

What can an Old Mine tell us About Just Transitions?

Gendered and Intersecting Inequalities After Coal

Across the world, coal mines are closing. Shafts fall silent, conveyor belts stop running. While in the past these closures often stemmed from empty or uncompetitive pits, today closures are happening as a result of rapidly shifting geopolitics, changing markets, but also as milestones on the road to decarbonisation – often presented as signs of progress in climate action. Yet for communities living in and around former coal regions, the end of mining is not simply an environmental success story. It is a profound social rupture. This article presents insights from case studies of coal-phase outs in Indonesia and Colombia.¹



The concept of Just Transition was coined to ensure that climate action does not reproduce inequality. But what does »just« mean, and just for whom? And perhaps more importantly: A transition to where?

Transition is not just about energy

Evidence from coal regions in the so-called Global South shows that transitions away from carbon-intensive industries are deeply gendered and intersect with existing inequalities related to class, ethnicity, health, age, and colonial histories. Women and marginalised groups often bear the negative impacts of coal mining (e. g. due to pollution and health risks) and are the ones who bear the social and economic costs of coal's decline, while remaining excluded from decision-making over what comes next.²

At its core, a Just Transition connects climate, energy, development, and social justice. It demands that the shift to low-carbon economies not only reduces emissions but also improves lives, especially for those historically marginalised.³ However, mainstreaming Just Transition policies often focuses narrowly on formal employment in mining and energy sectors. This approach overlooks unpaid care work, informal labour, land rights, health burdens, and political exclusion – domains where women's lives are most directly affected. As a result, transitions risk becoming technocratic exercises that reproduce neoliberal and neocolonial patterns of development under a green banner.⁴ Taking an intersectional

lens on topics at the centre of coal transition, helps to see not only how many jobs are lost or created, but how power, vulnerability, and agency are redistributed during decarbonisation processes.⁵

Gendered impacts of coal phase-outs

Coal mining shapes regional economies and social relations far beyond the mine itself. When coal production ends, its impacts ripple through households, labour markets, and community life. For women and marginalised groups, coal phase-outs often translate into compounded vulnerabilities, that remain insufficiently addressed in policy responses.⁶

Even where women were never formally employed in mining, the loss of coal-related jobs frequently results in declining household incomes. This economic shock is intensified by deteriorating health conditions, where long-term pollution has increased respiratory, water-related illnesses as well as risks during pregnancy and childbirth.⁷ Women absorb much of this burden through their socially assigned responsibility for caring for sick family members. Environmental degradation further deepens these inequalities. Polluted water sources, degraded soils, and declining agricultural productivity increase the time and labour required for daily subsistence.

These dynamics are particularly acute for Indigenous people and ethnic minorities, whose livelihoods, cultural practices, and land rights are closely tied to



extractive landscapes. As coal declines, gendered impacts intersect with ethnicity, health, and age, deepening vulnerability while leaving few meaningful avenues to influence post-coal futures.⁸ This manifests with important similarities and differences in contexts as diverse as Indonesia and Colombia.

Gendered consequences of coal-phase outs in Indonesia⁹

Coal mine closures in Indonesia destabilise entire development trajectories that have long been shaped by extractive logics. While economic diversification is promoted as the pathway beyond coal, gender and intersectionality remain marginal in policy frameworks. At the national level, economic transition policies prioritise growth, investment, and energy security, with little explicit commitment to gender equality or intersecting social inequalities. This orientation is reinforced by patriarchal exclusionary norms that shape participation processes in regions where large mining companies operate. Decision-making spaces are dominated by political and

economic elites, among whom women, informal workers, and Indigenous communities are rarely represented. Transition debates thus remain technocratic and elitist, systematically reflecting the interests of dominant social groups which are overwhelmingly male-dominated.¹⁰

These dynamics are reproduced at the regional level. Subnational governments often reiterate national policies without adapting them to local contexts, and few develop strategies that are responsive to gendered and intersecting inequalities. The limited availability and use of sex-disaggregated data further compounds the problem, rendering informal workers, and women in particular, statistically invisible. Without data that captures other axes of difference, such as disability, age, or migration status, gendered and intersectional impacts remain undocumented, and without documentation, they remain politically unaddressed.

In coal-dependent regions such as Kutai Kartanegara in East Kalimantan, the gendered gaps of transition policy are visible in everyday life. During the mining boom, communities shifted from

agriculture to a mining-centred economy. Formal mining jobs, largely held by men, offered relatively high but insecure wages, while women's livelihoods were concentrated in informal activities around the mine like food stalls, laundry services, and room rentals, alongside unpaid domestic and care work. These income sources were essential yet fragile, as they depended entirely on the mine's continued operation.

After the mine closure, inequalities persisted rather than eased. Control over land remained primarily concentrated in corporate hands. Corporate Social Responsibility and Human Empowerment and Development programmes were framed as support mechanisms but often constrained choices and created a form of »manufactured consent«. Compensation reduced public conflict while leaving underlying power asymmetries intact.

Women's workloads remain disproportionately high in the post-mining period. They continue to shoulder domestic and care responsibilities while relying on informal income generation, labour that remains largely invisible, unrecognised as »work« in both policy frame-

works and public discourse. This invisibility systematically devalues women's contributions, even as household survival become increasingly dependent on them. At the same time, weak social infrastructure and mining-related environmental degradation, particularly polluted water sources, have intensified time poverty and financial strain. These burdens fall most heavily on Indigenous women, older women, and those in remote areas, whose land rights and political voice remain precarious. Despite bearing a disproportionate share of coal's social and ecological costs, their perspectives remain marginal in transition governance.

Indonesia's experience demonstrates that a strong focus on economic growth and investment can overshadow equity and justice considerations. For communities living with the long-term legacies of extraction, growth alone is insufficient. Without gender and intersectionality as structural pillars of transition planning, supported by data, inclusive governance, and social infrastructure, coal phase-outs risk not only reproducing but intensifying the very inequalities they claim to leave behind.¹¹

Post-coal futures and persistent inequalities in Colombia

Colombia's thermal coal regions, especially in La Guajira and Cesar, illustrate another dimension of gendered transition injustice. Decades of coal extraction have intersected with armed conflict, displacement, and racialised marginalisation, particularly affecting Afro-Colombian and Indigenous communities, as well as rural campesino communities.¹² Women play key roles in subsistence agriculture, animal care and raising, artisanal and manual work, water collection, and community organization – roles disrupted by environmental degradation and land dispossession.

Mining actively reshaped gender relations by constructing coal as a masculine domain, concentrating higher wages and decision-making power in the hands of men, while channeling women into informal service work or unpaid care labour. In Cesar, mining intensified rigid gender divisions and violent masculinities, contributing to gender-based violence, sexual exploitation, and

femicides.¹³ As mines close, women face lost livelihoods without access to formal employment alternatives or social protection – a form of economic displacement largely unrecognised in official transition frameworks.

Yet women are also emerging as agents of change. Grassroots organisations led by women have been central in demanding environmental remediation, health protections, and participation in transition planning.¹⁴ Still, structural barriers – gendered violence, political exclusion, and limited access to finance – constrain their influence. Decision-making processes around mine closures and energy transitions are shaped by entrenched power asymmetries, corporate practices, and patriarchal norms that define men as legitimate negotiators and women as caregivers.

Indigenous communities face layered injustices. Beyond employment losses, they confront lasting environmental damage, cultural disruption, and continued exclusion from decision-making. For Indigenous women, leadership is shaped by intersecting pressures: while some societies, such as the Wayúu, are matrilineal, women leaders often face social sanctions and heightened exposure to political and gender-based violence.¹⁵ Nevertheless, Indigenous women have mobilised collective action to assert authority and demand recognition.

Colombia's coal phase-out thus illustrates how transitions can reproduce inequality when they fail to address the specific social histories of extraction. The relevance of the Colombian case lies not only in its gendered impacts, but in the ways women and marginalised groups articulate alternative visions of transition which are rooted in territory, care, and collective rights. Recognising these perspectives is essential if post-coal pathways are to contribute to peace, justice, and genuinely transformative sustainability rather than perpetuating extractive logics under new names.

Empowerment, diversification and the question of »Transition to Where?«

A just transition cannot be reduced to technological substitution. Decarbonisation does not automatically produce social justice. Instead, just transitions de-

mand gender-just and intersectionality-informed economic diversification, sustained investment in care and social infrastructure, and the recognition of informal and unpaid labour. They must also adopt intergenerational perspectives that account for the needs and capacities of youth and the elderly.

In coal regions, empowerment is inseparable from rights, recognition, and participation. Securing land rights for women and Indigenous communities is a foundational condition for equitable post-coal development, particularly in contexts where land dispossession has long undermined livelihoods and autonomy. Without such rights, new economic activities risk reproducing old patterns of exclusion under new labels.

Equally important is the design of retraining and diversification programmes that reflect the realities of local labour markets. Many women in coal regions work in informal economies or combine income-generating activities with unpaid care work. Transition policies that focus exclusively on formal employment pathways systematically exclude these workers and reinforce gendered inequalities rather than alleviate them. A just approach to diversification must therefore broaden its understanding of work, value, ensuring that women can access skills development, finance, and new livelihoods opportunities.

Health, care, and environmental restoration are often treated as secondary concerns in transition planning, yet they are central to women's well-being and economic participation. Integrating these dimensions into post-coal strategies acknowledges the long-term social and ecological costs of mining and recognises women's disproportionate responsibility for managing these impacts at the household and community level. Such integration transforms transitions from a narrow economic exercise into a holistic process of social repair.

Women and marginalised communities in coal regions are not only affected populations but also negotiators and community leaders who can shape transition pathways in decision-making spaces. Removing structural barriers to their participation in public life and industry negotiations is essential for democratic and durable outcomes. Transitions must be shaped with communities rather than imposed upon them. Asking »transition

to where?» is therefore a necessary political question that determines whether post-coal futures reproduce inequality or open pathways toward transformative sustainability.

Putting the »Just« back into Just Transition

Old mines tell stories: not only of extraction, but of unresolved injustices. The climate crisis, and many mainstream responses continue to follow colonial and gendered patterns. Recognising this is the first step toward change.

Integrating intersectional gender perspectives into coal transitions strengthens debates on Just Transitions, extractivism, and climate justice. It challenges us to rethink what development means in a decarbonising world and to stand with those already fighting for more just futures. Persistent disparities in pay, job access, and training mean that transitions can be low-carbon, but not low-inequality.

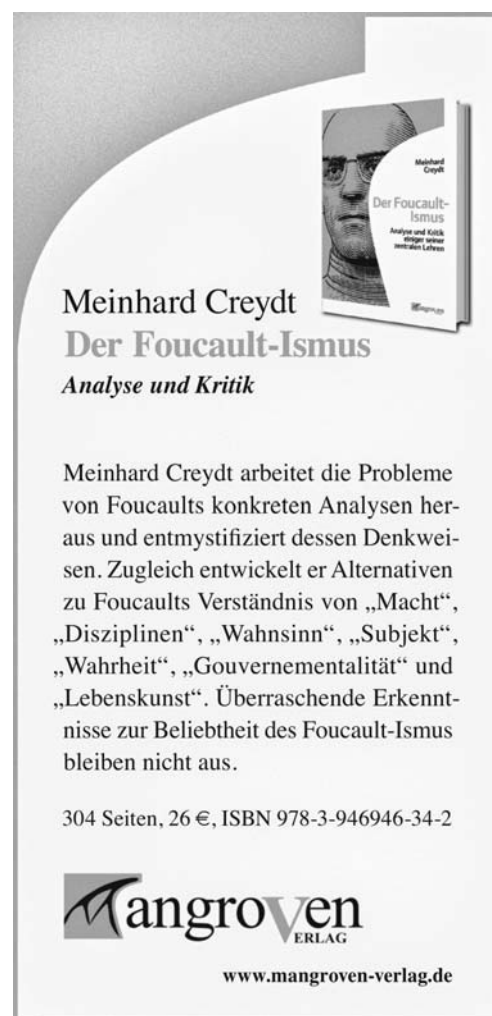
Women and marginalised communities must be recognised not only as affected populations but as political actors whose participation is essential for democratic, sustainable transitions. A just transition is not only about leaving coal behind. It is about choosing what and whom we move toward.

Anmerkungen

- 1) Authors are Sibel Raquel Ersoy, Maria Cecilia Bonet, Giovanni Dessy Austriningrum, Elisa Arond, Juan Camilo Betancur Jaramillo and Daniela Maestre-Másmela. Research for this article has been carried out within the framework of the IKI JET project, with the financial support of the International Climate Initiative of the German Federal Ministry of Economic Affairs and Climate Action (BMWK) and the European Union (EU). We would like to acknowledge as well the valuable data by the SMERU Institute (Indonesia). We would also like to thank and acknowledge Nitia Agustini Kala Ayu, Komariah Ervita and Dewi Sekar Farrasyifa for their support in qualitative data analysis for Dala.
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