

# Africa Integrity Foresight

## Negative-Impact Minerals: The price of net zero

7<sup>th</sup> March 2023



# Introduction

There is growing global consensus on the need to achieve net zero greenhouse gas emissions to avoid climate breakdown, with 2050 being set as the target year for the United Kingdom to achieve this. Over 70 other countries, accounting between them for more than 75 percent of global emissions, have made similar commitments. To achieve this net zero strategy, there will need to be a rapid transition away from fossil fuel-based energy to renewable technologies and electric power and storage. This will inevitably lead to a significant increase in demand for the minerals required for such emerging technologies, most of which will be met through mining.

It is projected that the overall demand for the minerals required for this transition will increase six-fold, if the target of net zero by 2050 is to be met, with demand for certain minerals expected to increase over 20 times between 2020 and 2040. A variety of minerals will be required for this transition, with the different technologies generating varying degrees of demand for different minerals. For example, although aluminium, copper, rare earth elements (REEs), nickel and manganese are important components for both wind turbines and electronic vehicles, wind power will place specific demand on zinc and chromium, while electronic vehicles will do the same for graphite, cobalt and lithium.

As a continent with significant mineral reserves, this increase in demand will be especially noticeable in Africa. Nearly every country in Africa has reserves of at least some of the minerals used in these technologies, and African countries feature in the top ten producers of eight of the key minerals required for the transition to net zero. This includes four minerals for which African countries represent the largest global producer or source of reserves.

Despite the obvious relationship between the global net zero strategy and the Environmental, Social and Governance (ESG) agenda, Africa's integral role as a source of many of these key minerals will inevitably raise ESG concerns about their provenance. Africa ranks poorly with respect to ESG performance, with many countries lacking the capacity or desire to enforce environmental and workforce protections, and corruption remaining an endemic problem in much of the continent. The expected increase in demand for such minerals will almost certainly exacerbate such problems.

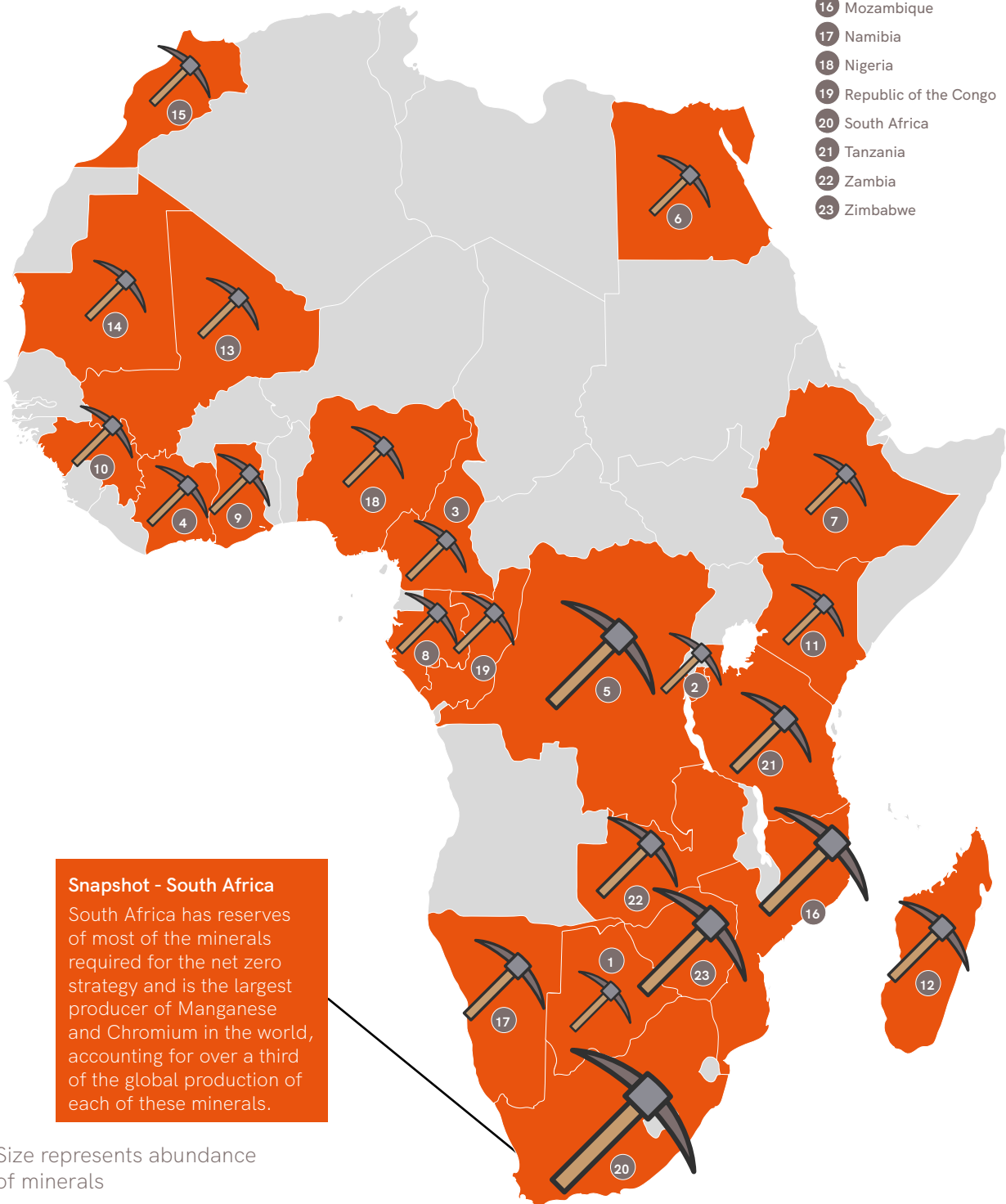
However, it is important to emphasise that Africa is a varied continent and ESG risks are not evenly spread. Accordingly, to assist investors with interests in Africa's mining sector or exposure to such minerals through their supply chains, we have developed a broad risk matrix to examine the threat of ESG failings in the countries which are likely to be the main sources of these minerals. This will serve as an initial tool for investors to reduce their exposure to what we have termed Negative-Impact Minerals (NIMs); however, readers should note that this is based on open-source analysis and intended only as a jumping-off point for further investigation, which we strongly recommend should be driven by debriefs of human intelligence sources.



# Prevalence of Net Zero Minerals

To assess the risks associated with the minerals required for the transition to net zero, one must first identify which minerals are required, where they are located and in what quantity. We identified where there are reserves of 12 key minerals in Africa, allocating a weighting based on the size of such reserves. We then applied additional weightings based on the expected increase in demand for such minerals and the degree to which they are critical to the most important new technologies. The map below therefore shows the strategically critical countries for sourcing of minerals for net zero from Africa.

- 1 Botswana
- 2 Burundi
- 3 Cameroon
- 4 Cote d'Ivoire
- 5 Democratic Republic of the Congo
- 6 Egypt
- 7 Ethiopia
- 8 Gabon
- 9 Ghana
- 10 Guinea
- 11 Kenya
- 12 Madagascar
- 13 Mali
- 14 Mauritania
- 15 Morocco
- 16 Mozambique
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**Snapshot - South Africa**  
 South Africa has reserves of most of the minerals required for the net zero strategy and is the largest producer of Manganese and Chromium in the world, accounting for over a third of the global production of each of these minerals.

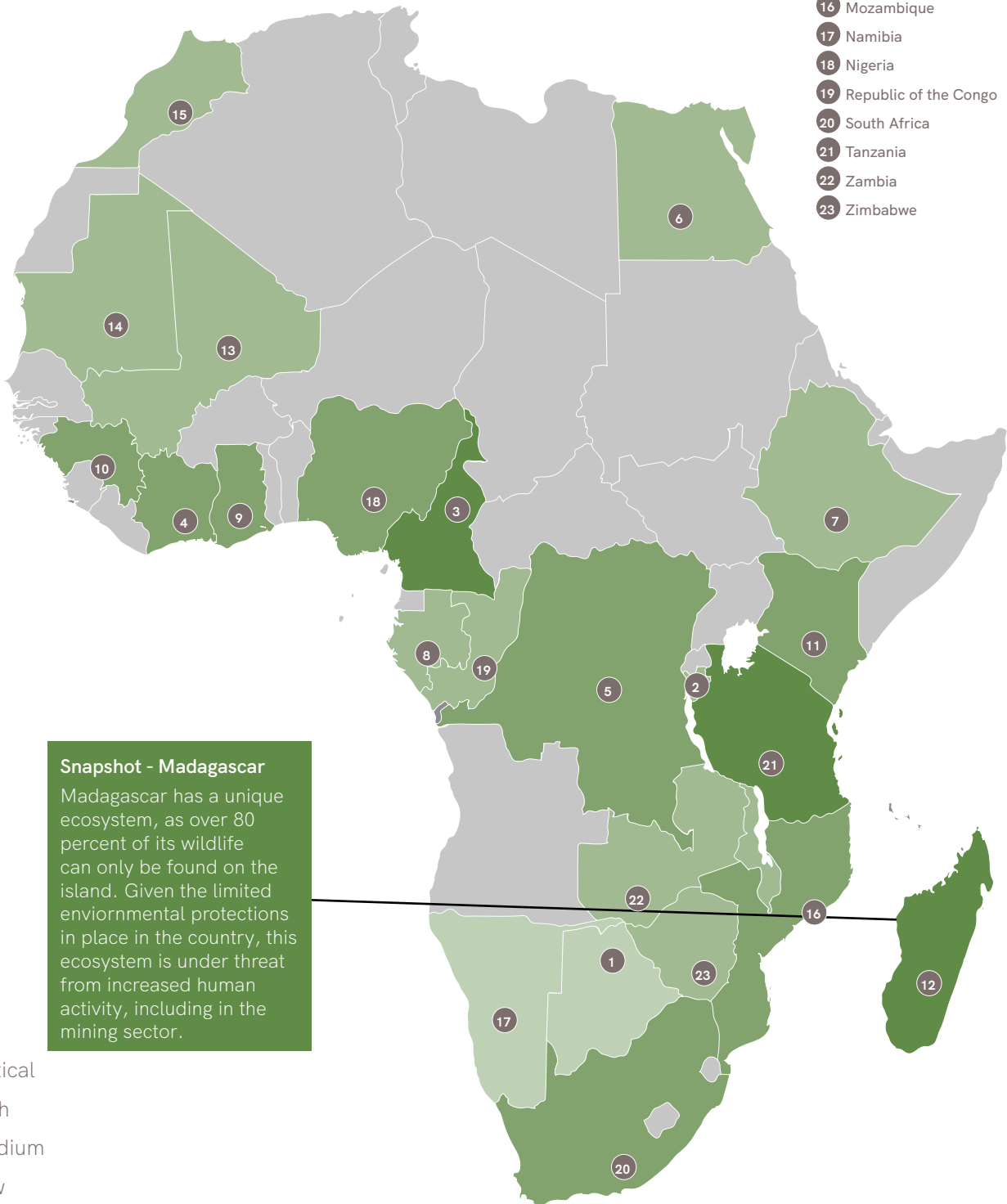
 Size represents abundance of minerals

 Countries not included

# Environmental Risk

Given that environmental concerns are the main drivers behind the net zero strategy, the threat of environmental damage from the sourcing of minerals used to achieve net zero will be of utmost importance. To analyse the degree of this threat in the countries under observation, we examined not only their current performance in providing environmental protection and meeting targets, but also their future vulnerability to significant environmental damage. This included examining the levels of biodiversity and endangered species in these countries, which could be threatened by increased mining activity.

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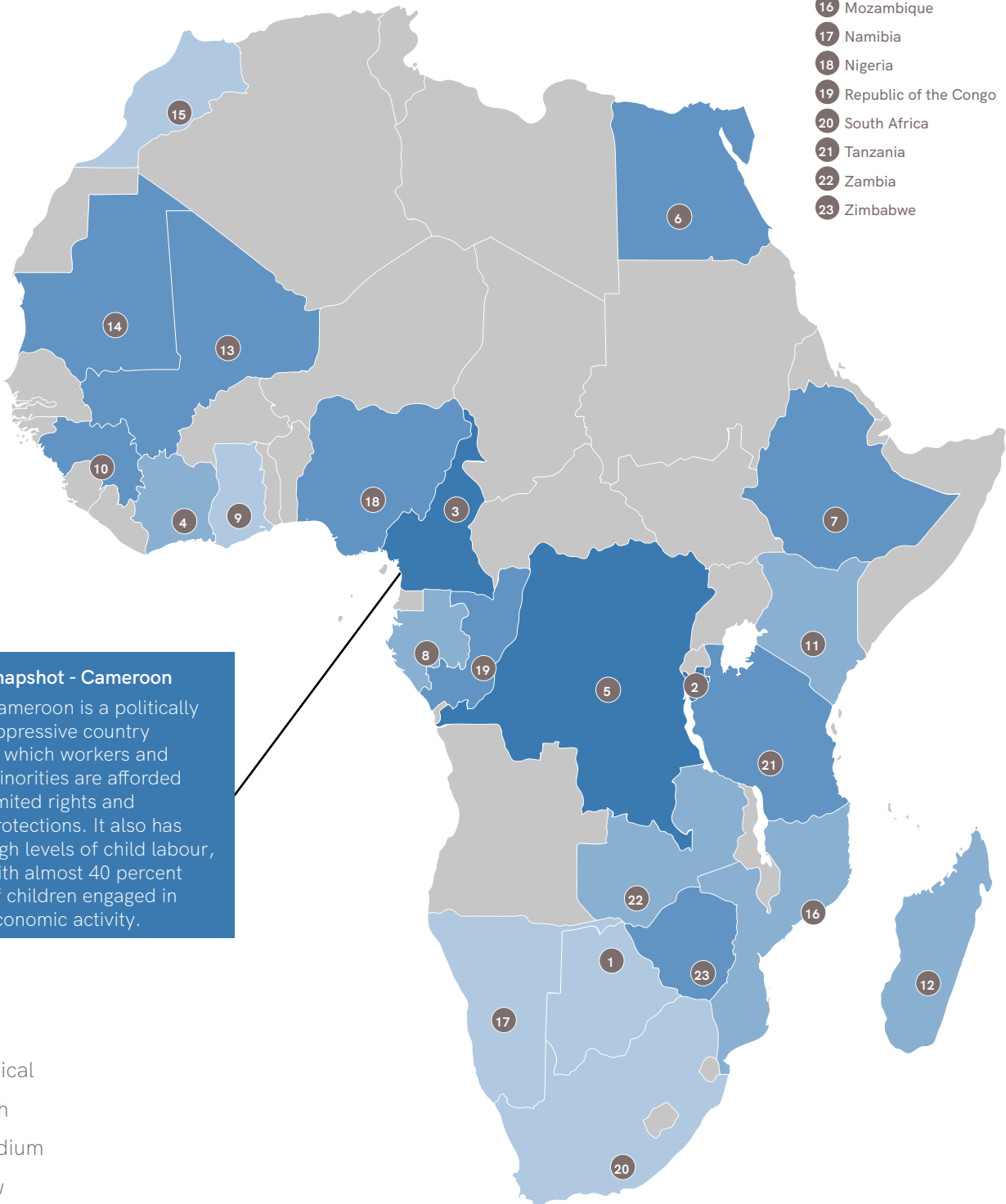


- Critical
- High
- Medium
- Low
- Countries not included

# Social Risk

The threat of social abuse has been a long-standing problem in Africa's mining sector, with various concerns raised about conflict minerals and the use of child and forced labour. The reputational risk associated with such concerns is set to increase and broaden, covering other matters such as the human rights records of the countries from which minerals are sourced. We therefore examined a range of factors to produce an overall social risk ranking, including the level of freedom present in the countries, conflicts, workers' rights, modern slavery, child labour and the treatment of women and minorities.

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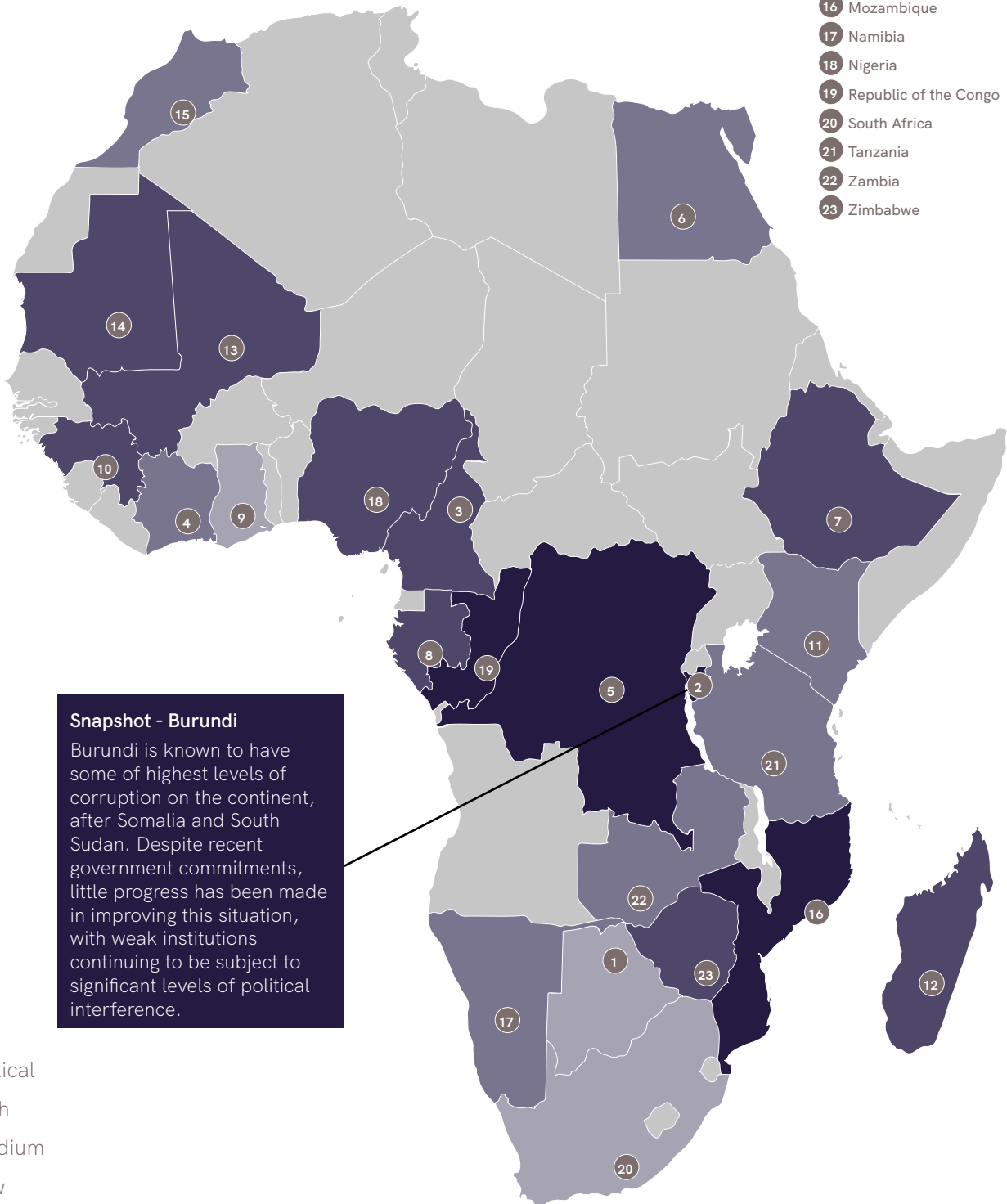
**Snapshot - Cameroon**  
 Cameroon is a politically oppressive country in which workers and minorities are afforded limited rights and protections. It also has high levels of child labour, with almost 40 percent of children engaged in economic activity.

- Critical
- High
- Medium
- Low
- Countries not included

# Governance Risk

Africa has some of the highest levels of corruption and failings in corporate governance in the world and the continent's extractive industries are especially exposed to this threat. In light of this operating environment, it is essential for investors to reduce their exposure to this threat, not only from a legal perspective, but also from an ethical and reputational standpoint. To analyse the degree of this potential risk, we examined the levels of corruption in the identified countries, respect for the rule of law, the extent of political interference and protections against money laundering, terrorist financing and cybercrime.

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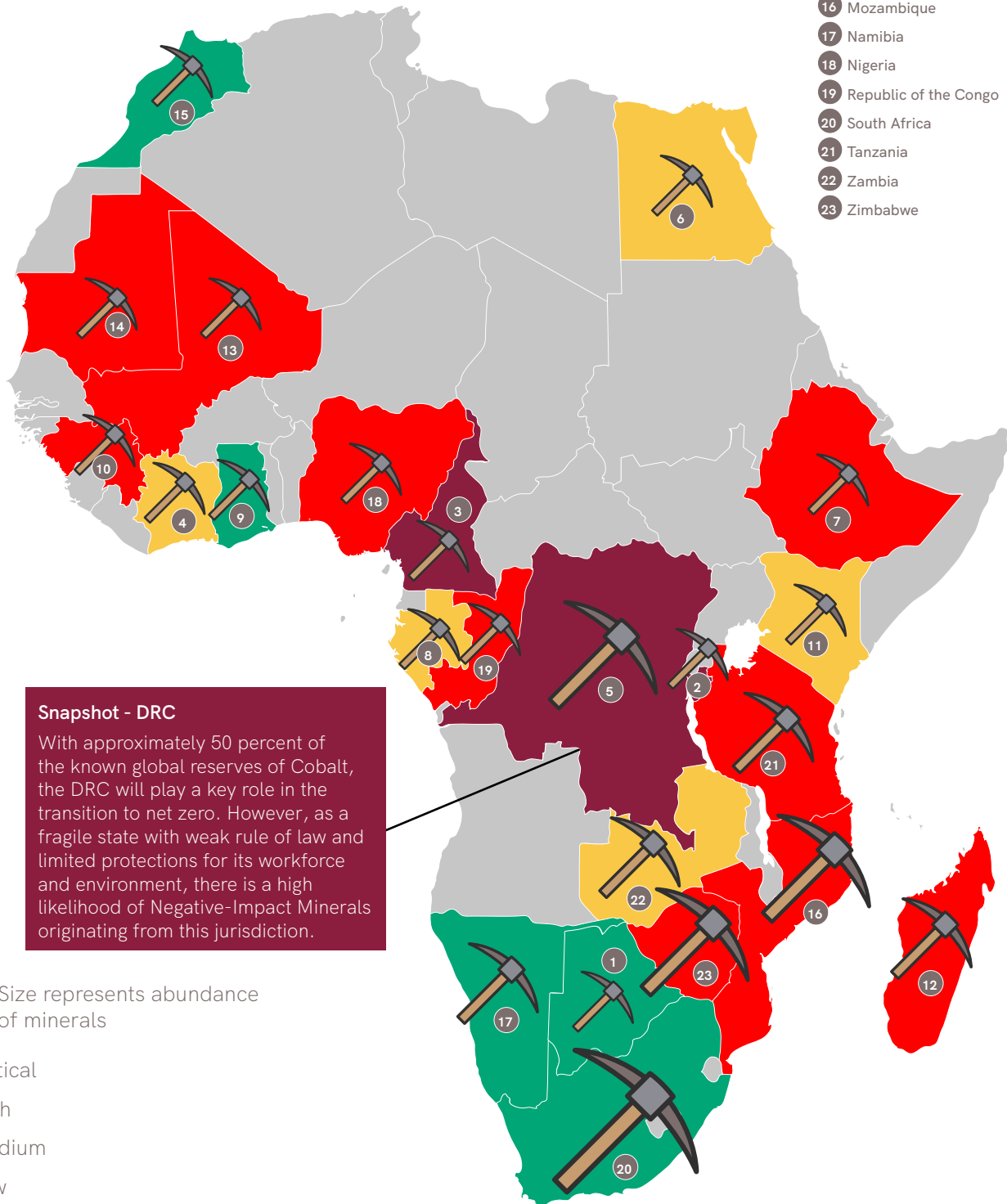


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# Consolidated Risk Rankings

The final graphic represents a consolidation of the ESG risk rankings and the level of strategic importance of different countries for the sourcing of net zero minerals. It provides a broad assessment of the ESG threat present in these jurisdictions, which indicates the potential exposure to Negative-Impact Minerals. For those investors with exposure to the sourcing of minerals from jurisdictions that fall into **CRITICAL** and **HIGH** risk-rankings, Africa Integrity strongly recommends the commissioning of human source-led investigations to establish more precisely the level and nature of such exposure.

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**Snapshot - DRC**  
 With approximately 50 percent of the known global reserves of Cobalt, the DRC will play a key role in the transition to net zero. However, as a fragile state with weak rule of law and limited protections for its workforce and environment, there is a high likelihood of Negative-Impact Minerals originating from this jurisdiction.

 Size represents abundance of minerals

-  Critical
-  High
-  Medium
-  Low
-  Countries not included

# Why is this important?

A strong ESG policy has almost become a requirement for international companies and investors, and this has brought with it increased scrutiny of the ESG credentials of operations and supply chains. While the net zero strategy sits firmly within the broad ESG agenda, it appears that the risks associated with the sourcing of the minerals needed for this strategy are something of a blind spot, as attention is focused on achieving the end goal of net zero. Whatever the merits of this aim, the means by which it is achieved should not be overlooked and will not be spared the scrutiny applied to other operations. Accordingly, it is important that investors examine their vulnerability to Negative-Impact Minerals at an early stage. This will enable them to implement mitigation strategies to reduce their ESG risk. Africa Integrity is strongly placed to assist Clients in assessing such vulnerabilities and providing mitigation strategies across the continent.



**Julian Fisher**

Founder

[jfisher@africa-integrity.com](mailto:jfisher@africa-integrity.com)

+44 (0)203 918 0696



**Michael Kearsley**

Director

[mkearsey@africa-integrity.com](mailto:mkearsey@africa-integrity.com)

+44 (0)203 918 0696

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Africa Integrity Services Ltd  
20-22 Wenlock Road  
London  
N1 7GU

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Phone: +44 (0)20 3918 0696  
info@africa-integrity.com

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