

# Extractive Industries

## Transition to Sustainable Systems

### REGIONAL POLICY BRIEF



## INTRODUCTION

To ensure that extractive industries can play a critical role in the post-COVID-19 era and support sustainable development and climate change agendas, regional cooperation and coordination is needed to strengthen extractive industries' contribution to domestic resource mobilization, and adjust production systems and value chains to accelerate the transition towards a sustainable future for all.

The world is undergoing an unprecedented transformation, accelerated by innovations, rapid cost declines for clean technologies, and related policy shifts. New business models have been expanding, while creating jobs, empowering women, and making communities more resilient.

The COVID-19 pandemic has presented an abrupt, even if temporary, halt to some of these trends, and underscored systemic vulnerabilities in health, economic, social and other systems, including those related to energy and industry. Failure to transition quickly to more sustainable systems will perpetuate these vulnerabilities, while also jeopardizing the fight against climate change and threatening human wellbeing, ecosystems and economies for decades, if not centuries, to come.

The extractive industries need to be addressed from both supply and demand perspectives to consider the implications of the energy transition for both producing and consuming countries. There is a window of opportunity to capitalize on the rising demand for renewable technologies

that contribute to climate change and sustainable development agendas. This includes diversifying energy sources and export basis, eliminating wasteful fossil fuel subsidies, facilitating a circular economy, practicing good governance, and aligning extractive industries with the Sustainable Development Goals (SDGs) and Paris Agreement on Climate Change.

Mining industries can be an important driver in the post-pandemic recovery as well as in the process of decarbonizing economies. However, this transition must be articulated around sustainable and responsible supply chains, which seek an adequate balance between the protection of environment, the development of the mining activity and the rights of local populations and communities.

The post-COVID-19 green recovery has created a once-in-a-lifetime opportunity to transform the extractive industries, overcome obstacles, and build forward better towards a more sustainable, equitable and inclusive development. A post-COVID19 world order can be based on a circular and inclusive economy — one that both anticipates crises and democratizes its benefits and risks.

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## Financing for development

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International and regional financial institutions should help build and diversify project development pipelines, including by injecting liquidity and massively scaling up concessional finance. This also requires debt suspensions and debt-for-climate swaps, which will allow countries to reallocate investment for sustainable development initiatives. New financial and commercial models are also needed to allow for better risk mitigation and risk sharing.

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The COVID-19 pandemic has increased the financing gap for the SDGs, and fiscal stress on all countries and regions. In this context, extractive industries can play a critical role, reorienting priorities and aligning finance and policies with the SDGs and Paris Agreement to create an inclusive, carbon-neutral and sustainable future. More innovative financial instruments are necessary to help stakeholders realize the financial, economic and social benefits of transitioning to more sustainable systems. Utilizing international financial institutions' (IFIs) preferred creditor status and multilateral leverage can mobilize finance for this capital-intensive industry, drawing in the private sector through syndication and finance critical projects.

Mandates of development banks should require channelling a significant percentage of portfolio loans to green investment and climate-change-related projects and that of multilateral development banks towards subregional and national development banks in order to access low-cost funding, long-term capital, and technical capacity to access funds and design projects.<sup>1</sup> In periods of economic downturn, countercyclical debt can help safeguard the fiscal space through immediate provision of liquidity, mitigate the likelihood of debt default, and prevent and reduce costly debt restructuring operations. IFIs are uniquely positioned to support private sector players in taking risks that otherwise would not have been considered, and provide finance in countries that face particularly challenging investment climates, such as those recovering from conflict.



Debt swaps are a means of swapping debt for investments in sustainable development, especially in climate adaptation where the Arab region attracts the lowest share at only 6 per cent, so as to protect nature and support sustainable livelihoods.<sup>a</sup>

<sup>a</sup> ESCWA: State and Trends in Adaptation Report 2020: <https://gca.org/reports/state-and-trends-in-adaptation-report-2020/>.

<sup>1</sup> [https://www.cepal.org/sites/default/files/publication/files/46711/S2100063\\_en.pdf](https://www.cepal.org/sites/default/files/publication/files/46711/S2100063_en.pdf).

There is a need to build fiscal buffers that reduce deficits and restore fiscal sustainability in preparation for shocks to ensure a more resilient economy. This includes the development of a tax base, engaging in VAT reform and creating income tax. These will make industries more efficient, reduce dependence on extractives revenues, and diversify economies into sectors of the future, such as net-zero emissions (NZE) technologies, to broaden the revenue base.

## Mobilizing finance

The depletion of high-grade oil, gas and mineral reserves require governments to maximise the revenue generation potentials of extractive industries, especially at a time when forecasts are indicating that the slowest rebound in economic recovery in 2021 is projected for commodity-exporting regions. These dynamics impose additional challenges to the design of fiscal regimes, and call for medium to long-term revenue strategies that recognize revenues from extractive industries as transforming finite resources to sustainable assets. Governments have not always been able to collect appropriate levels of revenue from extractive industries, a problem further compounded by the lack of financial transparency which, all too often, allows for corruption, siphoning of profits, and other illicit financial flows.

## Illicit financial flows

Extractive industries, such as the gas, minerals and oil sectors, are particularly affected by bribery and corruption. Moreover, extractive operations often take place in remote areas, which makes public scrutiny difficult. Improving transparency on value chains operations and financial flows can play a key role in enhancing accountability, ensuring regulatory compliance, addressing corruption, and improving governance. Transparency can shift investment towards raw material projects that are sustainable, and increase control over illicit financial flows (IFFs) and compliance with environmental and social requirements.

Political economy and regional contexts play an important role in how extractive industries thrive or are taken hostage by IFFs. Many countries

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In Africa, the conservative estimate of \$50 billion in IFFs being taken out of the continent each year is equivalent to 3 per cent of Africa's annual GDP, 60 per cent of the \$84.4 billion received in remittances in 2018 and slightly higher than Africa's official development assistance (ODA) of \$46.3 billion in 2018.<sup>a</sup>

Based on the findings of the first regional report on Illicit Financial Flows in the Arab region, ESCWA finds that Arab economies fall prey to at least \$60.3 billion–\$77.5 billion per year in damages due to IFFs associated with trade misinvoicing. Trade misinvoicing appears more pervasive for non-resource-based economies and for non-oil products and has followed a general upward trend since 2008. By 2015, IFF outflows had exceeded the combined aggregates of both official development assistance and foreign direct investments flowing into Arab countries.<sup>b</sup>

In Latin America, the extractive industries' contribution to domestic resource mobilization is impeded by illicit financial flows, often the result of trade mis-invoicing. In 2017, ECLAC estimated that illicit financial outflows from the Latin America and the Caribbean region from transactions related to non-renewable natural resources totalled \$131.5 billion between 2004 and 2013.<sup>c</sup>

<sup>a</sup> Economic Commission for Africa, Institutional Architecture to Address Illicit Financial Flows from Africa, November 2020.

<sup>b</sup> Economic and Social Commission for Western Asia, Regional report on Illicit Financial Flows in the Arab region, 2018.

<sup>c</sup> Podestá, A, M. Hanni y R. Martner (2017), “Flujos financieros ilícitos en América Latina y el Caribe”, Serie Macroeconomía del Desarrollo, No. 183, Naciones Unidas, Santiago.



Enabling private finance through effective market regulation and appropriate financial tools can be critical in helping countries mobilize resources, but require institution-building and a credible regulatory and financial framework. Opportunities in the area of private finance, public-private partnerships, and diversification require immense mobilization of private finance and the domestic banking sector.

There is a need for rapid progress towards a circular economy, using a holistic strategy that considers the complex interactions and feedback loops between human and natural systems affecting the natural resource base, such as energy, food, land, materials and water. The United Nations Resource Management System (UNRMS) is being designed as a unifying framework for the integrated management of resources to break the siloed approach.

still do not have overarching policies for resource development, and operate under one-off contracts with large multinational companies. The absence of mineral and petroleum policies put countries in a disadvantaged position where they have to negotiate contracts that promote short-term company interests over long-term national interests. Where policies exist, like the Africa Mining Vision (AMV), lack of diligent implementation leads to unfavorable contract offers, disadvantaging developing countries. Many countries unnecessarily offer tax incentives, which have little weight in investment decisions, and are often abused, leading to illicit flow of funds from established multinationals. Moreover, lack of expertise in the extractive sectors by developing countries inhibits detection of the illicit flows through transfer pricing, trade mis-invoicing and other forms of IFF.<sup>2</sup>

## The private sector

The private sector has gradually realized that business-as-usual is not an option for the future, and that a transition towards more sustainability is key to the long-term financial success of companies. Large investments in the extractive industries are still needed, and cannot come from spending governments' extractive revenues alone. Government should put in place a clear and reliable policy environment in order to encourage and leverage a wide range of private-sector activity, both large firms and small and medium enterprises (SMEs). Private-sector stakeholders can act faster than governments, so long as the right incentives are in place to encourage them to do so. Policymakers must support this transition and make financial systems a driver of change.<sup>3</sup> For capital-intensive renewable-energy technologies, this means helping to lower the cost of capital by, for example, reducing investment risk or providing stable support schemes. Financial innovations are also needed to help drive the efficient and secure closure of existing coal plants and other fossil-fuel based technologies. For example, securitization can allow coal generation owners re-finance inefficient and uneconomic plants, allowing for early retirement while reducing the financial burden of maintaining stranded assets on their balance sheets.



Several examples from Africa, Latin American and the Caribbean illustrate business models based on practical examples of public-private partnerships, especially successful cases of synergy/partnership between government and private players.

Reaching ambitious neutrality targets requires unprecedented global collaboration and innovation in the natural sciences and advances in the applied sciences, including carbon capture and use, hydrogen, synthetic fuels, manufacturing, artificial intelligence, data analytics and others.

## Natural resource management

Challenges of sustainable resource management are becoming graver, given the rising demand for better quality of life and population growth. Resource management decisions have historically been made on a project-by-project or sector-by-sector basis, and usually by a single government entity or individual companies. This fragmented approach has come up

<sup>2</sup> Institutional architecture to address illicit financial flows from Africa. Addis Ababa. © UN. ECA. <https://repository.uneca.org/handle/10855/43826>.

<sup>3</sup> Finance for Development Report (2020). <https://www.un.org/development/desa/publications/2020-financing-for-sustainable-development-report.html>.

significantly short, lacking a broad perspective, with limited diversity of knowledge and viewpoints used to support decision making. At the same time, it creates difficulties to anticipate the aggregate environmental impacts, which add to the existing historical environmental liabilities.

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Norway plays a crucial role as an exporter of capital. With the largest sovereign wealth fund in the world, the country's policies and investment decisions can have real impact at home and abroad, helping to support an orderly transition through its effective management of climate-related financial risk and investment in low-carbon sectors. Through the integration of renewable energy and carbon capture and storage, Norway is leading progress towards the decarbonization of oil and gas production, thanks to decarbonization targets such as those launched by the Norwegian Oil and Gas Association, stipulating a 40 per cent reduction by 2030 compared with 2005, and near-zero by 2050.<sup>a</sup>

<sup>a</sup> Chatham House, Expert Perspectives on Norway's Energy Future, 2020. <sup>a</sup>

## Climate change

Extractive Industries have the potential to drive economic growth, yet environmental challenges associated with these industries pose risks for future generations' living standards. Greenhouse gas emissions, pollution and biodiversity loss are just some of the threats extractive industries pose to human health and the environment. Drastically reducing carbon dioxide emissions requires the participation of hard-to-abate sectors, such as oil, gas, aluminium, iron, steel, cement and petrochemicals, as well as the heavy transport sector. Combined, these comprise a total of 37 per cent of carbon dioxide emissions.<sup>4</sup> Intergovernmental Panel on Climate Change (IPCC) models show that reaching the 1.5°C or 2°C target cannot be achieved without first reaching emission neutrality, coupled

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The energy transition has dramatic implications for the Chinese economy. Currently, China is both the single largest producer and importer of coal globally. Between 2015 and 2019, China built more than 230 GW of coal generation capacity, an amount comparable to all the coal generation ever built in India. In 2020, China announced an ambitious plan to achieve carbon neutrality by 2060, with fossil fuel consumption peaking in 2030 and declining thereafter. According to one estimate by the Natural Resources Defence Council, keeping global temperature rise to below 2°C will require a 30 per cent reduction in Chinese coal consumption by 2030, resulting in a halving of coal-related jobs over that same period. To manage this transition effectively, China is looking to implement a range of technological and policy innovations. For example, new financing models can help attract investments needed to scale up the development of renewable energy technologies, while also avoiding carbon lock-in effects by preventing the development of new, and guiding the closure of existing, coal plants. At the same time, China is seeking ways to use its existing coal generation fleet as a contributor to sustainability. In particular, China is exploring the notion of “carbon capture and circulation”, whereby carbon dioxide produced by coal generation is captured and used as an input into various products (such as carbon nanotubes) and processes (such as hydrogen production) to support the transition to a sustainable economy.

<sup>a</sup> Background Paper of the Regional Roundtable of ESCAP: The Energy Transition and Extractive Industries Development in the Asia-Pacific Region (February 2021).

with intensified efforts to deploy and use negative emission technologies. In turn, these goals cannot be achieved without moving hard-to-abate sectors, including industry and transport, towards sustainability.<sup>5</sup>

A big question concerns the extent to which least income countries (LICs) that contribute trivial amounts to total global carbon emissions should be expected to adopt policies (e.g. an early abandonment of coal) as part of their Paris Agreement commitments, when SDG 7 targets for improved energy access could be achieved by some continued use, for instance, of coal or gas-fired power generation. For example, in India, Indonesia and Tanzania, new natural gas supplies have contributed to a significant rise in affordable energy access.

Increased transparency on carbon emissions embedded in the balance sheets of extractive industries' value chains can help investors and policymakers make more informed decisions, while allowing the large balance sheets of these corporations to support the capital-intensive investments needed to drive the energy transition.

Financial innovations are opening up new business opportunities, while also helping to efficiently reduce reliance on carbon-emitting power generation. Private sector stakeholders, including many in the fossil-fuel extraction and processing industries, are increasingly seeing better opportunities in clean energy investments. Moreover, impacted and marginalized populations, including indigenous communities and women, are finding better economic opportunities in the emerging clean energy sector. Countries must continue to engage in meaningful and inclusive conversations to share best practices, identify opportunities for collaboration, and drive much needed financial and technological innovation.



The use of remote sensing via satellites to provide data on successful attempts to reduce wasteful gas flaring in Nigeria resulted in reduced emissions and raised significant fiscal revenues.<sup>a</sup>

<sup>a</sup> ECA, Outcome Document of the Roundtable on Extractive Industries as an Engine for Sustainable Development: The Case of Africa, October 2020.<sup>a</sup>

## Environmental risks and sustainability

Extractive sectors in all countries need to reduce their environmental footprint, especially their greenhouse gas emissions. Countries and extractive companies (minerals, oil and gas) need to prepare for the accelerating shift now underway from fossil fuels to renewable energy, and for the economic consequences of a global transition to low-carbon pathways.

The substantial environmental harm associated with mining metals needed for the renewables revolution requires much attention and ameliorating support, especially in countries with weaker regulatory capacity. Greater use of sophisticated technologies can significantly contribute to improved outcomes in many areas where extractive companies work.

Our world needs more regional and global collaboration and solidarity, including through research, technology transfer and trade, to ensure a green and just transition for all.

Environmental and social governance (ESG) focused financing is increasing, and is a solution to the challenge of transitioning to a sustainable low-carbon future. However, such initiatives often lead to 'green washing', which fails to break the business-as-usual inertia. In response, a global sustainable principles-based taxonomy can ensure

5 G20 Insights, A carbon management system of innovation: Towards a circular carbon economy, 2020.

that investments are directed towards clear goals, and can identify the opportunities offered by a green transition. Incorporating effective ESG can also positively affect company credit rating, which can result in a lower cost of funding and thus the ability to enter a wider pool of investment opportunities, including modern technology and high-risk countries in need of finance for sustainable growth.



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# GREEN AND CIRCULAR ECONOMY, TECHNOLOGY AND INNOVATION

The role of carbon management technological innovations across the 4Rs (reduce, reuse, recycle, and remove) of the circular carbon economy can create sustainable pathways towards carbon-neutrality both in the mitigation of carbon dioxide and in reducing costs incurred by industry.

Circular economy practices can create job opportunities for women and unskilled young people in local communities, while also creating large business opportunities in the form of sustainable alternatives to products with significant demand. Countries should also explore opportunities to work together to benefit from complementarities and leverage relative strengths. For example, countries that have significant potential for wind and solar power could support a regional transition by investing in long-distance transmission lines connected to neighbouring countries.

## Circular carbon economy

Countries rich in natural resources are increasingly eager to leverage on the positive impact of their extractive industries, and to maximise the capture of value along the supply chain on a life cycle basis through the framework of circular economy, while removing the current distortions in most of these economies and market structure that resulted from less than optimum policies and governance. For instance, the Arab region,

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The national oil company, Saudi Aramco, has significantly improved its upstream process efficiency over time. Flaring levels are industry-leading at less than 1 per cent of annual gas volumes, and crude oils have some of the lowest carbon intensities at 4.1g CO<sub>2</sub>eq/MJ. This is an extraction energy-efficiency indicator as it reflects management of highly productive reservoirs (high productivity index), low water production (leads to lower mass lifted and less energy expenditure in separation per unit of oil extracted), and low flaring rates.

SABIC, another key stakeholder in the Saudi economy and the world's fourth largest chemical company,

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