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# THE FUTURE OF RESOURCE TAXATION: A ROADMAP

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The Future of Resource Taxation: A roadmap

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Written by Isaac Agyiri Danso, Thomas Lassourd, Howard Mann, Alexandra Readhead, and Jacqueline Taquiri

Reviewed by Nara Monkam and Ezera Madzivanyika

#### **IISD HEAD OFFICE**

111 Lombard Avenue  
Suite 325  
Winnipeg, Manitoba  
Canada R3B 0T4

[IISD.org](http://IISD.org)

[@IISD\\_news](https://twitter.com/IISD_news)

#### **IGF/IISD OTTAWA OFFICE**

220 Laurier Avenue W.  
Suite 1100  
Ottawa, Ontario  
Canada R3B 0T4

[IGFMining.org](http://IGFMining.org)

[@IGFMining](https://twitter.com/IGFMining)

#### **ATAF OFFICE**

333 Grosvenor Street  
Hatfield Gardens  
Block G, Second Floor  
Pretoria 0181  
South Africa

[ATAFtax.org](http://ATAFtax.org)

[@ATAFtax](https://twitter.com/ATAFtax)

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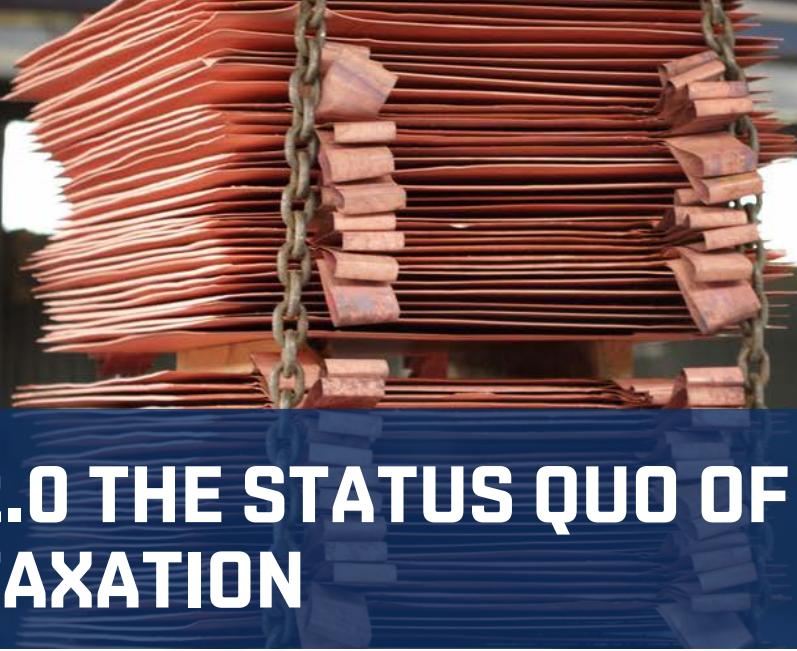
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# 1.0 INTRODUCTION

In July 2020, the Intergovernmental Forum on Mining, Minerals, Metals and Sustainable Development (IGF) and the African Tax Administration Forum (ATAF) launched a joint initiative to re-think how developing countries benefit financially from their mineral resources. The Future of Resource Taxation is a dedicated dialogue for governments, civil society, and industry to exchange ideas on how the current system of mining taxation can be improved, as well as alternative options available to resource-rich countries to maximize the returns from their mineral wealth.

The purpose of this document is to explain why now is the right time to take stock of mining taxation and consider alternative futures, as well as how the dialogue will work practically. In Section 2, we set out how mining is typically taxed. In Section 3, we explore the emerging trends, as well as old and new challenges that have motivated The Future of Resource Taxation. In Section 4, we explain the various steps involved in the dialogue, how stakeholders can participate, and, in Section 5, the values that underpin the process.



## 2.0 THE STATUS QUO OF MINING TAXATION

The national constitutions of most countries vest natural resources, including minerals located within their jurisdictions, in the state. These natural resources are owned by the people and are held in trust for their benefit by the state. This arrangement creates a relationship where the state, acting as a fiduciary, manages the resource wealth for the benefit of its citizens. In exercising this role, states generally grant rights to state-owned or private companies to explore and exploit mineral resources in their jurisdiction as a way of monetizing this public wealth. Exploration activities can be expensive and only occasionally reveal commercially recoverable mineral resources. In granting mining rights, states also determine the allocation of risk and reward between the operators undertaking investment in exploration and development and the owners of subsoil resources.

Over the years, resource-rich countries have participated in their natural resource wealth by direct and indirect means. These have ranged from direct ownership and operation through state-owned enterprises (SOEs) or joint ventures with private companies, where states receive a share of profits as dividends or of the production to market. While SOEs dominate in the oil and gas sector, the trend in mining over the past few decades has emphasized taxation by allowing for private ownership and operation of mines and taxing profits (Otto, 2018, p. 29): governments control roughly 55% of crude oil production (and 86% of known oil reserves) but only about 10% of global metal production<sup>1</sup> (Mitchell et al., 2020, pp. 18–19; Raw Materials Group, 2011, p. 6). Consequently, mineral-rich countries now increasingly depend on taxation, not ownership interest, to generate income from their resource wealth.

The design of mining tax systems varies depending on the policy objectives of each host government.<sup>2</sup> However, the basic mineral sector taxation tools have remained more or less the same over the past several decades (Otto, 2018, p. 277).

<sup>1</sup>This excludes China.

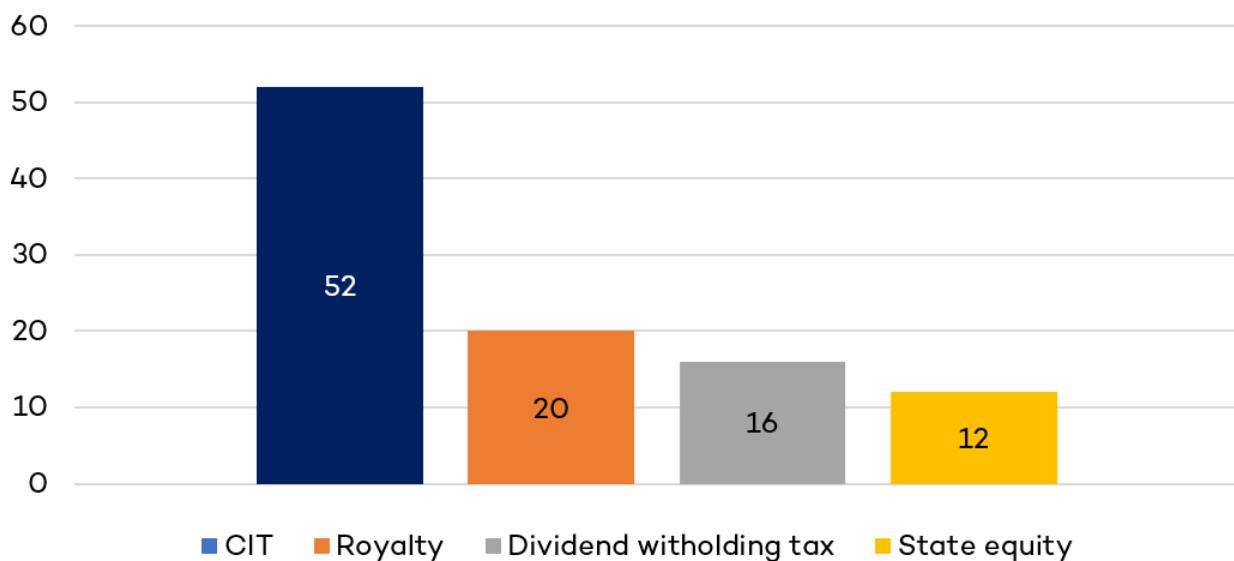
<sup>2</sup>Zambia and Chile, two of the world's largest copper producers, apply vastly different royalty regimes, for example. Zambia applies a variable rate between 5.5% and 10% on gross revenues, and Chile applies a sliding scale tax on operating profits.



The basic mineral sector taxation tools have remained more or less the same over the past several decades.

The two main elements are corporate income tax (CIT) and royalties, pillars of the so-called “tax/royalty fiscal regime.” CIT is based on net profits, with rates typically varying between 20% and 40%. Royalty payments in the minerals sector are typically between 2% and 6% of gross sales (rather than based on profits, as is more common in the oil and gas industry) and provide earlier and more stable/predictable revenues over the life of the mining operation. Royalty payments are intended to deliver proportionally less than CIT over the life of a mining project (Bouterige et al., 2020), as illustrated in Figure 1, a stylized depiction of the theoretical breakdown of government revenues from mining, according to ex-ante modelling by the International Monetary Fund (IMF).<sup>3</sup>

**Figure 1. Theoretical breakdown of mining revenues by instrument, based on ex-ante modelling<sup>4</sup>**



Source: Luca & Puyo, 2016.

CIT and other similar taxes based on net profits have clear advantages. First, they are often part of a generally applicable tax regime. In addition, they are designed to spare loss-making entities but capture an important share of profitable businesses, thereby encouraging investment and economic activity. However, this can result in delays in

<sup>3</sup>The IMF Fiscal Analysis of Resource Industries (FARI) model is used extensively as part of the Fiscal Affairs Department's (FAD) technical assistance to governments.

<sup>4</sup>The IMF FARI model is based on 5% royalty on gross sales, 30% CIT, and 10% free state equity. Two alternative regimes included in the model are an additional profits tax and a tax on rent.

revenue collection due to the long lead times on the construction of mining operations. CIT collections can lack stability/predictability and are heavily dependent on the timing of the project. Such regimes can also be complicated to administer, prone to poorly designed tax incentives, and vulnerable to profit shifting. As a consequence, developing countries tend to collect a much smaller proportion of CIT in practice and rely more heavily on royalty payments (Natural Resources Governance Institute [NRGI], 2019).

State equity participation in mining projects is becoming more common, although dividends may be significantly delayed or not always guaranteed to follow, making this an unreliable source of revenues.<sup>5</sup> Some countries have introduced windfall or excess profit taxes and, in some cases, repealed them afterwards. They are reappearing in some African countries (Bouterige et al., 2020). Other taxes commonly applied to business also apply to the mining sector, such as customs duties, value-added taxes, land use fees, withholding taxes on interest, royalties, dividends, stamp duties, or capital gains tax (Otto, 2018).<sup>6</sup> Tax incentives are also prevalent in the sector and can relate to any or all of the different types of tax instruments, creating additional impacts on revenue collection (IGF, 2019a).

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<sup>5</sup> E.g., in Mongolia (Open Oil, 2016) or Ghana (Malden & Osei, 2018).

<sup>6</sup> Many countries reduce or exempt import duties on mine-related equipment.



## 3.0 REASONS TO RE-THINK RESOURCE TAXATION

There are several reasons to re-think resource taxation. The main economic paradigm of 30 years ago, for developing countries especially, emphasized the role of tax policy in attracting (foreign) investment over collecting revenue. This paradigm has evolved, especially for location-specific industries like the extraction of raw materials.<sup>7</sup> Tax policy still has a role to play in creating a sound environment for investments in mining projects, but policy-makers have a more nuanced understanding of what matters for investors and what types of investments and benefits lead to sustainable growth and development in the host state (Hund et al., 2020). All stakeholders also expect solid revenues from mining and see it as a condition for successful extractive-led sustainable development (NRGI, 2014).

In addition, the extractive sector is at the crossroads of several global phenomena: the impact of climate change and the impetus to green the world economy, the development of technologies affecting labour markets, and a global momentum against inequalities and in favour of tax reforms.

### 3.1 ONGOING CHALLENGES TO MINING REVENUE COLLECTION

For many resource-rich developing countries, mineral resources present an unparalleled economic opportunity to increase government revenue and national economic activity. However, the reality is that most developing countries have struggled to fully realize the expected revenues from the sector due to a range of challenges, both external, such as aggressive tax planning by multinationals, and internal, including weak enforcement of tax laws and overly generous tax incentives.

The difficulty of taxing multinational companies—not only or even especially in the mining sector—is widely acknowledged as a challenge facing tax administrations globally. Inadequate laws and limited human and financial resources mean that developing countries, in particular, are poorly equipped to apply complex international tax norms, such as the arm's length principle (Ezenagu, 2010) and double tax treaties (Brooks & Krever, 2015), leaving them vulnerable to tax base erosion and profit shifting (BEPS), which the IMF estimates deprive them of more than USD 200 billion in revenue per year across all sectors (Crivelli et al., 2015). Paradoxically, these same countries are highly dependent on CIT, which represents almost 19% of all tax revenues in Africa and 16% in Latin America and the

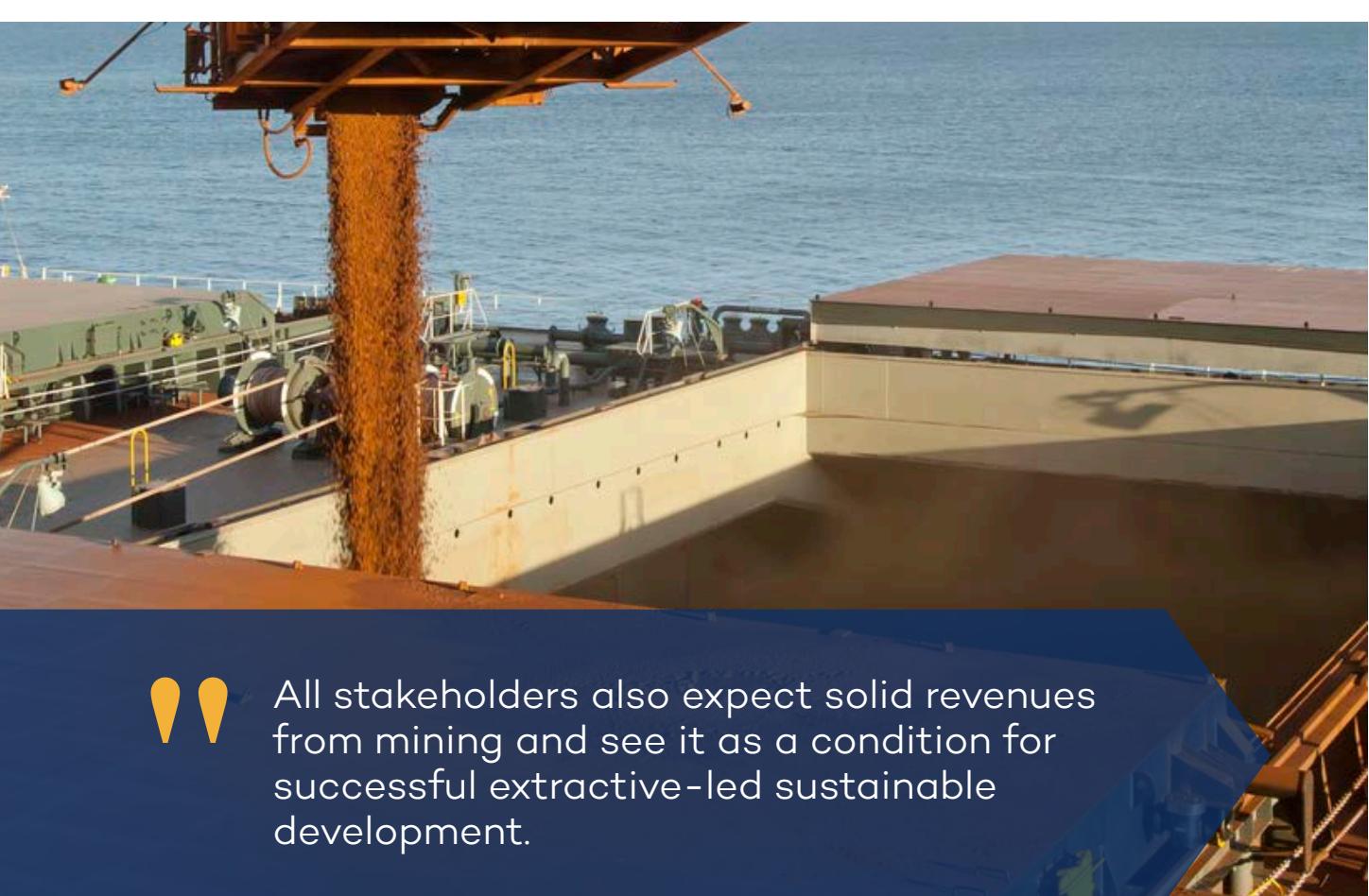
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<sup>7</sup> According to the IMF (2020), “revenue is generally a primary source of potential benefit to host countries.”

Caribbean, compared to 9% in developed nations (Organisation for Economic Co-operation and Development [OECD], 2020b).

One of the advantages of mining is that it is a location-specific, predominantly “brick-and-mortar” business (although technology may play a larger role going forward), making it easier to collect taxes compared to other sectors where investment is more mobile or involves hard-to-value intangibles. The availability of publicly quoted prices means that royalties are relatively simple to administer. Nonetheless, revenue collection remains a challenge due to reliance on CIT and the dominance of multinationals. The higher rate of CIT commonly applied to mining creates an added motivation for companies to shift profits offshore, although generous tax incentives may reduce this in practice (Keen & Thuronyi, 2017, p. 3). Moreover, tax authorities often lack the industry knowledge and expertise required to verify mining taxes. The risk of companies overstating costs looms especially large because of the scale of mining operations (Otto, 2018, p. 13).

The use of tax incentives has the potential to further complicate mining revenue collection. While some governments may determine that efficient and effective tax incentives are necessary to induce mining investment, this often comes at a cost to tax administration, good governance, and unintended revenue losses (Redhead, 2018). An added risk is that some legal guarantees of fiscal stabilization may lock in poorly designed fiscal terms, leading to unsustainable benefits for investors and potentially resulting in costly disputes.



All stakeholders also expect solid revenues from mining and see it as a condition for successful extractive-led sustainable development.

The OECD principles for durable extractive contracts, meant in part to improve the design of fiscal stability provisions and avoid investor-state disputes, are yet to fully impact the design of these clauses (OECD, 2019).

The current mining fiscal regime, with its reliance on CIT and widespread use of tax incentives, is unlikely to deliver the level of strong, sustained government revenue expected by theoretical models. According to one mining tax expert, “most nations today have developed their mining sector tax systems to achieve a ‘theoretical’ fair balance between national and investor interests [however] transfer pricing linkages remain a major challenge that distorts actual revenue collection”(Otto, 2018, p. 3). Going forward, mining fiscal regimes should generate reliable, easy-to-collect revenues that are protected from the risks of profit shifting.

### **3.2 NEW RISKS AND OPPORTUNITIES EMERGING IN LOW-CARBON MINERALS**

The opportunities, risks, and uncertainties associated with critical low-carbon minerals underscore the importance of good fiscal policy. Resource-rich countries, buoyed by the demand for low-carbon minerals (Hund et al., 2020)<sup>8</sup> and increasing in tandem with the demand for low-carbon energy and transport technologies, may seek to capture more of the value from critical minerals through fiscal and industrial policy. Chile struck a deal with Samsung to build electric vehicle battery factories in Chile in return for a guaranteed supply of lithium at a fixed price for 30 years (Sherwood, 2019). Well-designed fiscal policy is necessary to ensure that resource-rich countries make the most out of the potential for additional sources of revenue and new economic linkages from low-carbon minerals.



Well-designed fiscal policy is necessary to ensure that resource-rich countries make the most out of low-carbon minerals.

Governments also need to approach such fiscal policy choices carefully. While the expansion in some of these minerals presents new opportunities, there is also significant uncertainty (Toledano et al., 2020). The potential for future growth in government revenues depends on many factors: recycling and the increasing push for circular economy policies mean there will be less need for primary extraction of some minerals in the near future (Toledano et al., 2020, p. 2).<sup>9</sup> Minerals such as copper and aluminum are easy to recycle without losing their potency and with less energy than primary production. Changes in technologies—for example, the technology in batteries for energy storage—will also have major—and in some

<sup>8</sup> In 2020, the World Bank estimated that the growth of production of minerals such as cobalt, graphite, and lithium would increase by over 450% by 2050.

<sup>9</sup> The World Bank's 2020 estimates were revised from an earlier 2017 report that, using a similar methodology, had presented even higher estimates, projecting a 965% increase in the global demand of lithium by 2050 and a six-fold increase in cobalt during the same period. A primary explanation for this difference is how the World Bank factored recycling and reuse into the estimated numbers in 2020, which it had not done in 2017.

cases, still unforeseen—impacts on future demand for cobalt and lithium, and therefore on host countries and investors. There is a risk that countries will design fiscal policies to become too reliant on revenues from low-carbon minerals, which are potentially less stable and predictable due to dynamic innovation in energy technologies. Another risk is that high mineral prices, scarcity of supply, governance gaps, and poorly designed fiscal policy in some jurisdictions may lead manufacturers to make huge investments in research and development in order to find substitutes (Zaremba, 2020).

Mining regimes that chase prices and technologies have rarely been successful in maximizing government revenues over the longer term. This is even more so the case now when high expectations of low-carbon minerals run the risk of potentially undermining the value of investments in those resources. Long-term fiscal policy, among other conditions, will be critical to ensuring that governments and citizens are best placed to maximize the value of potential growth in these commodities.

### **3.3 DISRUPTIVE TECHNOLOGIES IMPACT THE SHARING OF MINING BENEFITS**

The mining sector is undergoing a major technological transition. From the use of autonomous long-haul trains and trucks to full digitalization of mine operations and the use of optimization tools like machine learning and artificial intelligence, the sector is experiencing rapid transformation. The suite of new technologies available and emerging will revolutionize the way mining is conducted in many instances. On the one hand, these changes bring new opportunities, including increased viability of operations in the face of declining ore grades, increased worker health and safety, lower greenhouse gas emissions, and more opportunities for women in the workplace (IGF, 2019b, p. 5). On the other hand, the adoption of some new technologies may substantially change the traditional benefit-sharing model of the mining industry in both developed and developing countries, with the impacts of that change being felt more acutely in developing countries.

First, some new technologies are likely to replace significant numbers of low- and medium-skilled workers in the countries where they are deployed (Cosbey et al., 2017, p. 27).<sup>10</sup> According to the International Council for Mining and Metals (2016), salaries and wages constitute 10% to 20% of the economic benefit that countries receive from mining.<sup>11</sup> In addition to the impact on livelihoods, fewer jobs also mean fewer payroll taxes and indirect taxes derived from economic activities around the mine, which currently make up a large share of payments to governments. In Zambia, for example, payroll taxes were 14.6% of government revenues from mining in 2017. It is highly uncertain whether these workers will get absorbed into other industries, especially in more remote communities, in which case, a significant hole may be left in government budgets and local economies. There are also likely to be fewer traditional procurement opportunities, and hence taxes from suppliers, all of which changes the traditional benefit-sharing model substantially.

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<sup>10</sup> It is estimated that the roll-out of existing technology will reduce operational work such as drilling, blasting, and train and truck driving—jobs that typically constitute about 70% of employment at the mine site. We recognize that not all new technologies will be deployed equally across all developing countries due to the supporting infrastructure required, and hence, the impact on the benefit-sharing model may vary.

<sup>11</sup> This figure is just direct employment. Most mining companies also cite indirect and induced impacts when they present their GDP impacts in countries.



►► The adoption of some new technologies may substantially change the traditional benefit-sharing model of the mining industry in both developed and developing countries.

Second, the role of new technologies will lead to a significant increase in the value of mining-related intangible assets such as patents, algorithms, etc. as a percentage of the mining value chain. Intangible assets already represent a major risk of profit shifting by multinational companies. Local mining companies will be required to pay licensing fees for new technologies, including to related companies and possibly in low-tax jurisdictions, further exacerbating profit-shifting risks and revenue collection challenges under the current mining tax system.

Third, new technologies may lead to changes in mining business models, as well as the traditional roles and relationships among mining companies, their customers, and their goods and services suppliers. For example, technology service providers may become more

critical in the sector but could also be tied to foreign equipment manufacturers, freezing out local maintenance providers (NRGI, 2020, p. 6). Sourcing equipment might change, with many companies already moving away from owning capital equipment to leasing it. Some mines might be almost entirely operated by control rooms overseas. Tax authorities will almost certainly face changes in mining business structures, which might lead to increased difficulty in audit risk analysis.

However, new technologies might also mean opportunities to improve government oversight of the mining sector. The digitalization of operations will mean that mine sites are rich with real-time data. Tools for monitoring the flow and quality of minerals extracted could strengthen government revenue collection by providing real-time information to governments on the grade and quantity of extracted ores (EY, 2019, p. 13). Increased access to information may also facilitate the implementation of more nuanced, targeted fiscal terms.

## 3.4 GOVERNMENTS FACE NEW OR ADDED PRESSURES

### CLIMATE CHANGE

A changing climate, and the measures required to limit its severity or cope with its impact, will put a heavy burden on governments around the world, particularly in developing countries.

As the world slowly addresses climate change and shifts away from fossil fuels, countries that have traditionally depended on revenue from oil, gas, or coal will need to diversify their tax base. Countries with large state-owned companies will be most at risk of being left with stranded fossil fuel assets and large liabilities (Manley et al., 2017). Each government will assess its own options in terms of economic policy, but it is expected that those countries that have already invested human and financial resources in their extractive sectors, such as Saudi Arabia or Nigeria, may put a stronger focus on mining (Okechukwu & Arowosaiye, 2020; Oxford Business Group, 2017). These new actors have an opportunity to learn from past experiences.

It is also clear that developing countries, who have little responsibility for global warming, will be particularly vulnerable to the impact of climate change, from droughts, floods, hurricanes, and related climate events. Adapting to these risks and developing a resilient economy will require important financial resources to invest in new infrastructure and human capital (United Nations Environment Programme, 2016). These resources are already lacking. Governments will be seeking increased contributions and innovative financing wherever they can. They are entitled to expect the support of developed economies, who are responsible for most of the world's carbon emissions and the changing climate.

### A TROUBLED GLOBAL ECONOMY; A MORE ENGAGED CITIZENRY

The COVID-19 pandemic hit a world economy that was already showing its weaknesses and has accelerated deeper calls for social change. The immediate response of governments has been, rightly, to prevent the transmission of the virus and protect the health of their citizens. The high economic costs of the pandemic and the impact of preventive measures have been felt by many of the most vulnerable populations. As governments take extraordinary measures to rebuild their economies, they are not expected to go back to normal. People, especially younger generations, are demanding to “build back better”—this means, first, addressing the main causes of climate change, then better infrastructure, better public services, better health care and education, and more economic opportunities for disadvantaged groups. It means an overall system that is more sustainable; fairer and with a focus on equality; and more respectful of women, minorities and Indigenous populations (OECD, 2020a; Sachs et al., 2020). Developing countries face added challenges to navigate the COVID-19 crisis: they have little fiscal space to design comprehensive economic stimuli, increasing levels of debt that need to be managed to avoid severe macroeconomic impacts (Georgieva et al., 2020), and relatively young populations with high expectations.

On the tax front, there is a clear and strong demand from civil society organizations for tax justice. Ideas that used to be considered marginal, such as wealth taxes or high marginal income tax rates, are now part of the public debate in many countries (Landais et al., 2020;

Schneider & Kahn, 2020). How much in tax revenues companies and wealthy individuals contribute to their countries is becoming an ethical question of broad public interest. Mining companies have responded to the pressure in the past by increasing their commitments to tax transparency and tax responsibility. They will be expected to go further in that direction and join the global reform agenda. The inclusive framework on BEPS, a collaboration of over 135 countries to review aspects of the international tax system, is contemplating more formulaic approaches to apportioning multinational companies' profits and minimum levels of profit taxes (OECD, 2020c). The OECD (2020d) suggests a "stocktaking exercise" to "re-examine how international tax rules currently meet the need of developing countries," leading potentially to a "new deal on international taxation as part of the international effort to rebuild resilient economic life in the post COVID-19 era." The Future of Resource Taxation will complement these debates by offering sector-specific options for reform.

Beyond taxation, citizens around the world are also demanding more transparency and accountability on government spending, with initiatives such as open budgets to improve the transparency of the budget cycle<sup>12</sup> and open contracting,<sup>13</sup> as well as to ensure efficient public procurement and specific demands for transparency in resource revenue spending (Extractive Industries Transparency Initiative, n.d.). Public oversight of government collection and the spending of public revenue are critical to translating increased taxation into more and better public goods and services.



The goal of the project is to take stock of current mining tax systems and consider alternative futures.

<sup>12</sup> See, for example, the Open Budget Partnership: <https://www.internationalbudget.org/>

<sup>13</sup> See, for example, the Open Contracting Partnership: <https://www.open-contracting.org/>



## 4.0 THE FUTURE OF RESOURCE TAXATION

In July 2020, the IGF and the ATAF launched a new initiative on The Future of Resource Taxation. This initiative forms part of their existing mandate to address BEPS issues in the mining sector. It will also link to other IGF work on local content, technology, and innovation, as well as ATAF work on international taxation. These connections will be critical to achieving a result that considers the range of economic and social benefits that mining offers, as well as changes in the international tax framework.

The goal of the project is to take stock of current mining tax systems and consider alternative futures. We seek to constructively challenge the status quo with two main questions:

1. How can the dominant fiscal regimes for mining, based on royalties and income taxes, be improved in design or implementation?
2. Are there alternative options available to resource-rich countries to maximize the returns from their mineral wealth?

The first step toward answering these two questions is to further develop our understanding of the role fiscal policy plays in investment in the minerals sector, as well as how minerals are currently taxed and why. It is also important to examine changes in the sector and elsewhere that potentially affect how governments benefit financially from their mineral resources and what questions these raise for fiscal regime design.

The second step will be crowdsourcing ideas and innovative approaches to fiscal regime design and administration in mining. This process will be open to all stakeholders, with ideas expected to come from governments, civil society, academia, international organizations, and industry. Governments will be surveyed by the IGF and the ATAF, whereas other stakeholders will be invited to submit proposals. We hope these ideas will involve a mix of incremental reforms that seek to improve the current mining tax system, as well as more fundamental changes.

The third step will be researching several of these ideas. With each idea, we will investigate the policy objectives; how it works, or might work, in practice; the impacts on attracting investment; project timing; government revenues; and so on. Ideas will be selected for further research according to the criteria below. Depending on how distinct they are, we may group some ideas based on a theme. The final output will be a handbook containing a menu of

ideas to improve mining revenue collection and a framework to help policy-makers think through these options. The handbook will be released for public consultation before being presented for endorsement by ATAF and IGF members.

Prioritizing ideas for further research:

- The idea must be innovative—either a government-tested innovation or an untested idea.
- The idea must be forward-looking, i.e., adapting to how the mining sector is changing.
- The idea must be responsive to one or more of the issues outlined above.
- The idea must consider the contextual needs of developing countries.
- Ideas and engagement with ideas must follow the values outlined below.



## 5.0 OUR VALUES

As we move through this process, our goal is to engage governments, industry, academia, civil society, and other key stakeholder groups in a thoughtful and respectful dialogue. We recognize that there will be differences in points of view and that some ideas will be attractive to some stakeholders but less so to others. Our ask is simply that all participants take a considered approach when reviewing all ideas shared. We ask that participants share opinions in a way that promotes inclusiveness for the idea as well as of those expressing their thoughts. This does not mean that reactions to different ideas cannot express criticism of the idea, but we expect such expressions to be about the ideas, to be professionally stated, and to be evidence-based, as much as possible.

It is our goal to have an inclusive debate, to allow the most interesting ideas to percolate to the top, and to recognize that a menu of good options will take us further than assertions that one answer will fit all needs. We seek a process that tries to unite different stakeholders around a common objective of equitable results for all stakeholders, based on clearer and fairer rules for all. And we seek results that governments can implement effectively with the support of stakeholders across the sector.

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