector, especially construction materials, in disaster recovery and planning; and
- b. The strengthening of the technical and sustainability standards of development banks for the sourcing of construction materials, including sand.



Platforms for cooperation and capacity-building

To accelerate action on sustainable mineral governance, extractive economies should develop and advance mechanisms to enhance implementation of existing governance initiatives, share knowledge across regional and international boundaries, and enhance connections between different stakeholder groups throughout the minerals supply chain (including, environmental and mining ministries, mining companies, financiers, manufacturers, civil- society organizations, affected groups and others). The following could be considered:

- a. Continue cooperative dialogue on the sustainable development of minerals and metals to identify priorities for future action and advance specific themes;

- b. Expand and regionalize existing forums through wider participation to include environment and mining ministries; ministerial-level representation and engagement; partnership with regional economic communities; and enhanced dialogue between producers, financiers and consumers;
- c. Multi-stakeholder dialogue and governance initiatives to set minimum standards, which should take a holistic and human rights approach and consider effective transparency and accountability aspects, and may include options for legal remedies and minimum standards for community benefit-sharing;
- d. Establish a funding mechanism to scale up capacity-building, knowledge-sharing and cooperation between Member States and other stakeholders in mineral resource governance.



Tailings management

The Global Industry Standard on Tailings Management was recognized by the regional consultative meetings as a significant advance in tailings governance, with the potential to improve safety and environmental outcomes. Further progress in mine tailings governance could be achieved by:

- a. Continue cooperative dialogue on the sustainable development of minerals and metals to identify priorities for future action and advance specific themes;
- b. Advancing the establishment of an independent entity to oversee, support and provide assurance on the implementation of the Standard;
- c. Encouraging and prioritizing the decommissioning, removal and rehabilitation of unsafe facilities, in particular those with no responsible owner;
- d. Promoting continued cooperation among United Nations agencies and relevant stakeholders to strengthen tailings governance and to collate and commission further research on innovations in tailings management, reduction, recycling and re-use, in particular the potential to re-use ore-sand, the crushed stone produced as a by-product of the processing of mineral ores, before it becomes tailings as an alternative to natural aggregate in the construction and land reclamation sectors, and to further develop the Global Tailings Portal to expand access to information.



Harmonization and alignment of governance initiatives

To streamline dialogue among mineral governance initiatives, as well as among stakeholders in general, efforts should concentrate on the alignment and harmonization of those initiatives. Options for incorporating or expanding new areas of governance, especially enhancement of the coverage of environmental issues, could be explored with the aim of improving holistic governance of the sector. Aspects that could be further explored include the following:

- a. Dialogue between Member States and partners on potential avenues for mainstreaming existing voluntary initiatives into national laws and regulatory instruments;
- b. Collaborative initiatives for capacity-building, focusing on “building from below” in order to reduce power asymmetries at the supply base;
- c. Development and implementation of a harmonized approach to auditing existing governance initiatives to enhance efficiency and coherence;
- d. Sharing of information to enable consumers, shareholders and other stakeholders to make informed decisions.



Artisanal and small-scale mining

To address the challenges and opportunities related to Artisanal and Small-scale Mining, the following actions should be considered by relevant actors:

- a. Encourage relevant state and non-state actors to action and adapt to the local context the Mosi-oa-Tunya Declaration on Artisanal and Small-scale Mining, Quarrying and Development;
- b. Encourage states and other stakeholders to conduct research and share knowledge regarding the scale and geographic extent of the artisanal and small-scale mining sector through country-wide censuses;
- c. The international community should investigate the development of a standard similar to the Equator Principles to support the financing of artisanal and small-scale mining for transformation, and to investigate options for strengthening artisanal and small-scale mining associations at the international level.



Mine waste recycling, re-use and circularity

While there have been discussions on the application of circularity approaches, specific programmes and projects are needed to build on previous work calling for better systemic engagement along the minerals value and consumption chains, incorporating all relevant actors. Further research and policy actions on mine waste and circularity must be supported. Examples of areas for investigation could include the recycling and re-use of tailings and other mine waste and by-products, re-mine and re-process wastes (including from artisanal and small-scale mining), re-use of demolition waste, and incorporation of waste re-use options in mine planning and closure planning.



National-level governance

Although significant work has been done to strengthen mineral laws and regulations, there continue to be challenges in the implementation of these laws as well as compliance with legal provisions and regulations. Legal reforms may contribute to supporting sectoral transformation by adopting laws and policies that include aspects of public participation, remedy and redress, transparency, trade agreements, value chain and linkage development, private-sector controls, anti-corruption efforts and long-term environmental liability. In many cases, support is needed for implementation of existing legal frameworks and to enhance capacities to monitor compliance with these provisions. Legal frameworks should extend to minerals that are mined or quarried, processed and used domestically, which are often referred to as Development Minerals.



1. Introduction

Minerals underpin global development and are fundamental to the 17 goals and 169 targets of the Sustainable Development Goals (SDGs) whether it be the copper that wires communication, the clay bricks and roof tiles that provide shelter, the mineral fertilisers fundamental for agriculture, the lithium and cobalt fuelling the global transition to renewable energy, the garnet that filters water, or the gravel and stone that builds bridges and paves roads.¹ The production of mineral commodities, however, continues to be characterized by significant environmental, social and economic challenges which have been further exacerbated by the COVID-19 pandemic. United Nations (UN) Member States have signalled a need for greater international cooperation on the topic of mineral governance building on the UN's role in the establishment of key governance initiatives with relevance to the sector (see Text Box 1).

This report describes the activities to implement United Nations Environment Assembly (UNEA) resolution 4/19 on Mineral Resource Governance, in particular it presents the findings of a series of consultative meetings during which participants shared knowledge, challenges and good practice examples related to mineral resource governance. The outcomes of the consultation process provide the basis upon which recommendations and suggested actions are presented for consideration by the UNEA. The report also describes the progress in the work of UNEP on the thematic areas covered in the reports mentioned in the resolution, namely, tailings management, sand and sustainability, and mineral resource governance in the twenty-first century. This report builds on a discussion paper² prepared on the topic and a Report of the Executive Director prepared on the 'Progress in the implementation of resolution 4/19'³ and presented to the during the first meeting of the fifth session of the United Nations Environment Assembly held from 22 to 23 February 2021.

This report begins with an overview of the UNEA Mineral Resource Governance Resolution and progress on the key issues of tailings, sand and governance. Section 3 provides an overview of the consultation process and timeline for the development of this report. Section 4 describes the interlinkages between the mineral resource agenda and

sustainable development. Section 5 provides the recommendations and suggested future actions arising from the consultation process. The report concludes with a discussion of the momentum building behind cooperation on minerals resource governance globally.

Text Box 1. UN involvement in the governance of mineral resources for sustainable development

- (a) UN Global Compact (2000)
- (b) Kimberley Process Certification Scheme (2001)
- (c) International Cyanide Management Code (2002)
- (d) Intergovernmental Forum on Mining, Minerals, Metals and Sustainable Development (2002)
- (e) Yaoundé Declaration on Artisanal and Small-scale Mining in Africa (2002)
- (f) IFC Performance Standards on Environmental and Social Sustainability (2006)
- (g) Africa Mining Vision (2009),
- (h) UN Guiding Principles on Business and Human Rights (2011)
- (i) Minamata Convention on Mercury (2013)
- (j) Mosi-oa-Tunya Declaration on Artisanal and Small-Mining, Quarrying and Development (2018);
- (k) Tailings Review & Global Industry Standard on Tailings Management (2020).

1 The SDGs themselves, however, do not contain reference to minerals, mining, and miners in the language of the goals and targets. This gap provides impetus for current efforts to define an agenda for international cooperation on mineral resource governance under the mandate of UNEA resolution 4/19. While Transforming our World: the 2030 Agenda for sustainable development does heavily reference natural resources such as forests, fisheries, wildlife, pasture, energy, water and genetic resources; sectors such as agriculture, water resource management, and forest management; and occupations such as farmers, herders, pastoralists and fishers; the report does not contain any reference to minerals, mining or miners. Target 2.3, for example, calls for a doubling of the incomes of small-scale farmers, pastoralists and fishers, while no mention is made of the fate of the world's 40 million plus artisanal and small-scale miners. Target 14.b, for example, is to provide access for small-scale artisanal fishers to marine resources and markets. There is no equivalent target for artisanal miners.

2 <https://www.greengrowthknowledge.org/research/discussion-paper-regional-consultations-implementation-united-nations-environment-assembly>

3 <https://wedocs.unep.org/bitstream/handle/20.500.11822/34654/K2002669-E.pdf?sequence=1&isAllowed=y>

2. Background

2.1. The UNEA Mineral Resource Governance Resolution

UNEA is the principal global decision-making body on the environment with universal membership. The fourth session of the UNEA, held in Nairobi, Kenya, from 11-15 March 2019 adopted UNEP/EA.4/Res. 19 on Mineral Resource Governance (the resolution). The resolution recognizes the important contribution of minerals and mining towards the achievement of the SDGs, the dependence of low-carbon clean technologies on metals and minerals, and the critical role that governance plays in ensuring positive outcomes from mineral development. The operative text of the resolution is reproduced in Text Box 2.

Text Box 2.

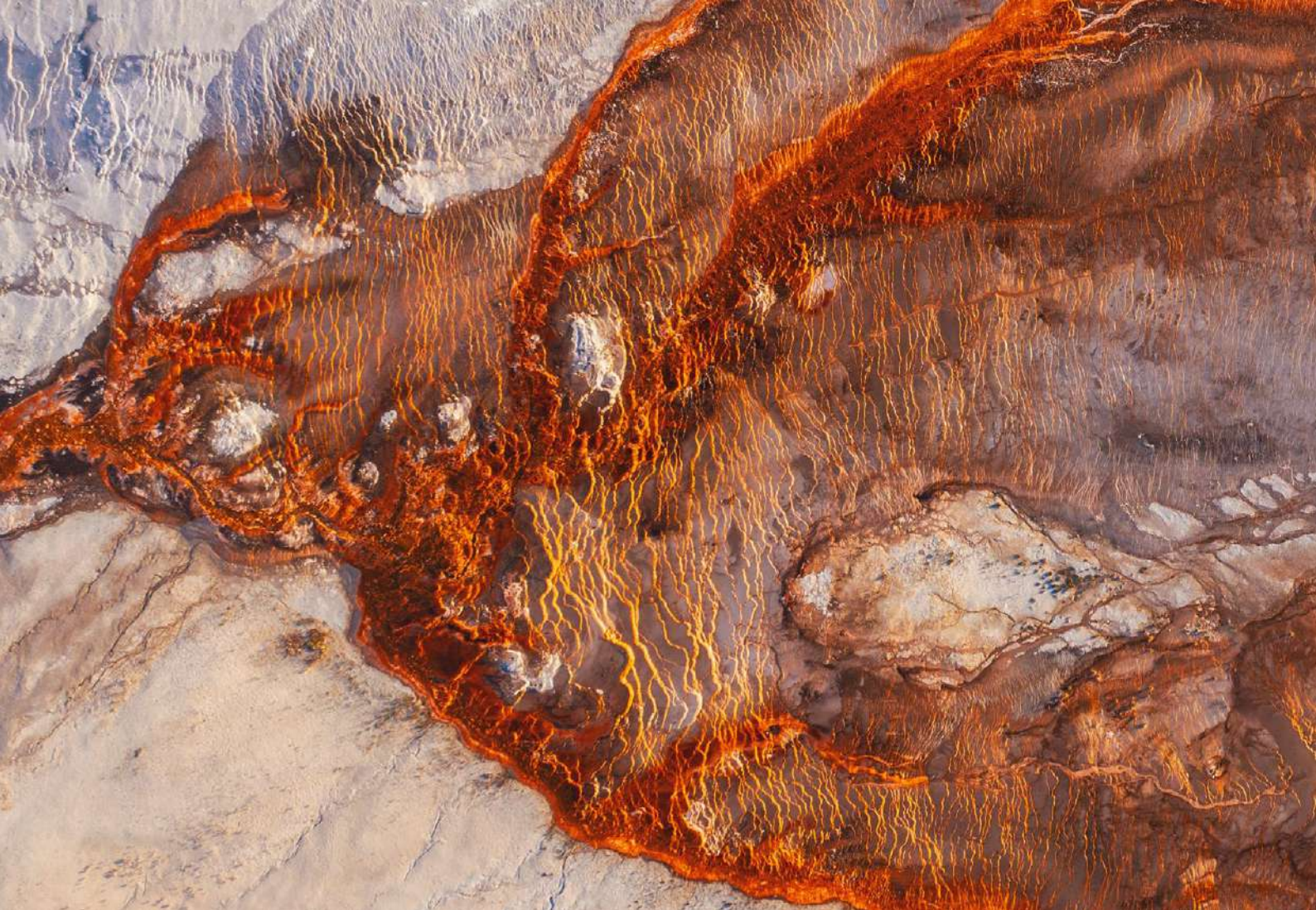
Operative text from the UNEA-4 resolution on Mineral Resource Governance⁴

1. Recognizes the findings of the International Resource Panel related to the sustainable management of metal and mineral resources and the need for further action, as well as the findings of the United Nations Environment Programme on mine tailings storage and those of the United Nations Environment Programme and its Global Resource Information Database (GRID)-Geneva on sustainable sand management;
2. Also recognizes that sustainable management of metal and mineral resources contributes significantly to the achievement of the Sustainable Development Goals;
3. Underlines the need to share knowledge and experience with regard to regulatory approaches, implementation practices, technologies and strategies for the sustainable management of metal and mineral resources, including over the whole life of the mine and the post-mining stage;
4. Requests the Executive Director of the United Nations Environment Programme, on the basis of reports such as those prepared by the International Resource Panel and United Nations Environment Programme-GRID, to collect information on sustainable practices, identify knowledge gaps and options for implementation strategies, and undertake an overview of existing assessments of different governance initiatives and approaches relating to sustainable management of metal and mineral resources, and report thereon to the United Nations Environment Assembly at its fifth session;

5. Encourages governments, businesses, non-governmental organizations, academia and international institutions, within their different areas of competence, to promote:
 - (a) Awareness of how the extractive industries can contribute to the sustainable development of countries and the well-being of their populations, as well as of the possible negative impacts on human health and the environment when these activities are not properly managed;
 - (b) Due diligence best practice along the supply chain, addressing broad-based environmental, human-rights-, labour- and conflict-related risks in mining, including the continuing increase in transparency and the fight against corruption, with the support of the Extractive Industries Transparency Initiative, implementation and monitoring of existing environmental standards, and accountability;
 - (c) Capacity-building mechanisms for the sustainable management of metal and mineral resources, including the management of major hazards, as well as to address mine closure requirements and the remediation of contaminated sites, including abandoned mines;
 - (d) Public-private partnerships to promote sustainable management of metal and mineral resources;
 - (e) Research, development and technological innovations, to sustainably manage metal and mineral resources;
 - (f) Sustainable mining and sourcing of raw materials in order to move towards decoupling economic growth from environmental degradation through approaches including, but not limited to, resource efficiency and circular economy;
 - (g) The reduction of impacts associated with the materials needed for the transition to an innovative and environmentally friendly economy.

The resolution requests the Executive Director of the United Nations Environment Programme, on the basis of reports such as those prepared by the International Resource Panel and United Nations Environment Programme-GRID, to collect information on sustainable practices, identify knowledge gaps and options for implementation strategies, and undertake an overview of existing assessments of different governance initiatives and approaches relating to sustainable management of metal and mineral resources, and report thereon to the United Nations Environment Assembly at its fifth session.

⁴ The full resolution including the preamble paragraphs can be found here: <https://bit.ly/3apGrcX>



2.2. Progress on key mineral governance issues

The adoption of the UNEA-4 resolution on Mineral Resource Governance was the culmination of a series of interlocking initiatives.

2.2.1. Tailings

In 2017, UNEP and GRID-Arendal initiated a work program on tailings aimed at suggesting policy actions which may accelerate the change required to ensure the safety of tailings dams. This was in response to the call for action from several Non-Governmental Organizations (NGOs) to the Executive Director of the United Nations Environment Programme (UNEP) first in 2015, and again in 2016, following the Mt Polley and Fundão tailings dam disasters.

In 2017, UNEP and GRID-Arendal published a rapid assessment report *Mine tailings storage: Safety is no*

accident,⁵ which was launched at the third session of UNEA in December 2017. It examined the human and environmental costs of continued tailings dam disasters, assessed why tailings dam failures occur, and suggested policy actions aimed at catalysing the change needed to ensure tailings dam safety.

The report proposed the establishment of a stakeholder forum to facilitate international strengthening of tailings dam regulation and recommends three priority actions: 1) Facilitate international cooperation on mining regulation and the safe storage of mine tailings through a knowledge hub and database of tailings facilities; 2) Prevent failure by introducing independent monitoring and accompanying enforcement, avoiding dam construction methods known to be high risk, banning riverine tailings disposal and introducing a presumption against the use of upstream and cascading tailings dams unless justified by independent review; 3) Strengthening crisis response, by introducing a global financial assurance system for mine sites, tailings management and monitoring, and a global insurance pool to address any unmet liabilities from major tailings dam failures on local communities.⁶

5 Roche, C., Thygesen, K., Baker, E. (Eds.; 2017). *Mine Tailings Storage: Safety Is No Accident*. A UNEP Rapid Response Assessment. United Nations Environment Programme and GRID-Arendal, Nairobi and Arendal.

6 In December 2018, UNEP and GRID-Arendal held a stakeholder workshop to catalyse actions on tailings. Proceedings of the meeting were published as *A roadmap for improved mine waste management*.



Following the loss of 270 lives after the catastrophic failure of a tailings storage facility at the Vale Córrego do Feijão mine near Brumadinho, Brazil, on 25 January 2019, UNEP co-convened the Global Tailings Review (the Review) with the Principles for Responsible Investment and the International Council on Mining and Metals. The Review, financed by the International Council on Mining and Metals, was announced on 27 March 2019, with the aim of establishing an international standard for tailings storage facilities. An independent chair, Bruno Oberle, was appointed on 24 April 2019 to oversee the Review, supported by a seven-member expert panel and a 15-member multi-stakeholder advisory group.

After a public consultation process, the Global Industry Standard on Tailings Management was launched on 5 August 2020. The Standard applies to both existing and future tailings facilities and addresses issues such as project-affected people; the social, economic and environmental knowledge base; the design, construction, operation, maintenance, monitoring and closure of facilities; management and governance; emergency preparedness and response; and public disclosure and accountability. The virtual launch was attended by more than 1,500 people, and, at the time of completion of this publication, the

Standard has been downloaded from the Global Tailings Review website more than 6,000 times. A compendium of papers exploring tailings issues and a report on the public consultations were released.⁷ UNEP and PRI have initiated a partnership to establish the Global Tailings Management Institute.⁸

Meanwhile, in January 2020, GRID-Arendal launched the Global Tailings Portal, an online information repository on tailings storage facilities.⁹ The data for the Portal were derived from a disclosure request issued on 5 April 2019 by the Church of England Pensions Board and the Council on Ethics of the Swedish National Pension Funds on behalf of 112 investors representing US\$14 trillion in assets under management. The information disclosures revealed new data on more than 1,800 unique tailings facilities containing 44.54 billion cubic metres of waste material, corresponding to approximately 30 per cent of global mineral production.¹⁰ GRID-Arendal received budgetary support to develop the Portal from the Church of England Pensions Board, the Council on Ethics of the Swedish National Pension Funds and UNEP.

7 <https://globaltailingsreview.org/>

8 <https://www.unep.org/news-and-stories/press-release/partnership-support-global-tailings-standard>

9 GRID-Arendal (2020). Global Tailings Dam Portal. Arendal: GRID-Arendal. <https://tailings.grida.no/>

10 See Franks, Daniel M., Stringer, Martin, Torres-Cruz, Luis A., Baker, Elaine, Valenta, Rick, Thygesen, Kristina, Matthews, Adam, Howchin, John, and Barrie, Stephen (2021). Tailings facility disclosures reveal stability risks. *Scientific Reports* 11 (1) 5353 5353. <https://doi.org/10.1038/s41598-021-84897-0>

2.2.2. Sand

Urbanisation and infrastructure are creating substantial demand to supply aggregate (sand, gravel and crushed stone) for the construction sectors. This is driving environmental change, particularly where sand and gravel are sourced from natural waterways.

In 2019 UNEP and GRID-Geneva published *Sand and Sustainability: Finding New Solutions for Environmental Governance of Global Sand Resources*. The report builds on earlier work by UNEP¹¹ and finds that the scale of the sand and gravel extraction makes it one of the major sustainability challenges of the 21st century. These materials are one of the largest resources extracted and traded by volume, with as much as 50 billion tonnes of aggregate produced from quarries, rivers, lakes and the ocean each year.¹²

The report recommends the following:

- Utilise existing solutions to prevent or reduce damage to river, beach and marine ecosystems and social risks to workers and communities in sand extraction sites:
 - avoiding consumption through reducing over-building and over-design
 - using recycled and alternative materials to sand in the construction sector
 - reducing impacts through implementing existing standards and best practices.
- Customise existing standards and best practices to national circumstances and extend where necessary to curb irresponsible and illegal extraction.
- Reconcile globally-relevant policies and standards with the local realities of domestic sand resource availability, local development imperatives and standards and enforcement realities.

- Invest in sand production and consumption measurement, monitoring and planning.
- Establish dialogue between key players and stakeholders in the sand value chain based on transparency and accountability.
- Build consensus through improved coordination and public awareness-raising at the global, regional and national levels on how much our current development trajectory is dependent on sand supply and the sustainability challenges this poses.

UNEP/GRID-Geneva has continued to work on sand with a view to catalysing changes in unsustainable practices associated with sand extraction and use. This work contributes to the implementation of the resolution and responds to a key recommendation of the 2019 report of UNEP/GRID-Geneva titled 'Sand and Sustainability: Finding New Solutions for Environmental Governance of Global Sand Resources' to develop a comprehensive understanding of the sand value chain. UNEP/GRID-Geneva works to, inter alia, promote awareness, innovation in monitoring and dialogue on sand governance and has also conducted a preliminary assessment of terminology and data classification relating to sand, gravel and crushed rock extraction, transport and use. In 2022, UNEP-GRID-Geneva released a publication titled *Sand and Sustainability: 10 Strategic Recommendations to Avert a Crisis*.¹³ This report is built with recommendations from the world experts on this topic, canvas via interviews, experts round table and direct contribution of more than 20 lead authors.

11 Peduzzi, P. (2014). Sand, rarer than one thinks. *P. Environ. Dev.* 11, 208–218.

12 Bendixen, M, Best, J, Hackney, C, and Lønsmann Iversen, L. (2019). Time is running out for sand. *Nature* 571, 29-31; Franks, D.M. (2020). Reclaiming the neglected minerals of development. *The Extractive Industries and Society*. In Press. <https://doi.org/10.1016/j.exis.2020.02.002>.

13 UNEP 2022. *Sand and sustainability: 10 strategic recommendations to avert a crisis*. GRID-Geneva, United Nations Environment Programme, Geneva, Switzerland. <https://www.unep.org/resources/report/sand-and-sustainability-10-strategic-recommendations-avert-crisis>

2.2.3. Mineral Resource Governance

In February 2020 the International Resource Panel (IRP) and UNEP published the report 'Mineral Resource Governance in the 21st Century: Gearing Extractive Industries Towards Sustainable Development'.¹⁴ The report proposes a new governance framework for the extractive sector, based on the concept of a "Sustainable Development License to Operate". It follows an earlier summary report for policy makers published in 2019 that was presented at UNEA-4 and discussed in the context of the UNEA-4 resolution. The report was initially requested by the IRP Steering Committee at its 18th Meeting (Cape Town, 6-9 June 2016) and responded to a Recommendation adopted at the 21st Meeting of the Convention on Biological Diversity Subsidiary Body on Scientific, Technical and Technological Advice (Montreal, 11-14 December 2017).

The report concludes that, despite moves to decouple economies from resource use and promote greater recycling, extractive resources will continue to play a central role in driving the global economy. Emerging economies, expanding populations, global middle-class growth and increased urbanization, as well as the global transition to clean energy production, are some of the drivers highlighted in the report as contributing to an increase in demands for minerals and metals.

The report observes that there is now a plethora of domestic, regional and international legal and regulatory frameworks, as well as voluntary formal and informal initiatives and instruments, aimed at improving governance of the extractive industry in order to increase economic prosperity and strengthen environmental protection. However, collectively, these legal frameworks and initiatives have failed to bring about a transition away from the 'extractivist' and anthropocentric model that

is prevalent in the developing world. In most resource-rich developing countries, the extractive sector has remained an enclave with inadequate linkages to the wider local economy, and the wealth generated from mineral resources has not translated into broader economic, human and social development. Furthermore, mining in these contexts continues to prioritise human needs and wants over the integrity of ecosystems.

The report calls for concerted global efforts to consolidate existing rules and regulations in the mining sector and to agree on international standards. This new global governance architecture, the report argues, needs to support ongoing economic development, structural transformation and economic diversification in resource-rich countries. It should address not only resource security, but also resource efficiency, the decoupling of resource use, and the environmental impacts from economic growth. In particular the report recommends:

- Greater harmonisation and alignment across existing instruments and standards.
- International dialogue to consider options for new agreements to strengthen transnational governance of mining.
- Creating, empowering and building capacity in national, sub-national and local institutions.
- Creation of an International Minerals Agency, or the signing of an international agreement, to, inter alia, coordinate and share data on economic geology, mineral demand needs, and promote transparency on impacts and benefits.
- Relevant international communities of experts could consider options for forming a 'High-level Panel on Sustainable Development of Mining', to develop recommendations for the design of transnational instruments to strengthen mining governance.

14 Ayuk, E.T., Pedro, A.M., Ekens, P., Gatune, J., Milligan, B., Oberle, B., Christmann, P., Ali, S., Kumar, S.V., Bringezu, S., Acquatella, J., Bernaudat, L., Bodouoglou, C., Brooks, S., Burgii Bonanomi, E., Clement, J., Collins, N., Davis, K., Davy, A., Dawkins, K., Dom, A., Eslamishoar, F., Franks, D.M., Hamor, T., Jensen, D., Lahiri-Dutt, K., Petersen, I., and Sanders, A.R.D., Nuss, P and Mancini, L. (2020). Mineral Resource Governance in the 21st Century: Gearing Extractive Industries towards Sustainable Development. International Resources Panel. United Nations Environment Program. February. 374p. <https://bit.ly/32tN1fS>





3. Activities to Implement the UNEA Mineral Resource Governance Resolution

UNEP worked jointly with a technical partner, the Sustainable Minerals Institute at The University of Queensland, on the implementation of the resolution, particularly in response to the request contained in operative paragraph 4. Consultations were held to identify best practices and knowledge gaps, assess governance options and consider common elements of interest for next steps. The original plan was to hold in person multi-stakeholder consultations across Latin America and the Caribbean, Asia and the Pacific, Africa, Europe, North America and West Asia. The consultation plan was substantially revised following the outbreak of COVID-19, with a stronger emphasis placed on virtual engagement. The revised goal was to maximise the reach of the virtual format, with the potential for a much larger number of people engaged in the process, but also to ensure the depth of the discussions, due to the shorter amount of time available during the

meetings. Funding was provided by the Federal Office of the Environment of the Government of Switzerland in support of the implementation of the resolution.

A discussion paper was prepared and distributed prior to the consultative meetings. The paper outlined the context for the UNEA-4 resolution, summarized global trends, presented key findings from the foundational studies and developed questions for consultation. The paper was peer reviewed and made available in all UN languages. The paper was downloaded more than 6,000 times. Two podcasts were also prepared: the first was on the role of UNEA and the mineral resource governance resolution, and the second on the issue of tailings and the Global Industry Standard on Tailings Management. The podcasts were streamed more than 1,100 times.

A total of 1,280 people, from 123 countries joined one of 23 virtual consultative meetings held between July and November 2020. Interpretation was provided in all UN languages. The meetings were held across six formats: 1) briefings to member state governments to introduce the resolution, share a statement from the resolution proposing member states, provide an overview of the consultation process and generate engagement and ownership by member states; 2) sub-regional consultations, which included presentations on the foundational studies, and open discussion on the core consultation questions; 3) regional consultations, where the outcomes of the sub-regional consultations were presented and further refined; 4) global consultations, where summaries from each of the regional events were presented and discussed, with statements delivered once again by the resolution proponents; 5) a meeting

of representatives of mineral resource governance initiatives, and; 6) a Nexus Dialogue on Mineral Resource Governance held in collaboration with the UN Environment Management Group to discuss coordination across the UN system (See Text Box 3).¹⁵ A summary of the key discussion points is provided in Appendix I for each region.

Written submissions were received, both in the form of a online submissions portal and written responses to the discussion questions. A six-week submission period was available between July and August 2020. A total of 111 written submissions were received from stakeholders from 61 countries. Officials from 37 member states prepared a written submission.

Text Box 3. Consultative meetings held as part of implementation of the resolution

Briefings

Asia Pacific, 8 July 2020 (English/Chinese)
Latin America, 15 July 2020 (English/Spanish)
Europe and West Asia, 23 July 2020
(English/Russian/Arabic)

Sub-regional Consultations

Southern and East Africa, 20 July 2020 (English)
North, West and Central Africa, 23 July (French/English)
South and Southeast Asia, 29 July 2020 (English)
Pacific and Oceania, 30 July 2020 (English)
Northeast Asia, 31 July 2020 (English/Chinese)
Western and Central Europe and South
Eastern Europe, 25 August 2020 (English)
Eastern Europe, Caucasus, Central Asia, Russian
Federation, 27 August 2020 (English/Russian)
Latin America and Caribbean, 21 July 2020 (English)
Latin America and Caribbean, 23 July 2020 (Spanish)

Regional Consultations

Africa, 6 August 2020 (English)
Africa, 6 August 2020 (French)
Latin America and the Caribbean,
18 August (English/Spanish)
Asia Pacific, 19 August 2020 (English/Chinese)
Europe, 10 September 2020 (English/Russian)
West Asia, 26 August 2020 (Arabic)North
America, 16 September 2020 (English/French)

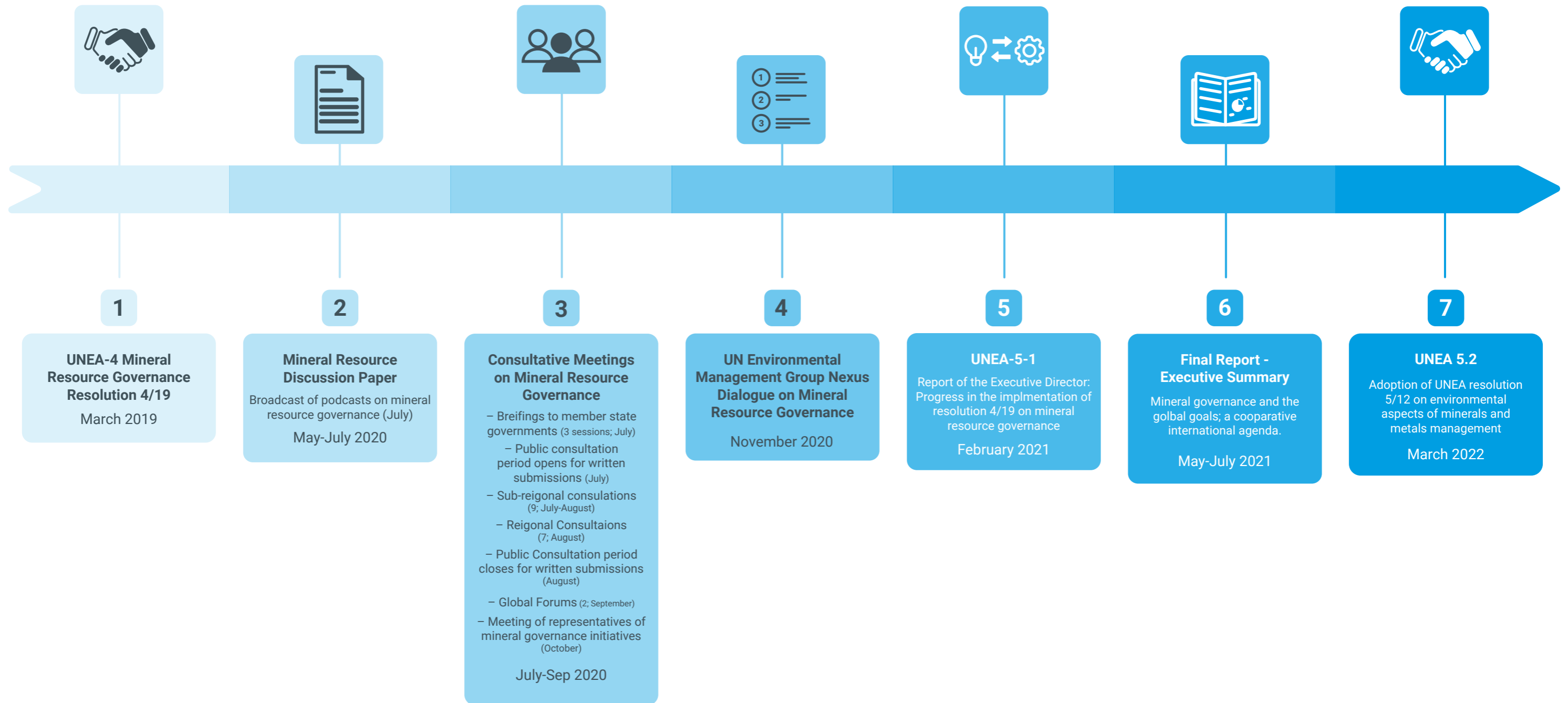
Global Consultations

Global Forums on the UNEA-4 Resolution
on Mineral Resource Governance – 22 & 24
September 2020 (All UN languages)
Meeting of Representatives of Mineral Resource
Governance Initiatives – 1 October 2020 (English)
UN Environmental Management Group Nexus
Dialogue on Mineral Resource Governance
– 17 November 2020 (English)

¹⁵ The outcome report of the dialogue can be found here: https://unemg.org/wp-content/uploads/2020/12/MineralResourceGovernance_ND_OutcomeReport.pdf

3.1. Timeline

Figure 1: Implementation of the UNEA-4 Mineral Resource Governance Resolution





4. Sustainable practices, knowledge gaps and options for the governance on mineral resources

This section gives an overview of the role of mineral resource governance in the sustainable development agenda and summarises information on sustainable practices, knowledge gaps and options for the governance on mineral resources.

4.1. Mineral Resource Governance and the Sustainable Development Agenda

The extraction, processing, value-addition and use of mineral commodities continues to be characterized by significant environmental, social and economic challenges.¹⁶ Twenty years has passed since the Global

Mining Initiative released the results of a 2-year global dialogue on Mining, Minerals and Sustainable Development (MMSD), titled *Breaking New Ground*, signalling a shift by the formal mining sector to engage with the sustainable development agenda.¹⁷ Since then, progress has been made on some issues, for some actors, in some places, but much remains to be done before mineral production is consistent with societal expectations, acceptable social and environmental standards and global ecological limits.¹⁸ Global consumption is driving increased demand for minerals. Mineral exploitation has grown markedly over the past century with production of minerals and metals (including mineral fuels and cement) estimated at 65 billion tonnes per annum.¹⁹ Improved resource efficiency and the decoupling of resource use from economic growth and environmental impacts are needed. In the absence of a significant shift in the mineral intensity of the global economy, achievement of the SDGs will require a substantial sum of mineral resources. Stark increases

¹⁶ The concept of externalities refers to the uncompensated environmental and social effects of production and consumption that fall outside of the market mechanism.

¹⁷ International Institute on Environment and Development (IIED) and World Business Council for Sustainable Development (WBCSD; 2002), *Breaking New Ground; Mining minerals and sustainable development*. The report of the MMSD project. London: Earthscan. <http://pubs.iied.org/9084IIED>

¹⁸ Responsible Mining Foundation (2020). *RMI Report 2020*. <https://bit.ly/32tDntL>; Franks, Daniel M. (2015). *Mountain movers: mining, sustainability and the agents of change*. London, United Kingdom: Earthscan. <https://doi.org/10.4324/9781315884400>

¹⁹ Ayuk et al (2020). *Mineral Resource Governance in the 21st Century*; Ekins, P, Gupta, J and Boileau, P. (Eds) (2019). *Global Environmental Outlook GEO-6: Healthy Planet, Healthy People*. Cambridge University Press. United Nations Environment. 708p. <https://bit.ly/2T0bpCL>

in the efficiency of resource use, and steep progress toward a circular economy and the use of secondary raw materials are needed to meet both the equity and environmental goals of sustainable development. Consumption is driving the metals industry to expand into new domains (e.g. sea-bed mining; space mining; arctic mining; tailings reprocessing), with governance of these domains lacking or still emerging.²⁰

Climate change and the renewable energy transition are driving new demand for minerals. Lithium, cobalt, graphite and zinc, for example, are expected to experience significant production increases by 2050 to meet the demand created by renewable energy technologies.²¹ Meanwhile, thermal coal mined for the production of electricity is experiencing structural change as well as mine closures in some regions.²² This energy shift is accompanied by new environmental and social challenges in the regions where these resources are located. Renewable energy is also becoming an important source of power for the large-scale metal mining industry and there is some evidence of emerging mitigation action by the large-scale metal mining industry to reduce emissions and strengthen climate resilience and adaptation measures.²³

Urbanisation and infrastructure are creating substantial demand to supply aggregate (sand, gravel and crushed stone) for the construction and land reclamation sectors, driving environmental change particularly where sand and gravel are sourced from natural waterways.²⁴ As much as 50 billion tonnes of aggregate are produced from quarries, rivers, lakes and the ocean each year.²⁵ Little information is available on the nature of this extraction, and regulation and oversight of the sector is weak in many regions.²⁶ Climate change and disaster reconstruction are creating additional demand for construction materials, while the quarry sector is not

sufficiently considered or involved in disaster planning as evidenced by frequent aggregate and cement shortages in hurricane and cyclone reconstruction.²⁷

Large-scale mineral extraction in much of the developing world remains an enclave economic activity with few long-term linkages to local economies, thus missing opportunities to take advantage of multiplier effects and stimulate the larger economy for economic transformation.²⁸ Unsuitable legislative frameworks, poor local implementation capacity, and vested political interests were some of the challenges identified during regional consultative meetings as hampering local economic linkages and equitable distribution of risk and benefit. Meanwhile, the local minerals and materials (so-called Development Minerals) most needed for domestic economic development (e.g. infrastructure, agriculture and manufacturing) have received insufficient attention.²⁹ Artisanal and small-scale mining, despite the associated environmental and social challenges, is a large and underrecognised provider of employment and livelihoods in the developing world, and is often relied on in times of economic uncertainty, such as the current COVID-19 pandemic.³⁰

The geopolitical dimension of the supply of raw materials continues to be a focus for many countries. Some exporting countries have set restrictions on raw material exports to encourage domestic value addition, while some importing countries have initiated programs to track the criticality of certain minerals and have applied import restrictions to ensure responsible production practices. Investment in clean resource processing in the developing world as part of green industrialisation could assist both the diversity of mineral supply and the structural transformation of mineral endowed economies.

20 Ali, S., Giurco, D., Arndt, N. et al. (2017). Mineral supply for sustainable development requires resource governance. *Nature* 543, 367–372. <https://doi.org/10.1038/nature21359>

21 Arrobas, D.P., Hund, K.L., McCormick, M.S., Ningthoujam, J., Drexhage, J.R. (2017). The Growing Role of Minerals and Metals for a Low Carbon Future. Washington, D.C., World Bank Group. <https://bit.ly/2TioAhf>; World Bank (2018). Mineral Demand Analysis of Energy Technologies Based on IEA ETP 2017 Scenarios. World Bank, September.

22 Wamsted, D, and Schlissel, D (2019). Coal Outlook 2019. Institute for Energy Economics and Financial Analysis. March. <https://bit.ly/3ccuc5m>; International Energy Agency (2018). World Energy Outlook 2018. November.

23 Maennling, N and Toledano, P (2018). The Renewable Power of the Mine: Accelerating renewable energy integration. Columbia Centre on Sustainable Investment, BMZ & GlZ, Energy and Mines. December. <https://bit.ly/2Tw2qsb>

24 Peduzzi, P (2014) *P. Environ. Dev.* 11, 208–218; United Nations Environment Programme (2019). Sand and Sustainability: Finding New Solutions for Environmental Governance of Global Sand Resources. <https://bit.ly/2uxyu6g>; Bendixen, M, Best, J, Hackney, C, and Lønsmann Iversen, L. (2019). Time is running out for sand. *Nature* 571, 29-31 <https://doi.org/10.1038/d41586-019-02042-4>; Franks, Daniel M. (2020). Reclaiming the neglected minerals of development.

25 O'Brien, J. (2019). Aggregates in growth mode. *International Cement Review*, June:46-51.

26 Franks, D.M. (2020). Reclaiming the neglected minerals of development; UNEP (2019). Sand and Sustainability.

27 Hailu, D., Ngonze, C. and Franks, D.M. (2019). Minerals in post-disaster reconstruction. United Nations Development Programme. <https://bit.ly/2wQS0LW>

28 Ayuk et al (2020). Mineral Resource Governance in the 21st Century;

29 African Union. (2009). Africa Mining Vision. February. Addis Ababa; African Union. (2016). First AU Specialized Technical Committee on Trade, Industry and Minerals. 16th – 24th May 2016, Addis Ababa, Ethiopia. Report of Ministers, 23-24 May, 2016. Doc: AU/DTI/STC-TMI/Rpt.Min/FINAL; Franks, D.M. (2020). Reclaiming the neglected minerals of development;

30 World Bank. (2019). 2019 State of the Artisanal and Small-Scale Mining Sector. Washington, D.C.: World Bank.

Ore grades (the concentration of the desired mineral commodity within the rock) are in decline for many commodities, meaning that more waste is produced for each unit of metal produced.³¹ Global solid mineral waste production is estimated at 90 billion tonnes per year.³² Declining ore grades are placing significant pressure on the ability of the industry to safely manage tailings (the ground up waste rock left over after processing) and other mineral wastes. Common issues include the generation of acid and metaliferous drainage and geotechnical failure of tailings facilities. Evidence suggests that, while the overall number of tailings facility failures has decreased, the number of serious failures has increased.³³ One recent study found that as many as 10 per cent of all tailings facilities, and 18% of active upstream facilities reported notable stability concerns or failure to be confirmed or certified as stable at some point in their history.³⁴ Recent examples of the failure of tailings facilities in Brazil, Australia and Canada have driven reforms in governance (including the new Global Industry Tailings Management Standard) and transparency (Global Tailings Portal). The uptake of alternative safer tailings storage options, such as filtered and dry-stack tailings, has remained low indicating a lack of incentives for innovation and technology in tailings management. There is potential for tailings reprocessing to extract value and assist in the management and rehabilitation of mineral wastes.³⁵ Complex ore bodies mean that a significant proportion of available future reserves feature environmental and social constraints to access.³⁶

Trust of the minerals sector by the general public is low, with nearly half of the mining company executives questioned in a 2019 business survey identifying social acceptance as their top business risk.³⁷ Tailings facility failures and other cases of unsafe working conditions, environmental harm, social conflict, and human rights violations (such as child and forced labour) have furthered distrust of industry-led reform initiatives, and fueled demands for multi-stakeholder governance, stronger government oversight, and improved safeguards. Ethical investors have been more active in pushing

for reform of environmental, social and governance issues. The social license to operate has become a commonplace concept, originating first in the large-scale minerals industry, but may fall short as a framework for governing sustainable development issues.³⁸

Responsible production, transparency, conflict and supply security are the predominant thematic issues shaping supply chain due diligence approaches, while issues related to environment and development are under-emphasised. Supply chain due diligence was an issue of importance raised during European regional consultative meetings, while specific issues around supply chain leakage in the gold sector were raised in Latin America and Africa. Supply-chain due-diligence and certification initiatives are providing market information for consumers to consider ethical alternatives, particularly in the jewelry industry. Due diligence approaches applicable to artisanal and small-scale miners are predominantly focused on international supply chains, overlooking the potential for integration of ASM into domestic supply chains and the production of minerals needed for domestic development.

Capacity has increased but is still lacking to effectively respond to environmental issues across large, medium, small and artisanal mining sectors. Some mining companies have strengthened commitments, and employed sustainability professionals responsible for performance, while many show little progress, with commitments commonly not translated into meaningful change on the ground.³⁹ Frameworks for water accounting, water recycling, and energy efficiency have been supported at the site-level and industry-wide. Government agencies with oversight responsibilities commonly do not have the human and technical capacity to effectively monitor and manage the sector. Artisanal and Small-scale Mining voices and actors remain largely outside of the development and environment agenda, inhibiting further progress.

31 Mudd, G. (2007). Global trends in gold mining: Towards quantifying environmental and resource sustainability. *Resources Policy* 32(1-2):42-56; Franks, DM, Boger, DV, Cote, CM, Mulligan, DR. 2011. Sustainable Development Principles for the Disposal of Mining and Mineral Processing Wastes. *Resources Policy*. 36 (2): 114-122.

32 This figure includes tailings and waste rock produced from mineral production excluding construction materials. Ekins, P, Gupta, J and Boileau, P. (Eds) (2019). *Global Environmental Outlook*.

33 Bowker, L.N. and Chambers, D.M. (2016). *Root Causes of Tailings Dam Overtopping: The Economics of Risk & Consequence*. 2nd International Seminar on Dam Protection Against Overtopping. Ft. Collins, Colorado, USA, 7-9 September 2016

34 Franks, Daniel M., Stringer, Martin, Torres-Cruz, Luis A., Baker, Elaine, Valenta, Rick, Thygesen, Kristina, Matthews, Adam, Howchin, John, and Barrie, Stephen (2021). Tailings facility disclosures reveal stability risks. *Scientific Reports* 11 (1) 5353 5353. <https://doi.org/10.1038/s41598-021-84897-0>

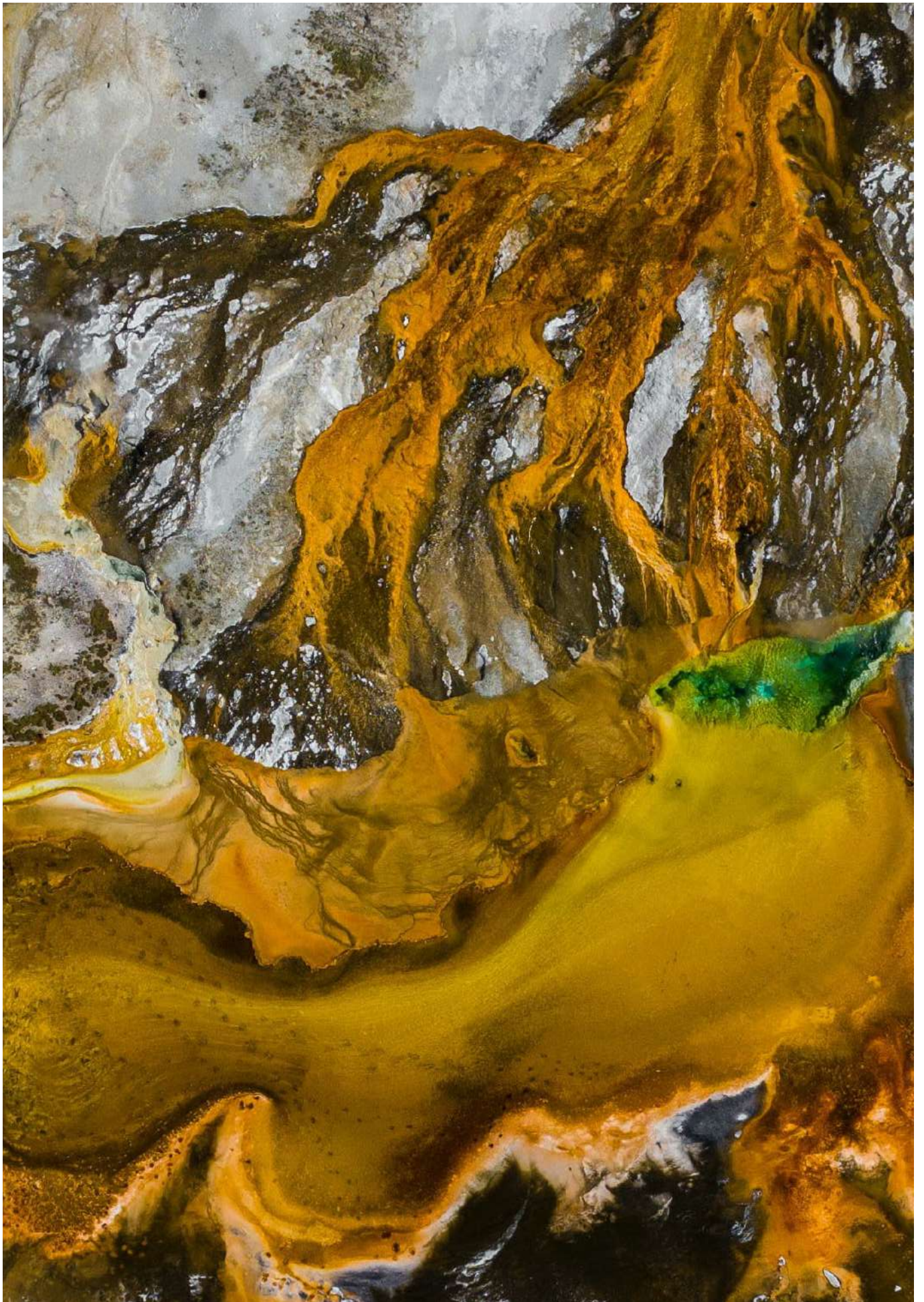
35 Baker, E, Franks, D.M., Valenta R. (2020) Lessons from tailings facility data disclosures. *Global Tailings Review Report*. Forthcoming.

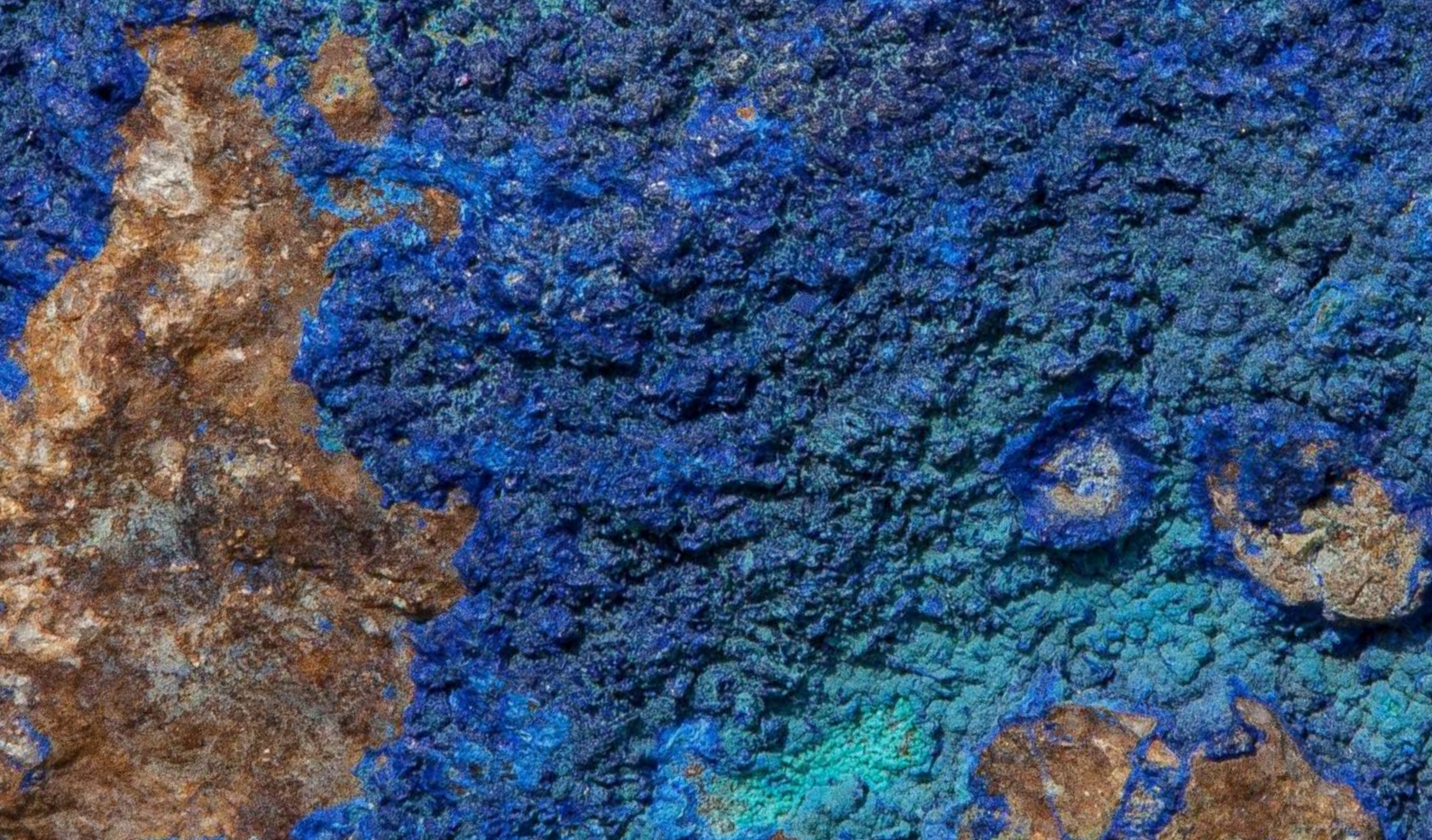
36 Lèbre, E, Owen, JR, Corder, GD, Kemp, D, Stringer, M and Valenta RK (2019). Source risks as constraints to future metal supply. *Environmental Science & Technology* 53 (18), 10571-10579

37 Mitchell, P, Downham, L and van Dinter, A. (2019) Top 10 business risks and opportunities – 2020. Ernst & Young Global. <https://go.ey.com/39jdgbi>

38 Ayuk, E.T., Pedro, A.M., Ekins, et al. (2020). Mineral Resource Governance in the 21st Century; Owen, J.R. and Kemp, D. (2013). Social licence and mining: a critical perspective. *Resources Policy* 38 (1) 29-35. <https://doi.org/10.1016/j.resourpol.2012.06.016>

39 Responsible Mining Foundation (2020). *RMI Report 2020*.





Indigenous peoples, affected mining host communities and civil society who have voiced opposition to projects in some countries have become the target of violence, criminalisation, threats, and dispossession of their lands.⁴⁰ However, positive trends are also evident in some regions (e.g. North America, Australia, and some parts of Asia and Latin America) with increasing prevalence of agreement making between indigenous peoples and resource developers, including cases of substantial benefit sharing, involvement in environmental and cultural heritage management, employment, and business development.⁴¹ Increasing application of the UN Declaration on Rights of Indigenous Peoples, International Labour Organisation Convention 169 on Indigenous and Tribal Peoples, 1989 and recognition of indigenous land rights have supported these improvements.⁴² Opportunities remain to increase transparency and trust, such as through the co-development of plans, participatory monitoring, and participatory governance mechanisms.

Oversight of the mineral sector at the state level is mixed, but generally insufficient to ensure that the sector contributes positively to the SDGs and avoids harm to people and the environment.⁴³ Tools such as impact assessment, biodiversity offsetting, and environmental bonds offer potential to contribute to the achievement of the SDGs. A poor governance environment has been demonstrated to detract responsible investors from jurisdictions and leave only those tolerant of a high-risk operating environment, simultaneously constraining the opportunities of development from minerals and exacerbating environmental and social problems.⁴⁴ While states are responsible for the governance of mineral resources within their jurisdictions, international cooperation can support states to ensure that domestic governance efforts are aligned with actions towards the achievement of sustainable and equitable development.

40 Taylor, L, Schulte, C, Rall, K (2019). Targeted: Counterterrorism Measures Take Aim at Environmental Activists. Human Rights Watch <https://bit.ly/39a3ms0>; Watts, J (2018). Almost four environmental defenders a week killed in 2017. The Guardian. <https://bit.ly/3aic9Jn>

41 Lodhia, S.K. ed., 2018. Mining and sustainable development: current issues. Routledge.

42 ILO 2020 Implementing the ILO Indigenous and Tribal Peoples Convention No. 169: Towards an inclusive, sustainable and just future. https://www.ilo.org/wcmsp5/groups/public/---dgreports/---dcomm/---publ/documents/publication/wcms_735607.pdf

43 Ayuk, E.T., Pedro, A.M., Ekins, et al. (2020). Mineral Resource Governance in the 21st Century.

44 Franks, DM, Davis, R, Bebbington, AJ, Ali, SH, Kemp, D, Scurrah, M. 2014. Conflict translates environmental and social risk into business costs, Proceedings of the National Academy of Sciences. 111(21): 7576-7581; Otto, James M. (1992), 'Criteria for assessing mineral investment conditions.' Mineral Investment Conditions in Selected Countries of the Asia-Pacific Region. ST/ESCAP/1197, United Nations, New York; Tole, L. and G. Koop (2011), 'Do environmental regulations affect the location decisions of multinational gold mining firms?' Journal of Economic Geography, 11(1), 151–177.

4.2. Global review of governance options

The governance landscape of mining is diverse. The mineral sector consists of a wide range of commodities from metals, energy minerals and gemstones, to construction materials and industrial minerals. These are all produced by a diverse range of actors, from diversified multinational mining companies, to commodity-specific mid-tier companies, state-owned companies, mid-sized and small quarry companies, exploration and producing juniors, artisanal and small-scale miners.

Similarly, the forms of regulation⁴⁵ that shape the governance of minerals are also diverse, and include: international legal instruments, international standards, domestic law and regulation, industry standards, corporate standards and policies, multi-stakeholder and civil-society led initiatives, conditions of finance and shareholder activism, social pressure, institutional and individual capacity building. Each location where minerals are mined represents a unique geographical and political setting, whose outcomes are shaped by a wide range of influences.

As mentioned earlier in this report, two decades ago, the MMSD published *Breaking New Ground*, which outlined an agenda for change in the minerals industry. Simultaneously, the International Council on Mining and Metals (ICMM) was established as the peak industry body mandated with implementing the agenda. The MMSD identified governance as one of nine key challenges:

Sector Governance: Roles, Responsibilities, and Instruments for Change. Sustainable development requires new integrated systems of governance. Most countries still lack the framework for turning minerals investment into sustainable development: these need to be developed. Voluntary codes and guidelines, stakeholder processes, and other systems for promoting better practice in areas where government is unable to exercise an effective role as regulator are gaining favour as an expedient to address these problems. Lenders and other financial institutions can play a pivotal role in driving better practice.⁴⁶

When comparing the mineral governance landscape of today with that of twenty years ago, one major difference is the large number of voluntary international and industry standards for sustainable development that have been created (see Appendix II). While these standards and frameworks have disseminated new norms and strengthened the oversight of the sector, their influence is not as deep, into the body of the industry, or as wide, across the diversity of entities that make up mining, as is necessary for truly transformative change. The sheer number of schemes is also creating ‘initiative fatigue.’⁴⁷ Greater harmonisation and alignment is required due to the sheer number of initiatives. Further support to raise awareness of and capacity to implement these standards is also necessary, for governments, policy makers and industry (especially in regions such as Asia and West Asia where the regional consultative meetings identified low awareness levels).

Furthermore, each initiative tends to respond to a particular challenge, or part of the sector and while their voluntary nature has aided in uptake, collectively they lack enforcement and can have the effect of undermining the regulatory role of governments.⁴⁸ One study of the effectiveness of 15 schemes found that 40% of the schemes did not define minimum requirements of compliance or establish consequences and sanctions for situations of non-compliance, while only 20% of the schemes had a mechanism for periodic evaluation of the scheme’s effectiveness.⁴⁹ Anticipating this trend *Breaking New Ground* warned:

Efforts are needed to avoid the proliferation of competing schemes – norms, standards, guidelines, and criteria for the minerals sectors. To achieve this, effective and trusted systems of stakeholder engagement are required. These need to ensure that those with most at stake, especially the most vulnerable groups, are able to participate in appropriate and effective ways.⁵⁰

The uptake of voluntary sustainability initiatives has been aided by both the absence of state-level policy and regulation, and its presence, where such regulation requires adherence to international standards.⁵¹

45 The term regulation is used here in the broadest sense to refer to the means by which social behaviours are influenced and controlled, rather than the more specific meaning as the promulgation of rules to enforce laws. See Koop C., and Lodge, M. (2017). What is regulation? An interdisciplinary analysis. *Regulation and Governance* 11(1):95-108. <https://doi.org/10.1111/rego.12094>

46 IIED and WBCSD (2002), *Breaking New Ground*. p.xviii.

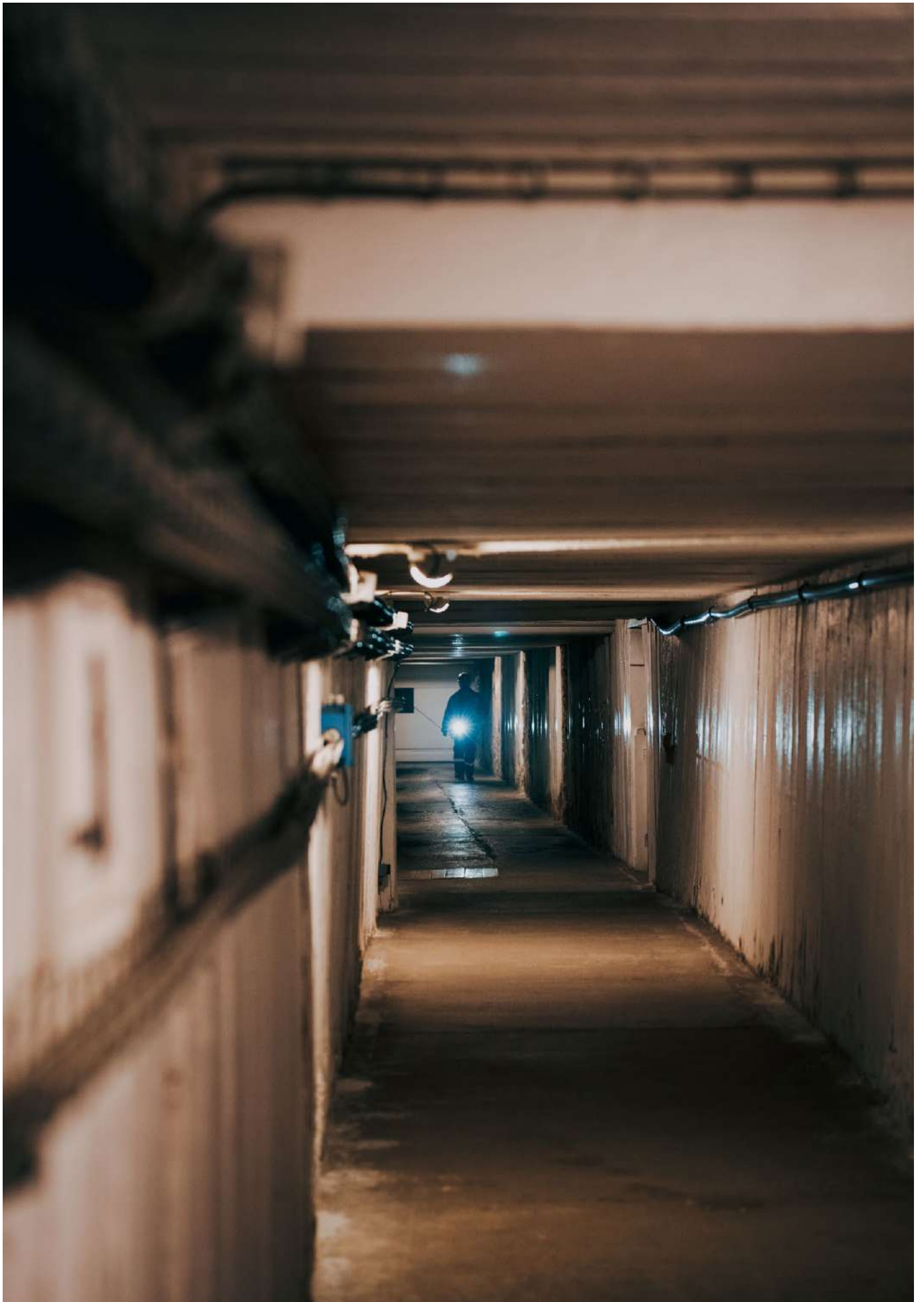
47 World Economic Forum & Resolve (2015). *Voluntary Responsible Mining Initiatives: A Review*. <https://bit.ly/2x20hwE>

48 Ayuk, E.T., Pedro, A.M., Ekins, et al. (2020). *Mineral Resource Governance in the 21st Century*.

49 Mori Junior, R. Franks, DM and Ali, S.H. (2015). *Designing Sustainability Certification for Greater Impact: An analysis of the design characteristics of 15 sustainability certification schemes in the mining industry*. June. 53p. <https://bit.ly/2TcGnre>

50 IIED and WBCSD (2002), *Breaking New Ground*. p.xxiii

51 Potts, J, Wenban-Smith, M, Turley, L and Lynch, M. (2018). *State of Sustainability Initiatives Review: Standards and the Extractive Economy*. Intergovernmental Forum on Mining, Minerals, Metals and Sustainable Development & IISD. <https://bit.ly/2TddlCn>; World Economic Forum & Resolve (2015). *Voluntary Responsible Mining Initiatives: A Review*. <https://bit.ly/2x20hwE>



Governments in extractive economies across all regions have faced challenges in regulating the mining industry. Pressure to maintain an ‘attractive investment climate,’ in some jurisdictions has meant reducing environmental and social obligations on mineral developers. Corruption has also played a role in undermining the state’s capacity to regulate. In addition, even where national minerals development legal frameworks are strong, monitoring of compliance with these legal provisions and regulations is often a challenge due to a lack of adequate human and financial resources. Coordinated action by governments can assist to overcome the challenges faced by individual governments. Frameworks such as the Africa Mining Vision⁵² and gatherings such as the Intergovernmental Forum on Mining, Minerals, Metals and Sustainable Development (IGF),⁵³ may help to promote alignment across jurisdictions to simultaneously lift standards.⁵⁴

Weak governance can be a significant driver of business risk, which is one reason that investors place conditions on finance. The IFC Performance Standards (PS) and the Equator Principles (which places standards on mining companies who lend from private sector banks), in particular, are motivated by the protection of capital from avoidable risk as well as the promotion of responsibility.⁵⁵ The PS have been one of the most successful contemporary governance initiatives and, according to one recent survey, amongst the most trusted standards in the sector.⁵⁶ More recently, institutional investors have become active on the issues of mine tailings and climate change, such as the Investor Mining and Tailings Safety Initiative and various initiatives of the Principles for Responsible Investment.

Communities and civil society organisations also play a very important regulatory and monitoring role. Social groups and labour unions can influence change, through campaigns, demonstrations, the encouragement of strikes by employees, or extracting concessions through agreements and partnerships. Local-scale collaborative governance initiatives are commonplace in the mining sector, including in the monitoring of industry performance (for example, participatory water monitoring schemes).⁵⁷ Civil society campaigns such as Fatal Transactions (‘conflict’ diamonds) and Publish What You Pay (transparency) have galvanised international action and been effective through appealing to public sentiment. A pattern has emerged where investigative research or reporting, combined with a campaign, has gone on to trigger the establishment of a number of governance initiatives, including the Kimberley Process Certification Scheme, Voluntary Principles on Security and Human Rights, Extractive Industries Transparency Initiative, EU Conflict Minerals Regulation and various initiatives on responsible cobalt. This governance dynamic has been a key driver of reform in the minerals industry, though it has prioritised highly visible and acute issues and commodities (especially consumer-facing commodities), while those with less visibility, such as the governance of sand and other domestic minerals have tended to be overlooked. Beyond advocacy, civil society often participates in the governance of the sector through partnerships with industry and government, multi-stakeholder initiatives, capacity building and education and awareness programs.

52 The Africa Mining Vision (AMV) was adopted by the African Union Heads of State at the February 2009 African Union Summit. The AMV provides a framework for integrating mining into development policy across the continent. The AMV has its origins in two initiatives: 1) the ‘Big Table’, a dialogue between African Mining Ministers and their counter parts in the OECD to discuss the management of Africa’s natural resources for growth and poverty reduction, organised by ECA and the African Development Bank in 2007; and 2) the report of the International Study Group on Africa’s Mineral Regimes.

53 The IGF was established following a proposal by South Africa and Canada at the Rio +10 Summit in Johannesburg, with membership now standing at 75 countries. The IGF Mining Policy Framework, for example, sets out principles for the regulation of issues including: environment, taxes and royalties, socio-economic benefits, closure and artisanal and small-scale mining. The IGF has undertaken assessments against the framework to benchmark member state performance; IGF (2013). IGF Mining Policy Framework: Mining and Sustainable Development. October. <https://bit.ly/2I8M2Z0>

54 Franks (2015), Mountain Movers.

55 Franks (2015), Mountain Movers.

56 World Economic Forum & Resolve (2015). Voluntary Responsible Mining Initiatives: A Review. <https://bit.ly/2x20hwE>

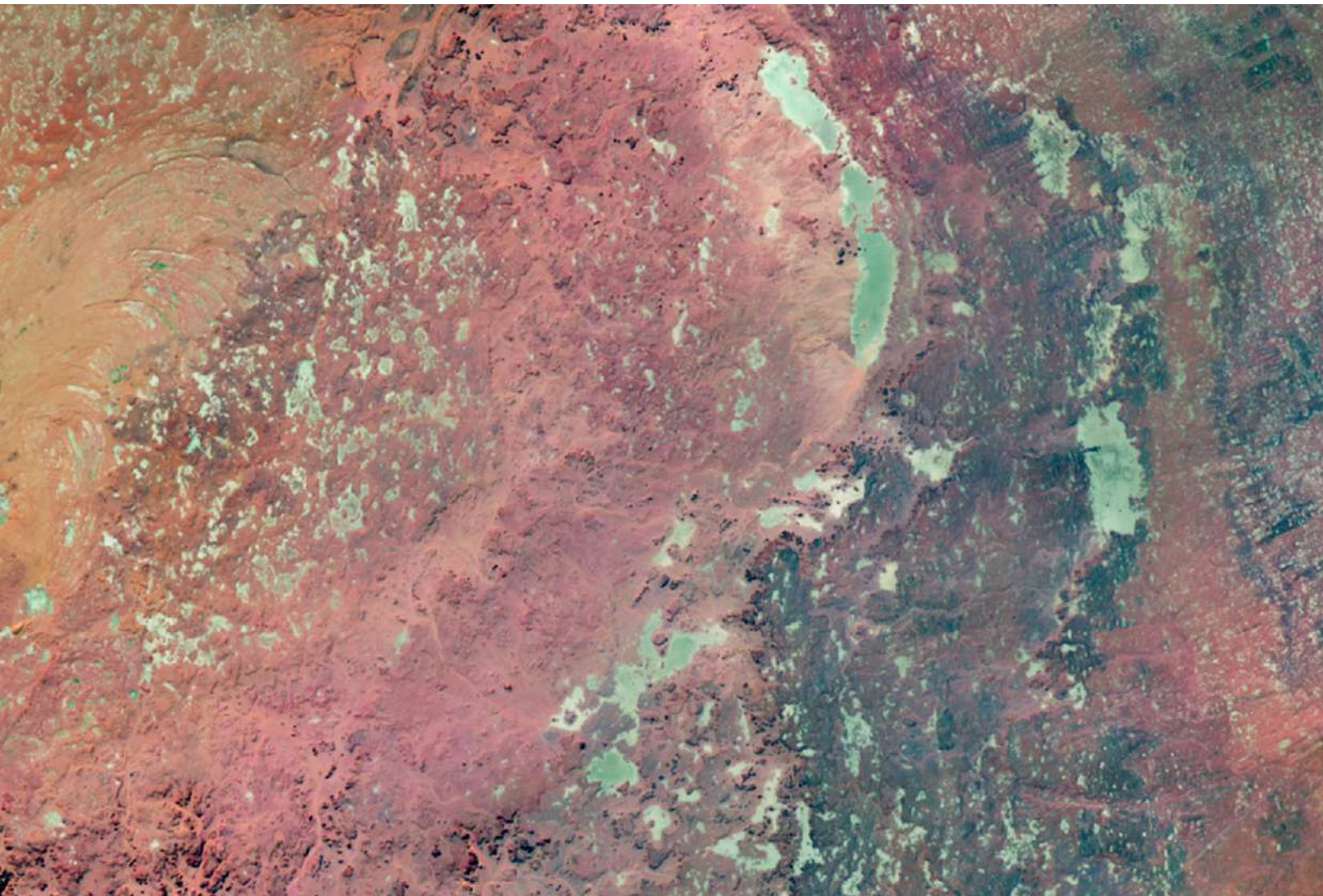
57 Porter, M, Franks, DM, Everingham, JA. (2013). Cultivating Collaboration: Lessons from initiatives to understand and manage cumulative impacts in Australian resource regions. *Resources Policy*. 38(4):657-669. <https://doi.org/10.1016/j.resourpol.2013.03.005>; Franks (2015), Mountain Movers.

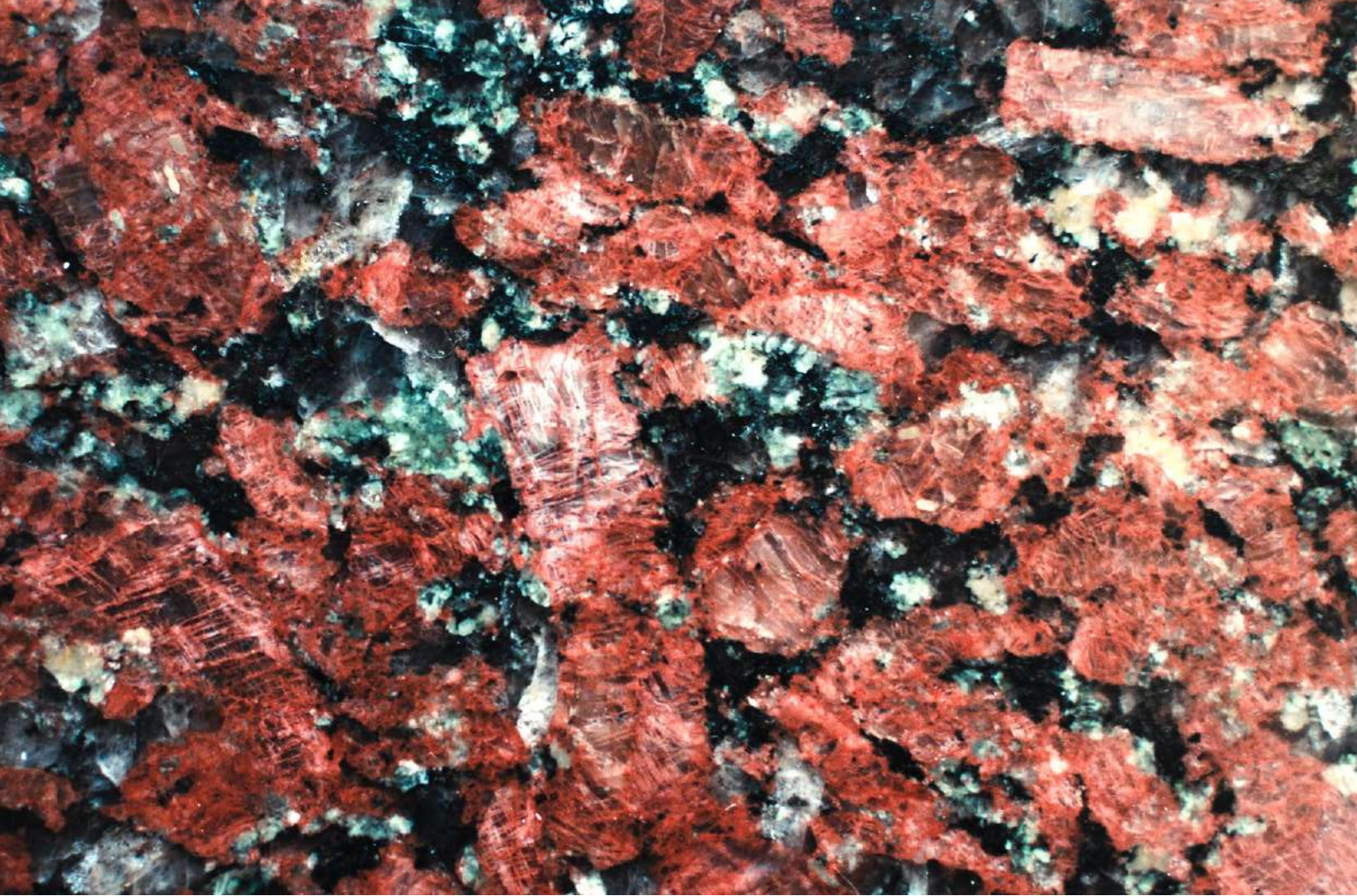
Historically, few international legal instruments have played a significant role in the governance of the mineral industry.⁵⁸ While few specific references to mineral exploration and exploitation appear in international law, treaties, conventions, and declarations on subjects peripheral to the development of natural resources have implications for extractive activities. International obligations have been defined in the past through participatory processes under the aegis of the United Nations and have addressed issues of common concern for both the Global North and Global South countries. Notable exceptions include the Espoo Convention on Environmental Impact Assessment and the United Nations Economic Commission for Europe (UNECE) Convention on the Transboundary Effects of Industrial Accidents, which aims to support countries in the prevention of, preparedness for, and response to industrial accidents,

including those at mine tailings and with possible transboundary effects. The recent entry into force of the Minamata Convention on Mercury, has the potential to significantly reshape the use of mercury in the artisanal and small-scale gold mining sector. The Minamata Convention is accompanied by capacity building programs to support artisanal and small-scale miners and the success of the treaty will potentially hinge on the ability to support practice change for informal gold miners rather than a punitive approach. Capacity building was a feature of the Communities and Small-scale Mining initiative (CASM), led by the World Bank, which was a forum of policy dialogue and reform. In the absence of CASM, a gap has developed where artisanal and small-scale miners no longer have a voice at the international level.⁵⁹

58 While international agreements have not been a significant feature of mineral sector governance, this is not to say international institutions and action have not been meaningful, as illustrated in Text Box 1; Bodle, R., Stockhaus, H., Sina, S., Gerstetter, C., Donat, L., Bach, I., Hermann, A., Manhart, A., Schüler, D., Gailhofer G., Lörcher, M., Feldt, H., Lozano Castro V., Baudin, I., Soerensen A.M. (2020). International Governance for Environmentally Sound Supply of Raw Materials – Policy Options and Recommendations. Environmental Research of the Federal Ministry for the Environment, Nature Conservation and Nuclear Safety Project No. (FKZ) 3716 32 103 0 Report No. FB000166. <https://bit.ly/32RqN7X>

59 Franks, et al., (2020). Voices of artisanal and small-scale mining, visions of the future, *Extractive Industries and Society* 7(2):505-511. <https://doi.org/10.1016/j.exis.2020.01.011>





5. Recommendations and options for priority actions









This section of the report provides an overview of the key issues raised during the consultations, and distils recommendations and suggested actions. While states are responsible for the governance of mineral resources within their jurisdictions, international cooperation can support states to ensure that domestic governance efforts are aligned with actions towards the achievement of sustainable and equitable development. This report focuses on the areas where international cooperation can be most effective.

- a. Material intensity of recovery following the coronavirus disease (COVID-19) Pandemic
- b. Platforms for cooperation and capacity-building
- c. Tailings management
- d. Harmonization and alignment of governance initiatives
- e. Artisanal and small-scale mining
- f. Mine waste recycling, re-use and circularity
- g. National-level governance

These issues are interrelated and overlapping so may have been delineated by others in different ways. The analysis of the findings considers those issues which converged on actionable ideas as raised during the consultation process.

The below graphic shows the themes that were identified in each region, illustrating the commonalities across the regions covered.

In the following sections, we will explore each theme and how its impacts align and differ throughout the regions.

 Region	 Material intensity of COVID-19 recovery 42/111 submissions (including 13 governments)	 Cooperation & capacity-building platforms 45/111 submissions (including 16 governments)	 Tailings management 50/111 submissions (including 18 governments)	 Harmonization and alignment of governance initiatives 53/111 submissions (including 23 governments)	 Artisanal and small-scale mining 52/111 submissions (including 22 governments)	 Mine waste recycling, re-use and circularity 34/111 submissions (including 16 governments)	 National-level governance 48/111 submissions (including 14 governments)
Africa							
Asia and the Pacific							
Europe and Caucasus							
Latin America & the Caribbean							
North America							
West Asia							



a. Material intensity of recovery following the coronavirus disease (COVID-19) pandemic

Recovery from COVID-19 is an immediate global challenge, and one that is likely to impact the mining sector. As the pandemic continues to disrupt lives and livelihoods, and short-term emergency responses are put in place, governments must also consider medium- and long-term recovery aimed at rapid economic development, and “building back better”.⁶⁰

The mining sector - both large and small scale, metals and non-metals – will play a key role in providing the material for recovery.

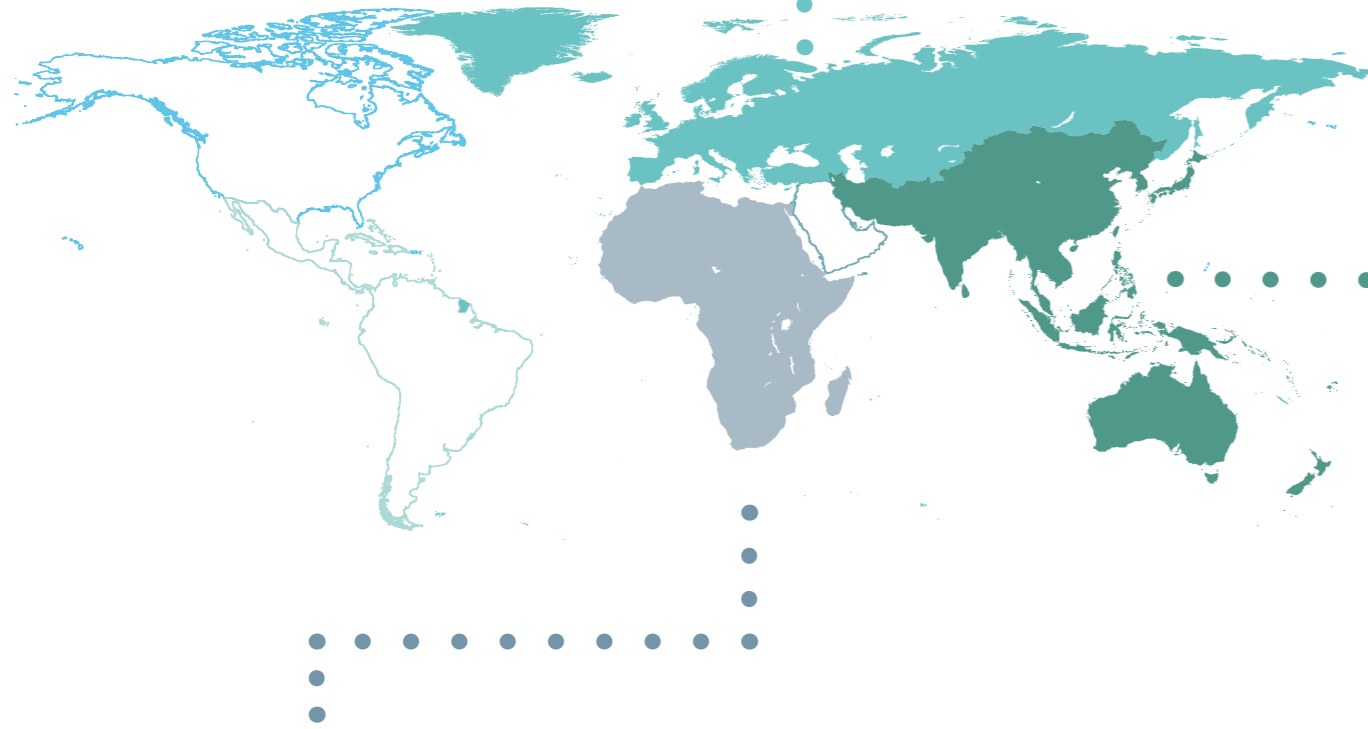
During the consultations, experiences were shared around the many and varied impacts of COVID-19 on lives, livelihoods and societies. Some of the notable trends included:

- Increases in artisanal and small-scale mining activity as other livelihood options became scarcer (particularly in Africa, Asia and Latin America). An increase in artisanal and small-scale gold mining may also be likely due to high gold prices.
- The decline of industries such as tourism, and disruptions to air and sea trade, have exposed vulnerabilities in countries with limited economic diversification (particularly in the Pacific and Caribbean).

- There are high expectations of the mining industry in ‘mining-dependent’ economies to be the engine for economic recovery.
- The pandemic has exacerbated the impacts of other emergencies and natural disasters. It has highlighted the role of local material resilience (e.g. for infrastructure) and the need for rapid and responsible mobilization of the sector (e.g. for sand and aggregates).
- Push back on existing or proposed legislation addressing issues perceived as barriers to investment has been further exacerbated during Covid-19, including: environmental and social protection, due diligence, project approvals, accountability and transparency.

⁶⁰ ADB 2019 Build Back Better: What Is It, and What Should It Be? (EWP No. 600) <https://www.adb.org/sites/default/files/publication/544956/ewp-600-build-back-better.pdf>

Key issues and future actions:



Africa

- 1** *Improving coordination of ASM and development minerals for rapid economic development (including environmental and social impact monitoring)*
 Coordinating mineral resource governance with disaster-preparedness planning should be a priority, as should developing guidelines and standards for sustainable sourcing of sand and aggregate for infrastructure (especially for an infrastructure-led COVID recovery).
- 2** *Increased ASM due to shortage of economic opportunities*
 Increases in ASM due to a shortage of other economic opportunities will need to be monitored and supported by governments, local organisations and, in some cases, large scale mining operations.
- 3** *Broad economic development planning*
 Governments need to plan for how mining can support broad economic development. Governments will need to balance company requests for tax breaks with the need for revenues for development projects.

Europe and Caucasus

- 1** *Risk management*
 The need for governments and industry to better comply with the mitigation hierarchy in all phases was raised as a key challenge. Emphasis was placed on the requirement for compliance starting with environment and social assessment before mining operations, throughout operations, and also at the end of life phase of a tailings facility. Disaster risk management and resilience need to be a focus going forward.
- 2** *Roll back of standards*
 The COVID-19 recovery period is going to be particularly challenging as there will be reduced budgets and potentially lower environmental and other planning standards. It is important for UNEA to reinforce that the minerals sector can contribute to recovery, but only if appropriate mineral resource governance is in place.

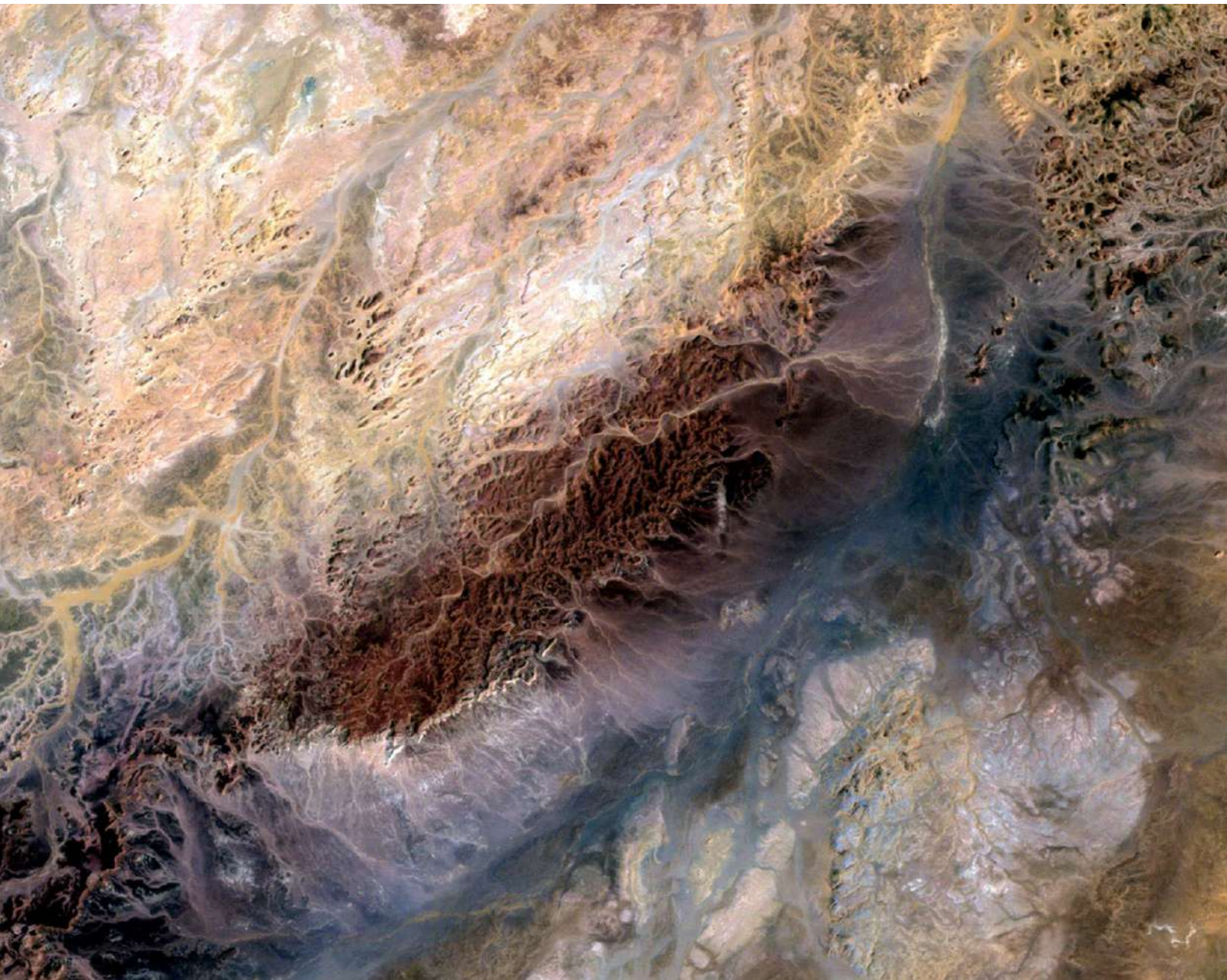
 Particular issues mentioned in this context included: tailings storage facilities, waste water, public disclosure, reclamation projects, assets in care and maintenance, projects impacting indigenous peoples and local communities.

Asia and the Pacific

- 1** *Concern for the future and realigning priorities*
 Improving the long-term focus of regulators, miners and other stakeholders to ensure that existing social, environmental, cultural, and economic capitals are considered when designating or approving mining areas. Intergenerational equity should be taken into account.
- 2** *Long-term impact of mining*
 The mining industry's contributions to climate change, land use change and biodiversity loss have been made more pronounced particularly in light of the events 2020– unprecedented floods, fires and the onset and global spread of COVID-19. There is an urgent need for the industry to understand and take responsibility for the environmental impacts of its operations.
- 3** *Deep Sea Mining*
 Deep sea mining (DSM) is a challenge for governance in the region. Many Pacific Island Territories are now considering this prospect as a means to build more resilience to their economies due to the downturn in tourism from COVID19 lockdowns. However, like in other regions, most countries lack the legislation or policy to guide even the exploration for DSM.

Recommendation

Minerals, in particular in the context of infrastructure development, and the metals associated with renewable energy will play an important role in the infrastructure-related stimulus packages to build back better following the coronavirus disease (COVID-19) pandemic. The sourcing of those minerals from sustainable and responsible mineral supply chains, in particular mineral aggregates, could play an important role in “building back better”. In that context, the Environment Assembly may wish to request UNEP to convene a dialogue on the role of mineral resources in “building back better” following the COVID-19 pandemic. That dialogue could be enhanced through parallel efforts to consider (a) the role of the minerals sector, especially construction materials, in disaster recovery and planning; and (b) the strengthening of the technical and sustainability standards of development banks for the sourcing of construction materials, including sand.





b. Platforms for cooperation and capacity-building

Mineral resource governance is complex and multi-faceted. Throughout the consultations, issues that span the breadth of the sector were discussed – from engineering of tailings dams, to biodiversity monitoring, water processing, human rights due diligence, land tenure issues, and more. A recurring theme was that while knowledge and experience existed on some topics in some places, there were many who could benefit from knowledge sharing, cooperation and capacity building.

The 'know how' within existing institutions, businesses and communities is seen as a valuable resource for countries and regions at different stages in terms of their mineral resource governance development. Many of the outstanding issues in the sector and beyond will require multi-disciplinary, multi-stakeholder collaboration to resolve and manage. Recognition and respect for local and traditional knowledge is key to preventing harm to local communities.

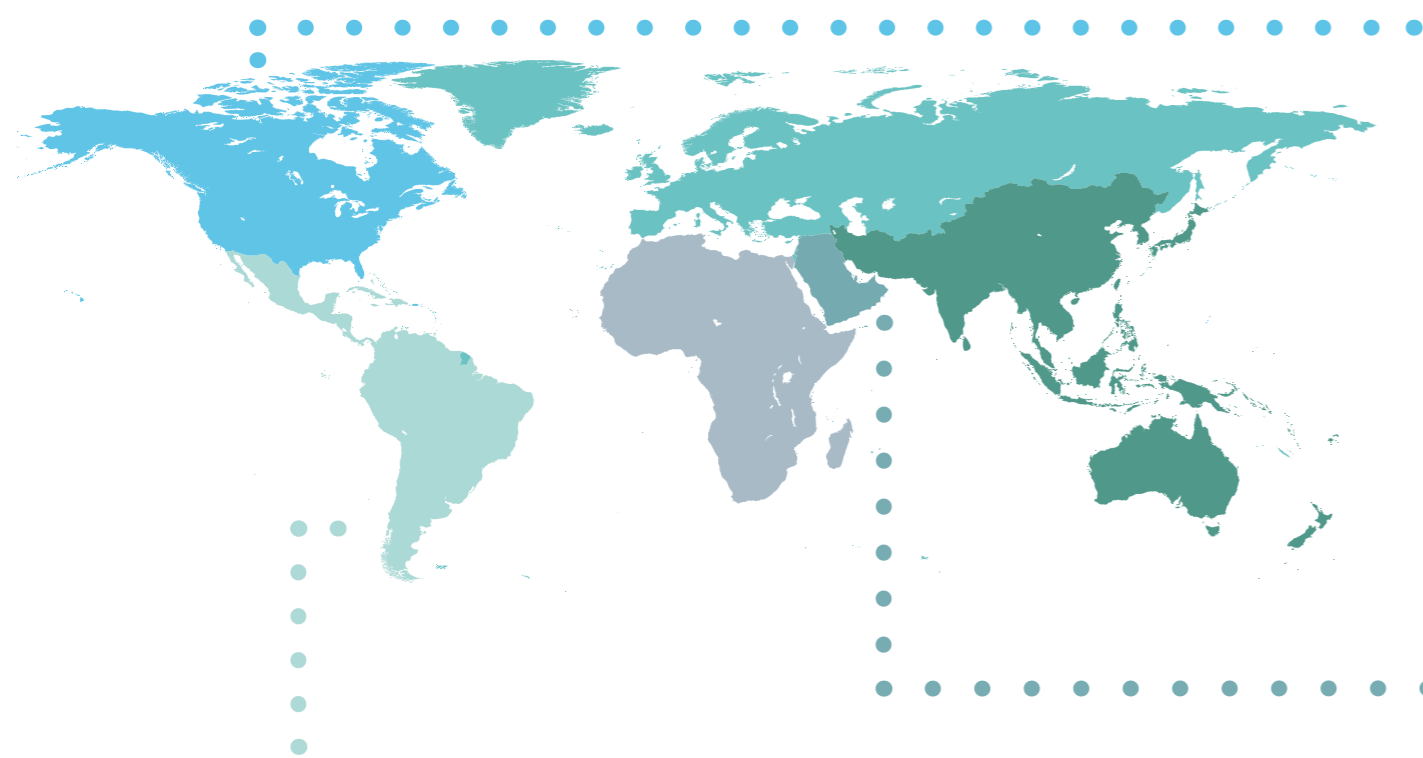
During the consultations, concerns were raised about current mineral resource governance which could be improved by cooperation and capacity building, including:

- Widespread exclusion of marginalised groups (including women, children and youth, indigenous and tribal peoples, and community groups generally) from decisions that impact their lives and livelihoods, such as project-level decision-making and policy setting discussions.

- The concerns raised reflect the findings of a 2020 Global Witness report, *Defending Tomorrow*⁶¹ that documented the threats and harm to land and environmental defenders. The majority of these threats and harm were found to be located in the extractive industries.
- National and sub-national governance capacity to implement global standards is seen to be lacking in many countries.
- Due diligence lacks rigour and consistency, including application beyond conflict settings.
- Collaboration will be required to deal with many of the legacy issues related to orphaned and abandoned mines, management of existing operations and future projects.

61 https://www.globalwitness.org/documents/19939/Defending_Tomorrow_EN_low_res_-_July_2020.pdf

Key issues and future actions:



Latin America and The Caribbean

- 1 **Inclusion of civil society and impacted communities**
Some national mining governance frameworks are outdated, particularly with respect to the inclusion of civil society and impacted community groups in assessment, planning, approvals and ongoing monitoring processes.
- 2 **Safety of land and environmental defenders**
There were also concerns reported about the safety of land and environmental defenders which could be better addressed by, inter alia, accountable and transparent governance systems.
- 3 **Participation of indigenous peoples**
Another key issue raised relates to the participation of indigenous peoples where mining is set to take place in their lands. Information is often only available in inappropriate formats, and mechanisms for avoiding or resolving conflict often do not exist.
- 4 **Legacy issues**
A lack of participation in environmental and social impact assessments may lead to certain issues not receiving the attention they deserve. This in turn leads to an accumulation of social impacts that leave legacies which end up eroding trust between the actors in governance.
- 5 **Environmental protection**
Environmental protection is a critical area for future work. Suggested activities included:
 - capacity building/technical assistance for countries developing regulation of mining activities such as land use permits, water permits etc.
 - capacity building initiatives on the inspection, enforcement and sanctions regimes available
 - encourage transparency, participatory monitoring and accountability within the industry.

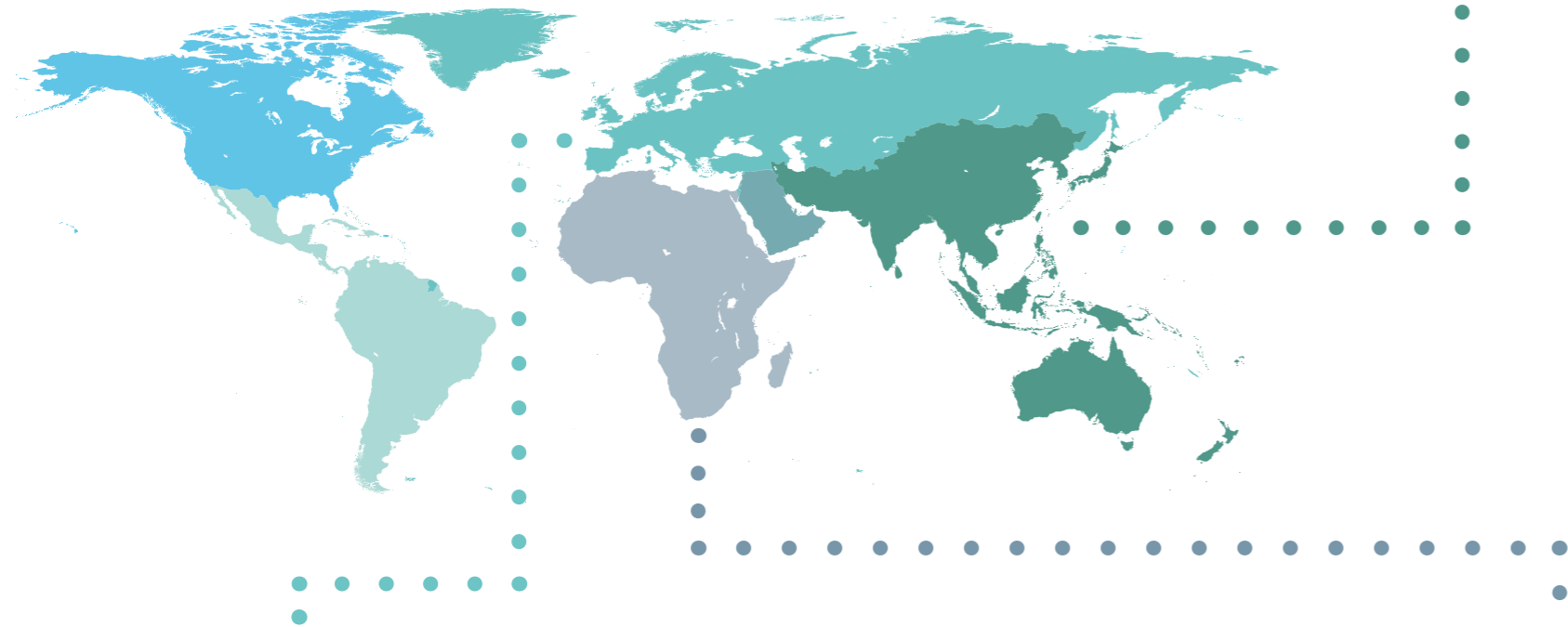
North America

- 1 **Inclusion – local community, gender and indigenous peoples**
There still exist barriers to inclusion in decision-making about mining that need to be addressed.
- 2 **Human-rights based approach**
Mineral resource governance policies should be updated to include human rights due diligence and to incorporate the provisions of the UN Declaration on the Rights of Indigenous Peoples.
- 3 **Responsible mineral supply chains**
The challenge of ensuring responsible mineral supply chains is starting to receive more attention from companies with high sourcing standards, but could be broadened. It was strongly felt that supply chain due diligence for all private actors should become the norm.
- 4 **Cross-sector dialogue**
Meaningful dialogue about the ongoing role of mining in a carbon-constrained world will be needed across mineral-producing and mineral-using sectors, as well as the finance sector and impacted communities.

West Asia

- 1 **Awareness of responsible business practices**
There is a need for greater awareness amongst business leaders about the importance of the social license to operate. Opportunities exist for sustainable partnerships between business leaders and policy makers.
- 2 **Information access**
Access to information was identified as an issue for researchers and the general public, who report difficulties in accessing information on mineral resources from the official information channels, whether they be governments or companies.
- 3 **Technical assistance and capacity building**
Technical assistance and capacity building should be bolstered, particularly in relation to the development, compliance and enforcement of new and existing regulation. There is also a need for more information, technical assistance and capacity building regarding legislation, methods and approaches to deal with, inter alia, the impact of sand extraction, especially beaches, on biodiversity, and solutions, studies and promising research on the topic of the feasibility of using desert sands as construction aggregate.

Key issues and future actions:



Europe and Caucasus

1 *Improve multi-stakeholder knowledge sharing to improve the holistic effectiveness of governance*

A wide variety of areas for improvement were noted including alignment with the SDGs, the realisation of human rights and indigenous peoples' rights, tailings management, addressing legacy issues of abandoned mines, and building environmental, social and geological knowledge bases.

2 *Continue dialogue on improving due diligence, reporting and transparency*

The dialogue processes underpinning reporting and transparency initiatives should continue to be supported. Options for incorporating or expanding new areas of governance beyond finance should be explored with the aim of improving holistic governance of the sector.

Further work is needed to encourage responsible engagement with ASM, rather than ignoring the industry. Formalisation of ASM is seen as beneficial, and an important point of access in terms of addressing environmental impacts of mining.

3 *Further cross-industry partnerships (e.g. Global Battery Alliance)*

Opportunities to connect with industries at all stages of the supply chain are an opportunity to raise awareness of minerals governance issues, and provide further momentum supporting responsible resource use and management.

Asia and the Pacific

1 *Shrinking civic space and community participation*

Concerns were expressed about the 'shrinking space' available for affected communities, including marginalised and vulnerable groups, to articulate, challenge and resist mining operations that threaten their rights and livelihoods.

2 *Role of independent observers*

Attention should be given to the role of intermediaries and independent observers in improving transparency via disclosure of risks and impacts.

3 *Concern for the future*

Attention should be placed on improving the long-term focus of regulators, miners and other stakeholders to ensure that existing social, environmental, cultural, and economic capitals are taken into account when designating or approving mining areas. Intergenerational equity should be considered in decision-making around mining operations.

4 *Technical assistance and capacity building*

Many opportunities for technical assistance and capacity building should be pursued, particularly in relation to compliance and enforcement of new and existing regulation. Promoting coordination and connection between different parts of governments was also seen as an opportunity.

Africa

1 *Public participation in decision-making*

There are valid concerns that not enough is being done to make sure all stakeholders have voice or influence in the governance of the sector. A lack of capacity for communities to participate in existing processes is one of many reasons for the lack of voice. In particular, there is an urgent need to strengthen support for women's participation in key decision-making spaces.

2 *Public accountability*

The public accountability of corporations, shareholders, boards and directors needs to be brought to the fore. This is particularly relevant around issues of ongoing disclosure of risk/impacts throughout the mine lifecycle, transparency about monitoring and evaluation, liability for harm, and links to corruption or conflicts of interest.

3 *Participation and inclusion in supply chains*

Empowering and improving connections to local supply chains and supporting business develop to service large-scale mining projects.



Recommendation

To accelerate action on sustainable mineral governance, the UN Environment Assembly may wish to encourage Member States to develop and advance, with the support of UNEP and in cooperation with other relevant organizations, the scoping of mechanisms to enhance implementation of existing governance initiatives,

share knowledge across regional and international boundaries, and enhance connections between different stakeholder groups throughout the minerals supply chain.⁶² The following could be considered:

- a. Establish an intergovernmental working group on the sustainable development of minerals and metals to identify priorities for future action and advance specific themes;
- b. Expand and regionalize existing forums through wider participation to include environment and mining ministries; ministerial-level representation and engagement; partnership with regional economic communities; and enhanced dialogue between producers, financiers and consumers;
- c. Dialogue with Member States and multi-stakeholder governance initiatives to set minimum standards, which should take a holistic and human rights approach and consider effective transparency and accountability aspects, and may include options for legal remedies and minimum standards for community benefit-sharing;
- d. Establish a funding mechanism to scale up capacity-building, knowledge-sharing and cooperation between Member States and other stakeholders in mineral resource governance.

⁶² For instance, environmental and mining ministries, mining companies, financiers, manufacturers, civil-society organizations, affected groups and others.



c. Tailings management

Tailings management has been a focus of the sector in the wake of recent tailings storage failures and the development of the Global Industry Standard on Tailings Management.⁶³ Opportunity exists for improvements in tailings management through, inter alia, the successful implementation of the Global Industry Standard on Tailings Management.

Some of the common tailings management issues raised during the consultations include:

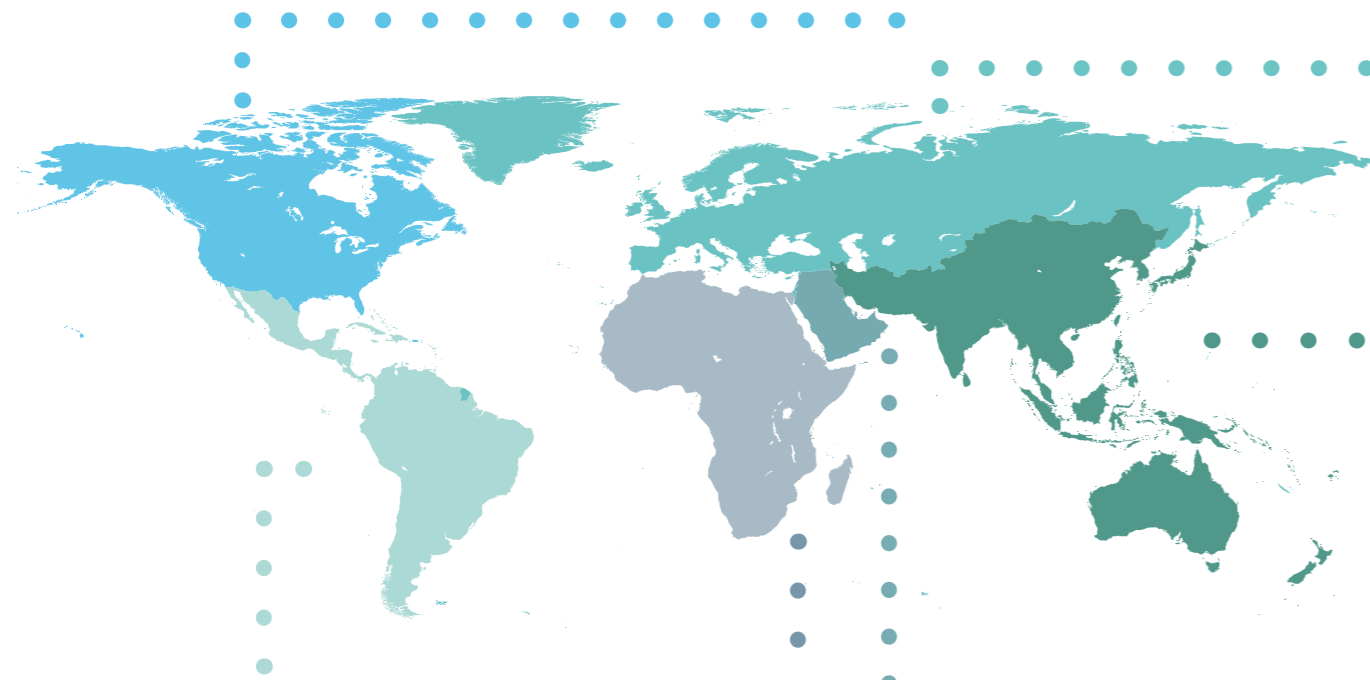
- Legacy issues relating to tailings are a significant issue globally, particularly where liability and responsibility have reverted to under-resourced states.
- Climate change is compounding legacy issues in some locations due to fluctuations in rainfall.
- Many jurisdictions need to improve legislative requirements for tailings storage and management (e.g. in relation to planning and approval, bonds, relinquishment, rehabilitation, and community safety).

- Community engagement and participation in decision making around the siting, impact and management of tailings storage facilities is a distinct gap in most places. Risk management and emergency response need to be prioritised for communities living near tailings storage facilities.
- There is widespread interest in opportunities for recycling and reuse of minerals and materials that would otherwise be discarded as tailings, particularly for aggregate⁶⁴ or reprocessing for valuable or rare minerals, but little implementation. Notable regulatory barriers also exist.
- Trends in mining operations (e.g. mine lifecycles, automation, standards in tailings production and management, economic development expectations, and increasing obligations around human rights due diligence) also need to be taken into account.

⁶³ Global Industry Standard on Tailings Management 2020 <https://globaltailingsreview.org/global-industry-standard/>

⁶⁴ Gallagher, L., Golev, A., Vander Velpen, A., Stringer, M., Friot, D., Reimer Lynggaard, J., Franks, D.M. (2021). Alternative Sand from Mineral Ores: A potential new solution to the global sand sustainability crisis. Interim Report. The University of Queensland & The University of Geneva.

Key issues and future actions:



Latin America and The Caribbean

- 1 **Tailings storage**
Issues related to tailings were highlighted. There is a need for participation of all stakeholders in decisions around the construction of mine tailings storage facilities.
- 2 **Tailings reclamation**
Additional inputs focused on mine tailings reclamation in the face of depleting mineral resources, or the high expenses of extracting minerals in the current economic climate.
- 3 **Global Industry Standard on Tailings Management**
Tailings design and safety are significant concerns throughout the region. The Global Industry Standard on Tailings Management was believed to represent a step forward in the management of new and currently operating facilities. However, concerns remain about legacy tailings storage facilities, particularly those that were designed 50-60 years ago and whose safety may be impacted by climate change.

Africa

- 1 **Water and tailings, mine closure**
Environmental impacts related to water and tailings were raised as areas in need of improvement. Appropriate legislation, policies and other governance best practices, may help to ensure rehabilitation bonds are sufficient and encourage progressive rehabilitation and appropriate mine closure.
- 2 **Global Industry Standard on Tailings Management**
It is hoped that the new Global Industry Standard on Tailings Management will have wide take-up, that an independent body will be formed to oversee implementation, and that standards of practice will continue to improve.

North America

- 1 **Tailings storage and environmental legacies**
Several concerns centred on the lack of effective and timely response to tailings failures, contamination issues and legacy mines. Perpetual obligations now held by the government are the result of poor legislation and low environmental bonds.
- 2 **Green transition**
Improvements in environmental standards and tailings design will be needed to support the green transition. Countries need to consider (or strengthen) bans against unsafe practices and mining in high risk or high environmental value areas.

Europe And Caucasus

- 1 **Improve tailings waste management technology and planning, including disaster risk reduction and resilience**
Governments and industry need to better comply with mitigation hierarchy in all phases - starting with environment and social assessment before mining operations, throughout operations, and also at the end of life phase of a tailings facility. Disaster risk management and resilience need to be a focus going forward.

Asia and The Pacific

- 1 **Tailings safety and environmental impact**
Many long-standing issues relating to mine tailings and poor remediation exist in the Asia Pacific region. Poor practice in siting and management of tailings is reportedly still occurring, and communities and the environment continue to be negatively impacted by mine tailings.
- 2 **Global Industry Standard on Tailings Management**
The new Global Industry Standard on Tailings Management was seen as a positive step.

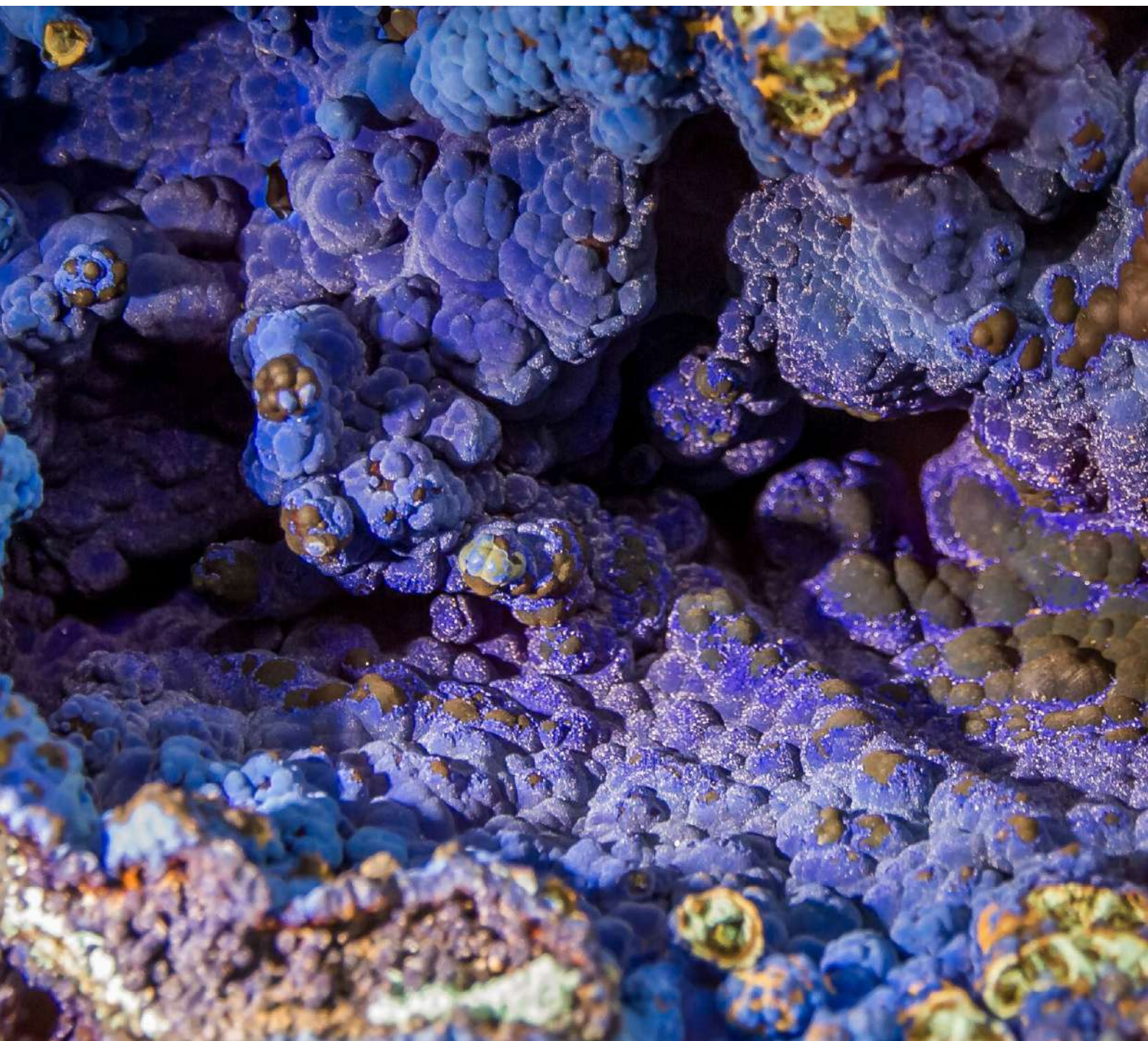
West Asia

- 1 **Legislation and policy**
Participants called for more information regarding legislation, methods and approaches to deal with the use of treated wastes and raw materials, and the feasibility of removing chemicals from tailing dams.

Recommendation

The Global Industry Standard on Tailings Management was recognized as a significant advance in tailings governance, with the potential to improve safety and environmental outcomes. The UN Environment Assembly may wish to:

- a. Highlight the importance of the establishment of an independent entity to oversee, support and provide assurance on the implementation of the Standard;
- b. Encourage Member States to prioritize the decommissioning, removal and rehabilitation of unsafe facilities, in particular those with no responsible owner;
- c. Encourage continued cooperation among United Nations agencies and relevant stakeholders to strengthen tailing governance and request the Executive Director of UNEP to collate and commission further research on innovations in tailings management, reduction, recycling and re-use, in particular the potential to re-use benign tailings material as an alternative to natural aggregate in the construction and land reclamation sectors, and to further develop the Global Tailings Portal to expand access to information.





d. Harmonization and alignment of governance initiatives

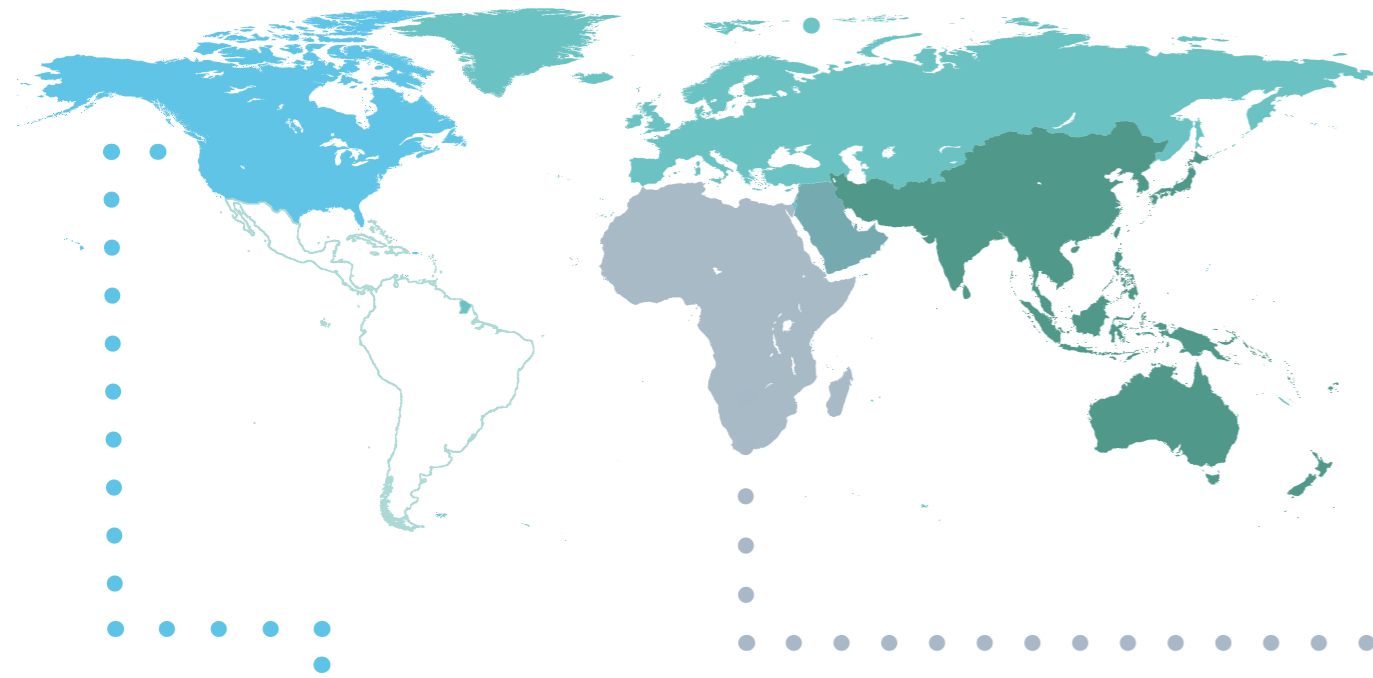
A large number and wide variety of voluntary and compulsory initiatives exist for the governance of mineral resources. Some initiatives are focused on a single commodity or a single region, while others have more wide-ranging and comprehensive mandates. The proliferation of initiatives has been referred to as a “forest of initiatives”, suggesting that it could be difficult to know where to start and how to navigate the different initiatives as a government, industry or community stakeholder.

There has been a decrease in social tolerance for environmental damage, as well as social harm and worker exploitation; while more calls are being made for benefit-sharing, avoidance of harm and access to remedy. These issues must be considered in the harmonization and alignment of governance initiatives.

Over the course of the implementation of UNEA resolution 4/19, a number of common points emerged:

- There is a lot of potential to scale-up and extend existing initiatives, building on the experience of implementation around the world.
- Significant problems in mineral resource governance still remain, despite the development of many multi-stakeholder initiatives, performance standards and improvements in legislation.
- There was some interest from a range of regions in discussing whether minimum standards could be developed at a global level (e.g. for legal remedy, community benefit sharing).
- Grievance mechanisms and redress for environmental, social and/or cultural harm are not currently meeting community expectations.
- Supply chain approaches have an important role to play, and have become increasingly common. Further work should address non-conflict settings and ASM.
- There is a need for strong regulation, better compliance mechanisms and robust enforcement on issues such as ensuring the realisation of human rights, indigenous peoples' rights, protecting against environmental harm, and liability and accountability issues concerning companies operating outside their home jurisdiction.

Key issues and future actions:



North America

- 1** *Scaling-up assistance and building on existing frameworks*
The need to scale-up existing initiatives was identified, along with an accompanying suggestion to extend and elevate these initiatives to environmental, social and governance issues.
- 2** *Development of initiatives*
Opportunities for holistic, integrated and ongoing capacity building should be the focus of the wide spectrum minerals governance issues.
- 3** *Responsible mineral supply chains*
The challenge of ensuring responsible mineral supply chains is starting to receive more attention from companies with high sourcing standards but could be broadened. It was strongly felt that supply chain due diligence for all private actors should become the norm.
- 4** *Move from voluntary to compulsory standards*
Voluntary initiatives for mineral resource governance have shown some weakness, so it is important for countries to consider where these standards should be incorporated into policy and regulation. Opportunities for remedy and redress were also considered important.

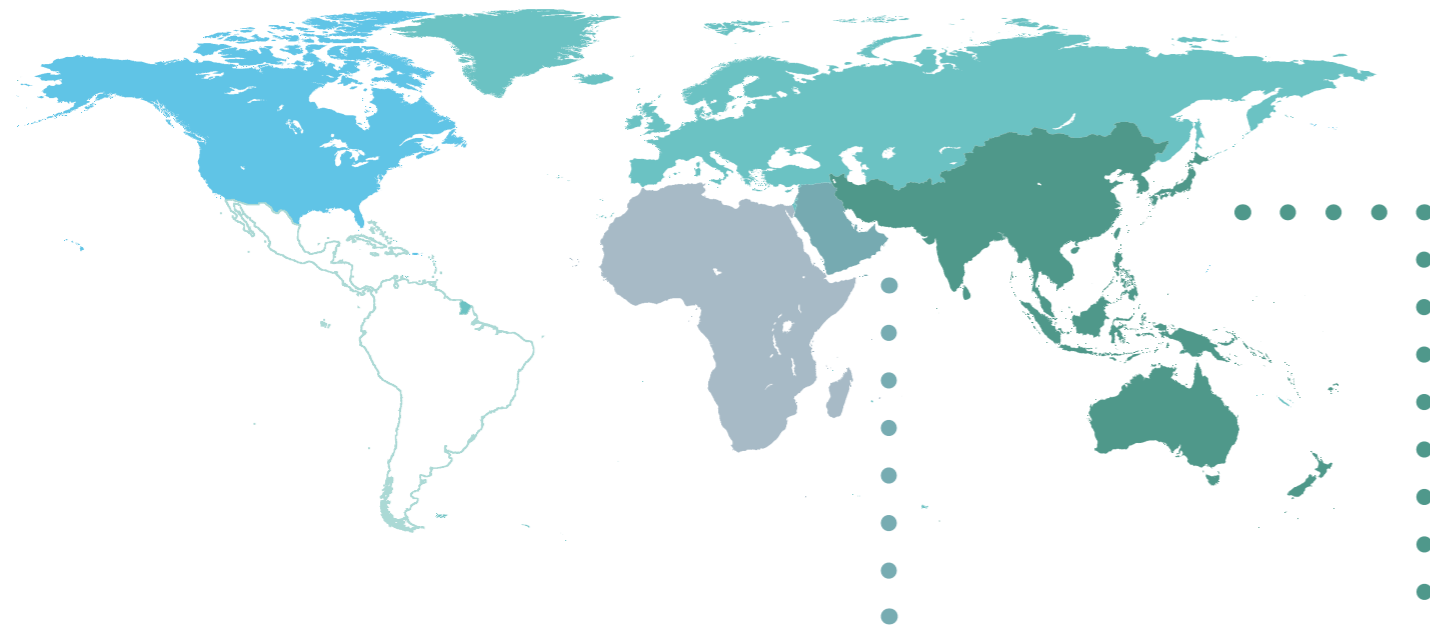
Europe and Caucasus

- 1** *Develop any future work by building on, strengthening and harmonizing existing initiatives*
The proliferation of standards and initiatives presents a challenge for miners, governments and communities to navigate and prioritise.
- 2** *Continue dialogue on improving reporting and transparency*
The dialogue processes underpinning reporting and transparency initiatives should continue to be supported. Options for incorporating or expanding new areas of governance beyond finance should be explored with the aim of improving holistic governance of the sector.

Africa

- 1** *Challenges with implementation*
Implementation of initiatives lack consistency, enforcement and compliance. Community and governments often lack awareness, resources and capacity to respond to these initiatives.
- 2** *Conflicting priorities*
Issues with accountability, transparency and potential conflict with government priorities for economic development frequently interfere with legal and voluntary efforts to improve progress on responsible or sustainable development of the sector.
- 3** *Challenge of multiple standards*
The proliferation of norms, standards and toolkits is perceived to be a challenge for implementation, either resulting in confusion about what standards to follow or encouraging a 'race to the bottom' to compete for international investment. The multiplicity of standards challenges already-stretched government capacity to respond efficiently.

Key issues and future actions:

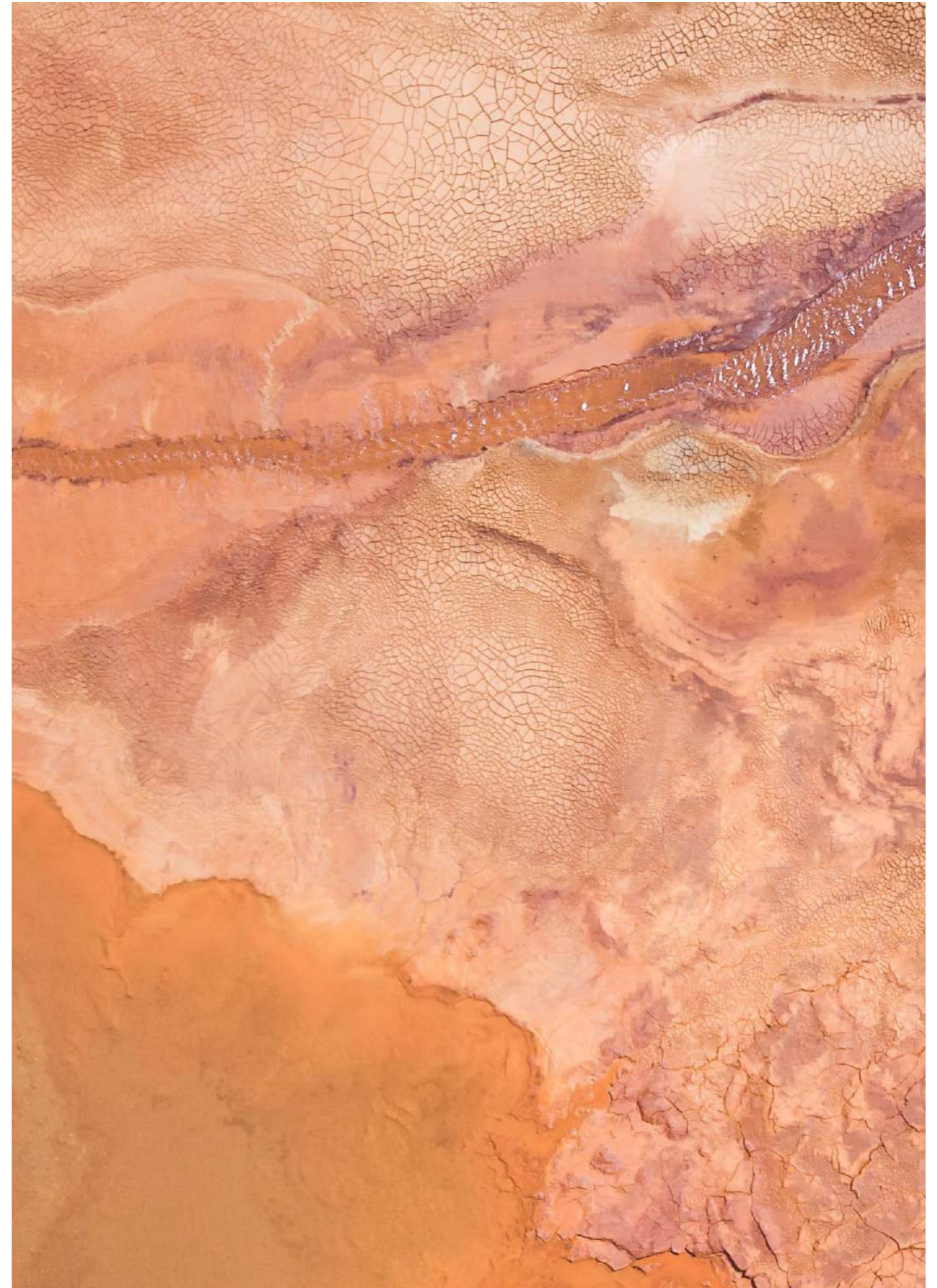


West Asia

- 1** *Harmonisation of mining laws, policies and governance initiatives*
Minerals development traverses several government departments and ministries. However, there exists a lack of coordination of mining initiatives and laws between the relevant ministries, such as the ministries of mining, environment and energy, and other ministries.

Asia and the Pacific

- 1** *Corporate accountability*
Despite a range of examples of harm caused by mining companies, there is a lack of public understanding or accessibility of accountability mechanisms. There is no broad consensus on minimum environmental and social standards, and remedy is often inadequate.
- 2** *Re-evaluation of the social contract for mining*
Attitudes towards mining, along with technological developments, may be changing the 'social contract' for mining
- 3** *Minimum standards*
UNEA should consider actively recommending minimum standards, in the spirit of the ILO labour standards and the IFC standards. These should take a holistic and human rights approach, and involve a dialogue between stakeholders about effective transparency and accountability.



Recommendation

To streamline dialogue among mineral governance initiatives, as well as among stakeholders in general, the UN Environment Assembly may wish to encourage and formalize discussions about the alignment and harmonization of those initiatives. Options for incorporating or expanding new areas of governance, especially enhancement of the coverage of environmental issues, could be explored with the aim of improving holistic governance of the sector. Aspects that could be further explored include the following:

- a. Dialogue between Member States and partners on potential avenues for mainstreaming existing voluntary initiatives into national laws and regulatory instruments;
- b. Collaborative initiatives for capacity-building, focusing on “building from below” in order to reduce power asymmetries at the supply base;
- c. Development and implementation of a harmonized approach to auditing existing governance initiatives to enhance efficiency and coherence;
- d. Sharing of information to enable consumers, shareholders and other stakeholders to make informed decisions.





e. Artisanal and small-scale mining

Artisanal and small-scale mining (ASM) is a global concern. Most obviously for the countries where it occurs, but also for the countries where its products are used. ASM provides or contributes to the livelihood of millions of people globally and can be a tool for economic transformation where it is properly managed and supported.⁶⁵ The challenges to achieving responsible ASM are recognised by governments, particularly where ASM is connected to illicit financial flows, or significant environmental impacts. Managing protected areas (e.g. biodiversity reserves) and unsafe areas (e.g. tailings storage facilities of large-scale mines) is a continual challenge. Understanding the local development conditions, drivers and the impact of ASM on local economies is critical to effective management. Innovative practices and collaborative initiatives have been successful in many locations.

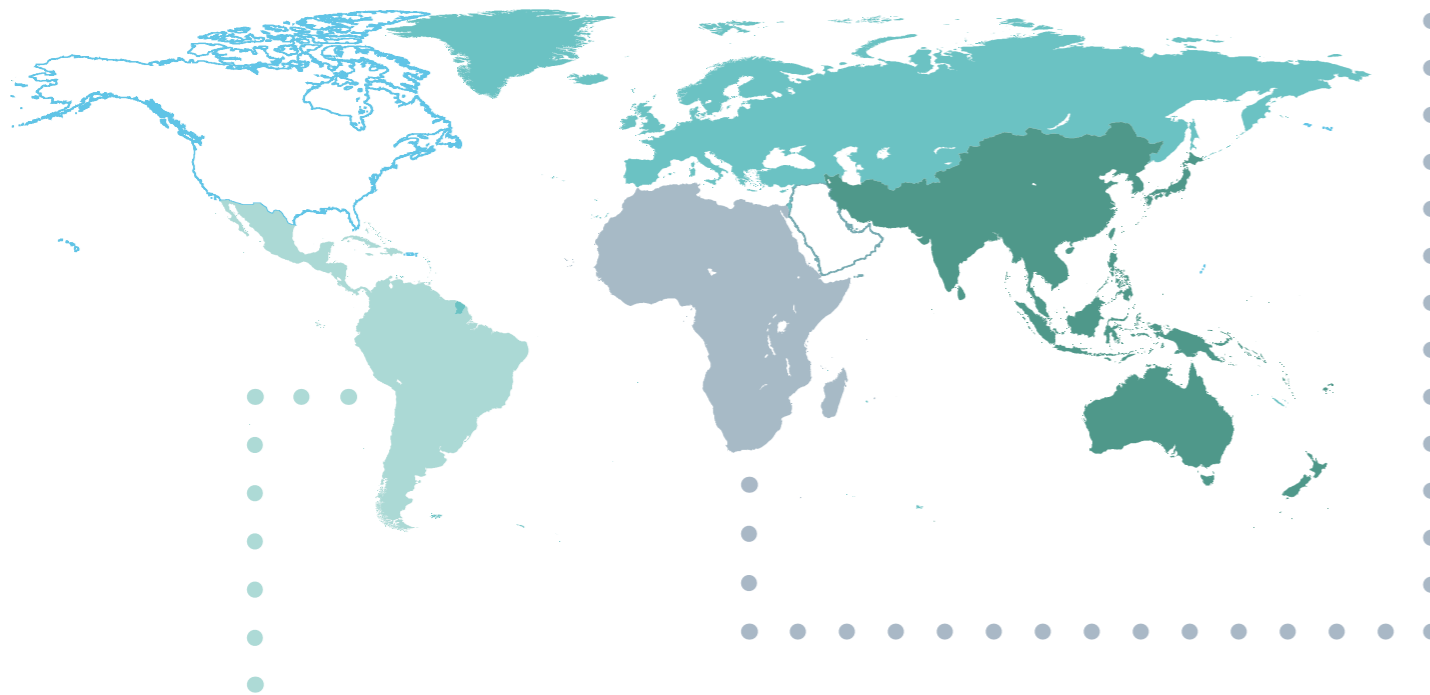
The ASM activities related to Development Minerals (e.g. sand, aggregates) is a critical governance challenge which could benefit from further attention, particularly in the context of the COVID-19 recovery.

A range of perspectives were presented in the consultations, with the following views being commonly held:

- A lack of understanding of the sector and its potential to be a tool for social and economic transformation (at local to national levels) is impeding development prospects.
- Transparency in supply chains could support responsible ASM.
- Collaboration between all stakeholders (e.g. miners, government, community, buyers and manufacturers) can provide innovative and holistic options for responsible ASM.
- Empowerment of miners – particularly women – to participate in decision-making and agenda setting should be a priority.
- Formalisation of ASM offers the potential to improve outcomes in the sustainability performance of the sector, whilst also contributing to more effective governance, though is often undertaken without sufficient involvement of miners or their representative organisations.

⁶⁵ <https://www.unep.org/explore-topics/extractives/why-does-extractives-matter>

Key issues and future actions:



Latin America and The Caribbean

1 Artisanal and small-scale mining
In some jurisdictions in the region, the formalization of artisanal and small-scale mining has focused on the issue of production but not on other stages of the value chain such as the end markets. This has shown to have serious shortcomings. Emphasis was placed on the need to explore additional elements within the production value chain in order to raise plausible recommendations towards a transition to a formal economy for artisanal and small-scale mining.

2 Role of women
Legislation also needs to pay particular attention to protecting the rights of women. They play an essential role in the ASM supply chain, and often rely on it in times of shortage (such as during the COVID-19 pandemic).

3 Mercury use
Mercury is still a challenging issue for many countries in the region, particularly relating to improving ASM practice. Capacity building and technical assistance are required to help miners understand the benefits of changing technology, for example through the work of the Global Mercury Partnership.⁶⁶

4 Exchanging experiences of ASM
A great deal of knowledge and experience exists on ASM within the region. A future step could be to promote spaces for the exchange of experiences among the ASM community. This would be particularly beneficial in relation to applying new technologies without the use of mercury.

Africa

1 Formalising ASM
It is important to bring artisanal and small-scale mining (ASM; including of 'Development Minerals' that are extracted for domestic consumption) into the formal sector and include them in discussions about governance of the sector.

2 Inclusive participation
Women's participation in ASM must be properly addressed and recognised, and reform of mining codes needs to ensure that compliance is financially and practically accessible to miners while maintaining environmental and safety standards.

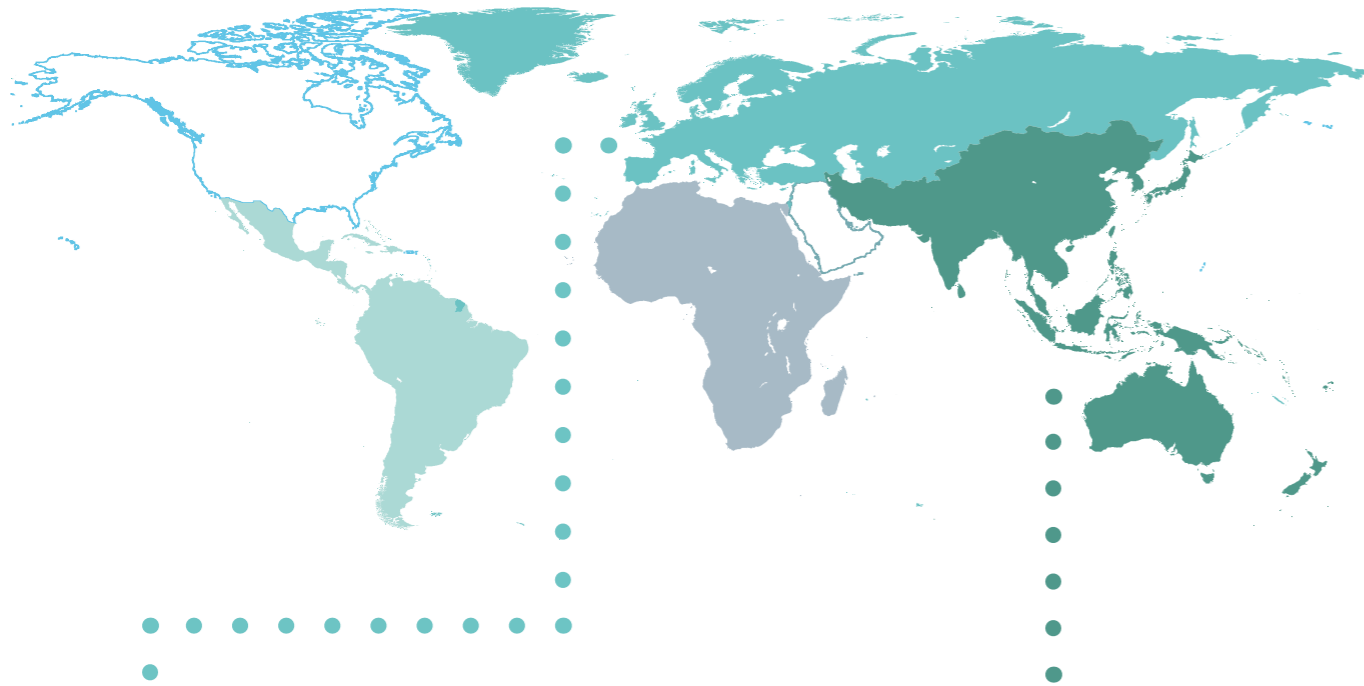
3 Knowledge building
Improving knowledge and capacity of miners in regards to pricing, safety and health, environmental responsibility, access to markets and supply chain traceability. Due to the extent and mobility of miners, these initiatives should be regional.

4 ASM performance - Mosi-oa-Tunya Declaration actualising these aspirations in legal frameworks
Implementing and localizing the Mosi-oa-Tunya Declaration across Africa will provide practical assistance to miners, plus help overcome the lack of understanding of the sector and its potential to be a tool for social and economic transformation (at local to national levels).

5 Improving coordination of ASM and development minerals for rapid economic development (including environmental and social impact monitoring).
COVID-19 and emergencies in recent years have identified a gap in mobilization of the sector in a responsible manner. Coordinating mineral governance with disaster-preparedness planning should be a priority, as should developing guidelines and standards for sustainable sourcing of sand and aggregate for infrastructure (especially for an infrastructure-led COVID recovery).

⁶⁶ <https://web.unep.org/globalmercurypartnership/##Publications>

Key issues and future actions:



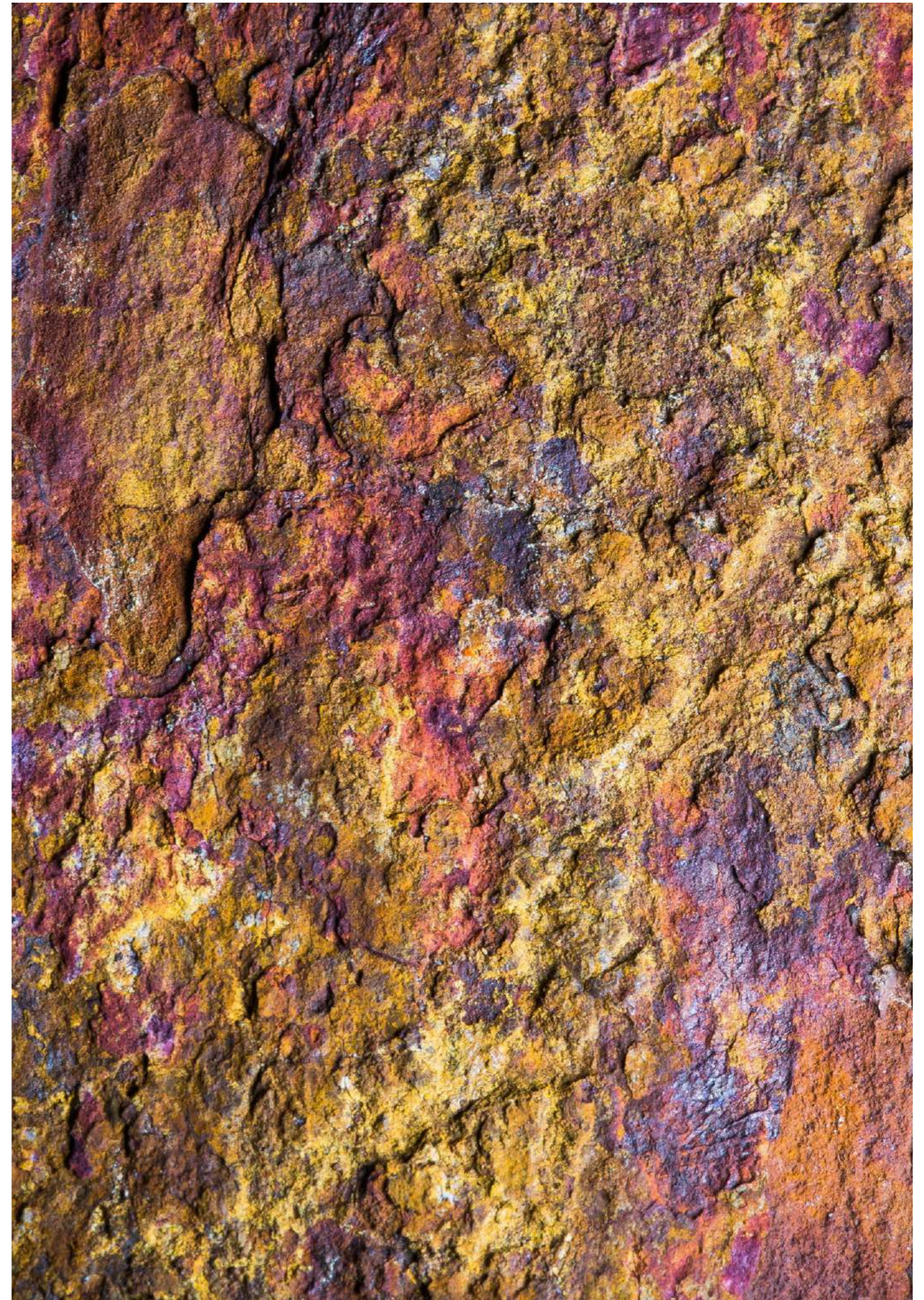
Asia and the Pacific

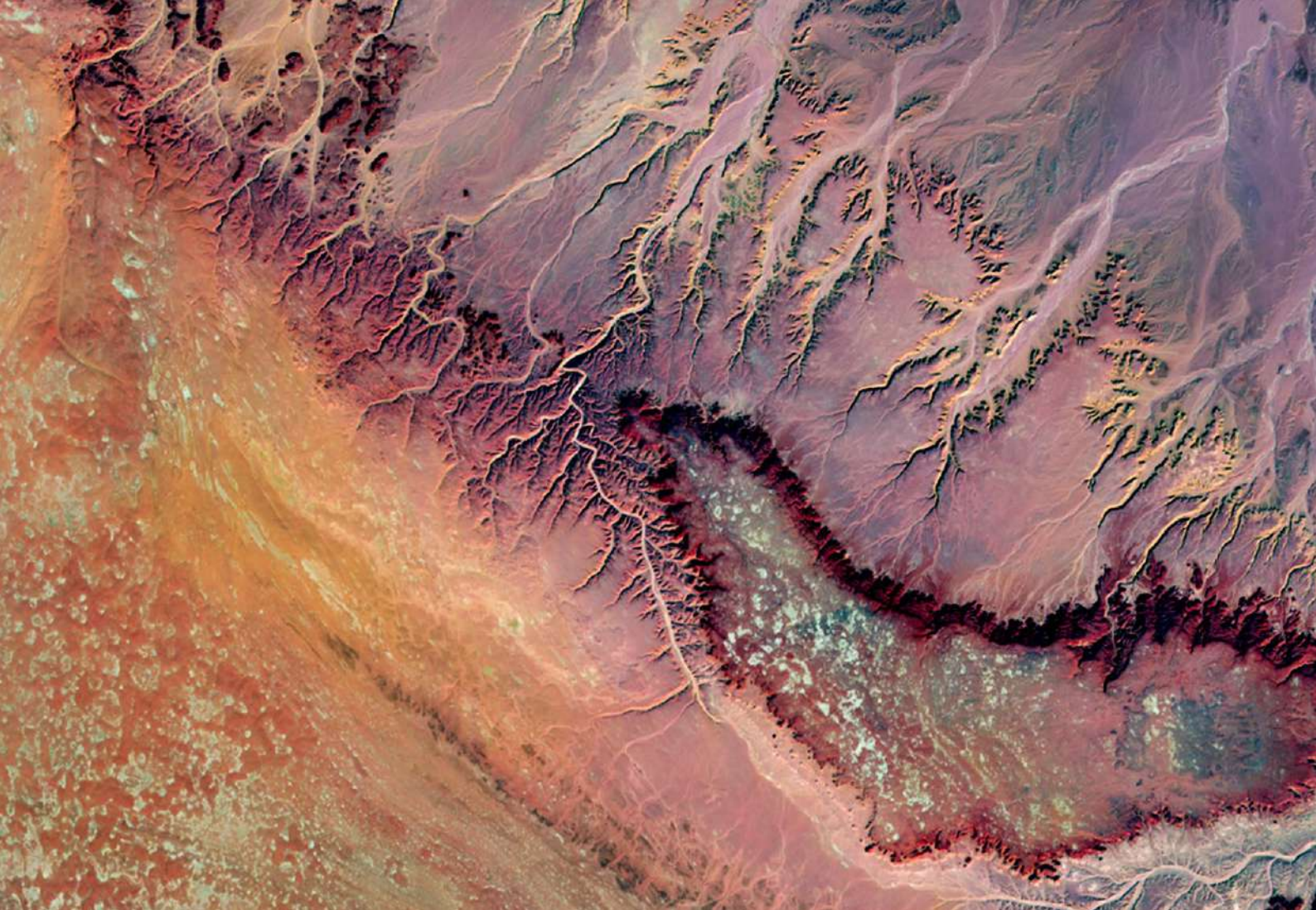
- 1** *Informal mining, ASM and Development Minerals*
A variety of challenges exist relating to informal and artisanal mining, particularly in reference to mining of development minerals. Issues include: lack of formalisation, weak regulation, lack of appropriate regulatory authority, conflict.

The use of development minerals in disaster response is a gap in current disaster preparedness plans.
- 2** *Knowledge-sharing and capacity building*
The importance was noted of promotion of responsible extraction of aggregates via sharing of good practices, network building and sharing knowledge about the benefit of strong legislation and policy to regulate responsible extraction.

Europe and Caucasus

- 1** *Artisanal and small-scale mining*
There have been improvements in recognition of ASM's importance by industry and governments as an economic activity and major source of employment. This is evident in the development of ASM management systems and standards (e.g. those that integrate OECD Due Diligence in Supply Chains, and the UN Guiding Principles). However, further work is needed to encourage responsible engagement, rather than neglect of the ASM sector. Formalisation of ASM was seen as beneficial, and an important point of access in terms of addressing environmental impacts of mining.





Recommendation

The UN Environment Assembly may wish to:

- a. Encourage Member States to action and adapt to the local context the Mosi-oa-Tunya Declaration on Artisanal and Small-scale Mining, Quarrying and Development;
- b. Encourage Member States and other stakeholders to conduct research and share knowledge regarding the scale and geographic extent of the artisanal and small-scale mining sector through country-wide censuses;
- c. Request UNEP to work with other United Nations agencies and other bodies to investigate the development of a standard similar to the Equator Principles to support the financing of artisanal and small-scale mining for transformation, and to investigate options for strengthening artisanal and small-scale mining associations at the international level.



f. Mine waste recycling, re-use and circularity

Mine waste is a growing issue globally and, with ore grades declining and consumption increasing with the demand for green technologies, could grow exponentially. Beneficial ways to use mine waste are, therefore, of great interest. Re-mining or reprocessing of mine wastes with recent technologies can recover a range of minerals from already disturbed environments. Re-use of inert materials has the potential to supply materials for construction and infrastructure.

Focusing on the beneficial uses of waste is one way in which the mining sector can contribute to the circular economy. International mining companies, such as Vale and BHP are investigating the feasibility of producing construction materials as a by-product of metal production to reduce the environmental liabilities of tailings storage as well as contribute to reduced demand for natural sand. Such circular economy approaches may offer a solution to overlapping environmental and social challenges of the sector.

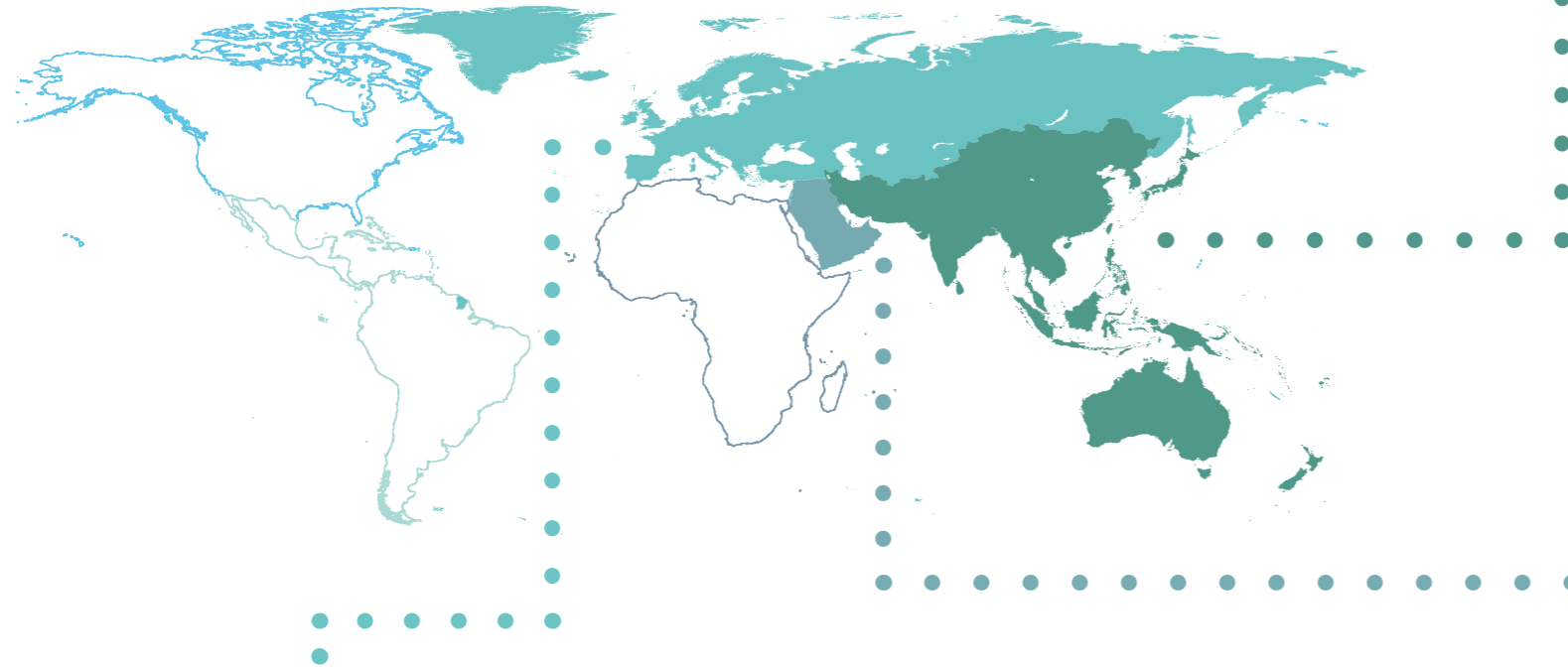
Circular economy approaches centre on quality of life and account for the full extent of natural capital, rather than focus on production of raw materials as a development driver by itself.

Frequent comments during the consultations included:

- Research is still required to bring many of these technologies to scale.
- Re-use, recycling and circularity should form part of the planning and approvals process for new and expanding operations.
- Policy needs to be updated to facilitate recycling and creative material use projects.



Key issues and future actions:



Europe and Caucasus

- 1** *Circular economy approaches*
Further research and policy actions on circular economy initiatives need to build on previous work calling for better systemic engagement along the minerals supply and consumption chains, incorporating investors, financiers, traders plus the government and community stakeholders.
- 2** *Increasing ESG pressure*
Increasing pressure from investors on Environment, Social and Governance (ESG) issues has pushed the minerals sector to move in this direction, and will continue, requiring a reorientation from a siloed minerals sector into a more service oriented, integrated model of resource management.
- 3** *Reduction in mining*
It is important for international and national bodies to not only look at improving mining operations and approaches, but also to look at reducing mining. This could be achieved through, for instance, the use of strategic environmental assessments, increased recycling, reduction of waste generation, use of replacement materials, and reducing consumption.

Asia and the Pacific

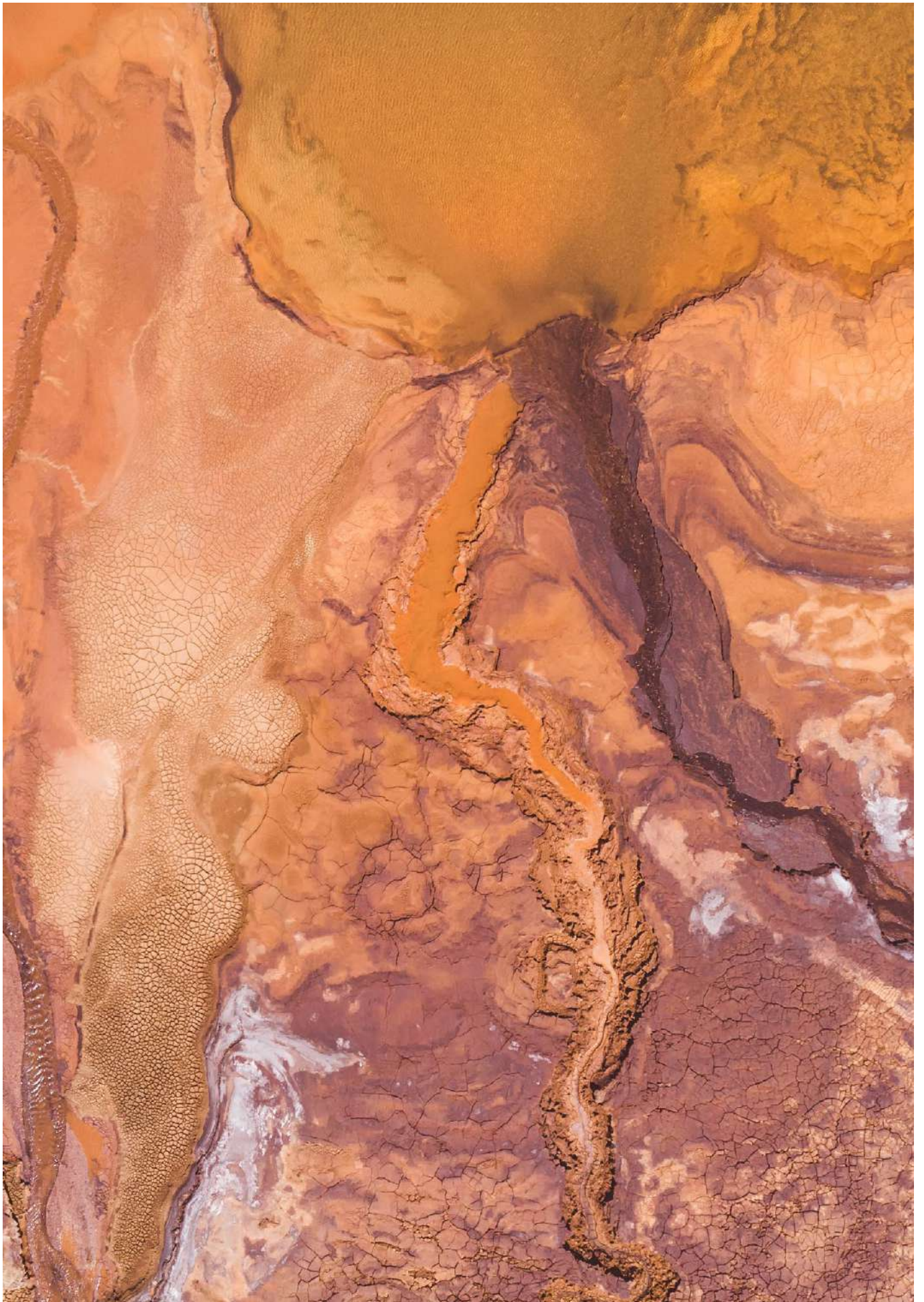
- 1** *Recycling and re-use*
Further research should be conducted into the re-cycling and re-use of tailings and other mine waste. Examples of areas for investigation include: re-mining wastes (including by ASM), re-use of demolition waste for aggregates, incorporating waste re-use options into mine planning and closure planning.

West Asia

- 1** *Recycling and re-use*
There was interest reported by some governments and wider stakeholders in greater re-cycling and re-use of tailings and other mine waste in the future.

Recommendation

While there have been discussions on the application of circularity approaches, specific programmes and projects are needed to build on previous work calling for better systemic engagement along the minerals value and consumption chains, incorporating all relevant actors. The UN Environment Assembly may wish to encourage Member States to support further research and policy actions on mine waste and circularity. Examples of areas for investigation could include the recycling and re-use of tailings and other mine waste and by-products, re-mine and re-process wastes (including from artisanal and small-scale mining), re-use of demolition waste, and incorporation of waste re-use options in mine planning and closure planning.





g. National-level governance

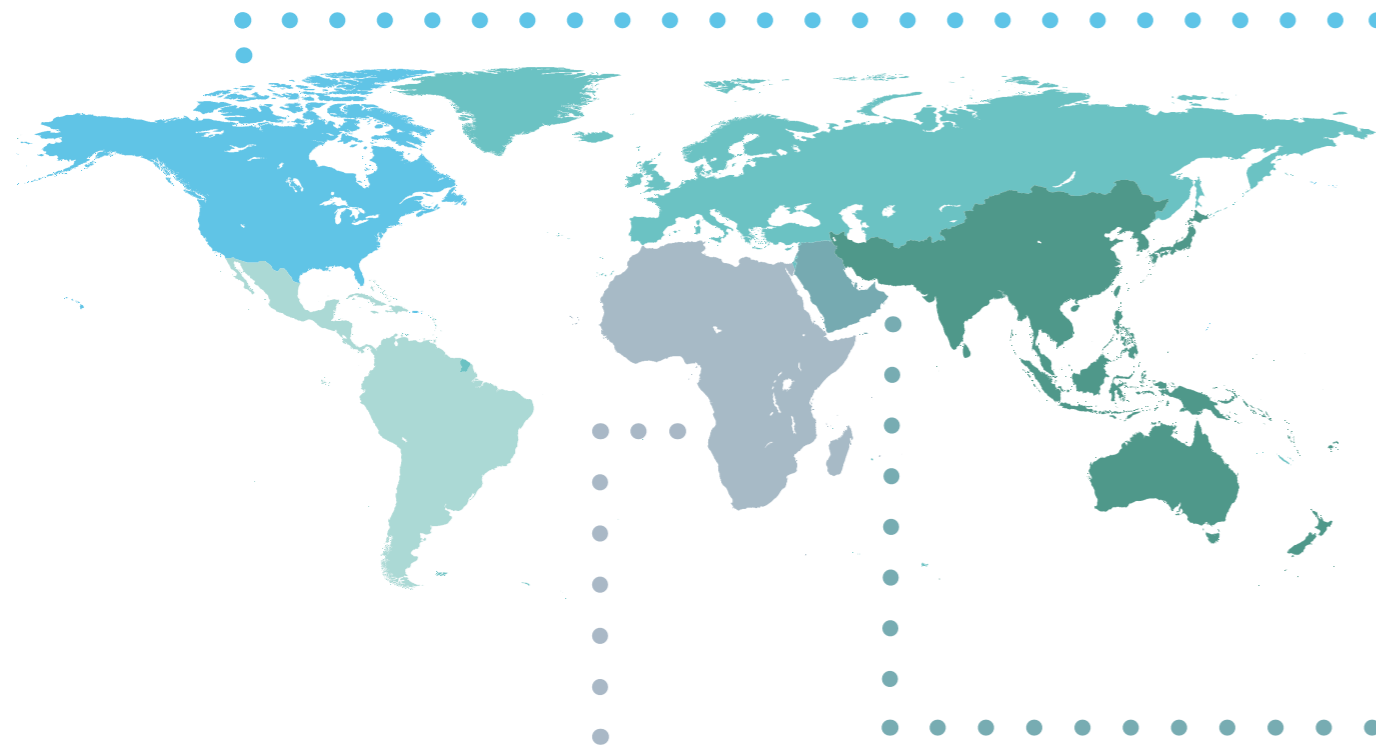
Mineral resource governance at the national level is an ongoing process of reform and review, with many areas for improvement. Unfortunately, in many cases, the implementation, compliance and enforcement of laws and regulation is still lacking. Both lack of will and lack of capacity can be contributing factors to this, but examples of the benefits of good governance are encouraging.

The specific areas for improvement are widespread – including public participation and cooperation, transparency, value chain development, foreign direct investment, private sector controls, anti-corruption, long term environmental liability and more. Reforms should be focused on sustainable development outcomes: including social, environmental and economic factors, and ensuring that at long-term, human rights centered and holistic approaches are employed.

Common themes relating to national-level governance across the consultations included:

- Knowledge sharing and collaboration among and within governments has been useful, as have cross-border initiatives.
 - There is a need to be mindful of attempts to roll back environmental protection legal frameworks and policies or to rush through mineral governance processes in the post-COVID recovery period.
 - Mining policy should aim to achieve a holistic evaluation of mining as part of the local, national and global development agenda, including issues such as intergenerational equity and ‘full cost’ accounting (i.e. including social, environmental, cultural and political costs along with the economic). Human rights and intergenerational equity should ideally be placed at the centre of development goals.
- The persistent gap between policy and implementation, enforcement and compliance prevents the benefits of mineral resource development from being realized.
 - Many countries need to update or fill gaps in their policy and legislation on topics including but not limited to mine closure, community participation, transparency, regulatory capture, corruption, human rights, access to remedy, recognition of indigenous and tribal peoples’ rights, benefit sharing, local development, deep sea mining.
 - National governments can support strong, comprehensive baseline research (on resource characteristics, environment, social and economic conditions) so that long-term planning can be effective.

Key issues and future actions:



North America

- 1 Governance capacity development and modernisation**
Opportunities for holistic, integrated and ongoing capacity building are needed on the wide spectrum minerals governance issues.

A strategic discussion on the elevation of social and environmental safeguards within existing frameworks may be helpful to identify where opportunities for remedy and redress could be included.

- 2 Inclusion – local community, gender and indigenous Peoples**

The focus should remain on empowering grassroots and community organisations to participate fully in decisions impacting their futures. Mineral resource governance policies should be updated and revised to include human rights due diligence, gender equality and the UN Declaration on the Rights of Indigenous Peoples.

Africa

- 1 Continuing legal reform (including ASM, development minerals, other gaps and misalignments)**

Sectoral transformation can be supported by laws on public participation and cooperation, transparency, domestication of the African Free Trade Area agreement, value chain development, foreign direct investment, private sector controls, anti-corruption, and long-term environmental liability. Legal frameworks should cover development minerals as well as export minerals.

- 2 Developing public participation processes, including for planning, conflict resolution and redress.**

It is important to make sure all stakeholders have voice or influence in the operation of the sector. Lack of capacity of communities to participate in existing processes is one of many issues that should be addressed. In particular, more support is needed for women's participation in key decision-making spaces.

- 3 Improving data availability on a range of relevant issues: resources/reserves, other natural capital, social conditions, governance and institutional capacities, value chains etc.**

An enhanced understanding of the resources on the continent is necessary to enable better accounting of various forms of resource (mineral reserves and other natural capitals) and improved planning for the integration of mineral resource extraction into the economic development plan for each country or sub-region. Having a strong knowledge base will also help to improve project assessment and approvals.

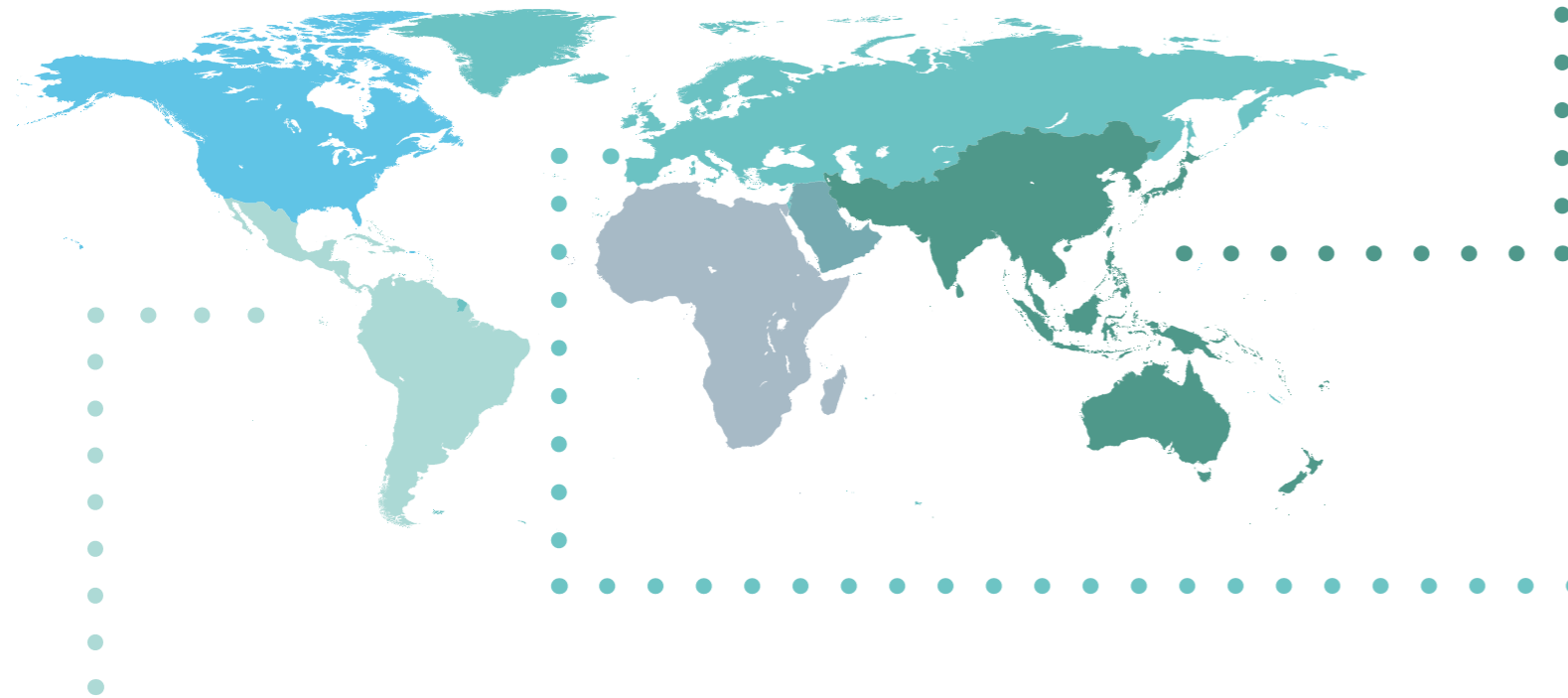
West Asia

- 1 Public participation**
Governments of the region should more strongly promote public participation in decisions related to mineral resources.

- 2 Good governance for investment**
Challenges related to exemplifying good governance of the mineral sector in the region may be hampering investment.

- 3 Strategic planning**
Some countries reported under-developed strategies for managing mineral materials, and a need to develop guidelines for environmental impact assessment.

Key issues and future actions:



Latin America and The Caribbean

- 1 **Development of mine closure legislation**
There is a strong call for the exchange of knowledge and legal and technical assistance from other jurisdictions and or international organizations on the development of legislation for mine closure.
- 2 **Capacity building on meaningful participation and inclusion in decision-making**
Across several countries, there is a need to strengthening capacities to carry out meaningful participatory exercises with affected communities throughout the planning and development of a mining project, ensuring that communities are provided with appropriate information, advice and ongoing support. Domestication of international conventions such as, where applicable, the International Labour Organisation's Convention 169 on Indigenous and Tribal Peoples and other legally binding standards would be part of this process
- 3 **Transboundary cooperation on challenging issues such as illegal mining**
Illegal or unregulated mining has a growing association with other crimes such as human trafficking, child labor, human rights violations, smuggling and money laundering, and with transnational organized crime networks.

Asia and the Pacific

- 1 **Harmonisation of mining laws, policies and governance initiatives**
Harmonisation of initiatives provides an opportunity for closing gaps and loopholes as well as reducing confusion about which standards should apply.
- 2 **Deep Sea Mining**
Many Pacific Island Territories are considering deep sea mining as the next frontier in mining operations. However, most governments lack the legislation or policy to guide even the exploration for DSM.

Europe and Caucasus

- 1 **Develop any future work by building on, strengthening and harmonizing existing initiatives**
There is a plethora of initiatives available to miners, governments and communities. However, the multitude of initiatives presents a challenge for various stakeholders and policymakers to navigate. Several suggestions about how this could be managed were raised, including: improving (independent) oversight, developing compulsory or mandatory minimum standards, creating/improving grievance handling and dispute resolution mechanisms, monitoring and evaluation of the impacts and results of existing standards, and the systematic assessment of standards/initiatives against the UN Guiding Principles on business and human rights, the Sustainable Development Goals and the Inter-agency and Expert Group on SDG Indicators.

Recommendation

Although significant work has been done to strengthen mineral laws and regulations, the UN Environment Assembly may wish to encourage Member States to continue legal reforms and support sectoral transformation by adopting laws and policies that include aspects of public participation, remedy and redress, transparency, trade agreements, value chain and linkage development, private-sector controls, anti-corruption efforts and long-term environmental liability. Legal frameworks should also extend to minerals that are mined or quarried, processed and used domestically, which are often referred to as development minerals.



6. Conclusion

United Nations Member States have signaled a need for greater international cooperation on the topic of mineral governance, and there is significant interest and enthusiasm to share experiences and practices as evidenced by the high level of engagement in the consultations held during the implementation of the UNEA Mineral Resource Resolution. The role of minerals in the renewable energy transition, the scale of global mineral waste production, and the huge demands for sand and gravel associated with urbanisation and infrastructure development are simultaneously highlighting the criticality of minerals to the sustainable development agenda,

and the gap that exists in the SDGs for targets relevant to minerals production and use. Mineral governance is fundamental to the achievement of the global goals and it is hoped that the information and options for priority actions presented herein, provide member states with the knowledge base to develop a strong, coherent and cooperative international action agenda.

Appendices

Appendix I: Regional Summaries: Challenges, good practice examples and future action

Appendix II: Governance instruments and initiatives with relevance to minerals

Appendix III: List of written submitters to the MRG consultations



Appendix I: Regional Summaries: Challenges, good practice examples and future action

Africa, 6 August 2020 (English)

https://www.greengrowthknowledge.org/sites/default/files/downloads/resource/UNEP-AFRICA-Technical%20Factsheet-Final-UPDATED_25%2001%2022.pdf

Latin America and the Caribbean, 18 August (English)

<https://www.greengrowthknowledge.org/sites/default/files/downloads/resource/UNEP-LATIN%20AMERICA%20AND%20THE%20CARIBBEAN-Technical%20Factsheet-Final-UPDATED.pdf>

Asia Pacific, 19 August 2020 (English)

<https://www.greengrowthknowledge.org/sites/default/files/downloads/resource/UNEP-ASIA%20PACIFIC-Technical%20Factsheet-Final-UPDATED.pdf>

Europe, 10 September 2020 (English)

<https://www.greengrowthknowledge.org/sites/default/files/downloads/resource/UNEP-EUROPE%20AND%20THE%20CAUCASUS-Technical%20Factsheet-Final-UPDATED.pdf>

West Asia, 26 August 2020 (English)

<https://www.greengrowthknowledge.org/sites/default/files/downloads/resource/UNEP-WEST%20ASIA-Technical%20Factsheet-Final-UPDATED.pdf>

North America, 16 September 2020 (English)

<https://www.greengrowthknowledge.org/sites/default/files/downloads/resource/UNEP-NORTH%20AMERICA-Technical%20Factsheet-Final-UPDATED.pdf>

Appendix II: Governance instruments and initiatives with relevance to minerals⁶⁷

No.	Initiative
1	Aarhus Convention
2	Agreement Governing the Activity of States on the Moon and other celestial bodies
3	Africa Mining Vision
4	Akwé: Kon Voluntary Guidelines
5	Aluminium Stewardship Initiative
6	Batumi Initiative on Green Economy
7	The Business and Biodiversity Offsets Programme (BBOP)
8	Base Erosion and Profit Shifting
9	BetterCoal Code
10	Better Gold Initiative
11	Cobalt Industry Responsible Assessment Framework
12	Communities and Small-Scale Mining
13	Connex Initiative
14	Convention on Biological Diversity
15	Convention Concerning the Use of White Lead in Painting
16	Convention on The Regulation of Antarctic Mineral Resource Activities
17	Committee for Mineral Reserves International Reporting Standards
18	Conflict Free Gold Standard
19	Conflict Free Sourcing Initiative-Conflict Free Smelter
20	Chinese Due Diligence Guidelines for Responsible Mineral Supply Chains
21	China Chamber of Commerce of Metals, Minerals and Chemicals Importers and Exporters (CCCMC)- Guidelines for Social Responsibility in Outbound Mining Investments (GSRM)
22	Commonwealth Mining Network
23	Certified Trading Chains
24	Diamond Development Initiative/ Diamond Development Standard
25	Devonshire Initiative
26	US Dodd-Frank Act (Section 1502)
27	EICC Environmental Sustainability Working Group
28	Espo Convention on Environmental Impact Assessment in a Transboundary Context and its Protocol on Strategic Environmental Assessment
29	European Innovation Partnership on Raw Materials (EIP)
30	Extractive Industries Transparency Initiative
31	Equitable Origin

No.	Initiative
32	Equator Principles
33	European Partnership for Responsible Minerals
34	The European Technology Platform on Sustainable Mineral Resources
35	Alliance for Responsible Mining (ARM)-Fairmined Standard
36	Fairtrade Gold and Precious Metals
37	The Financial Action Task Force
38	Forum on Raw Materials
39	Fraser Institute Annual Survey of Mining & Exploration Companies
40	Framework for Responsible Mining
41	The Global Battery Alliance Initiative
42	Green Mining Initiative (GMI)
43	The Green Lead Initiative
44	Global Reporting Initiative
45	Global Tailings Review & Global Industry Standard on Tailings Management
46	Health in the Extractive Industries
47	The International Conference on the Great Lakes Region – Regional Initiative against the Illegal Exploitation of Natural Resources
48	International Cyanide Management Code for the Manufacture, Transport, and Use [of] Cyanide in the Production of Gold
49	International Council on Mining and Metals Performance Expectations
50	IFC – ‘A Strategic Approach to Early Stakeholder Engagement – A Good Practice Handbook for Junior Companies in the Extractive Industries’
51	IFC Performance Standards on Environmental and Social Sustainability
52	International Financial Reporting Standards for extractive sector
53	Intergovernmental Forum on Mining, Minerals, Metals and Sustainable Development /Mining Policy Framework
54	ILO169 - Indigenous and Tribal People Convention 1989
55	ILO Convention on Mine Safety and Health (1995)
56	Indigenous Rights in the Arctic
57	Initiative for Responsible Mining Assurance
58	International Tin Research Institute (ITRI) Tin Supply Chain Initiative
59	Kimberley Process Certification Scheme
60	Local Procurement Reporting Mechanism

67 Franks et al (2020) Discussion Paper for Regional Consultations on the Implementation of the United Nations Environment Assembly Resolution on Mineral Resource Governance (UNEP/EA.4/Res. 19), expanded after Ayuk et al (2020). Mineral Resource Governance in the 21st Century.

No.	Initiative
61	London Bullion Market Association - Responsible Gold Guidance
62	The Minamata Convention on Mercury
63	Mining Investment and Governance Review
64	Madrid Protocol on Environmental Protection to the Atlantic Treaty
65	NamiRo
66	Natural Resource Charter/Natural Resource Governance Institute
67	Natural Resources Risk Index
68	OECD Due Diligence Guidance for Responsible Supply Chain Management of Minerals for Conflict Affected and High-Risk Areas/ OECD Due Diligence Guidance for Meaningful Stakeholder Engagement in the Extractive Sector
69	The Global Forum on Transparency and Exchange of Information for Tax Purposes
70	Oil for Development
71	Prospectors & Developers Association of Canada e3 Framework for Responsible Exploration
72	Public-Private Alliance for Responsible Minerals Trade
73	Publish What You Pay
74	Australian Steel Stewardship Forum/ Steel Stewardship Council Ltd
75	Responsible Jewellery Council
76	Responsible Cobalt Initiative
77	The Responsible Mineral Development Initiative
78	The Responsible Mining Foundation - Responsible Mining Index
79	Raw Materials Initiative (RMI)
80	Responsible Raw Materials Initiative (RRMI)
81	Solutions for Hope
82	The Stolen Asset Recovery (StAR) initiative
83	Strategic Dialogue on Sustainable Raw Materials for Europe
84	The Access Initiative
85	Towards Sustainable Mining
86	United Nations Convention on the Law of the Sea (UNCLOS)
87	UNDP Strategy for Sustainable and Equitable Management of the Extractive Sector for Human Development
88	UN Framework Convention on Climate Change
89	UNECE Safety Guidelines and Good Practices for Tailings Management Facilities
90	UN Global Compact
91	UN Guiding Principles on Business and Human Rights
92	UN Framework Classification for Resources
93	Voluntary Principles on Security and Human Rights

Appendix III: List of written submitters to the MRG consultations

Member State submissions:

Government of Argentina
Government of Belarus
Government of Botswana
Government of Brazil
Government of Burkina Faso
Government of Cameroon
Government of Canada
Government of Chile
Government of Colombia
Government of Côte d'Ivoire
Government of Czech Republic
Government of Democratic Republic of the Congo
Government of Ecuador
Government of Estonia
Government of Georgia
Government of Germany
Government of Ireland
Government of Jamaica
Government of Japan
Government of Kuwait
Government of Madagascar
Government of Malawi
Government of Mexico
Government of Myanmar
Government of Niger
Government of Nigeria
Government of Peru
Government of Republic of Armenia
Government of Romania
Government of Saudi Arabia
Government of Senegal
Government of Spain
Government of Suriname
Government of Switzerland
Government of Tajikistan
Government of Togo
Government of Venezuela

Multi-stakeholder submissions:

Actions pour la Protection des Droits de l'Homme (APDH), Côte d'Ivoire
Aggregate and Quarry Association (AQA), New Zealand
AKD Benelux Lawyers, Belgium
Alberta Sand and Gravel Association, Canada
Alex Atkins & Associates Pty Ltd, Australia
Atacama Consulting, Uganda
AusIMM, Australia
Brock University, Bolivia
Center for Environmental Concerns - Philippines, Philippines
Centro de Información sobre Empresas y Derechos Humanos, Colombia

Chair of the SAMCODES Standards Committee (SSC), South Africa
Chair of the Working Group on Artisanal and Alluvial Production (WGAAP), Kimberley Process Certification Scheme, Democratic Republic of the Congo
Chatham House
Common Cause, India
CSIRO, Australia
DeCoP, Zambia
Deep Sea Conservation Coalition
Department of Geology and Materials, University of Man (U-Man), Côte d'Ivoire
Earth Observation for Sustainable Aggregate Supply (EO4SAS) group
Earthworks
Environmental Governance Programme - Mining. UNDP
European Commission
Faculty of Law, University of Cape Town, South Africa, South Africa
Friends of the Earth Norway/ Naturvernforbundet, Norway
GeoMineProject LLP, Kazakhstan
Global Aggregates Information Network
Global Organization of Parliamentarians Against Corruption (GOPAC), Canada
Goa Foundation, India
Individual, Australia
Individual, Colombia
Individual, Ethiopia
Individual, Philippines
Individual, Uganda
Individual, Uganda
Individual, Ukraine
International Council on Mining and Metals
Kimberley Aboriginal Law and Cultural Centre, Australia
London Mining Network
MEPA Trust, Antigua and Barbuda
Mineral Development Consultant, Australia
Mineral Inheritors Rights Association, India
Mineral Products Association, United Kingdom
Mining Engineers' Association of India, India
Mining Shared Value / Engineers Without Borders Canada, Canada
Mizoram University, India
National Institute of Science Education and Research, India
Native Women's Association of Canada, Canada
RELUFA, Cameroon
Responsible Mining Foundation
Richard Jackson, Consultant, Lao PDR
Salama Heritage Ecovillage (SHE) Tanzania, Tanzania
Secretariat of the Pacific Regional Environment Programme
Small Scale Miners Association of Zambia, Zambia
Territoires Consulting, France

TRANSCO Cote d'Ivoire-Liberia-Sierra Leone-
Guinea (CLSG/WAPP), Guinea
Transparent Governance PU, Azerbaijan
UNDP, Uganda
Université de DSCHANG, Cameroon
University of Oulu, Oulu Business School, Finland
University of Sao Paulo, Centre for
Responsible Mining, Brazil
Vienna University of Economics and Business, Austria
Worldwide Care for Nature, Zambia
ZCAS University, Zambia
Zimbabwe Natural Resources Dialogue
Forum, Zimbabwe



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