

**Submission for the report of the
Special Rapporteur on the protection of human rights in the context
of climate change on
Human Rights in the Life Cycle of Renewable Energy and Critical
Minerals**



This submission is presented by CambiaMO, Center for Economic and Rights, EcoJustice, Global



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We welcome the opportunity to provide input to the report of the Special Rapporteur on human rights and climate change on the issue related to the human rights implications in the life cycle of renewable energy and critical minerals. As the climate crisis escalates, it is essential to ensure that the new energy systems developed not only ensure a shift from fossil fuels to clean, renewable, and efficient energy sources, but also provide an opportunity to fundamentally question for whom energy is produced and for which purposes. This is critical to ensure they do not reproduce the abuses, power imbalances, and lack of accountability characteristic of the previous fossil fuel energy system.

In this light, new green energy systems should contribute to powering new social and economic systems that realise rights within planetary boundaries. To this end, the international human rights framework can play a key role in shaping the production, transmission, distribution, and consumption of energy across its value chain. Adopting a human rights perspective to energy justice would allow for the development of new renewable energy infrastructure for present and future generations that ensures democratic governance and ownership, gender justice, the equal redistribution of benefits, meaningful and effective participation in energy decision-making, and the provision of effective energy solutions for all.

Against this background, this joint submission provide information on the following key issues that seek to address questions 1 and 2 of the questionnaire:

- The international obligations relevant to the protection of human rights in the life cycle of renewable energies and critical minerals; and
- The positive and negative human rights impacts of the life cycle of critical minerals.

I. The international obligations relevant to the protection of human rights in the life cycle of renewable energies and critical minerals

i. States must take effective measures to rapidly and equitably phase out fossil fuels

Currently, fossil fuels—namely coal, oil, and gas— account for over 80% of the global energy supply.¹ However, the combustion of fossil fuels for energy production releases greenhouse gases into the atmosphere that are unequivocally the primary driver of the climate crisis.² Additionally, fossil fuels significantly contribute to local air pollution and other environmental impacts throughout their lifecycle, including during extraction, processing, transportation, and use.³ For instance, fossil fuels are linked to biodiversity loss, toxic pollution, and water scarcity, leading to millions of premature deaths⁴, forced displacements, and loss of livelihoods. These impacts extend to a wide range of human rights, particularly affecting those segments of the population already marginalised or in vulnerable situations who, due to structurally established inequalities and discrimination, have fewer resources, decision-making power, and capabilities to cope with the degradation of their natural environment. This includes women, especially those facing historical, structural, and intersectional disadvantages, such as Indigenous or rural women. Delaying effective action to reduce global dependency on fossil fuels results in higher cumulative greenhouse gases and greater foreseeable harm to human rights for present and future generations. As several UN Special Rapporteurs have recognised, fossil fuels are at the heart of the planetary ecological crisis.⁵

International human rights law establishes that the obligation of States to respect, protect, and fulfil human rights entails the duty to take measures to prevent foreseeable

¹ International Energy Agency. *Energy Mix*. 2021. Available at: <https://www.iea.org/world/energy-mix>

² Ibid

³ Ibid

⁴ Karn Vohra, Alina Vodonos, Joel Schwartz, Eloise A. Marais, Melissa P. Sulprizio, Loretta J. Mickley, *Global mortality from outdoor fine particle pollution generated by fossil fuel combustion: Results from GEOS-Chem*, Environmental Research, Volume 195, 2021,110754, ISSN 0013-9351, <https://doi.org/10.1016/j.envres.2021.110754>.

⁵ Mr. David Boyd, Special Rapporteur on the issue of human rights obligations relating to the enjoyment of a safe, clean, healthy and sustainable environment; Mr. Pedro Arrojo Agudo, Special Rapporteur on the human rights to safe drinking water and sanitation; Mr. Marcos A. Orellana, Special Rapporteur on the implications for human rights of the environmentally sound management and disposal of hazardous substances and wastes; Mr. Livingstone Sewanyana, Independent Expert on the promotion of a democratic and equitable international order; Mr. Surya Deva, Special Rapporteur on the right to development; and Mr. Olivier De Schutter, Special Rapporteur on extreme poverty and human rights. *Fossil fuels at the heart of the planetary environmental crisis: UN Experts*. 2023. Available on 17 July 2024 at: <https://www.ohchr.org/en/press-releases/2023/11/fossils-fuels-heart-planetary-environmental-crisis-un-experts>

harm caused by climate change.⁶ States must take immediate action to decarbonise their economies and equitably phase out fossil fuels to tackle the root causes of the global environmental crisis. Mitigation measures must lead to absolute emission reductions and the phasing out of fossil fuels.⁷

Additionally, transitioning to a low-carbon economy risks negatively affecting communities and individuals whose livelihoods and job opportunities still rely on fossil fuels. Women, children, persons with disabilities, indigenous populations, racialized individuals, and other marginalized groups suffer more intensely from the consequences of the reliance on fossil fuels and of climate change. This includes especially the use of traditional solid fuels for cooking, heating, and lighting, predominantly affecting women, leading to high levels of indoor air pollution and a broad range of negative health consequences.⁸ Therefore, it is crucial to ensure that the phasing out of fossil fuels is accompanied by measures that ensure the shift away from polluting energy sources is guided by principles of non-discrimination and equality and does not harm those already marginalised. A transition to a low-carbon economy should ensure that these communities are protected and that the new low-carbon economies do not reproduce systemic inequalities but help advance societies that ensure human and planetary wellbeing.

This includes providing training and education for workers of all genders in the fossil fuel industries, preventing potential increases in the cost of living due to reduced reliance on fossil fuels, diversifying the economy away from fossil fuel-dependent industries, and reallocating fossil fuel subsidies towards climate action, gender-responsive public services, and robust social security systems.

Furthermore, an equitable phase out of fossil fuels can only be achieved with developed countries delivering on their obligation to provide finance, technology, and capacity building to developing countries according to the principle of common but differentiated responsibilities. Current and historic responsibilities in the overuse of fossil fuels driving the climate emergency must be considered to help developing countries phase out fossil fuels and transition to renewable energy.

ii. States must guarantee human rights in the transition to renewable energy in all stages of renewable energy production, development, and operation, with attention to critical minerals and the role of non-State actors.

It is crucial to swiftly transition to clean, renewable, and efficient energy sources, such as wind, solar, geothermal, and hydro-energy, to replace fossil fuels in energy systems. However, the shift to renewable energy should not just be a technical change from one energy source to another but rather a more profound transformation of energy systems to ensure that new low-carbon energies do not replicate the harmful practices of their fossil fuel predecessors. Therefore, States must guarantee human rights in all stages of the renewable energy life cycle, from the extraction of the critical transition minerals

⁶ UN Office of the High Commissioner for Human Rights (OHCHR). *Five UN human rights treaty bodies issue a joint statement on human rights and climate change*. 2019. Available on 17 July 2024 at: https://www.ohchr.org/en/statements/2019/09/five-un-human-rights-treaty-bodies-issue-joint-statement-human-rights-and#_edn1; UN Committee on the Elimination of All Forms of Discrimination Against Women (CEDAW Committee). *General recommendation No. 37 (2018) on the gender-related dimensions of disaster risk reduction in the context of climate change*. CEDAW/C/GC/37. Paras. 14 and 43. UN Committee on Economic, Social and Cultural Rights (CESCR). *General comment No. 26 (2022) on land and economic, social and cultural rights*. E/C.12/GC/26. Para. 56. UN Committee on the Rights of the Child (CRC). *General comment No. 26 (2023) on children's rights and the environment, with a special focus on climate change*. Para. 65(d).

⁷ Ibid.

⁸ World Health Organisation. *Household Air Pollution*. 2024. <https://www.who.int/news-room/fact-sheets/detail/household-air-pollution-and-health>

necessary for the development of renewable energy technologies to the generation, transmission, and final consumption of energy resources.

States have a responsibility to design, implement, and monitor energy transition policies in alignment with their obligations to respect, protect, and fulfil human rights. This means that, as they transform their energy systems, States must respect human rights by avoiding actions that could lead to violations—such as making energy costs prohibitively expensive or constructing energy projects that harm the rights of local communities. Additionally, States must protect human rights by preventing violations by third parties, including non-state actors, through measures like due diligence regulations for energy companies that take into account all stages of renewable production, development, and operation, and across the entire value chain, with attention to assessment of gendered impacts. States may be required to adopt policies on gender-responsive procurement and the diversification of supply schemes across value chains to expand economic opportunities for women and non-gender conforming people and promote their economic empowerment, and protect women working in certain sectors, including artisanal mining. Finally, they must fulfil human rights by adopting concrete measures that ensure these rights are realised, such as enacting legislation to combat energy poverty and address gender and racial discrimination in the energy sector. Although the energy transition is urgent and requires great speed to stabilize the climate system, violent displacement and all types of human rights violations associated with the construction of renewable energy projects, including wind farms, solar or hydroelectric facilities, or in the mining sector, are illegal and unacceptable.

In this line, States must ensure that all the institutions and authorities engaged in energy transition policies are aware of and act consistently with human rights obligations.

The shift to renewable energy and the demand for critical minerals essential for the energy transition will have complex human rights impacts on workers across the supply chain. At every stage of the transition—starting from mineral extraction to manufacturing and eventual disposal—energy projects can have serious consequences, including poor working conditions, occupational health and safety risks, environmental degradation that affects both workers and their communities, and widespread job precarity.

Given these impacts, centring workers and their unions so that they can drive climate solutions is foundational. The right to work is a fundamental right that is essential for realizing other human rights⁹ and is an inseparable part of human dignity.¹⁰ Accordingly, a rights-based approach to the climate crisis—including in the life cycle of renewable energy and critical minerals—must also be firmly anchored in the respect for, protection of, and fulfilment of labour rights.

Many of the concerns raised about critical minerals and renewable energy development reflect the reality that already inadequate labour conditions in the fossil fuel-based

⁹ Several universal and regional human rights instruments have recognized the right to work. To name a few, the right to work is found in the Universal Declaration of Human Rights (Article 23), International Covenant on Civil and Political Rights (Article 8, para 3(a)). The International Convention on the Elimination of All Forms of Racial Discrimination against Women (Part III, Article 11). The International Convention on the Protection of the Rights of All Migrant Workers and Members of Their Families (Articles 11, 25-26, 40, 52, 54), and the African Charter on Human Rights and Peoples' Rights (Article 15).

¹⁰ See also: United Nations Committee on Economic, Social and Cultural Rights (CESCR). *General Comment No. 18 The Right to Work*. E/C.12/GC/18 (November 2005) at para. 1 (noting that the right to work contributes at the same time to the survival of the individual and to that of his/her family, and insofar as work is freely chosen or accepted, to his/her development and recognition within the community.); para. 7 (providing that “[w]ork as specified in article 6 of the Covenant must be decent work. This is work that respects the fundamental rights of persons as well as the rights of workers in terms of conditions of work safety and remuneration... These fundamental rights also include respect for the physical and mental integrity of the worker in the exercise of his/her employment.”).

economy, such as weak health and safety protections, limited avenues for social dialogue (especially collective bargaining) and the exclusion of marginalized groups like subcontracted, informal, and women workers, risk further deteriorate during the transition to a green economy unless strong labour guardrails, in addition to broader human rights protections, are put in place.

Renewable energy sectors often have lower unionization rates, which impede workers' ability to secure their full labour rights, including the right to collectively bargain for their human rights at work. Agreements with renewable energy companies often enable a potential for increased subcontracting practices, already an exploitative model used by multinational companies in the fossil fuel sector, which undermines the rights of workers.¹¹ These workers often lack formal contracts and are excluded from labour law protections. Despite playing a crucial role in the energy transition supply chain, their needs are frequently overlooked—leaving them at heightened risk of exploitation and precarity during the transition.

Informal employment strips workers of essential labour protections and tools needed to withstand economic shocks—shocks that are intensifying due to environmental degradation and climate change. As a result, many are pushed into even more precarious jobs within their own countries or forced to migrate through dangerous, unregulated channels. This significantly increases their risk of exploitation, forced labour, and human trafficking.

The Indonesia Morowali Industrial Park (IMIP), Indonesia's largest nickel processing facility and the world's largest nickel processing site, has been plagued with human and labour rights violations.¹² Workers and their unions have shared stories of egregious labour and human rights issues,¹³ including occupational health and safety hazards and unsafe working conditions, systemic issues that, in some cases, have led to worker deaths and often disproportionately affect women and informal workers. Further, reports by workers

¹¹See generally Borelli, Silvia, *Subcontracting: Exploitation by Design*, available at: <https://left.eu/app/uploads/2022/12/Subcontracting-exploitation-by-design-EN.pdf> (discussing the ways in which subcontracting undermines labour rights).

¹² See *Workers Protest in Indonesia after Blast at Chinese-funded Nickel Plant*. Dec. 27, 2023. Al Jazeera. Available at: <https://www.aljazeera.com/news/2023/12/27/workers-protest-in-indonesia-after-blast-at-chinese-funded-nickel-plant>; *The Deadly Mining Complex Powering the EV Revolution*. July 17, 2024. Bloomberg. Available at: <https://www.bloomberg.com/features/2024-indonesia-sulawesi-nickel-fire/>.

¹³ Business & Human Rights Resource Center. *Indonesia: Workers allege 'production first, safety later' culture at IMIP nickel complex leads to unsafe conditions & rising accidents*. Available at: <https://www.business-humanrights.org/en/latest-news/indonesia-imip-nickel-park-workers-allege-poor-safety-accidents-deaths-union-retaliation-restricted-movement-of-chinese-staff/>.

and unions underscore that workers face retaliation for speaking out on the systemic issues.¹⁴

For these reasons, the full exercise of labour rights is deeply intertwined with workers' ability to advocate for a healthy environment—an acutely urgent concern in extractive industries, where environmental degradation and hazardous conditions are daily realities shouldered by workers. Strong and effective unions build resilience in communities to address environmental degradation and climate impacts, while also influencing employers at the workplace, sectoral, and national levels. In fossil fuel industries, the lack of universal, comprehensive and enforced labour rights and social protections, an economic model that deprioritizes the wellbeing of workers and communities, and the nature of extractivism, have all underpinned industries in which the majority of workers do not enjoy their full labour rights, including the right to freely associate without violence or intimidation and right to occupational safety and health.

- iii. **States should provide sustainable energy for all. The energy transition should combat energy poverty and ensure accessible, available, acceptable, quality, and sustainable public energy services.**

Energy is an essential factor for various human rights, including the right to a decent standard of living, health, education, water, sanitation, mobility, work, and a clean, healthy, and sustainable environment.¹⁵ Understood as the resource used to generate various forms of power for human use, energy is essential for leading a dignified life. Energy powers the technology and appliances that produce essential goods and services, such as clothing, food, and housing, which sustain livelihoods. It also supports personal and domestic activities like cooking, cleaning, heating, cooling, and lighting—critical for ensuring wellbeing. Additionally, energy is vital to most employment and income-generating opportunities, especially as global societies transition to more technologically advanced economies. It enables the mobility of people and goods within and across borders and is fundamental to delivering public services that secure human rights, including health, education, water, and sanitation. Finally, having access to clean, renewable, and efficient energy sources is crucial for reducing greenhouse gas emissions and protecting the environment.

¹⁴ Business & Human Rights Resource Center. *Indonesia: Investigation reveals systemic abuse behind deadly nickel explosion; workers face retaliation for speaking out; incl. co. comments*. Available at: <https://www.business-humanrights.org/en/latest-news/indonesia-investigation-reveals-systemic-abuse-behind-fatal-nickel-explosion-workers-face-retaliation-for-speaking-out/> (noting, for example, that:

“A steel production worker at IMIP, tells ERC that supervisors discourage workers from reporting injuries to the company’s clinic, and that workers are often pressured to hide their injuries or lie about them...If workers fall ill, their salaries will be cut . . .

Chinese workers familiar with conditions at IMIP have also accused the companies, including the Tsingshan Group, of prohibiting employees from sharing information online and threatening them with fines . . .

Meanwhile, female workers struggle with health and safety issues at the company. Nyili, a worker at VDNI, tells ERC, “Women don’t get menstrual leave” - although it is guaranteed under Indonesia’s labour law.”

¹⁵ Hesselman, M. (2023). *Human rights and access to modern energy services*. [Thesis fully internal (DIV), University of Groningen]. University of Groningen. <https://doi.org/10.33612/diss.632731138>; Hesselman, M. (2022). Right to Energy. In C. Binder, M. Nowak, J. Hofbauer, & P. Janig (Eds.), *Elgar Encyclopaedia of Human Rights* (pp. 62-69). Edward Elgar Publishing. <https://doi.org/10.4337/9781789903621.energy.right.to>

Yet about 2.1 billion people worldwide rely on unhealthy solid fuel cooking, and around 685 million people lack basic access to electricity.¹⁶ In a world where energy is increasingly becoming a critical resource to ensure basic conditions of dignity and the realization of rights, the lack of energy or restricted access to this service is identified as a cause and consequence of multiple forms of poverty and marginalization. As energy managers of the household, women are particularly affected by the consequences of energy poverty, which increase the care and domestic responsibilities that they carry and expose women to mental and physical health risks.

Given the importance of energy in ensuring adequate socio-economic living standards, the importance of accessing energy for the realization of rights is recognised in Article 14 of the International Convention for the Elimination of All Forms of Discrimination Against Women (CEDAW). This CEDAW provision enshrines rural women's rights, including their right to enjoy adequate living conditions, particularly access to electricity. In the General Recommendation No. 34, the CEDAW Committee explains this obligation further. It notes that beyond electricity, women may have other energy needs, such as cooking, heating, lighting, and transport.¹⁷ The CEDAW Committee has clarified that States have an obligation to provide access to essential public services and goods, which include “sustainable and renewable sources of energy, extending on-grid services to rural areas and developing solar energy and other sustainable energy sources with low-cost technology.”¹⁸ It must be noted that the Committee refers to energy services or energy sources, which is more comprehensive than the language focused only on electricity used in Article 14 of the Convention.

Under the International Covenant on Economic, Social and Cultural Rights (ICESCR), the right to an adequate standard of living (art. 11) is enshrined. While this provision does not explicitly mention “energy” or “electricity”, however, the Committee on ESCR has incorporated the right to energy in numerous pronouncements. In its work, energy is often enlisted among other public services that are essential for the realisation of rights.¹⁹ Moreover, the CESCR's General Comment No. 4 enlists access to energy among the facilities and services that adequate housing must contain to align with the Covenant.²⁰

Other human rights monitoring bodies have recognised the provision of electricity as being necessary for the protection of the right to life²¹, the right to benefit from scientific

¹⁶ IEA, IRENA, UNSD, World Bank, WHO. 2024. *Tracking SDG 7: The Energy Progress Report*. World Bank, Washington DC. © World Bank. License: Creative Commons Attribution–NonCommercial 3.0 IGO (CC BY-NC 3.0 IGO).

¹⁷ CEDAW. General Recommendation No. 34 on the rights of rural women, CEDAW/C/GC/34, 2016, paras. 54 (d), 61, 84, and 85 (c)

¹⁸ UN Committee on the Elimination of Discrimination Against Women (CEDAW). *General Recommendation No. 34 on the rights of rural women*, CEDAW/C/GC/34, 2016, para. 84 (c)

¹⁹ CESCR. *Concluding observations on the fifth periodic report of Belgium*. E/C.12/BEL/CO/5. 2020.

²⁰ CESCR. *General Comment No. 4 on the right to adequate housing*. 1991. Para. 8 (b).

²¹ CCPR. *General Comment No. 6 on the right to life*. 2018. CCPR/C/GC/36

progress²², and as an underlying determinant of the right to health.²³ Access to sustainable energy is also in the 2030 Agenda for Sustainable Development, enshrined in SDG7.²⁴

The corollary from these instruments of human rights law is that States must ensure that energy services are, at minimum, accessible, available, acceptable, sustainable, and of good quality without discrimination. It also means energy must be provided from low-carbon and sustainable sources.

Additionally, States must ensure that enough energy is provided to guarantee the well-being of all, including the prohibition of disconnections of energy services due to non-payment in times of extreme heat or cold, where they could pose a threat to the right to life or health. This obligation also involves regulating energy systems to ensure the affordability of energy services, especially for people living in poverty. States must also promote sustainable consumption practices and the fair distribution of energy resources among different sectors of society, as well as access to adequate energy efficiency for all.

Lastly, States should recognize the significance of energy in upholding a dignified life by acknowledging it as a common public good rather than just a commodity or economic good. This implies that States should implement regulations and other effective measures to ensure sustainable management of energy resources in the public interest, rather than treating them solely as market commodities to be bought and sold.

iv. States must recognise and implement extraterritorial human rights obligations in the energy transition context.

The production, transmission, and distribution of energy all too often have impacts on human rights beyond the borders of a State. For instance, many transnational corporations operating in the energy value chain are typically headquartered in developed countries but conduct their operations in multiple countries, including in the territory of developing countries. This dynamic can lead to serious human rights violations that can remain unpunished. Operating in different jurisdictions, especially in developing countries that may lack the political will or the capacity to enforce their regulatory power, resources, or technical capacity to supervise the implementation of energy projects, is a common practice that can leave victims of human rights abuses without legal protection.

Under international human rights law, States have obligations both within and outside their territory.²⁵ These extraterritorial obligations refer to acts or omissions that may

²² CESCR. *Concluding observations on the initial and second periodic reports of Djibouti*. 2013. E/C.12/DJI/CO/1-2. Available at: <https://documents-ddsny.un.org/doc/UNDOC/GEN/G13/499/93/PDF/G1349993.pdf?OpenElement>

²³ UN Special Rapporteurs on Extreme Poverty and Human Rights and on adequate housing as a component of the right to an adequate standard of living. *Communication to Nigeria*. 2013. NGA 5/2013. Available at: <https://spcommreports.ohchr.org/TMResultsBase/DownloadPublicCommunicationFile?gld=21073>

²⁴ United Nations Statistical Division. *Goal 7: Ensure Access to Affordable, Reliable, Sustainable and Modern energy for all*. Available at: <https://unstats.un.org/sdgs/report/2016/goal-07/> ; See also: *Tracking SDG7: The Energy Process Report*. 2024. Available at: <https://trackingsdg7.esmap.org/>

²⁵ Inter-American Court of Human Rights. *Advisory Opinion OC-23/17 of November 15, 2017: The Environment and Human Rights (State Obligations in Relation to the Environment in the Context of the Protection and Guarantee of the Rights to Life and to Personal Integrity - Interpretation and Scope of Articles 4(1) and 5(1) in relation to Articles 1(1) and 2 of the American Convention on Human Rights)*. San José, Costa Rica: Inter-American Court of Human Rights, 2017. See also: Wouter Vandenhoe, *Beyond Territoriality: The Maastricht Principles on Extra-Territorial Obligations in the Area of Economic, Social and Cultural Rights*. 2011. 29 Netherlands Quarterly of Human Rights 429.

impair human rights beyond their territories.²⁶ In this line, States must take proactive measures to respect, protect, and fulfil human rights within and beyond their territories while advancing the transition to low-carbon energy systems. This includes the obligation to conduct assessments on risks and potential impacts of energy laws, policies, and practices that may have adverse human rights and gender implications in advancing the energy transition in third countries.

The extraterritorial human rights obligations of States also include their responsibilities to ensure national regulations do not cause harm abroad. This includes, for example, avoiding tax regulations that would encourage capital flight or tax evasion in other countries. States should also enhance cooperation in terms of illicit financial flows and tax avoidance. Furthermore, States with greater voting powers at International Financial Institutions should take their extraterritorial obligations into account when adopting their positions within these institutions.

States must also regulate and influence the activities of non-State actors within their jurisdiction, such as transnational corporations and other business enterprises, so they do not impair or nullify human rights when they operate abroad along the energy value chain. The extraterritoriality of their obligations also implies that States need to strengthen their international cooperation and assistance.

Finally, States must create an enabling environment that will lead to the fulfilment of human rights extraterritorially in the energy transition context, including by developing, implementing, applying, and reviewing existing energy laws and policies at the international and national levels.²⁷

II. The negative human rights impacts of the life cycle of critical minerals

The urgent need to reduce emissions and address the climate crisis has significantly increased the demand for green energy technologies, which rely heavily on minerals for their development. As governments commit to expanding renewable energy and doubling energy efficiency by 2030, securing a steady supply of transition minerals—such as lithium, cobalt, nickel, copper, graphite, and rare earth elements—becomes crucial for building, producing, distributing, and storing renewable energy.²⁸ This has led to an unprecedented expansion of mining activities in mineral-rich regions. However, both small- and large-scale mining often come with severe environmental consequences and frequent human rights abuses. In particular, the extraction of critical transition minerals is frequently linked to the dispossession and exploitation of Indigenous Peoples and local communities. To move away from fossil fuel dependence and ensure a just transition to renewable energy, human rights standards must guide every stage of the critical transition minerals' life cycle—from extraction and refining to manufacturing, use, and end-of-life

²⁶ Ibid

²⁷ ETO Consortium. *Maastricht Principles on Extraterritorial Obligations of States in the Area of Economic, Social and Cultural Rights*. Maastricht: ETO Consortium. 2011. Available at : <https://www.etoconsortium.org/nc/en/ma>

²⁸ UN Secretary General's Panel on Critical Transition Minerals. *Resourcing the Energy Transition: Principles to Guide Critical Energy Transition Minerals Towards Equity and Justice*. Available at : https://www.un.org/sites/un2.un.org/files/report_sg_panel_on_critical_energy_transition_minerals_11_sept_2024.pdf

processing.²⁹ In this context, States, as well as businesses, must identify and assess potential human rights risks across the entire critical mineral value chain and implement measures to prevent and mitigate those risks.

In addition, States should implement measures according to the precautionary approach to protect the environment against the harmful activities of the mining sector.

Moreover, States should guarantee that essential mining activities contribute to environmental and socioeconomic well-being by promoting the sharing of benefits from mineral exploration, adding value to sustainable national industries, and facilitating economic diversification into emerging green industrial sectors. These initiatives can enhance job opportunities and foster economic prosperity at both the national and local levels.

Due to structural gender inequality, women and gender-nonconforming people are disproportionately impacted by transition mineral industries. For instance, they tend to have limited or no access to land tenure rights, which marginalises them from participating in negotiations related to compensation and resettlement and makes them the most affected by land grabbing and land dispossession associated with mining activities. States must therefore adopt a gender-responsive approach to assess, mitigate, and repair human rights violations committed in the transition mineral value chain.

i. Rethinking mobility systems within a human rights and gender-responsive lens

There is an urgent need to apply a human rights-based and gender-responsive lens to the use of technology in climate action. Technology must not reinforce existing inequalities or contribute to human rights violations, including gender-based violence and exploitative extractivism. The promotion of technologies, such as electric vehicles—often benefits a limited segment of the population, while shifting dependence from fossil fuels to critical minerals, frequently extracted under harmful conditions in the Global South. We call for the application of an ethical framework to assess whether a given technology contributes meaningfully and equitably to climate solutions. Moreover, subsidies for such technologies in high-income countries should also ensure benefits for countries supplying critical resources. Finally, we stress the importance of rethinking mobility systems more broadly, moving beyond individual electric vehicles to prioritise inclusive, accessible, and sustainable transport solutions such as walkable cities, cycling infrastructure, and quality public transit. These alternatives better serve the mobility rights and needs of all people, particularly those most marginalised.

²⁹Ms. Elisa Morgera, Special Rapporteur on the promotion and protection of human rights in the context of climate change; Ms Astrid Puentes Riaño, Special Rapporteur on the human right to a clean, healthy and sustainable environment; Mr. Marcos Orellana, Special Rapporteur on the implications for human rights of the environmentally sound management and disposal of hazardous substances and wastes; Ms. Fernanda Hopenhaym (Chairperson), Ms. Pichamon Yeophantong, Mr. Damilola Olawuyi, Mr. Robert McCorquodale and Ms. Lyra Jakulevičienė, Working Group on the issue of human rights and transnational corporations and other business enterprises; Mr. Jose Francisco Cali Tzay, Special Rapporteur on the rights of Indigenous Peoples. *All action on critical energy transition minerals must respect human rights: UN experts*. 18 September 2024. Available at:

<https://www.ohchr.org/en/statements/2024/09/all-action-critical-energy-transition-minerals-must-respect-human-rights-un>

