Extractive legacies, local struggles, and the pursuit of social justice

Green energy development in South Africa's Northern Cape

By Stephanie Borchardt

With its substantial solar and wind resources, South Africa's Northern Cape province has the potential to become a strategic hub for green energy development. As the province emerges as the centrepiece of South Africa's renewable energy transition, STEPHANIE BORCHARDT warns the energy boom could also present serious risks to socio-economic justice if historical patterns of exclusion emerge under the banner of sustainability.

Photo: Stephanie Borchardt

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Abstract

South Africa's transition to renewable energy, including green hydrogen development, is positioned as a pathway to sustainability and economic growth. However, this transition is characterised by persistent socio-economic inequalities, infrastructural limitations, and unevenly distributed benefits. This article critically examines the socio-political implications of large-scale renewable energy projects, particularly in historically marginalised regions such as the Northern Cape province. Employing an energy justice framework, the study explores how corporate-led energy transitions risk reinforcing patterns of resource dispossession and exclusion, rather than fostering equitable development. By interrogating the tensions between national energy ambitions and local realities, the paper highlights the need for greater institutional capacity, meaningful community engagement, and policy interventions that prioritise energy justice. The findings stress the importance of moving beyond extractivist paradigms to ensure a just and inclusive energy transition.

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Introduction

The global shift towards renewable energy has positioned South Africa's Northern Cape province as a strategic hub for green energy development, given its extensive arid landscapes and substantial solar and wind resources (Gauché et al., 2013; Ayodele et al., 2013). This has spurred the expansion of large-scale solar and wind farms, green hydrogen production initiatives, and renewed interest in critical mineral extraction. While these developments are widely framed by the government as drivers of economic growth, decarbonisation, and sustainable energy futures (Presidential Climate Commission [PCC], 2022; The Presidency, 2023), they also raise critical questions about social justice, particularly regarding land, governance, and socio-economic inclusion.

A just transition, as defined by South Africa's PCC, is one that builds economic and social resilience through "affordable, decentralised, and diversely owned renewable energy; equitable access to water"; a healthy environment; and inclusive land use, particularly for vulnerable groups (PCC, 2022: p. 7). The PCC's framework is based on the principles of distributive, restorative,[1] and procedural justice.

This article applies an energy justice framework, grounded in distributive, procedural, and recognition justice (Jenkins et al., 2016), to examine how large-scale energy transitions shape inclusion and exclusion in South Africa's Northern Cape. It draws on Laes et al.'s (2023) pragmatic dialogue model, which prioritises enabling stakeholders to voice moral claims, fostering genuine deliberation and pluralistic engagement rather than imposing predetermined solutions.

The global shift to green energy presents a profound opportunity for sustainable development and building a more equitable society, but ensuring its success is a moral imperative rooted in justice. The procedural framework presented here directly addresses these issues:

- Recognition justice ensures the acknowledgement of affected groups and their historical rights. It is also about recognising the underlying systemic injustices.
- Distributive justice demands a clear examination of the fairness of benefit and burden distribution.
- Procedural justice aims to identify and implement inclusive decision-making strategies, ensuring communities are actively engaged in discussions about their land and livelihoods, not merely presented with pre-determined plans.

The success of the green energy transition depends on ensuring it addresses these issues of fairness and justice, rather than focusing solely on technical and economic factors. As Sovacool et al., (2017: pp. 688-689) argue, energy systems often contribute to resource depletion, unfairly distribute negative effects (such as environmental damage), and reinforce exclusion or biased decision-making. They warn that if these justice issues are ignored, they may become accepted as the norm, perpetuating inequality in energy policies and energy development. This article highlights the moral dilemmas in energy development and explores how renewable energy projects intersect with local governance, economic vulnerabilities, and historical patterns of exclusion in marginalised communities.

This study draws predominantly on an extensive literature review of the institutional capacity of local municipalities in the Namakwa District,[2] green hydrogen research by Nzo and Mahabir (2023) and Parkin (2024), and fieldwork on the role of the Renewable Energy Independent Power Producer Procurement Programme (REIPPPP), which are shaping local socio-economic landscapes in host towns (Borchardt, 2023). This article argues that without meaningful attention to local participation, economic redistribution, and historical inequities, the green energy transition risks deepening longstanding structural injustices in the semi-arid Northern Cape province.

Contested landscapes: vulnerability and exclusion in the Northern Cape

The Northern Cape province (see Figure 1), South Africa's largest province, spans nearly 30% of the country's landmass yet remains sparsely populated, home to just 2.1% of the national population (Statistics South Africa, 2022: p. 4). Despite its vast mineral wealth, including diamonds, iron ore, lead, copper, and manganese, the province remains socio-economically marginalised. Mining contributes 24.6% of the Northern Cape's Gross Domestic Product (Trade & Industrial Policy Strategies, 2022), yet unemployment continues to rise,[3] with 43% of residents now dependent on social grants as their primary source of income (Cowling, 2024).

Marked by arid landscapes, poor infrastructure maintenance, and recurring droughts, the province's development trajectory has long been shaped by colonial dispossession and extractive industries (Beinart, 2003; Penn, 2005; Walker and Hoffman, 2024). The economic decline of agriculture, once a cornerstone of local livelihood, has severely impacted municipal revenues and service delivery, particularly in smaller towns

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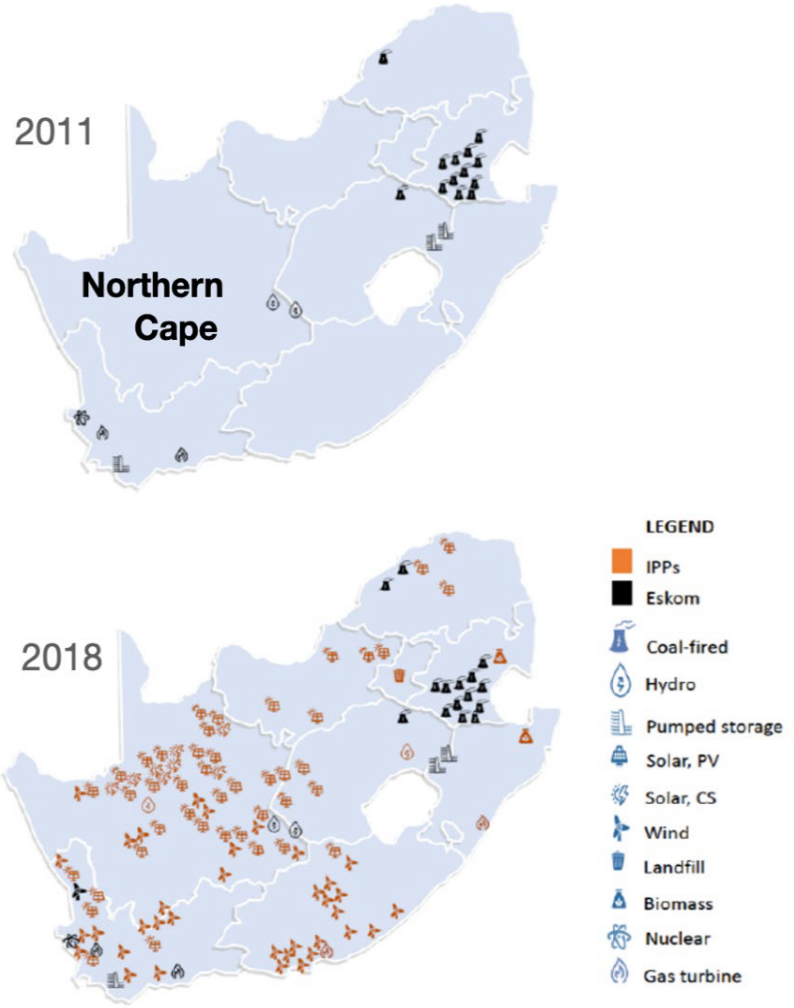
(Walker and Vorster, 2024). The result is a region that has long been exploited for its mineral wealth, yet remains deeply vulnerable to structural inequality and persistent development neglect.

Socio-economic household surveys conducted by the South African Research Chair in the Sociology of Land, Environment and Sustainable Development[4] between 2016 and 2025 in Vanwyksvlei, Sutherland, Loeriesfontein, and Williston revealed widespread poverty, high unemployment, and significant reliance on state social grants. Additionally, social challenges such as substance abuse, teenage pregnancy, and school dropouts were prevalent across these towns, exacerbating existing socio-economic hardships (Eigelaar-Meets and Groenewald, 2025; Walker and Vorster, 2024; Chinigò, 2019; Gastrow and Oppelt, 2019).

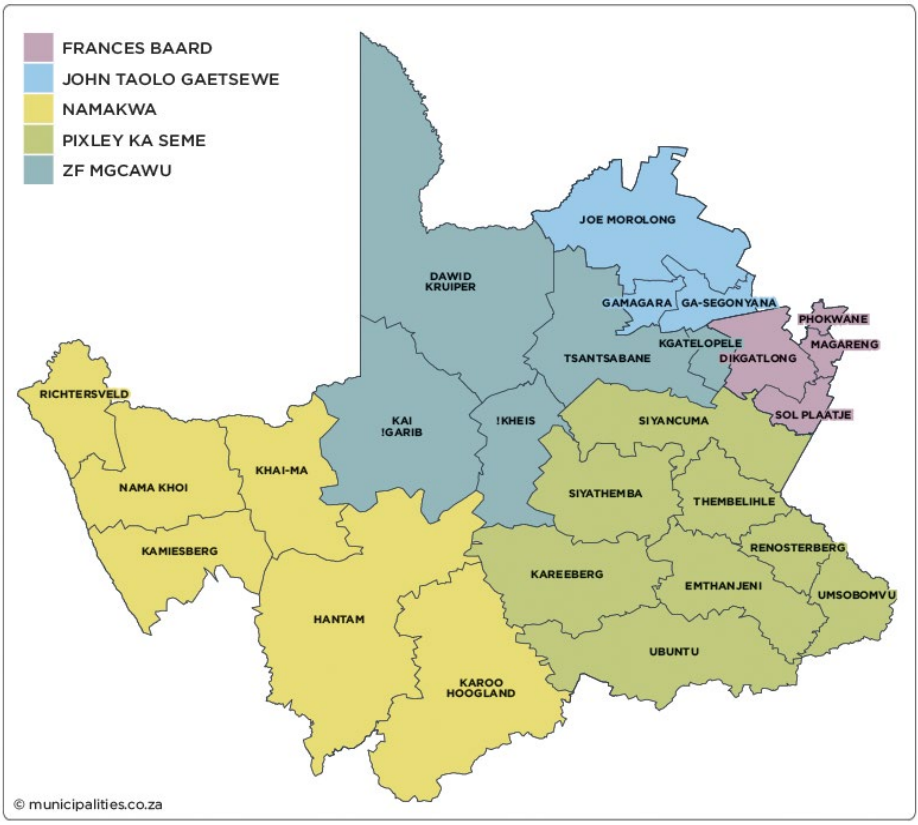
The province's economic trajectory has long been defined by cycles of resource extraction. Historically, copper mining[5] was central to the region, but it left behind lasting environmental degradation and socio-economic instability (Smalberger, 1969; Luttig, 2018). Similar boom-and-bust dynamics occurred in diamond mining along the Orange River and in Kimberley, where early industrial operations entrenched South Africa's racialised labour systems (Turrell, 1987). While diamond wealth benefitted mining companies and global markets, local communities bore the costs of resource depletion, dangerous labour conditions, and the collapse of mining economies (Turrell, 1987; Human, 2024b).

Figure 1:The Northern Cape stands out in this depiction of the change in the geographic distribution of South Africa's utility-scale generation plants since 2011



Source of maps: Power Futures Lab, UCT

Figure 2: Map of the Northern Cape province, indicating the five district municipalities and 27 local municipalities.



Source: Municipalities.co.za

South Africa's energy transition to renewable energy is vital for decarbonising the economy and improving energy security (Swilling, 2023). However, this shift comes with significant justice trade-offs. The current dominant approach is plagued by energy poverty, weak institutional capacity, and inadequate community engagement. These historical and socio-economic realities, therefore, form a critical backdrop for understanding the contemporary challenges of the green energy transition. The influx of large-scale renewable energy projects into a region marked by persistent poverty and extractive economic legacies raises a central question: Will this new wave of development genuinely

uplift local communities, or will it replicate the 'boom-and-bust' cycles of the past?

This article now turns to an analysis of two case studies, Sutherland[6] and De Aar,[7] to explore how the implementation of the country's renewable energy programme has, in practice, intersected with household energy poverty.

Renewable energy for whom? Local realities and the limits of development mandates

The Independent Power Producer (IPP) programme, launched in 2010, aimed to diversify South Africa's energy mix and promote socio-economic development. Through the REIPPPP, projects are required to invest in local development initiatives initially within a 50km radius of the solar or wind farm, broadly encompassing education, social welfare, healthcare, and enterprise development (IPPO, 2021). Yet, the extent to which these investments genuinely benefit local communities remains debatable. With more than 104 renewable energy IPP projects having reached financial close as of March 2025 (IPPO, 2025), questions remain about whether these investments translate into meaningful, long-term benefits for local communities or merely serve as compliance-driven contributions with limited impact on structural socio-economic challenges.

Corporate-led development often follows a 'magic bullet' approach, framing technical solutions as fixes for entrenched socio-economic issues (McEwan et al., 2017). Key concerns include contested definitions of 'community' (Tait et al., 2013), the disconnect between corporate initiatives and local policies (Borchardt, 2023), top-down governance that undermines local participation (Marais et al., 2017), and corporate-driven branding efforts that fail to address structural inequalities (Malope and Borchardt, forthcoming).

Despite promises of socio-economic upliftment, renewable energy projects in the Northern Cape have yielded unequal benefit distribution (Nzo, 2021; Borchardt, 2023; Pressend, 2023). These development efforts are often concentrated around renewable energy sites, creating what McEwan et al. (2017: p. 42) term "islands of development… in a larger sea of under-development". IPPs often donate tablets or sports equipment to schools, yet these initiatives fail to address core development needs. While IPPs cannot be held responsible for resolving local development failures, an obligation assigned to local municipalities, many communities near renewable energy projects

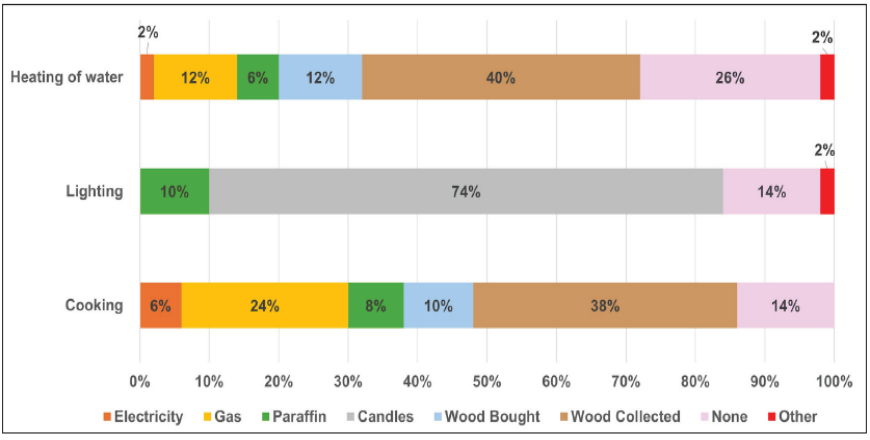
continue to experience energy insecurity. They face high electricity tariffs, limited energy access, and dependence on alternative fuels such as firewood, paraffin, and gas (Borchardt, 2023).

A household socio-economic survey conducted by the SARChI Chair in Sociology of Land, Environment and Sustainable Development (Eigelaar-Meets and Groenewald, 2025) revealed a striking paradox in Sutherland, a small Northern Cape town. Despite nearly universal access (89,7%) to electricity, residents continue to rely heavily on firewood, gas, and charcoal as primary heating sources.

In Sutherland, one of South Africa's coldest towns,[8] residents face significant heating challenges. The Sutherland socio-economic survey (Eigelaar-Meets and Groenewald, 2025) found that only 10.6% of households use electric geysers. While most residents have access to electricity, they rely on firewood, gas, and charcoal for heating because of the high cost of running electrical appliances.

Borchardt (2023) documented similar patterns in Kareeville, a low-income residential area in De Aar. Despite having access to electricity, most households struggle with affordability and resort to alternative energy sources when the prepaid meters run out (see Figure 3). Energy poverty affects 58% of surveyed households (N=50), who reported insufficient electricity for cooking and water heating due to cost constraints. Though 86% used electric kettles for heating water, many still relied on firewood, gas, or paraffin stoves as backups.

Figure 3 Usage of secondary sources of energy in Kareeville residential area, De Aar (2018)



Source: Borchardt (2024:274).

Despite De Aar and Sutherland being surrounded by Renewable Energy Independent Power Producers (REIPPs) mandated to invest locally, none of the operating IPPs have addressed local energy poverty or incorporated community energy needs into their Social and Economic Development (SED) programmes (Danny, IPP representative, interview, August 2024). This highlights a stark disconnect between large-scale renewable energy production and the everyday energy struggles of local communities, representing missed opportunities to enhance household energy security through measures such as subsidised electricity or affordable solar home systems (Borchardt, 2024: p. 274).

Large-scale projects, such as wind and solar farms, frequently fail to deliver meaningful local economic improvements (Eberhard and Naude, 2016; Funder et al., 2021). While significant capital has flowed into the sector, local communities often see minimal long-term gains in employment, skills development, and infrastructure (McDaid, 2016; Mohlakoana et al., 2024).

This disparity is reflected in community narratives, such as that of a De Aar resident whose partner worked in the solar sector during its initial construction phase:

> ***People thought they would work for a long time, and then the contracts just ended… you're happy that people have work, but it was just for that time [during construction]. People want permanent work to keep going, so things are good for three or four months, and then it's bad again, much worse, because you get used to the salary, and then it just disappears.*** (Maria, local resident, interview, April 2019).

According to Pandarum (2023), despite the launch of the REIPPPP more than 15 years ago, South Africa only introduced its first Technical and Vocational Education and Training (TVET) course for renewable energy in 2022. The slow pace of labour development and local capacity-building raises concerns that renewable energy investments may continue to mirror extractive economic models rather than fostering inclusivity. Unless these structural disparities are addressed, the transition risks reinforcing existing economic asymmetries, where benefits flow disproportionately to investors while local communities remain marginalised.

The lack of local ownership further raises concerns about green extractivism, as communities have little control over project implementation. Studies by McDaid (2016), Mohlakoana et al. (2024) and Nzo (2021) on the IPP programme highlight elite capture and a lack of

transparency, concentrating benefits among investors rather than residents. Given that IPPs are private companies prioritising profit, expecting them to prioritise community development is unrealistic.

Similarly, Müller and Claar (2021) argue that South Africa's REIPPPP prioritises transnational capital over distributive and procedural justice. While localised ownership models could offer greater socio-economic benefits, current policies do not adequately address justice concerns. To foster a just transition, they recommend:

- Implementing regional bidding rounds to ensure local participation.
- Strengthening local ownership incentives in renewable energy projects.
- Increasing investment in renewable energy research and skills development.
- Enhancing stakeholder engagement to promote procedural justice.

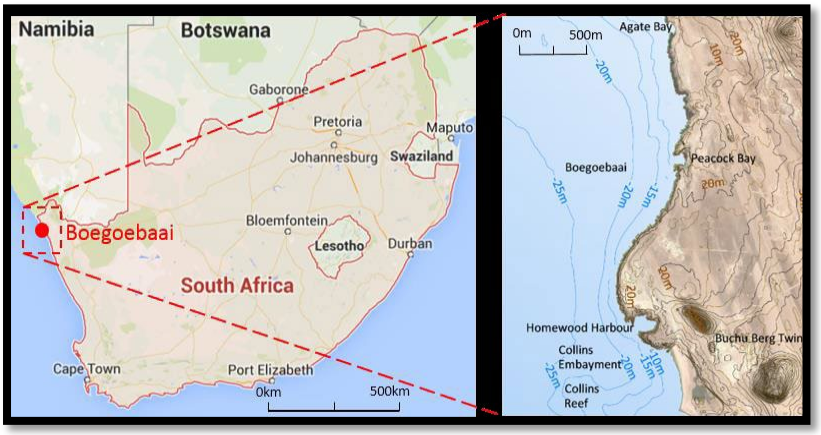
Without addressing these structural inequalities, South Africa's renewable energy transition risks replicating past extractive models, leaving local communities in the dust while international investors reap the rewards. A more inclusive approach is needed to ensure that the transition prioritises both local development and community empowerment.

Sign near the Okiep Copper Mine. *Photo: Stephanie Borchardt*

Green hydrogen and the risk of new extractivism

The Northern Cape has also emerged as a focal point for South Africa's green hydrogen ambitions (NCEDA, 2023), with Boegoebaai as a strategic hub for large-scale production and export (see Figure 4). Positioned along the Atlantic coastline, Boegoebaai has been earmarked for a deepwater port to facilitate hydrogen exports, primarily to European and Asian markets seeking low-carbon energy sources (Schreiner et al., 2024). These projects form part of South Africa's broader Just Energy Transition (JET) Plan, yet their implementation raises pressing questions about local socio-economic benefits, land use, and community participation.

Figure 4: Map of South Africa showing the Boegoebaai area designated for a deep-water port.



Source: Global Africa Network, https://www.globalafricanetwork.com/featured/boegoebaai-port-and-green-hydrogen-cluster/

Green hydrogen is produced via the electrolysis of water, a process that splits water molecules into hydrogen and oxygen (World Economic Forum, 2021). The designation 'green' signifies that the electricity used for this process is sourced from renewables, such as solar or wind power, resulting in a zero-carbon production method (Department of Science and Innovation, 2021).

The Boegoebaai Special Economic Zone (SEZ), near Port Nolloth in the Richtersveld municipality close to the Namibian border, is planned as South Africa's largest green hydrogen export hub. It will include 10 GW of renewable energy and 5 GW of green hydrogen production

(Department of Science and Innovation, 2021). The success of South Africa's green hydrogen sector depends on more than just its potential to boost the economy and meet climate goals (Presidential Climate Commission, 2022; Salma and Tsafos, 2022). It must also address significant national challenges, including a heavy reliance on coal (Baser, 2023), limited grid capacity (Burkhardt, 2024), and widespread energy poverty affecting 43% of households (Mohlakoana and Wolpe, 2021).

South Africa's push for green hydrogen, driven by global demand, raises a critical question: Will this energy transition truly benefit local communities, or will it simply create a new form of resource exploitation? Researchers are concerned that these large-scale projects, with their top-down decision-making and exclusion of local voices, could repeat the patterns that have historically marginalised communities (Kalt et al., 2023). Governance challenges, financial constraints, and the exclusion of locals from decision-making processes suggest that, without significant structural reforms, green hydrogen projects risk becoming yet another iteration of externally controlled resource exploitation (Nzo and Mahabir, 2023; Parkin, 2024).

This 'green extractivist' model, focused on serving European climate goals, risks turning the Northern Cape into a 'sacrifice zone', a concept originally used by Fox (1999) to describe regions where resources are exploited for the benefit of distant centres, leaving local communities with environmental damage and persistent inequality. Contemporary interpretations of the term refer to areas where resources are extracted for global markets, while entrenched local inequalities remain unaddressed (Scott and Smith, 2017; Zografos and Robbins, 2020).

For the green hydrogen projects to be truly ***just***, they must move beyond an extractive model and become a source of local empowerment, rather than replicating current resource extractive models (Nzo and Mahabir, 2023; Parkin, 2024). This is not merely a moral imperative; it is a strategic necessity. Projects that fail to address local justice concerns risk social unrest, protest, and operational disruption. Additionally, adopting ethical practices provides regulatory foresight, helping companies avoid legal battles by staying ahead of new land use and community consent laws. A genuinely inclusive and redistributive approach offers a more sustainable model for companies, one that fosters long-term stability, community trust, and shared benefit. Industries that align with these frameworks, rather than circumvent them, are more likely to secure long-term operational licences and community goodwill.

The governance of communal land designated for hydrogen infrastructure in the Namakwa District has become a contentious issue, particularly due to the role of Community Property Associations (CPAs). A CPA is a legal entity established in South Africa under the Communal Property Associations Act 28 of 1996. Its primary purpose is to allow communities that are beneficiaries of the land reform, restitution, and redistribution programmes to collectively acquire, hold, and manage land. The CPA provides a legal framework for these communities to own and control their land as a group. In 1998, a claim was lodged by the Richtersveld Community, located in the Namakwa District in terms of the Restitution of Land Rights Act 22 of 1994. A communal property association called the Richtersveld Sida!Hub was formed to pursue the claim (The Commission on Restitution of Land Rights, 2017).[9] The Richtersveld Sida !Hub Communal Property Association (RCPA) successfully reclaimed 85,000 hectares of land from the state-owned diamond company, Alexkor, in 2003 after the Constitutional Court ruled that their dispossession was due to racial discrimination.[10]

New challenges have emerged with the proposed green hydrogen export hub on land claimed by the RCPA, and the government seeking to lease 60,000 hectares to German interests (Human, 2024a). As legal custodians of these lands, this CPA faces internal governance disputes and struggles with limited financial and administrative capacity, making it difficult to negotiate equitable terms with developers (Human, 2024a; Human, 2024b). This has led to growing concerns about land security, transparency, and fair representation in decision-making processes, while weak municipal oversight mechanisms further limit the ability of local governments to ensure accountability (Namakwa District Municipality, 2023; Khai-Ma Municipality, 2023; Richtersveld Municipality, 2024; Kamiesberg Municipality, 2024; Nama-Khoi Municipality, 2024).

Parkin's (2024) fieldwork reveals deep-seated mistrust within the Richtersveld Local Municipality, where tensions between activists, local municipal officials, and the RCPA have intensified. Activists accuse the municipality and the RCPA of withholding critical information and downplaying concerns surrounding the green hydrogen project to prevent public opposition (Protect The West Coast, 2024). Andy, a land claim activist, voiced frustration, arguing that the RCPA prioritises land sales over community interests and fails to provide transparent communication about ongoing negotiations (local land activist, interview, April 2024).

Conversely, the municipality and RCPA perceive activists as disruptive, believing they are intent on exposing governance failures or provoking conflict, leading to cautious and guarded interactions (Parkin, 2024). This mutual distrust has created a fractured dialogue, further complicating efforts to establish inclusive governance structures that balance economic development with community rights.

The environmental implications of this development are also significant. Local fishers fear the deep-sea port will disrupt marine ecosystems and traditional livelihoods (NCEDA, 2023; Parkin, 2024), with one fisherman stating, "[A]ll the decisions were made top-down. Our coastlines are destroyed because of past mines…our graves are still there; they are ocean grabbing!" (Liam, local fisherman, interview, April 2024). This conflict highlights a tension between industrial development and ecological resilience in a region often mischaracterised as a "wasteland" (SANParks, 2025).[11]

The Richtersveld, where green hydrogen production is planned, is a site of exceptional ecological and cultural significance. Its rare plant diversity, dramatic geology, and traditional land-use practices underpin its Unesco World Heritage status. Beyond biodiversity, it is a living cultural landscape shaped by generations of Nama pastoralists who have sustained the land through careful stewardship. The tension between economic ambition and conservation imperatives raises pressing questions about land sovereignty, environmental justice, and the pursuit of equitable development.

Tools like the Green Hydrogen Community Development Toolkit (Wesso et al., 2023) offer a framework for inclusive development. However, for it to be effective in places like Boegoebaai and Port Nolloth, such a framework must be meaningfully integrated into local governance structures and economic systems. Without this contextual adaptation, the toolkit risks falling short, potentially reinforcing a "sacrifice zone" in which international investors thrive at the cost of locals.

Distributive justice: who benefits from renewable energy?

Achieving genuine inclusion, empowerment, and justice for marginalised communities requires policy frameworks that move beyond surface-level financial redistribution. In the Northern Cape, renewable energy projects have generated substantial capital flows and attracted significant investment. Yet, this wealth remains disproportionately concentrated among private developers and international investors, while local communities continue to shoulder the burdens of nderdevelopment and economic precarity.

Despite repeated promises of socio-economic upliftment, many renewable energy initiatives have deepened existing inequalities. Anticipated benefits, such as employment, infrastructure upgrades, and support for local enterprise, have often failed to materialise in meaningful or sustained ways (Malope, 2022; Nzo, 2021). Most jobs vanish after the construction phase, leaving residents with limited post-construction employment and few pathways for skills development or long-term work (McEwan, 2017; Borchardt, 2023). These patterns not only entrench economic exclusion but also foster social fragmentation and growing disillusionment with renewable energy as a vehicle for justice.

Recognitional justice: addressing historical land dispossession

McEwan (2017) highlights that renewable energy transitions are inherently spatial and political, particularly in South Africa where they reshape land ownership and governance. These transitions revive longstanding land disputes, as renewable energy developments recentre land as a critical resource, once again framing the question around ownership and control. While white landowners, particularly farmers, benefit substantially from leasing land to IPPs, local municipalities find themselves unable to generate sufficient revenue from electricity and water sales and are thus increasingly reliant on infrastructure grants to operate (Borchardt, 2023).

In 2021, a local municipality in the Karoo introduced renewable energy service tariffs, or augmentation fees, to fund infrastructure upgrades for new developments. The municipality planned to charge IPP developers a once-off fee, but farmers were also held responsible as property owners (Borchardt, 2023). However, three farmers stated in interviews that their contracts with IPPs exempted them from additional taxation, and they refused to pay the tariffs. This dispute over land values

Richtersveld National Park, Unesco World Heritage site. *Photo: Flickr*

and property went to court, the outcome of which was not known at the time of writing (Jaco, local farmer, interview, April 2021).

The exclusion of communities and communal land users from key green hydrogen discussions in the Northern Cape reflects broader patterns of dispossession. CPAs in the Namakwa District, for example, are consistently sidelined, while land-use decisions remain in the hands of national policymakers and private developers. This mirrors historical extractive economies, where local voices were systematically excluded from decision-making. Walker (2024) argues that effective land reform must go beyond simple redistribution. Instead, she contends reform should integrate sustainable resource management, inclusive governance, and local empowerment to not only redress historical injustices but also to build resilience in the face of rapid social change.

Procedural justice: the politics of participation and decision-making

Beyond economic injustice, the lack of transparency in renewable energy agreements and inadequate consultation processes undermine procedural justice. My research on institutional capacity in the Namakwa District highlights that local municipalities lack the technical expertise, financial resources, and legal support to negotiate fair agreements with energy developers. In Boegoebaai, green hydrogen consultations have been criticised for their top-down approach, where affected communities were presented with pre-determined project plans rather than included in meaningful discussions about land use, environmental risks, and benefit-sharing (Nzo and Mahabir, 2023; Parkin, 2024).

As discussed in Nzo and Mahabir (2023), community activists have observed that the public consultation process for green hydrogen development in Boegoebaai closely mirrors their past experiences with public engagement in mineral extraction projects. They note similarities in how participation is initiated, raising concerns about whether community voices are genuinely considered in decision-making. Although some consultation has taken place, Nzo and Mahabir (2023) and Parkin (2024 p. 42) emphasise the absence of meaningful public engagement in green hydrogen development. As one resident noted, "[I]f you ask people what green hydrogen is, they only answer 'job.' Even after attending meetings, they still don't know what it actually is… just job" (Liam, fisherman, interview, April 2024).

This comment highlights a persistent concern: that community engagement efforts prioritise economic promises over substantive

education about the technology's broader implications. When support for green hydrogen is driven primarily by the hope of employment, rather than an informed understanding of its social, environmental, and technical dimensions, the risk is clear: if the 'job' is the only perceived benefit, what happens when those jobs fail to materialise?

Nzo and Mahabir (2023) highlight how exclusionary practices have undermined the consultation process for green hydrogen development in Boegoebaai. They cite allegations of political interference in the Richtersveld CPA, the entity responsible for leasing land to green hydrogen developers, which has eroded trust among stakeholders. Environmental activists also argue that some CPA members were influenced by political elites in exchange for cooperation, exacerbating divisions within the community. This distrust has manifested in resistance amongst CPA members to leasing agreements for the project.

Poor consultation and fragmented community ownership risk politically and economically isolating rural communities, raising concerns about the inclusivity and equitable distribution of benefits in South Africa's just energy transition. Achieving a just transition requires more than symbolic inclusion; it demands structural change to ensure meaningful participation and decision-making power for local communities. Without dismantling systemic barriers that prevent equitable negotiations, green energy development risks reinforcing historical inequalities rather than addressing them.

Towards a just green energy future

The urgency of decarbonising South Africa's energy system has brought unprecedented attention to renewable energy projects, particularly under the REIPPPP. Yet, as several studies have shown, without careful attention to justice concerns, the green energy transition risks replicating and deepening existing inequalities. Large-scale projects, while contributing to national energy generation and climate goals, have too often prioritised corporate returns over local benefits, leaving host communities marginalised from decision-making and with limited improvements in livelihoods or energy security.

To address these shortcomings, this article draws on the pragmatic and pluralist framework for energy justice proposed by Laes et al. (2023). Their approach rejects a one-size-fits-all checklist of justice principles, instead advocating for an integrative, context-sensitive application of multiple justice dimensions, distributive, procedural, and recognitional, while acknowledging the justice trade-offs and tensions that inevitably arise. The following actionable recommendations could

steer South Africa's energy transition towards greater equity and inclusivity. Key recommendations include:

Prioritising energy security and affordability: A just transition must begin with ensuring reliable, affordable energy access for the communities most directly affected by energy infrastructure development. While IPPs have operated in South Africa for over a decade, their contribution to local energy security remains uneven, as the provision of electricity to local communities is often not a consideration. From a distributive justice perspective, robust regulatory oversight is essential to ensure that development benefits are equitably shared. This includes making community consultation genuinely participatory rather than a procedural formality and requires socio-economic development programmes to be fully transparent and open to public scrutiny, enabling communities to track funding flows, evaluate tangible outcomes, and hold developers accountable.

Institutionalising meaningful community participation: Laes et al. (2023) emphasise the importance of fair, inclusive decision-making processes. This principle demands more than once-off consultations; it requires mandatory legal frameworks for community engagement, backed by capacity-building initiatives that equip local actors with the skills and knowledge to negotiate fair agreements. Such measures ensure that affected communities have a genuine voice in shaping the energy projects that alter their landscapes and livelihoods.

Integrating land justice into energy planning: Acknowledging and addressing South Africa's history of land dispossession is central to recognitional and restorative justice. Energy policy should embed land justice principles, including fair compensation, secure tenure arrangements, and opportunities for affected communities to derive lasting benefits from land-use changes. This approach moves beyond mere mitigation of harm towards actively repairing historical injustices.
Maximising local economic benefits: Energy projects should be structured to generate sustained local economic value through decent work, skills development, and infrastructure investment. True empowerment requires going beyond financial transfers to build local capacity, enabling communities to participate as active agents in the transition. Vocational training, technical support, and inclusive economic policies can ensure that renewable energy developments become drivers of broad-based local development.

Strengthening public oversight and accountability: Laes et al.'s (2023) pragmatic model highlights the need for workable institutional

arrangements that can adapt over time. Strengthening the capacity of local and district municipal governments to regulate, monitor, and enforce social and environmental commitments is essential. Adequate financial and technical support should be provided to these institutions to ensure that justice principles are implemented in practice, not only in policy.

Conclusion

The Northern Cape's green energy boom presents both profound opportunities and serious risks for socio-economic justice. As the province emerges as the centrepiece of South Africa's renewable energy transition, historical patterns of exclusion threaten to resurface under the banner of sustainability.

Drawing on Laes et al.'s (2023) pragmatic and pluralist framework, this article has applied the principles of distributive, procedural, and recognitional justice to critically assess these developments. The analysis shows how corporate-led projects frequently prioritise export-oriented markets and profit over local development, while governance structures remain fragmented and community engagement is too often procedural rather than transformative. Without deliberate redistribution of economic benefits, structural reform of decision-making processes, and recognition of historical and cultural claims to land, the transition risks entrenching rather than alleviating inequality.

A genuinely ***just*** green energy future demands a fundamental reconfiguration of governance to embed local agency, sustained investment in capacity-building so communities can negotiate and benefit on equal terms, and the design of projects that create lasting local economic value. Integrating justice considerations at every stage of energy planning is not an optional add-on; it is the condition for aligning South Africa's decarbonisation goals with its constitutional commitment to equality. Only through such an approach can the green energy transition advance both environmental sustainability and social equity, rather than perpetuating the injustices it seeks to overcome.

INTERVIEWS

(All names are pseudonyms.)
Maria, resident - interview, April 2019
Jaco, farmer - interview, April 2021
Liam, fisherman - interview, April 2024
Danny, IPP representative, manager - interview, August 2024
Andy, land activist - interview, August 2024

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ENDNOTES

[1] Restorative justice is described by the PCC (2022:9) as follows: "historical damages against individuals, communities, and the environment must be addressed, with a particular focus on rectifying or ameliorating the situations of harmed or disenfranchised communities. It is about redress: healing people and the land".
[2] Richtersveld Local Municipality, Nama-Khoi Local Municipality, Kamiesberg Local Municipality, Khâi-Ma Local Municipality.
[3] The Northern Cape recorded the sharpest rise in unemployment in South Africa during the second quarter of 2025 (Statistics South Africa, 2025). For more see: https://www.statssa.gov.za/publications/P0211/P02112ndQuarter2025.pdf
[4] To view the reports see: https://cosmopolitankaroo.co.za/research-outputs-2/research-reports/
[5] The copper mine near Okiep in Namaqualand, proclaimed a mining district in 1852, was the first industrial mine in South Africa (Smalberger, 1969).
[6] Located in the Karoo Hoogland Municipality.
[7] Located in the Emthangeni Municipality.
[8] With temperatures reaching –16° C.
[9] For more see: https://pmg.org.za/files/220608Richtersveld_CPA_-_Presentation.pptx
[10] The case RICHTERSVELD COMMUNITY v ALEXKOR LTD & ANOTHER [2004] 3 All SA 244 (LCC). For more See: https://cer.org.za/wp-content/uploads/2011/12/Richtersveld-Community-v-Alexcore-Ltd.pdf
[11] SANParks (2025) describes the region on its website as "a desolate and forbidding landscape, seemingly devoid of life, except for some people dotted along the horizon." This characterisation reinforces perceptions of remoteness, yet the Karoo holds significant ecological and cultural value that is often overlooked.

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