# MEGATRENDS Afrika

Policy Brief 39 JUL 2025

# Workforce Transition in South Africa's Just Energy Transition

An Analysis of Needs, Policy Gaps and Socioeconomic Implications Phemelo Tamasiga

Can South Africa's Just Energy Transition (JET) deliver environmental sustainability and socioeconomic justice, or will it falter under systemic flaws? This policy brief examines the JET's objectives of aligning climate goals with socioeconomic stability, while addressing critical hurdles such as employment instability, the trade-off between job quality and quantity, skills mismatches, regional disparities, and inadequate social protection. Key findings reveal that renewable energy jobs, though growing in number, often lack the benefits of coal sector employment—such as job security, collective bargaining power, pension contributions, and long-term contracts. Skills development gaps further entrench inequalities, particularly in coal-dependent regions like Mpumalanga. The policy brief proposes several recommendations: a job guarantee scheme; reformed social insurance for broader coverage; scaled reskilling programmes to bridge workforce gaps; and community-led governance to ensure local empowerment.

South Africa's economy is one of the most coal-reliant globally, with coal accounting for over 80 per cent of its electricity generation.<sup>1</sup> This dependence presents a critical policy challenge as the country strives to fulfil its commitments under the Paris Agreement and navigate the imperative of decarbonization. At the same time, South Africa faces entrenched socioeconomic issues, including income inequality and high unemployment (32.9% in Q1:2025).<sup>2</sup> South Africa must therefore decarbonize in a way that uplifts workers and communities through investments in human capital and social protection, or risk deepening inequalities by prioritizing infrastructure spending over social measures.

JET emphasizes protecting coal-dependent workers and communities from economic marginalization. South Africa's coal value chain supports over 120,000 direct jobs and countless indirect livelihoods. Four municipalities in the Mpumalanga region—eMalahleni, Steve Tshwete, Msukaligwa, and Govan Mbeki—are considered "high risk" because they depend heavily on coal-related industries.<sup>3</sup> In these regions, a significant portion of the local workforce are employed in coal mining and power generation, with limited alternative

<sup>&</sup>lt;sup>1</sup> Council for Scientific and Industrial Research (CSIR), CSIR Releases Statistics on Power Generation in South Africa 2022, accessed May 19, 2025.

<sup>&</sup>lt;sup>2</sup> Statistics South Africa, Quarterly Labour Force Survey: Quarter 1, 2025 (Statistical release P0211), May 13, 2025, accessed Jun 30, 2025.

<sup>&</sup>lt;sup>3</sup> Trade & Industrial Policy Strategies (TIPS), Sector Jobs Resilience Plan: Coal Value Chain, 2020, accessed Feb 4, 2025 .

industries available. This lack of economic diversification, limited skills, low mobility, and scarce financial resources make these areas particularly vulnerable to significant job losses and economic disruption as the country shifts toward renewable energy. Furthermore, a key obstacle for South Africa is obtaining scalable, reliable funding for the transition that avoids further deepening existing debt burdens during the transition.<sup>4</sup> Without targeted, strategic interventions, these structural challenges could undermine the benefits of a low-carbon economy, leaving vulnerable populations even worse off.<sup>5</sup>

While relatively stable under formal labour arrangements, coal mining is among the world's most hazardous occupations.<sup>6</sup> Under the International Labour Organization (ILO)'s decent-work framework, employment should provide fair income and stability and safe, healthy working conditions.<sup>7</sup> In other words, decent work entails "fair wages, safe working conditions, [and] security in the workplace". Coal miners suffer from exceptionally high rates of respiratory disease.<sup>8</sup> Such conditions fall short of the ILO's "decent work" standards for safety and health, suggesting many miners accept these roles out of necessity, given limited alternatives. Concurrently, economic analyses show coal's competitiveness is declining. Approximately two-thirds of new renewable power capacity will cost less than the cheapest coal-fired generation.<sup>9</sup> Coal demand in advanced economies has peaked under competitive pressure and is projected to decline further.<sup>10</sup> The transition away from coal is therefore both economically and environmentally inevitable—yet the path forward is fraught with social and structural challenges that must be actively addressed to avoid deepening existing inequalities.

In contrast, renewable energy jobs face the quality-versus-quantity dilemma. While the sector is generating new jobs, many of these lack the stability, protections, and benefits associated with traditional coal employment. Under South Africa's Renewable Energy Independent Power Producer Procurement Programme (REIPPPP), positions are divided between short-term construction contracts and operations and maintenance roles. Lack of unionization leaves many workers in the renewable energy sector with little collective bargaining power, limited benefits, and high contract insecurity. In this context, creating renewable energy jobs does not necessarily translate into "decent work," as defined by the ILO—fair income, security, and safe conditions—and this underscores the need for policies that promote job quality alongside quantity.

The political discourse surrounding South Africa's Just Energy Transition remains contested, reflecting tensions between economic imperatives and long-term sustainability. On the one hand, the South African government positions the transition as both an environmental necessity and an opportunity for economic diversification. Through initiatives such as the Presidential Climate Commission and the Just Energy Transition Investment Plan (JET-IP), the government aims to achieve carbon neutrality by 2050 while addressing the socioeconomic challenges posed by the decommissioning of coal-dependent infrastructure.<sup>11</sup> Internal divisions within the African National Congress (ANC)—which held power as a

<sup>11</sup>Government of South Africa, Just Transition to a Low-carbon Economy, State of the Nation, n.d.

 <sup>&</sup>lt;sup>4</sup> Cobus van Staden, Climate Collaboration in Multipolar Times, 2024, Megatrends Afrika, accessed Feb 4, 2025.
 <sup>5</sup> International Renewable Energy Agency (IRENA), Socio-economic Footprint of the Energy Transition: South Africa, 2023.

<sup>&</sup>lt;sup>6</sup> International Labour Organization (ILO), "Mining: An Overview," in Encyclopaedia of Occupational Health and Safety (International Labour Organization, Mar 13, 2011).

<sup>&</sup>lt;sup>7</sup> European Commission, "Employment and Decent Work," International Partnerships, 2021., accessed May 19, 2025.

<sup>&</sup>lt;sup>8</sup> Rajen N. Naidoo et al., "Respiratory Outcomes among South African Coal Miners at Autopsy," *American Journal of Industrial Medicine* 48, no. 3 (2005): 217-224.

<sup>&</sup>lt;sup>9</sup> Nina Chestney, "Two-thirds of New Renewable Power Cheaper than Coal Last Year – IRENA," Reuters, July 13, 2022.

<sup>&</sup>lt;sup>10</sup> International Energy Agency (IEA), Coal 2024: Analysis and Forecast to 2027, December 2024.

single party when the energy transition agenda was established and now governs within a coalition—have complicated the realization of this vision. Influential figures, including former energy minister and ex-secretary general of the National Union of Mineworkers, Gwede Mantashe, backed by mining regions, expressed concerns that reducing coal's dominance too quickly could undermine employment in coal areas and energy security.<sup>12</sup> Such resistance has slowed renewable energy programmes and fuelled a broader debate about the pace of transition. Recent administrative changes, such as restructuring the Department of Mineral Resources and Energy (DMRE) by introducing a dedicated Ministry of Electricity to handle energy policy, signal attempts to overcome these hurdles; yet the debate remains polarized.<sup>13</sup>

On the other hand, the Democratic Alliance (the second-largest political party in South Africa since the 2024 elections) advocates for an accelerated transition, emphasizing renewable investments and innovative storage solutions to counter load-shedding concerns while arguing that renewable energy offers a cost-effective path to long-term stability.<sup>14</sup> In contrast, the Economic Freedom Fighters propose a dual strategy that maintains some coal capacity alongside expanding renewable infrastructure, aiming to balance job security with environmental goals.<sup>15</sup> This approach underscores the pragmatic imperative of safeguard-ing employment in a country grappling with extreme unemployment, further heightening the urgency of effective energy transition policies.<sup>16</sup>

Trade unions such as Congress of South African Trade Unions (COSATU) and the National Union of Mineworkers (NUM) have become leading voices in the debate, calling for a just transition that reduces inequality, safeguards workers' wages and benefits, and addresses the environmental legacy of the coal industry.<sup>17</sup> Their calls for extending the operational lifespan of coal mines and power stations until renewable alternatives are firmly established underscore the urgency of a just transition that does not leave workers behind.

Against the above background, this policy brief aims to examine the gaps in workforce reskilling and sustainable employment in the renewable energy sector; evaluate the adequacy of social protection for coal-dependent workers; and assess the inclusivity of decision-making processes for coal-dependent communities. The brief employs a qualitative approach to address these objectives, combining insights from document analysis and 10 semi-structured interviews with policymakers, renewable energy sector leaders, labour union representatives, and community organizers. Key results reveal that, while the renewable energy sector promises job creation, these new roles often lack the stability and benefits of traditional coal sector employment. In South Africa, renewable energy projects usually rely on short-term contracts for construction, installation and initial commissioning, which can make those phases of employment temporary or seasonal. The research also finds a lack of robust social protection mechanisms for transitioning workers and critical governance gaps that limit community participation in decision-making processes.

- <sup>14</sup> Democratic Alliance, Powering Growth and Development: Energy and Electricity Policy 2024, 2024.
- <sup>15</sup> Economic Freedom Fighters (EFF), EFF 2024 Election Manifesto, Elections24, 2024.

<sup>&</sup>lt;sup>12</sup> Laura S. Cabeça and Selebia Etomi, "South Africa's Energy Transition Faces Political Roadblocks," African Business, July 2023.

<sup>&</sup>lt;sup>13</sup> Nick Hedley, "New South African Government Fuels Optimism for Faster Energy Transition," Climate Home News, July 4, 2024.

<sup>&</sup>lt;sup>16</sup> Statistics South Africa, Quarterly Labour Force Survey (QLFS), 4th Quarter 2024, 2024.

<sup>&</sup>lt;sup>17</sup> CNV International, Towards A Just Energy Transition: Experiences from South Africa, n.d.

# Key Thematic Areas for Policy Debate

To frame a broader analysis, six cross-cutting thematic areas were identified from stakeholder interviews: funding allocation; skills development; job quality versus quantity; regional inequalities; community governance; and social protection. These themes are then mapped onto the South African government's six JET-IP priority areas—Electricity Infrastructure, JET Mpumalanga, Skills Development, Municipalities, Green Hydrogen, and New Energy Vehicles. This mapping reveals critical gaps, tensions, and divergences that may influence the coherence and effectiveness of the Just Energy Transition agenda.

### **Funding Allocation and Resource Optimization Assessment**

Building on the thematic priorities identified above, this section examines how grant funds are distributed across the plan's six priority clusters and how well these meet the needs identified in the JET-IP. First, Electricity Infrastructure aims to retire aging coal generators, rapidly scale up renewable energy sources, and strengthen transmission and distribution networks. Second, JET Mpumalanga targets the coal-dependent province by repurposing retiring plants and mining sites, restoring degraded land, and catalysing diversified local economies alongside retraining coal workers. Third, Skills Development establishes a Just Transition skills hub and pilot training zones to reskill coal-sector employees, equip youth for roles in renewables, hydrogen, and electric vehicles, and support broader workforce mobility. Fourth, Municipalities are supported in modernizing local grids, integrating distributed renewables, and building planning and finance capacity to deliver reliable electricity, especially to low-income and off-grid households. Fifth, Green Hydrogen is positioned as both a strategic export and domestic clean-fuel industry, with investments in training engineers and technicians, as well as in early-stage hydrogen projects, to decarbonize heavy industries and spur economic growth. Finally, New Energy Vehicles aims to localize electric-vehicle and battery manufacturing, deploy charging infrastructure, and electrify vehicle fleets to safeguard jobs and create high-tech opportunities.

Priority areas	Registry allocation (USD) million	Registry allocation (ZAR) <sup>18</sup>	JET IP <sup>19</sup> estimated needs (ZAR) billion	Proportion of needs cov- ered (%) <sup>20</sup>	Proportion of total registry allocation (%) <sup>*</sup>
Electricity	171.03	3.01 billion	1,200	0.25%	27.89%
infrastructure					
JET Mpumalanga	147.60	2.59 billion	60.40	4.29%	24.07%
Skills development	68.74	1.21 billion	2.65	45.66%	11.21%
Municipalities	84.17	1.48 billion	319.10	0.46%	13.73%
Green hydrogen	141.08	2.48 billion	319.00	0.78%	23.01%
New energy vehicles	0.56	9.89 mil- lion	128.10	0.008%	0.09%

Table 1: Comparison of	Grants and JET IP Allocations by	y Priority Area
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<sup>&</sup>lt;sup>18</sup> Fair Finance Southern Africa, Grant Mapping Register Summary, 2024, accessed Dec 13, 2024.

<sup>&</sup>lt;sup>19</sup> Presidency of the Republic of South Africa, South Africa's Just Energy Transition Investment Plan (JET IP) 2023– 2027, 2023.

<sup>&</sup>lt;sup>20</sup> Proportion of needs covered is computed as registry allocation (ZAR) as a percentage of the JET IP Estimated Needs (ZAR).

As illustrated by Table 1, funding is heavily skewed toward infrastructure-related categories (Electricity Infrastructure and Green Hydrogen together account for over half of all grant funding) while covering only a negligible portion of their required investment. By contrast, Skills Development—though accounting for just 11.2 per cent of grant disbursements— covers nearly 45.7 per cent of the needs identified in the JET-IP. Other sectors fare far worse. Municipalities, for example, receive 13.7 per cent of total grant funds but fulfil a mere 0.46 per cent of their earmarked transition requirements.

A recalibration is necessary—one that acknowledges the massive scale of infrastructure challenges while also leveraging the potentially higher immediate impacts of social investments. Yet, with constrained public resources, funds must first target the most critical bottlenecks. This principle aligns with Michael Kremer's O-ring theory of development, which models production as a chain of interdependent tasks: the final product's value hinges on every link, and even slight lapses in quality can sharply diminish overall output.<sup>21</sup> Applied to a just energy transition, this framework maintains that financing, policy design, technical training, component manufacturing, and local implementation are mutually reinforcing. A shortfall in any one element—a "weak ring"—can stall the entire process, no matter how abundant other inputs may be. This theory is particularly relevant to a just energy transition, where social and technical tasks must be aligned. The South African context presents several key tasks: planning inclusive policies, designing training programmes, aligning labour market incentives, and ensuring local ownership. If any of these "rings" is weak-for example, if workers lack needed qualifications—significant infrastructure investments may fail to yield inclusive outcomes. In development terms, the "binding constraint" refers to the task that severely limits progress.<sup>22</sup>

Applying this lens to the JET, South Africa's weakest "rings" may lie in workforce skills and community readiness; without addressing these, the transition cannot succeed for the affected communities. Without fully developed skills, supply chains, and governance structures, high-quality infrastructure procurements or technology deployments risk underperformance. Strengthening these "rings" is crucial to translating infrastructure investments into an inclusive energy transition in South Africa.

#### **Skills Development and Training Needs**

Although skills development receives the highest proportional coverage—grant allocations of ZAR 1.21 billion cover roughly 46 per cent of the ZAR 2.65 billion training needs—it still leaves more than half of the workforce requirements unaddressed. In contrast, municipal grants of ZAR 1.48 billion represent nearly 14 per cent of total funding yet satisfy less than 1 per cent of the ZAR 319.1 billion municipal needs. The JET-IP's identification of ZAR 2.65 billion in skills and training requirements over five years underscores that new technologies require new capabilities. However, current skill-development pathways remain fragmented. Interviews and literature note that "learning pathways into green jobs required for JET are unclear, ad hoc and fragmented," with only piecemeal courses and no systematic strategy for upskilling the existing workforce. This gap means that engineers, technicians, and operators may lack the specialized training necessary to build and maintain solar, wind, or green hydrogen plants. Undertrained workers on a project can significantly reduce overall

<sup>&</sup>lt;sup>21</sup> Michael Kremer, "The O-Ring Theory of Economic Development," *Quarterly Journal of Economics* 108, no. 3 (1993): 551-575.

<sup>&</sup>lt;sup>22</sup> Harvard Kennedy School, "Ricardo Hausmann on the Rise of Industrial Policy, Green Growth, and Trump's Tariffs," PolicyCast, March 5, 2025.

productivity and the returns on substantial capital investments. In short, pouring money into renewable projects without simultaneously strengthening workforce development risks unrealized significant returns. The JET plan's skills budget (ZAR 2.65 billion) is a start, but practical implementation will require a coherent, demand-driven training system—from high-level coordination "skills hubs" to localized training zones—to ensure these funds address actual skills gaps.

The transition risks deepening regional and economic disparities without sufficient investment in skills development. In coal-dependent areas like Mpumalanga, where job losses are most severe, failing to equip workers with the necessary skills for the renewable energy sector could lead to prolonged economic decline. While emerging industries such as green hydrogen and new energy vehicles offer substantial opportunities for job creation and economic diversification, the current low level of funding for skills development threatens to marginalize South African workers. Moreover, aligning training curricula with the dynamic needs of the renewable energy industry requires ongoing adaptation and close collaboration between educational institutions and industry stakeholders. To ensure a transformative workforce transition, policymakers must address these structural challenges by scaling up sustained investment and establishing continuous feedback loops that allow curricula to evolve alongside industry innovations.

## **Quantity versus Job Quality**

Coal mining in South Africa remains a relatively formal sector with stable contracts and benefits, but it poses health and safety risks. Coal miners have permanent employment (81%) and standard benefits like the Unemployment Insurance Fund (UIF), pensions, and medical aid.<sup>23</sup> Despite formal terms, coal mining work is physically dangerous. Coal miners face fatal accidents (e.g. roof falls) and chronic exposure to coal dust. A long-term study found that former miners' all-cause mortality is about 20 per cent higher than that of the general population.<sup>24</sup> Miners are aware of the health risks, but few alternatives exist; hence, coal jobs are perceived as a gateway into the formal economy and a necessary livelihood despite the harms.<sup>25</sup>

Jobs in South Africa's renewable energy sector are growing but are currently smaller and less well-defined than coal jobs. Interviews revealed a significant misalignment between the current labour supply and the evolving demands of the renewable energy sector. REIPPPP created on the order of 55,217 direct "job-years" of employment for South African citizens, split between short-term construction and long-term operations work.<sup>26</sup> These renewable jobs remain modest compared to the coal sector's support for over 120,000 direct jobs.<sup>3</sup> Roughly two-thirds of REIPPPP jobs are in operations and maintenance over a 20-year project life. At the same time, the remaining third are construction-phase roles (lasting 1–3 years) typically filled by lower-skilled labour.

One practitioner highlighted the quality-versus-quantity dilemma in renewable energy employment: Although the sector is creating new roles, most are short-term, project-based

<sup>&</sup>lt;sup>23</sup> Haroon Bhorat et al., Just Transition and the Labour Market in South Africa, March 20, 2024.

<sup>&</sup>lt;sup>24</sup> Kim Bloch et al., "Precarious Transition: A Mortality Study of South African Ex-miners," *BMC Public Health* 18, no. 862 (2018).

<sup>&</sup>lt;sup>25</sup> Nthabiseng Mohlakoana et al., "Demystifying Employment in South Africa's Just Energy Transition: Exploring Emerging Decent Work Themes," *Development Southern Africa* 41, no. 3 (2024): 649-665.

<sup>&</sup>lt;sup>26</sup> Lauren Hermanus and Gaylor Montmasson-Clair, Making Sense of Jobs in South Africa's Just Energy Transition: Managing the Impact of a Coal Transition on Employment, Trade & Industrial Policy Strategies Policy Brief 3, April 2021.

positions lacking traditional job security and benefits. These roles are often dismissed as "just jobs" without strong labour standards. Unlike the coal sector, where over 82.5 per cent of mine workers are unionized, the IPP market remains fragmented and far less organized.<sup>27</sup> As a result, renewable positions tied to construction or seasonal maintenance cannot match the stability and career protections offered by coal-sector employment. One practitioner said, *"We need to focus on creating quality jobs that provide a living wage and stability, not just temporary positions that disappear when projects end"*. <sup>28</sup> This practitioner further pointed out that in several renewable energy projects, primarily solar farms, wages are significantly lower in comparison to those in mining. Additionally, the practitioner stressed the importance of scaling renewable energy job training to include certifications and pathways for career advancement, which are currently lacking in the industry. Labour market dynamics in regions like Mpumalanga reflect a severe lack of training institutions capable of bridging this gap. Even where training exists, it is often misaligned with the needs of the renewable sector, leading to mismatches between job seekers' skills and employers' requirements.

Coal-dependent regions such as Mpumalanga face disproportionate impacts due to the localized nature of coal employment. The interviews highlighted the absence of adequate planning to mitigate these regional disparities. Examples of success, such as pilot programmes in the Northern Cape aimed at increasing women and youth participation in renewable energy jobs, underscore the importance of community-focused interventions. Although our interview data confirm that job quantity in the renewable sector is rising, qualitative findings and scholarly research emphasize that job quality remains a significant challenge.<sup>29</sup> In contrast, the coal industry has a history of established operations, with long-term employment practices and strong union representation.<sup>30</sup> Furthermore, renewable energy projects often face significant financial and policy uncertainties. Changes in funding sources, evolving regulatory frameworks, and market fluctuations can lead to delays or cancellations, ultimately jeopardizing job security.<sup>31</sup> These findings suggest that job quality will require job guarantee schemes, establishing clear career pathways through targeted upskilling and certification programmes, and the strengthening of labour regulations to secure employment benefits in the renewable energy sector.

#### **Social Protection Gaps**

A recurring concern among stakeholders is the insufficient protection offered by current social protection systems. Traditional programmes, such as the Unemployment Insurance Fund, are ill-equipped to serve informal workers and those in temporary positions, leaving many coal workers and other vulnerable groups exposed during economic transitions. One labour union leader observed, *"The UIF system was designed for a different era. It doesn't account for the realities of workers in transition today."*<sup>32</sup> Another practitioner emphasized the need for immediate and flexible solutions, stating, *"We need universal income grants or job guarantee schemes to cushion the transition. These programmes can provide immediate* 

<sup>&</sup>lt;sup>27</sup> Congress of South African Trade Unions (COSATU), South Africa Trade Fact Sheet: Trade Unions, Trade and AfCFTA (October 2024), accessed Jul 2, 2025.

 <sup>&</sup>lt;sup>28</sup> Author's interview with a senior policy and academic researcher, Johannesburg, South Africa, December 2024.
 <sup>29</sup> Richard Hanna et al., "Job Creation in a Low Carbon Transition to Renewables and Energy Efficiency: A Review of International Evidence," *Sustainability Science* 19, no. 1 (2024): 125-150.

<sup>&</sup>lt;sup>30</sup> Climate Investment Funds (CIF), Supporting Just Transitions in South Africa, 2020.

<sup>&</sup>lt;sup>31</sup> Sanya Carley and David.M Konisky, "The Justice and Equity Implications of the Clean Energy Transition", *Nature Energy* 5, no. 8 (2020): 569-577.

<sup>&</sup>lt;sup>32</sup> Author's interview with labour union representative, Johannesburg, South Africa, December 2024.

*relief while long-term solutions are implemented.*<sup>33</sup> Complementing these views, a renewable energy developer proposed integrating social protections with renewable energy initiatives, suggesting that guaranteed job placements or training stipends could ensure that displaced workers are not left behind.

Traditional social insurance models are inherently ill-equipped to manage the precarity of transitional work because they rely on contributory schemes tied to formal employment.<sup>34</sup> The World Bank advocates for more adaptable, universal safety nets that can flexibly respond to shifting labour market conditions.<sup>35</sup> Therefore, social protection frameworks must evolve by incorporating mechanisms such as job guarantee schemes and universal income grants to effectively support workers displaced by structural shifts in the energy production sector. In conclusion, this policy brief underscores the dual challenge of redesigning responsive social protection while navigating institutional support and securing political consensus to redesign the social safety nets.

### **Regional Inequalities**

The uneven geographical distribution of renewable energy projects has intensified preexisting regional disparities. The decline of the coal industry during the energy transition jeopardizes local economies, potentially triggering fiscal collapse in these communities.<sup>36</sup> One policymaker noted that "*Mpumalanga bears the brunt of job losses but sees little benefit from renewable energy development,*" underscoring the stark imbalance in benefits.<sup>37</sup> Only 24 per cent (approximately USD 147 million) of the grants registry was allocated to initiatives in Mpumalanga. This is only 4.29 per cent of the proportion of needs covered in Mpumalanga. This leaves communities in coal-heavy regions feeling abandoned; an interviewee remarked, "*Mpumalanga workers feel abandoned. Without adequate funding, these communities will bear the transition costs without seeing their benefits.*"<sup>38</sup>

Priority areas, such as skills development and municipal support, are similarly underfunded. Municipal support includes upgrading local infrastructure, enhancing the administrative capabilities of municipal bodies to plan and implement transition-related projects and promoting regional economic diversification. Despite widespread recognition of a significant skills mismatch between coal workers and emerging renewable energy jobs, only 11 per cent of the grants (roughly USD 68 million) have been allocated to upskilling programmes. A labour union representative warned, *"If we don't invest more in upskilling workers, we are setting them up for failure in this transition."*<sup>39</sup> Municipalities receive just ZAR 1.48 billion (about 13% of total JET grants) despite shouldering critical responsibilities for local grid management, poverty alleviation, and community engagement. However, their limited financial, technical, and governance capacity raises questions about whether direct grants alone will yield effective outcomes. International experience, such as Germany's federal–

 <sup>&</sup>lt;sup>33</sup> Author's interview with policy expert on just energy transition, Johannesburg, South Africa, December 2024.
 <sup>34</sup> Joan Benach et al., "Precarious Employment: Understanding an Emerging Social Determinant of Health," *Annual Review of Public Health* 35, no. 1 (2014): 229-253.

<sup>&</sup>lt;sup>35</sup> World Bank, Social Protection Overview, 2024.

<sup>&</sup>lt;sup>36</sup> Adele C. Morris et al., "The Risk of Fiscal Collapse in Coal-reliant Communities," Economic Studies at Brookings, 2019.

<sup>&</sup>lt;sup>37</sup> Author's interview with policy expert on just energy transition, Johannesburg, South Africa, December 2024.

<sup>&</sup>lt;sup>38</sup> Author's interview with researcher on just energy transition, Johannesburg, South Africa, December 2024.

<sup>&</sup>lt;sup>39</sup> Author's interview with labour union activist, Johannesburg, South Africa, December 2024.

state framework for green skills, suggests that skills development and large-scale infrastructure roll-out often benefit from higher-level coordination.<sup>40</sup>

To bridge these gaps, interviewees recommended rebalancing grant allocations to prioritize regions like Mpumalanga better and invest more robustly in skills training and municipal capacity building. One renewable energy practitioner stated, *"Grants should be aligned with the Just Energy Transition Investment Plan to ensure that no region or sector is left behind.*<sup>741</sup> Other proposals included creating a dedicated regional development fund to offset economic losses and stimulate renewable energy investments in coal-dependent areas. However, potential challenges include bureaucratic inertia, uneven administrative capacities, and resistance from established economic interests. Thus, while the proposed measures to rebalance funding and increase local investments are promising, their success will depend on policymakers' ability to implement flexible, context-sensitive strategies that mitigate these obstacles. While proposed measures offer a promising route to reduce regional inequalities, their successful implementation will depend on overcoming persistent institutional and political challenges. Future policy design should incorporate adaptive mechanisms that continuously reassess local conditions and adjust resource distribution accordingly.

#### **Community Engagement and Governance**

Stakeholders emphasized the need for inclusive and transparent decision-making processes. A community representative observed, "Decisions about the energy transition are being made without consulting the people most affected. This is neither fair nor effective."<sup>42</sup> One proposed solution was the establishment of regional councils comprising local governments, civil society organizations, and labour unions to ensure that community voices are heard and integrated into policy decisions. As one labour advocate put it, "Transparency and participation are non-negotiable. People must feel that their input matters; otherwise, the transition will lack legitimacy." Another participant suggested, "An independent monitoring body could ensure accountability and provide regular updates to affected communities."<sup>43</sup>

Interviewees highlighted the lack of mechanisms for meaningful community engagement, particularly in regions heavily reliant on coal. While stakeholder insights strongly support the advocacy for enhanced community engagement, challenges remain. Establishing practical regional councils and independent monitoring bodies requires overcoming bureaucratic resistance and ensuring sustained funding and capacity building. Therefore, although the recommended community-led frameworks are promising, their practical implementation may encounter challenges related to institutional coordination. A combined approach that leverages top-down support and grassroots initiatives could help bridge these gaps, making the transition more inclusive and responsive to local needs. One proposed solution from the interviewees was the establishment of regional councils comprising local governments, civil society organizations, labour unions, and private sector participants to ensure that community voices are heard and integrated into policy decisions.

<sup>&</sup>lt;sup>40</sup> European Centre for the Development of Vocational Training (CEDEFOP), "Skills for Green Jobs: 2018 Update: European Synthesis Report," Cedefop Reference Series 109, Publications Office of the European Union, 2019.
<sup>41</sup> Author's interview, December 2024.

<sup>&</sup>lt;sup>42</sup> Author's interview with civil society activist, Johannesburg, South Africa, December 2024.

<sup>&</sup>lt;sup>43</sup> Author's interview with civil society activist, Johannesburg, South Africa, December 2024.

# **Conclusion and Recommendations**

South Africa's Just Energy Transition (JET) stands at a crossroads: it can either chart a decarbonization pathway that uplifts workers and communities or deepen existing inequalities by creating a lopsided infrastructure spending over human capital and social protection. The government's efforts through the Presidential Climate Commission and the JET-IP are situated within a broader contest between those advocating for a rapid transition and those urging caution to protect jobs in coal-dependent regions. The internal divisions within the ANC and the stances of opposition parties such as the Democratic Alliance (DA) and the Economic Freedom Fighters (EFF) underscore that the transition is as much about managing sociopolitical expectations as it is about environmental sustainability. Against this backdrop, policy must be bold and inclusive, combining clear targets for renewable energy deployment with measures that safeguard workers' livelihoods. To achieve this, several measures are recommended:

**Job guarantee schemes:** Recognizing the concerns raised by labour unions and mining communities, job guarantee schemes should be positioned as both instruments of social justice and mechanisms for economic stabilization. In this context, the South African government should implement programmes that secure a guaranteed minimum income for displaced workers through public works initiatives linked to renewable energy projects, such as the maintenance of solar farms and wind turbines.

**Universal income grants:** With increasing political debates on inclusive growth, targeted universal income grants can ensure immediate relief. Such grants would be a tangible commitment to reducing inequality, a recurring theme in political discussions. While universal income schemes may be costly, targeted initiatives focusing on the most vulnerable groups could be designed to be fiscally manageable and serve as a bridge during the transition.

**Reskilling and training subsidies:** Safeguarding employment is a critical concern amid debates over the pace and impact of the energy transition. The South African government must partner with industry and leverage existing training infrastructures to present reskilling and upskilling initiatives. Expanding Technical and Vocational Education and Training (TVET) programmes is a plausible pathway to align workforce skills with renewable energy demands.

**Expanded access to social insurance:** Reforms to social insurance programmes, such as broadening the Unemployment Insurance Fund, are essential to support informal workers along the coal value chain. This aligns with socioeconomic discourses calling for a safety net for vulnerable communities.

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