

Just Energy Transitions and Mining



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This briefing note on energy transitions stems from my work on the topic at the Ford Foundation and reflect on dilemmas inherent in the idea of a just transition.

If there are any meta-messages, I would highlight two. First, the energy transition is better thought of as a transformation in systems and relationships of energy production, distribution and consumption. One implication of conceptualizing the transition this way is that it is probably impossible for a single organization to influence the whole system.

This implies making choices and having criteria for deciding on which parts of the system, and which relationships within this system, it is that one wishes to address. These criteria will make explicit the types of justices that a given organization is choosing to prioritise, which can be a difficult process. Second, grasping the issue of the 'just transition' requires a certain humility. Organizations which strive for a 'just transition' will have to accept that many of their decisions about 'what to do' will be 'second best', unable to deal with all the injustices they might want to address. It may also be difficult to give robust justifications of these decisions, and they may end up privileging certain types of justices over others, and will not satisfy certain social groups.

Introduction

To begin this reflection, I give a brief description of our Natural Resources and Climate Change program and how our work led us to certain reflections on the just energy transition. I will then comment on emerging relationships between energy transition and mineral extraction. That will then lead me to examine different aspects of justice that may be at stake in the energy transition. I close by offering a thought on the political foundations for just energy transitions.

Just energy transitions at the Ford Foundation

The Ford Foundation's Natural Resources and Climate Change

program seeks to contribute to strengthening the rights of access, control, and governance of natural resources of local, Indigenous, Afro-descendant and traditional communities. Our approach has been primarily rural, and we have worked in two contexts in particular: 1) forest areas, where there is pressure on communities' resource bases from investors and other external actors; 2) areas with mineral or hydrocarbon deposits, also occupied by local and Indigenous communities, and where there is pressure from investment in extractive industries. Both lines of work – forests and extractive industries – led us to the issue of the just transition, albeit in different ways.

First, our work to support processes of titling, self-governance and defence of lands and territories of Indigenous and Afro-descendant communities goes hand-in-hand with the recognition that any pathway to climate change

Key Points

- 'Energy transition' may be conceptualised as a transformation in systems and relationships of energy production, distribution and consumption.
- A wide range of injustices run across systems of energy transformation. Organisations face the challenge of privileging certain types of justices and social groups over others.

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mitigation has to involve the protection of primary forests because these forests play key roles in carbon capture and storage. A large percentage of the world's remaining forests exist in Indigenous Peoples' territories, and [many studies](#)² have shown that, when the rights of these populations are recognized and protected, it is much more likely that these forests will remain standing. Thus, strengthening these rights is a critical part of the transition to a more liveable world, and the very strengthening and protection of these rights makes this transition more just.

Second, our work also connected us with other paths towards a just transition. In Indonesia, South

Africa and Colombia, for example, we work with communities whose rights have been violated by coal mining. These violations include land dispossession, health impacts, pollution, and violence against families, women and environmental defenders. At the same time, in a context like Indonesia, coal mining has implied deforestation – Indonesia is the country which has [lost the most forest as a result of large-scale mining](#)³, especially coal mining.

Third, in almost every country where we work, the connection to the issue of just transition has been through our work on the local and community effects of mining. The energy transition will require a much greater and more intensive use of

many minerals. Some of these, such as lithium, cobalt and the so-called 'rare earths' minerals, have, until recently, been of relatively modest significance in the mining sector. However, [the transition minerals needed in the largest volumes](#)⁴, such as copper, nickel, iron, aluminium, etc., already have extensive footprints. We are now seeing narratives in which mining companies or governments speak of the need to increase extraction of such minerals in order to respond to climate change. Indeed, we have begun to see signs of the physical expansion of such mining. An example would be nickel extraction in Indonesia, which has expanded into forest areas and communal lands and which the government is promoting as a strategic activity.



In these cases, the transition carries with it the usual challenges of inadequate prior consultation, human resettlement, few local benefits, conflicts and divisions within local populations; etc.

Finally, especially through our work in Colombia, we have encountered problems related to new investments in alternative energies, especially wind and solar. These problems include: inadequate or non-existent consultations; adverse impacts on the livelihood strategies of local populations; land dispossession; intra-community conflict etc.

In these different contexts, our argument (in which we are not alone) has been that a key component of the just transition has to be the recognition of the rights of these different communities. This is for two main reasons. First, this recognition of rights is necessary for its own sake, whenever we talk about the justice of any transition, be it energy, climate, political or economic. Second, and more instrumentally, the stronger, the more recognized, and better protected the rights of communities are, the more sustainable the management of natural resources will be. This is because, as mentioned above, forests are best protected when communities' rights to land, territory and self-governance are recognized. Moreover, in the case of the extraction of transition minerals, when there is a violation of rights

as a result of mining investment, there is a greater probability of social conflict. These [conflicts cause delays and costs](#)⁵, which would imply delays in the extraction of the minerals that are necessary for the decarbonization of energy systems.

One could object that this emphasis on the rights of the communities who live where energy is produced



and where minerals needed to decarbonize energy systems are extracted ignores the equally legitimate rights of communities who need increased access to energy as well as of future communities whose rights will be compromised by climate change and who therefore have an interest in the rapid decarbonization of energy systems. This focus is indeed a limitation, both in our way of thinking about the concept of "justice" in just transitions and in our way of thinking about the political conditions that will make a just transition possible. I will speak to these two problems later on,

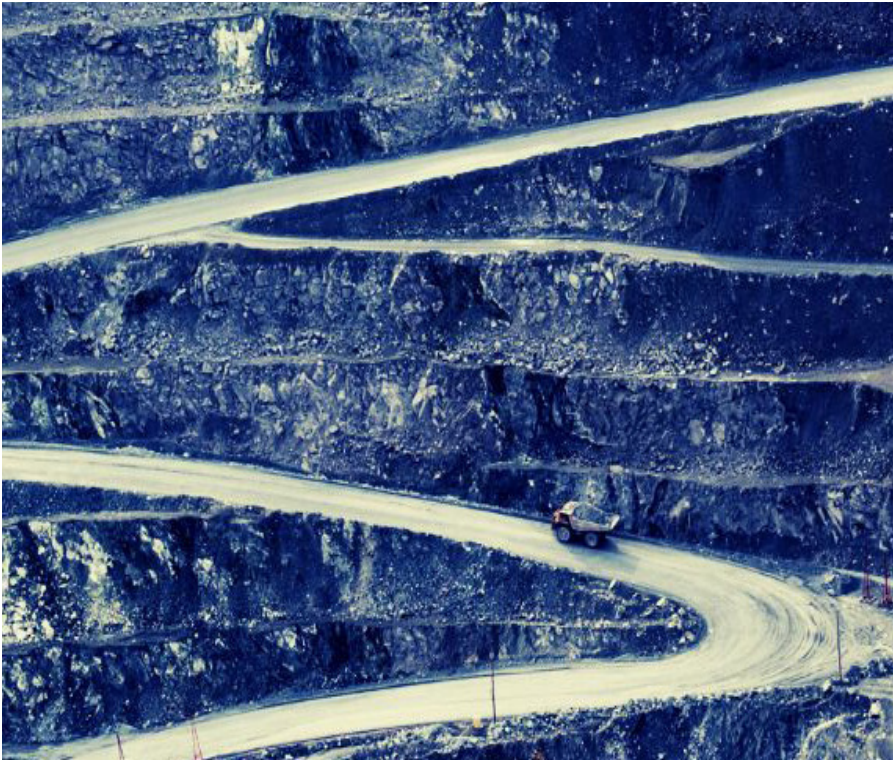
following a reflection on the mining dimension of the decarbonization of energy systems.

The mining intensity of the energy transition

A few years ago, some civil society organizations began to realize that the energy transition for which they were advocating was going to be

accompanied by an intensification of mineral extraction. It took time for others to recognize this fact or its significance – and others perhaps steered clear of the issue for fear that it could be used as an argument to slow down the rollout of renewables. In the last couple of years, however, the implications of the mineral intensity of energy transition have attracted much more attention and were discussed in a number of side events in the last two climate COPs in Egypt and Scotland. Here I comment on a subset of the issues raised by these discussions.

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First, it is important to note the scale of mining expansion that the energy transition requires. Although there are different estimates in the literature, all estimates are high. Solar energy is estimated to require between 11 to 40 times more copper⁶ per unit of energy produced than fossil sources. Wind turbines are estimated “to require up to 14 times the iron needed for fossil fuel power generation”.⁷ If projected demands for copper are fully met, then according to colleagues at the University of Queensland’s Sustainable Minerals Institute, between 2000 and 2050 copper mining will produce 900 percent more tailings⁸ than it produced during the entire 20th century. Demand for lithium, cobalt, and nickel⁹ – all needed for batteries to store solar and wind electricity,

and more specifically for electric mobility – will also grow by orders of magnitude. A World Bank study¹⁰ estimates that cobalt production will have to grow by 500% between now and 2050.

Second, there is no reason to assume that the impacts of this phase of mining extraction will be different from previous ones. To the extent that the companies are the same, the workers are similar and have been trained in the same schools, and the laws and regulations have not changed much, it would seem logical to assume that the dynamics of extraction and its relationship with the environment and communities will be similar. From the impacts that have characterized previous mining expansion phases, one can highlight the impacts on human rights,

civic space, and environmental defenders. According to data from Global Witness¹¹ for 2021, 4 defenders are killed on average per week, and the mining sector has been the most dangerous sector for defenders. On the other hand, mining companies use litigation to silence dissenting voices, especially through the so-called Strategic Litigation Against Public Participation (SLAPPs). The Centre for Business and Human Rights¹² identified 355 cases of SLAPPs between 2015 and 2021, of which 30 percent involved the mining sector – and the mining sector had more cases than any other. The fear is not only that these trends will continue, but also that some of these impacts could be even more serious in this next phase of mining expansion, and this for the following reasons.

One reason is that all indices of the quality of democracy and civic space signal a global deterioration. According to the International Center for Not-for-Profit Law¹³ (ICNL), between 2012 and 2018, at least 72 countries proposed or implemented legal restrictions on civil society. According to Freedom House¹⁴, 2019 marked 14 continuous years of deterioration in civic freedoms, with declines in 25 of 41 established democracies. This trend worsened during COVID. ICNL¹⁵ identified 54 countries that have legislated measures to limit freedom of expression, and 136 that have introduced measures limiting freedom of assembly. This



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deterioration creates environments more conducive to the restriction of human rights and the right to free assembly and protest; facilitates repression and impunity; limits the freedom of the media and therefore restricts the quality of public debate; and so on. It is therefore worth asking how much room there is for a just transition when political and democratic contexts become increasingly hostile to the exercise of rights.

A second reason is that this phase of extraction is likely to bring along serious environmental impacts. On the one hand, we have the simple matter of scale. If the extraction of copper during the first half of this century is estimated to produce 900 percent more tailings than during the 20th century, this implies a nine times greater footprint on the environment. And similarly, though in lesser proportions, for aluminium, iron, etc. The extraction of lithium in the so-called lithium triangle in the Andes of Chile, Argentina and Bolivia will cause irreparable damage to the salt flats where lithium is found. To extract the lithium, there is no other option than to drain and destroy the salt flats, which are spaces that provide ecosystem and cultural services to fauna and flora and to the surrounding communities. The list

of examples could go on. Around 70% of cobalt globally comes from the forests of the Democratic Republic of the Congo (where significant amounts of copper are also being extracted). Nickel in Indonesia is also located under forests. In both these countries, primary forests are being destroyed, that is, processes are taking place in which the extraction of minerals for decarbonization produces effects that lead to greenhouse gases emissions (through burning of forests) and to loss of carbon sequestration capacity. Finally, the extraction of rare earths can be complicated in environmental terms due to the technological difficulties involved. One should also not forget that these environmental impacts are at the same time social: they influence the environments and landscapes that constitute bases for the livelihoods and symbolic systems of the populations that live in, or near, these places. A [recent study](#)¹⁶ concludes that a “complete phase-out of coal could disrupt demographic systems with a minimum of 33.5 million people, and another 115.7 million people if all available ETM [energy transition mineral] projects enter production.” A [companion study](#)¹⁷ concludes that some 54% of currently projected transition minerals are located on or near the

lands of [Indigenous and peasant peoples](#)¹⁸. In themselves, the adverse impacts and displacements that would flow from this mining constitute injustices. And the loss of non-replaceable environments constitutes an injustice for future generations who will not have the possibility of knowing certain environments and species and will not have had a voice in making the decisions that led to their being denied this possibility.

A third reason, and perhaps the most important, is that this cycle of mining expansion takes place within narratives of urgency, namely the urgency of reducing emissions substantially before 2030 in order to avoid global warming that exceeds 2 degrees Celsius. “The urgency” is a narrative that lends itself to the justification of many things, which, in other contexts, would be questioned. One can already see that certain businesses are mobilizing this narrative. I have heard mining executives say, paraphrasing: “How are we going to convince the communities that, no matter what, we have to extract these minerals?”. In other contexts, narratives of urgency lend themselves to forms of authoritarian government that are expressed in extraordinary decrees of “national interest”, especially in contexts



where there are already more and more restrictions on civic space. Indonesia, for instance, has deemed nickel projects as being of national interest. These narratives of urgency also justify the creation of sacrifice zones – and this time, a sacrifice is called for the common good and for the survival of humanity, not just for national economic growth. The sacrifice becomes “necessary”. In these very complicated contexts, how can “justice” then be understood and pursued? The next section turns to this question.

In search of justice

As the above discussion suggests, arriving at a definition of “justice” in the idea of “just energy transitions” is complicated. The idea of a just transition emerged from the labour union movement, with an emphasis on socio-economic justice for workers displaced by the transition processes – a very legitimate

demand, especially if one looks at regions like the one that I grew up in England where, after the closure of coal mining and related industries during the 1980s and 1990s, it became one of the most deprived regions of the country. Yet there is a wide range of injustices, and many types of justice, at stake in these transitions.

A first type is indeed justice for the workers affected by the closure of the mines or thermal power plants where they worked, or on which they depended. To cite one example, in South Africa’s Mpumalanga coal complex – a sprawling landscape with a network of interconnected mines and power plants that produces 83% of South Africa’s coal – there are some 120,000 jobs at stake in the mines and electric sector alone.

A second type is justice for the communities whose lives have depended on these carbon

economies. Continuing with the example of Mpumalanga (although one could refer to many other cases), these are communities whose quality of life, and human health, have been harmed for decades as a result of the presence of mines and power plants (one estimate is that every year, 5,000 South Africans die as a result of pollution in this coal belt). For such communities, a just transition would presumably be a transition that addresses these negative impacts. It would be a transition that combines reparations for these accumulated injustices, the closure of the coal complex that has done them so much damage, and also the creation of new economies that would allow improvements in their quality of life.

A third type of justice at stake is the demands for justice for the communities – peri-urban and rural – who do not have access to energy. Since the fossil-based energy matrix does not give them adequate access to power and electricity, their demands would presumably be that any system that replaces it give them greater access to electricity than the current system. If the first two areas of justice above have to do with the supply side of energy, this area revolves around the demand and need side.

A fourth type of justice arises from the demands of the communities where the new renewable energy investments are situated – investments which always require access to significant portions of



land or sea. There is already some literature on the harmful impacts of wind and solar farms on the communities where they are built – whether due to lack of prior consultation, due to impacts on grazing or fishing systems, due to loss of landscape value, etc. The case of the Isthmus of Tehuantepec in Oaxaca is one of them, among many others,¹⁹ such as the region of La Guajira in Colombia where the historical territory of the Wayuu people has the unfortunate experience of being both a coal extraction region, with the presence of one of the largest coal mines in Latin America, El Cerrejón, and a territory of investment in renewable energies. To date, the effects on the economy and social life of the Wayuu have not been positive or just. In meetings I took part in recently with Wayuu leaders, they spoke of dispossession, new divisions in the communities, violent conflicts between families, and consultation processes that were absent or captured by specific interests.

A fifth type of justice relates to a set of injustices experienced by interests that have no voice. To the extent that nature is understood as a subject of rights (and certain jurisprudence in Latin America is beginning to follow this lead), this implies that it is also a subject of justice – a justice that it cannot demand on its own but that can nevertheless be demanded by other parties on its behalf.

Similarly – at least in conceptual and cosmological, if not legal, terms – to the extent that one accepts the notion that there are components of the landscape that are actors with identity, they can also be subjects of justice. This is the argument (although with different words) of the anthropologist Marisol de la Cadena when she speaks about the hills of Peru threatened by mining and where, according to the communities, there are spirits, or Apus.²⁰ If the destruction of both Apus and a nature with rights would create injustices, the implication is that a just transition would have to bring justice to these entities, and would imply at least their protection. Returning to the human world, there are also the rights of future generations – actors with interests, but without a voice. If a transition weakens or violates their rights, it creates injustice, bearing in mind that the absence of an energy transition will also violate the rights of these generations due to the multiple impacts that continued global warming will have had on the world they will inhabit.

A final type has to do with the injustices acquired as a consequence of the North-South colonial relations, class relations, and the historical relations of inequality. These are the injustices that underlie the demands for “[loss and damage](#)” funds²¹ in the process of the UNFCCC COPs, and which was agreed upon in principle in Egypt at the COP 27 in November

2022.

The co-existence of these different justices presents multiple challenges. The possibility that different interest groups – all poor in some way, or at least all excluded from current decision-making processes – seek different forms of justice, implies that it is possible that certain ways of seeking justice, or of responding to the climate crisis, can create tensions and even conflicts between different groups and different fractions of the environmental movement. In this case, there is the possibility of fractures and tensions between those groups who want to accelerate the transition to renewables, and Indigenous and other populations who fear the many injustices that such an accelerated transition could create for rural communities.

For organizations working on these issues – the Ford Foundation included – the challenges are obvious. Faced with so many differentiated justices, how does an organization prioritize which type of justice on which to concentrate? Moreover, how does an organization prioritize when faced with differentiated contexts where, for example, the labour issue is central in some cases and not in others, or where access to energy is highly unequal and not so much in others? Even if one refuses to prioritize, how can one justify the implicit argument that all these injustices have the same weight? For groups

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representing certain social bases, such as organisations dedicated to defending Indigenous peoples, the prioritisation might be easier. The other challenge suggested by this diversity of types of justice has to do with the construction of political alliances in favour of the energy transition. How to imagine the construction of alliances based on different, and sometimes, conflicting interests?

Before concluding with a brief reflection on this challenge, it is important to recognize that those who should bear the main costs of the energy transition, and who should solve this problem of political alliances, are the historical emitters of greenhouse gases. Western countries are not doing well in that regard. A very important part of the financial capital based in Western economies continues to invest in the extraction of hydrocarbons. According to the [2020 Production Gap Report](#)²², governments invested more funds from their post-Covid recovery packages in fossil energy than in clean energy: \$233 billion compared to \$146 billion. The Rainforest Action Network report, ["Banking On Climate Chaos"](#)²³ concludes that, after the Paris Agreements, between 2015 and 2021, the 60 largest commercial banks in the world had invested \$3.8 trillion in projects based on fossil energy. [Michael Northrop](#)²⁴, Program Director for Sustainable Development at the Rockefeller Brothers Fund in New York, comments that "it's striking that unlike any of [the] other sectors



implicated in speeding global warming, there is not a single one of the 60 major commercial banks that has staked out a leadership position on decarbonising".

These are indicators of the lack of interest that various economic and political elites have in achieving a just transition. They also reflect the weight of North-South injustice in these discussions, and how difficult it is to build alliances that can serve as strong political bases that can sustain transition processes. However, I want to conclude by suggesting that there will never be a just energy transition without a political actor who has the power and the ability to convene and carry out such a transition. In the face of many sources of resistance to just transitions – such as commercial banking, the consolidated interests in the current energy system, the populations eager to access energy whose price they can afford, the populations that will be affected by the closure of coal mines, and others – the only path to a just transition is one based on very broad-based alliances. Building these alliances will require hard

and frank discussions about the different interests of different groups, and the different justices they demand. For such alliances to be forged, these discussions will have to reach agreements on the acceptable trade-offs between the different types of justice supported by the different interests which are part of the agreement. In other words, a just transition will not be characterized by having identified the "correct" version of justice, but rather by having reached political agreements on a form of transition that satisfies the basic rights and basic concerns of diverse interests. This will not be an easy path. It implies fighting against the forces that seek to reduce (and not expand) civic space and public debate. It implies that there is an adequate representation of those interests that do not have a voice. And above all, it implies sustaining agreements in which no one achieves the justice they really want.





Endnotes

1. This briefing note is based on a talk given at the conference “What does a Just Energy Transition mean? Challenges of North-South mining extractivism” organised by the University of Deusto and Alboan Foundation on 27th September 2022 in Bilbao, Spain. The conference is part of the project “Conflictos Ecosociales y defensoras de la vida: Amazonía, extractivismo y acción colectiva” (Eco-social conflicts and life defenders: Amazon, extractivism and collective action) (PRO-2020K3/0030), funded by the Basque Development Agency and the Gipuzkoa Provincial Council. Tony Bebbington is the Director of the Natural Resources and Climate Change program at the Ford Foundation. The original talk in Spanish was translated into English by Rebeca Sandoval, and edited into a Briefing Note by Séverine Deneulin..
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