INCLUSIVE AND DECENTRALISED RENEWABLE ENERGY DEVELOPMENT

Local Government and Community Inclusivity and Readiness for Green Hydrogen Development in Namakwa

THINA NZO
AND JUGAL MAHABIR

PARI
PUBLIC AFFAIRS
RESEARCH INSTITUTE

INCLUSIVE AND DECENTRALISED RENEWABLE ENERGY DEVELOPMENT

Local Government and Community Inclusivity and Readiness for Green Hydrogen Development in Namakwa

THINA NZO
AND JUGAL MAHABIR

LOCAL
GOVERNMENT

INCLUSIVE AND DECENTRALISED RENEWABLE ENERGY DEVELOPMENT: LOCAL GOVERNMENT AND COMMUNITY INCLUSIVITY AND READINESS FOR GREEN HYDROGEN DEVELOPMENT IN NAMAKWA DISTRICT MUNICIPALITY

APRIL 2021

THIS REPORT WAS MADE POSSIBLE BY FUNDING FROM OSF

PHOTOGRAPHS BY THAMASE HOLDINGS

ACKNOWLEDGEMENTS

Our acknowledgments to the Namakwa District Municipality Mayor Mr Mervin Cloete, Municipal Manager Mr Chris Fortuin and Housing Manager Mr Joseph Cloete, who assisted with providing access to municipal officials and councillors in Richtersveld Local Municipality. We would like to thank the Richtersveld Mayor and Speaker, councillors and officials who accommodated us during a very busy period while we were in the field. This includes the local community activists who were able to provide insights into the historical struggles that continue to affect the development of indigenous communities of Richtersveld.

Our gratitude also to Mr Sam Modupi, who accompanied us to the towns and communities of Namakwa District Municipality that were unfamiliar to us, and assisted with translation from Afrikaans to English during our interviews with local communities. Afrikaans is pre-dominantly used among the local communities.

A special acknowledgement to the participants from the Northern Cape Department of Economic Development and the Department of Cooperative Governance, and the local communities and community activists who gave us insightful information on the opportunities and challenges facing the area of this study.

Community members and activists' identities have been anonymised in this research in keeping with the principle of confidentiality.

Images: Thamase Holdings

PARI
PUBLIC AFFAIRS
RESEARCH INSTITUTE

OPEN SOCIETY
FOUNDATIONS

LIST OF ACRONYMS

AFDB	African Development Bank
DBSA	Development Bank of Southern Africa
CoGHSTA	Department of Cooperative Governance, Human Settlements and Traditional Affairs
CPA	Communal Property Association
DDM	District Development Model
DM	District Municipality
DRDLR	Department of Rural Development and Land Reform
EU	European Union
GHDZ	Green Hydrogen Development Zone
GVA	Gross Value Added
IDP	Integrated Development Plans
IGR	Intergovernmental Relations
INEP	Integrated National Electrification Programme
JET-IP	Just Energy Transition Investment Plan
LED	Local Economic Development
LES	Local Government Equitable Share
LM	Local Municipality
MIG	Municipal Infrastructure Grant
MISA	Municipal Infrastructure Support Agency
MSA	Municipal Structures Act
NSDF	National Spatial Development Framework
NCEDA	Northern Cape Economic Development Agency
PCC	Presidential Climate Commission
PICC	Presidential Infrastructure Coordinating Commission
REIPPP	Renewable Energy Independent Power Producer Programme
REDZ	Renewable Energy Development Zone
SALGA	South African Local Government Association
SEZ	Special Economic Zone

CONTENTS

Globally, the demand for green hydrogen and green-hydrogen-based products, such as ammonia and synthetic jet fuels is rising significantly. This presents a unique opportunity for South Africa and the continent to link its mineral endowment with its renewable energy industrialisation.

President Cyril Ramaphosa,
Green Hydrogen Summit,
29 November 2022

CHAPTER 1

Green Hydrogen Industrial Development in Namakwa District Municipality – An Introduction

Background

The United States and European Union's (EU) green hydrogen plans have triggered a renewable energy rush among African developing countries in the global South. Intent on becoming a strategic bloc of countries in the global South to supply green hydrogen to the global North, countries such as South Africa, Namibia, Egypt and Morocco are hoping to use the energy transition as an enabler to rebuild their own local economies through the climate-change agenda. Moving from fossil fuels to wind, solar and now green hydrogen, investing in renewable energy has been seen by the EU as a cost-effective way to reduce emissions in industries that are difficult to decarbonise such as aviation and heavy land transport. While industries in EU member states are in the early stages of transitioning into using green hydrogen for industrial production, the EU hopes to achieve its short-term goals through the production and importation of green hydrogen overseas.[1] As part of the climate change treaties, European countries such as Germany, France, United Kingdom have been frontrunners in setting ambitious targets aimed at greening their industrial economies using green hydrogen (Strunz et. al., 2021), thus making them potential green hydrogen export markets for countries in the global South. Other countries in the global North engaging in the green hydrogen drive include the United States, Japan, Australia, Singapore and China (Strunz et. al., 2021).

Given these developments, South Africa, who also has been heavily reliant on the extraction of coal fossil fuel, can complement its own energy transition objectives by taking advantage of these international demand and investment opportunities for new sources of renewable energy. The potential of creating new businesses, additional supply chains and consequently, new jobs through the green hydrogen export industry offers a lucrative opportunity to boost South Africa's domestic economy. To increase its global market share in the face of competition from other countries, South Africa will require significant interventions by government, public sector institutions and the private sector in a unified effort to drive the development of a green hydrogen industry and its complementary value chains (DTIC, 2022: 13).

1 The European Union — European Union Investment Bank offer comprises USD 35 million in grant facilities, and USD 1 billion in two loans of USD 500 million each for decarbonisation initiatives in respect of freight logistics. Additional grants were also pledged by EU member countries such as France (USD 2.5 million), Germany (USD 198 million), UK (USD 24 million) — see EU (2019).

When the United Nations held its Climate Change Conference (COP 26) in 2021 in Glasgow, South Africa was allocated USD 500 million by the World Bank to be channelled through the World Bank Group and the African Development Bank (AFDB). This allocation was based on a needs assessment, as presented in the form of the Accelerating Coal Transition Investment Plan for South Africa's Just Energy Transition Partnership to a low-emission development path. Approximately 12 per cent of South Africa's financing needs for its just energy transition is expected to emanate from international financing. These funds will primarily be geared towards decommissioning coal plants, funding alternative job opportunities in coal mining areas and deploying renewable energy. The South African Just Energy Transition Investment Plan (JET-IP) (Presidency, 2023: 93) asserts that, with the large-scale solar and wind renewable energy projects underway and South Africa's central global geographical location for international export, national government views this as a comparative advantage which puts South Africa on par with countries such as Chile, Saudi Arabia and Australia, which are also investing in the green hydrogen opportunity.[2]

South Africa also holds approximately 80 per cent of the world's platinum group metals and 40 per cent of the world's platinum and palladium supplies which are key components in the production of hydrogen — making South Africa potentially a key player in the future of the market (DTIC, 2022). The Northern Cape province in South Africa has already been leading the implementation of over 59 renewable energy solar and wind farm projects under the Renewable Energy Independent Power Producer Programme (REIPPP) since 2010 and has been identified as potential site for producing green hydrogen. This has placed this province at a competitive advantage by positioning itself at South Africa's green hydrogen frontier. Unlike the REIPPP, which was aimed at providing clean renewable energy generation for Eskom's grid domestic distribution, green hydrogen produced in the Northern Cape province will be exported to countries in the global North.

South Africa's potential comparative advantage in the production of green hydrogen is becoming increasingly apparent with the Northern Cape province and its municipalities being at the forefront of this initiative. This advantage, coupled with the global North's demand for green hydrogen, has already resulted in growing bi-lateral investment opportunities for the country. Germany has been the leading country demonstrating acute interest in investing in green hydrogen development in South Africa and on the African continent.[3] Germany made investment commitments amounting to USD 350 million for deploying renewable energy, financing grid infrastructure and developing green hydrogen in South Africa (Presidency, 2023: 133). According to the Green Hydrogen Commercialisation Strategy, Germany indicated a willingness to pay a premium price through implementing long-term (ten-year) supply agreements with South Africa to stimulate green hydrogen, ammonia and *Power-to-X*[4] market development in specific jurisdictions (DTIC 2022: 14). . The Netherlands and Denmark have also entered the race to secure green hydrogen production in South Africa, by pledging a USD 1 billion Green Hydrogen Fund to kick-start an industry in the fight against climate change.[5]

2 The investment plan (Presidency, 2023: 93) also assumes that 'sufficient land that is not in competition with agriculture or residential use ought to meet this scale of renewables. In the renewable energy development zones alone, there is enough land to produce approximately 10 Mt of green hydrogen, with approximately 1.1 million hectares required, being about 20 per cent of the Regional Economic Development Zones (REDZ) total land availability'.

3 Germany has also made an additional USD 198 million available for conducting studies and technical assistance on policy and regulatory reforms related to energy transition; support to local authorities to prepare for the transition; promotion of renewable energy, including green hydrogen; and the skilling and reskilling of the decarbonised energy workforce.

4 Power-to-X is a general term used to encapsulate technologies that convert or store electricity into other forms of energy, including carbon-neutral synthetic fuels, such as hydrogen and natural gas. https://www.ramboll.com/net-zero-explorers/power-to-x-explained

5 https://www.africanews.com/2023/06/20/south-africa-netherlands-denmark-launch-green-fund//

In response to these opportunities and initiatives, the Presidential Infrastructure Coordinating Commission (PICC) and the Presidential Climate Commission (PCC) have adopted the green hydrogen project to formally facilitate South Africa's efforts to develop the green hydrogen industry. In addition, national government has already adopted and gazetted the Green Hydrogen National Programme to secure investments required to produce green hydrogen in South Africa. The Green Hydrogen National Programme consists of the following projects that will require investments:

a. Projects Gazetted and Registered Infrastructure South Africa in 2022/2023

1. Boegoebaai Green Hydrogen Development, Northern Cape Province
2. The Prieska Power Reserve Hydrogen, Northern Cape Province
3. The Ubuntu Green Hydrogen Project, Northern Cape Province
4. The Ubuntu Green Energy Hydrogen Project, Northern Cape Province
5. Upilinga Solar and Green Hydrogen Park, Northern Cape Province
6. Sasolburg Green Hydrogen 60MW, Free State Province
7. Sosal HYSHift (Secunda), Mpumalanga Province
8. HIVE Ammonia, Eastern Cape Province

b. Additional Hydrogen Programme of Anglo-America and their JV Partners

9. AMSA Saldanha Steel Hydrogen, Western Cape Province
10. Enertrag Postmasburg Project (Ammonia), Northern Province
11. HDF Energy Renewable Energy, IPM-1, Mpumalanga Province
12. Isondo Fuel Cell MEAs Manufacturing, Gauteng Province
13. Isando / NCP Vehicles, Gauteng Province
14. Saldanha Bay Green Hydrogen Project, Western Cape Province
15. Project Phoenix Fuel Cell Manufacturing, Free State Province
16. Cape Stack, Western Cape

From this list, it is evident that the Northern Cape Province has the largest number of gazetted green hydrogen projects, again emphasising the comparative advantage the province holds in renewable energy and green hydrogen production. The first phase of the green hydrogen development is set to take place in Boegoebaai, within the Richtersveld Local Municipality (LM), which is part of the greater Namakwa District Municipality (DM) in the Northern Cape. These areas are relatively blessed with natural resources, such as favourable irradiation levels and wind potential, for the generation of renewable energy. Furthermore, Namakwa DM's tangency to the Atlantic Ocean provides a water source required for green hydrogen production and the potential export of green hydrogen. The Northern Cape Economic Development Agency (NCEDA), a government entity that is responsible for growth and development initiatives to advance socioeconomic development on behalf of the Northern Cape government, supports the green hydrogen project.

The development of the green hydrogen initiative is expected to be coordinated within South Africa's Special Economic Zones (SEZs) and Renewable Energy Development Zone (REDZ) policy frameworks. SEZs are seen as economic policy and planning tools that can 'transform the South African economy into a globally competitive industrial economy, built on the full potential of all citizens and regions'.[6] Developments in the SEZs are often led by the PICC and the Department of Trade and Industry with its industrial policies in collaboration with relevant sector departments. These include the departments of Mineral Resources and Energy, Public Works, Telecommunications, Transport, Human Settlement, and Water and Sanitation. SEZs mainly focus on linking the development of built infrastructure with economic activities of regions, which are used as a building block for economic development. They are a largely national government driven initiative with inherent support from sub-national governments. On the other hand, REDZs are predefined zones that hold a comparative advantage for natural conditions to generate renewable energy, particularly wind and solar energy. As such, these zones have been identified as special areas for development of renewable energy and related industries. One can view REDZ as a complementary subset to SEZs in terms of strategic economic planning and investment.

Problem Statement

The discussions thus far have highlighted the potential comparative advantage that South Africa, and the Northern Cape province in particular, holds in the renewable energy and green hydrogen space, and the scope for the country to take advantage of the growing demand for green hydrogen in international markets. The discussions have also shown that the South African government has acknowledged these opportunities and has commenced strategic planning around the industrial development of green hydrogen and related projects in specific areas of the country through its SEZ and REDZ planning frameworks. The first phase of these green hydrogen developments is intended to take place in the Boegoebaai region in the Richtersveld LM and the Namakwa DM.

Nationally driven strategic projects in renewable energy in general, and this green hydrogen initiative in particular, contribute towards South Africa's just energy transition and can have a significant impact on the developmental trajectory of a country. This is particularly significant in identifying and benefiting from the potential comparative advantage a country may hold in the production or development of specific industries in the renewable energy space. A greater coordination and implementation of these nationally driven initiatives towards an inclusive and equitable distribution of its benefits is further enhanced through SEZs and the consequent REDZ framework. The implementation of renewable energy projects within these developmental nodes and frameworks intend to provide a strategic and systematic approach to planning and investing across all levels of government and facets of society.

Such targeted renewable energy investments can also contribute significantly to job creation and the overall betterment of communities that are likely to benefit from the economic spill overs of

6 The National Spatial Development Framework (NSDF), which is aligned the National Development Plan in South Africa, makes proposals such as: regional adaptation, economic diversification and agriculture innovation at scale, limit expansion and development of settlements, enhanced regional cross provincial collaboration, strong compacts with role-players, enhanced Industrial Corridor Development linkages, discouraging temporary settlements such as mining or large-scale construction projects etc (DRDLR, 2019: 171).

industrial development in and around their vicinity. While such efforts from a national government are important, the very nature of planning and development through SEZs emphasises a highly coordinated and collaborative approach across all stakeholders within such zones, including all spheres of government and, more importantly, local communities. Indeed, the overall success and ultimate implementation of such initiatives across these economic zones significantly depends on the willingness and capacity of all spheres of government and local communities to contribute in their respective roles and competencies. This approach ensures all facets of society are included in the country's move towards its just energy transition and further supports the implementation of the just energy transition and renewable energy provision within its decentralised system of government.

The Northern Cape province, the Namakwa DM and the Richtersveld LM are sub-national governments within South Africa's decentralised system of government, with the Northern Cape being a province and the latter two are municipalities – one a district municipality and the other a local municipality in a two-tier system of local government. The country's intergovernmental relations (IGR) system consists of three distinct yet interrelated spheres of government wherein specific service-delivery powers and functions are constitutionally assigned to each of these spheres. Within this system, key social and economic functions are devolved to sub-national government. Provinces in the country are responsible for the provision of key social services such as health, education and housing, and key regional economic infrastructure such as roads, transport and trade. Local government provides key basic services to communities in the form of water, sanitation and electricity while also playing a role in district economic infrastructure and services.

Given this IGR system, the strategic development of the green hydrogen initiative within the Boegoebaai region critically depends on coordinated strategic planning across all three spheres of government and all facets of society that will ultimately engage in such projects from a social, economic and political level. Given the roles and responsibilities of local government within the area, the Namakwa DM and the Richtersveld LM would have to contribute significantly to the regional economic and social planning required to support the green hydrogen investments in the areas. This will include regional social and economic infrastructure and supporting services to businesses that may directly or indirectly arise from the green hydrogen initiative. The municipalities will also have to accommodate the potential influx of migrant labour and skills that are likely to be attracted into the area.

The intergovernmental planning system is weak at best and unfortunately, the tendency to apply a top-down approach to strategic planning and investment can result in very little consideration being afforded to the fiscal and institutional capacity of local governments to provide the required services to complement such developments. The Richtersveld LM and the Namakwa DM are largely rural municipalities with limited tax bases and generally weak institutional capacity. This raises concerns about the ability of these municipalities to support strategic national industrial initiatives and investments with infrastructure and related services.

In addition, such large-scale and targeted investments in rural communities can result in social, economic and political tensions if hosting communities are not sensitised to the development and its potential consequences. Indeed, isolated rural communities have their own cultural and social dynamics, whose delicate balance can be compromised by the influx of new people and ideas

that accompany such developments. Furthermore, there is a potential to isolate the communities accommodating these industries and investments politically and economically if there is poor consultation and weak ownership of the initiative. All these factors question the intention of inclusion in South Africa's just energy transition, the potential just and equitable distribution of the benefits of its renewable-energy-producing initiatives, and the country's ability to plan and implement such projects effectively across the three spheres of government.

Research Question and Objectives

The main objective of this research is to provide a critical assessment of the principle of inclusion and the readiness of host municipalities in the implementation of nationally driven renewable energy initiatives towards South Africa's just energy transition, using the proposed green hydrogen development initiative in Boegoebaai as a case study. This will entail a critical assessment of whether municipalities — in particular rural municipalities such as Namakwa DM and the Richtersveld LM earmarked to host the green hydrogen development — are appropriately capacitated to play a meaningful role in the coordination and implementation of large-scale renewable energy industrial developments.

The main research questions asked in this research are:

1. What is the state of municipal infrastructure, local economy, institutional capacity and fiscal capacity of Namakwa DM and Richtersveld LM to assess its readiness for the coordinated and successful implementation of the green hydrogen project?

2. What support is the national and provincial government providing to Namakwa DM in preparation for the green hydrogen industrial development to show inclusivity and IGR collaboration towards the initiative?

3. How is local and provincial government initiating community engagement and consultation on the green hydrogen development towards a just and equitable benefit of this initiative?

The null hypothesis of the assessment is: if 1) the Richtersveld LM and the Namakwa DM are not appropriately capacitated, 2) not supported by national and provincial governments and 3) local communities have not been consulted to hear and address their issues, then one can conclude that the implementation of these large renewable energy projects can lead to an energy transition that is not inclusive and therefore an unjust transition.


STOP

Research Methodology

The primary methodology of this research paper is a qualitative research case study method, complemented by descriptive statistics and municipal financial and budget analysis. The latter methodologies are applied to formatively assess the financial and institutional capabilities of Namakwa DM and its Richtersveld LM in planning for expanding bulk infrastructure for the population growth and activities associated with the anticipated green hydrogen development. The former method uses ethnographic research methodology to understand locally grounded politics that buttress the polarisation among communities, local civil society and the local state in the negotiation and consultation processes for developing the green hydrogen project. The ethnographic research methodology is also used to assess capacity issues at the respective municipalities.

The study further draws on secondary research source documentation such as Municipal Annual Reports, Integrated Development Plans (IDPs), NSDFs, SEZs, REDZs, other government reports from the Department of Land Affairs, NCEDA presentations, and court papers and Parliamentary Committee minutes concerning the Richtersveld Communal Property Association (CPA)[7] matter.

Primary research in Namakwa DM was carried out during the month of July 2022. This included key informant interviews with the following stakeholders:

- Namakwa DM and Richtersveld LM senior managers, political representatives.
- Community members and community activists from selected towns including Springbok, O'kiep, Sanddrift, Garies, Kommagas, Kleinzee, Koingnaas, Hondeklipbaai, Port Nolloth, and Alexander Bay.
- Mining officials from Alexkor diamond mining company.

Focus group interviews were conducted with community activists who are actively campaigning for environmental justice in Namakwa DM. This was triangulated with telephonic interviews with senior managers working at the provincial Department of Economic Development, provincial Department of Cooperative Governance, Human Settlements and Traditional Affairs (CoGHSTA) and the Human Rights Commission of South Africa.

Data was also extracted from social media accounts of social activists and community members in Namakwa and Richtersveld, who were consistently posting about the nuanced politics and conflicts between the Richtersveld community and the Richtersveld CPA, those claiming to represent the Nama Traditional Council. Social media has provided complementary information about local dynamics that continue to unfold with the ongoing development processes of green hydrogen.

We complemented our primary research with site visits in former coloured reserve areas, former diamond mining towns and administrative towns including Springbok, O'kiep, Sanddrift, Garies, Kommagas, Kleinzee, Koingnaas, Hondeklipbaai, Port Nolloth, Alexander Bay and Boegoebaai. ■

7 The Richtersveld Communal Property Association (CPA) is a body that represents the Richtersveld community regarding land claims related to the land distribution policies of the country. For more information, please see: https://www.gov.za/news/media-statements/department-emphasises-its-commitment-richtersveld-communal-property


DIAMANTSTRAAT

CHAPTER 2

The State of Readiness in Transitioning Rural Namakwa and Richtersveld Municipalities into Green Industrial Frontiers

> The Namakwa District can be transformed into a just, sustainable, modern and dynamic Atlantic gateway Port and Mining region that harvests the ocean and river economies, drives excellence in service provision by taking advantage of green hydrogen potential and solar energy production, serves the socio-economic upliftment and empowerment of the local community and expresses the Namakwa heritage and diverse culture.
> *Namakwa District Development Model Draft, October 2022*

> The current projections are that from now until 2035, it is estimated that there will be a 75,000 people who coming into the Richtersveld region to work in the green hydrogen plant, the Boegoebaai port...we have approximately 12,000 people in Richtersveld Local Municipality... this means we will be having manufacturing industries booming... industries we have never had in the economy of Namakwa district. Namakwa district will grow exponentially ...from a local municipality infrastructure point of view, it will be nightmare to deal with this population influx as these small municipalities will not manage to provide basic infrastructure and municipal services with our old, dilapidated infrastructure and the current fiscal allocations for infrastructure upgrades and maintenance.
> *Municipal Manager, Namakwa District Municipality, July 2022*

2.1 Introduction

The first proclamation in the vignette accentuates the national government's vision of the role that the Northern Cape province and its Namakwa DM can play to accelerate the production of green hydrogen in response to the growing demand of green hydrogen from the global North. Contrary to this positive outlook into the future, officials from the district municipality articulate the realities about the adverse effects that this industrial development might have on the municipality's institutional and financial capacity. This is due to the belief that rural municipalities such as Namakwa DM and Richtersveld LM do not have the financial and technical capabilities to develop and finance the infrastructure required to support a massive development that comes with a spike in population growth. Such growth would also increase the demand for basic services in these areas.

This chapter addresses the first two research questions of the paper and critically assesses the readiness of the Namakwa DM and the Richtersveld LM to support the green hydrogen development initiative in the Boegoebaai region. One of the key features of South Africa's development of

renewable energy projects towards its just energy transition is the implementation of such projects within the SEZ and REDZ framework, with an emphasis on a coordinated and inclusive approach to development across all spheres of government. However, the extent to which such consultations and inclusion of local government happens in the planning process of such projects is debatable. Apart from the actual consultation with municipalities in the planning and implementation process, national and provincial governments' ignorance of the capacity and the readiness of municipalities to play a meaningful role in developing these projects also shows a weakness in the developmental agenda of the unitary state.

The chapter begins by providing a brief background of the Namakwa DM in terms of some key sociodemographic and economic characteristics. The first section of the chapter highlights some of the reasons the Boegoebaai region is deemed to have a comparative advantage in the production and exportation of green hydrogen. The second section provides an assessment of the planning and implementation of the green hydrogen project within the SEZ and REDZ contexts using the ethnographic research methodology. This section highlights some of the more general challenges faced in the use of SEZs for industrial and renewable energy development and some of the specific issues in coordination between the national, provincial and local government in the development of the green hydrogen project in Boegoebaai.

The last section assesses the respective municipalities' readiness in terms of their financial and technical capacity to support the development of the green hydrogen project. This includes an assessment of the credibility of municipal finances, their spending and budgeting performance and the scope for own revenue generation. It also assesses the current planning capabilities of the Namakwa DM and Richtersveld LM to potentially meet the increased demand for services and infrastructure that may arise with the developments in the area.

2.2 Sociodemographic Background of the Namakwa District Municipality

2.2.1 Geographical Landscape

The Namakwa District Development Model (2022) notes that the district is confronted with several challenges including vast geography (sparse settlements with vast distances between them), arid and dry climate (water scarcity), low population size and low growth, low education and skills levels, and outmigration especially by younger people seeking opportunities in other parts of the country (Namakwa DDM, 2022). The Namakwa DM is the largest district in the Northern Cape province, making up over a third of its geographical area. It is geographically bordered by the Republic of Namibia in the north, the ZF Mgcawu LM in the north-east and the Cape Winelands DM in the south. The district municipality comprises of six local municipalities namely: Nama Khoi, Hantam, Khai-Ma, Kamiesberg, Karoo Hoogland and Richtersveld LM. The district municipality offices are situated in the town of Springbok in Nama Khoi. The district has a population of approximately 148,935 in 2022 (StatsSA, 2023), which is approximately 11 per cent of the total population of 1,355 million people in the Northern Cape province.

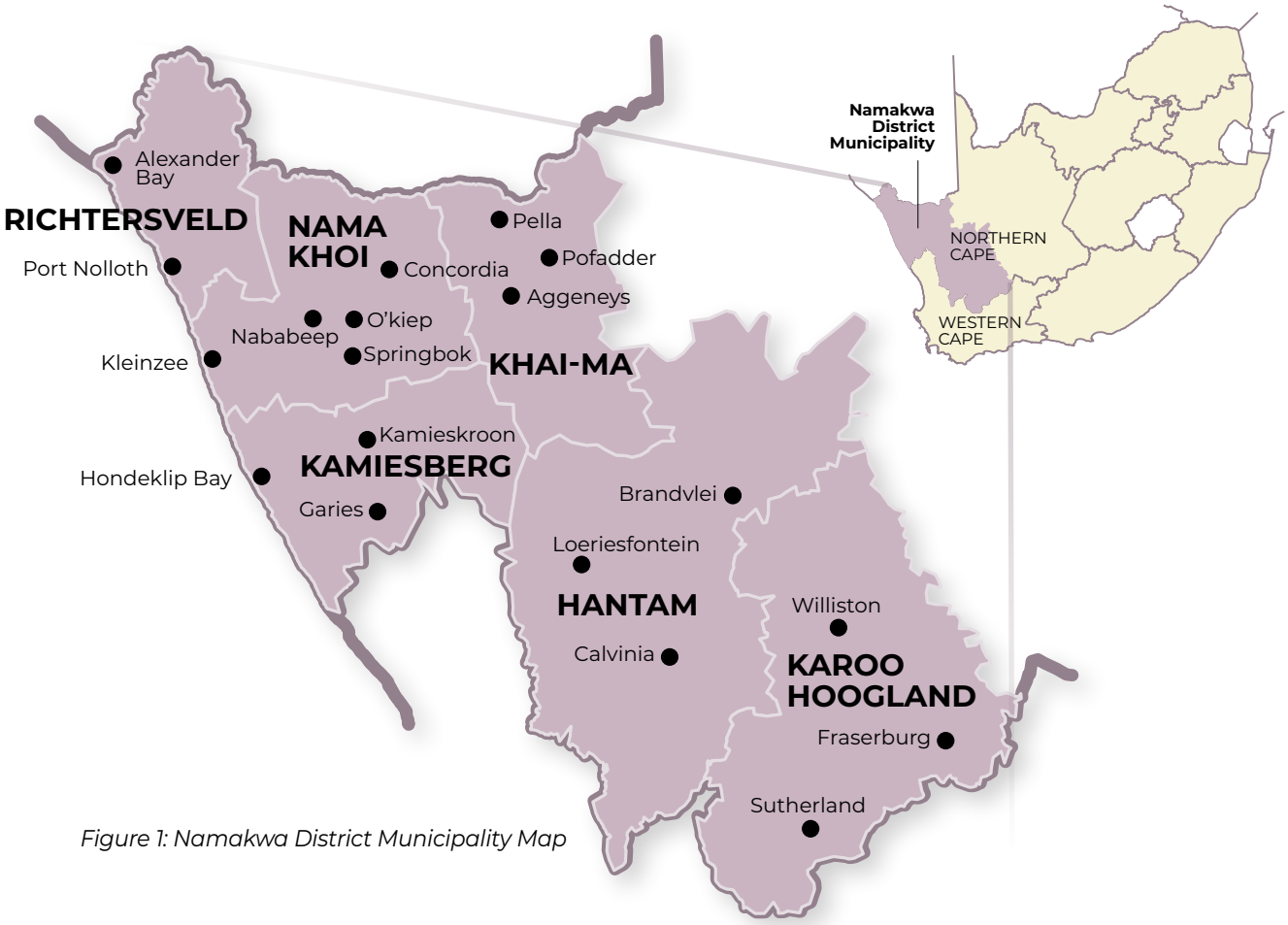

Figure 1: Namakwa District Municipality Map

2.2.2 Demographics and Access to Services

The Namakwa DM had a total population of 115,842 people in 2011.[8] This increased to a total of 148,935 people in 2022, which is a 28.55 per cent increase and an annual growth rate of around 2.78 per cent per year. The district municipality has a total of 33,947 households with a population density of approximately 1.1 people per square kilometres. Around 67.4 per cent of the population is within the working age definition (15-64) and most households (over 90 per cent) are formal dwellings. Access to services is high in the district, with over 80 per cent of households with access to grid electricity for lighting, flush toilets and weekly refuse removal. About 76 per cent of households have access to piped water in their dwellings (StatsSA, 2023).

As per the 2022 National Census, the Richtersveld LM had a total population of 24,235 people, which is more than double the 2011 population of 11,982 people (StatsSA, 2023). The total population of Richtersveld LM constituted approximately 16 per cent of the total population of Namakwa DM, the second highest after the Nama Koi LM. There were approximately 5,600 households in the local municipality, at an average household size of 4.3 individuals per household. Of these total households, well over 90 per cent were considered as formal dwellings (98.1 per cent) with access to a flush toilet connected to sewerage (93.3 per cent), weekly refuse removal (92.6 per cent) piped water within an acceptable distance (99.3 per cent) and electricity for lighting (98.8 per cent) (StatsSA, 2023). The access to services in the Richtersveld LM is considerably higher, on average, to that of the Namakwa DM.

8 2011 Census, Statistics South Africa

2.2.3 Available Skills for the Green Hydrogen Development

In 2022, among the population older than 20 years, only 32.4 per cent has a matric or higher qualification, suggesting the majority of the population not having completed school. Only 6.2 per cent of the population in Namakwa have post-matric qualifications such as a diploma or degree (StatsSA, 2023). In the Richtersveld LM itself, which is the core area for the green hydrogen development, only 23.3 per cent of the population over the age of 20 had a matric qualification (successfully completed secondary schooling), while only 6 per cent had post-secondary school qualifications. For both municipalities, there was an increase in the proportion of the population that completed secondary school from 2011 to 2022 but an overall decrease in the share of the population with post-secondary school qualifications. This can suggest an outmigration over the past decade of individuals in these areas with higher levels of education.

Given the data above, one can assume that much of the working-age population and youth is only limited to unskilled and semi-skilled workers. The low levels of education and low skills base paints a worrying picture about the ability to attract the requisite the skills from local communities in the development of the green hydrogen project. This affirms the notion that there is a likelihood that other skilled workers will come from outside the district municipality. These are particularly the skilled workers, including high-level skilled project managers, designers and engineers who have extensive experience in the heavy construction industry, mechanical and chemical industry.

Work Opportunity in the 1st Phase of the Green Hydrogen Development (2025-2035)

It is projected that the green hydrogen development will attract 75 000 workers:

30% - Unskilled Labourers

20% - Semi-skilled (Artisan Assistants and Administrators)

10% - Skilled Professionals (Engineers)

20% - Skilled Artisans (Electricians, Welders, Plumbers, Supervisors)

20% - Skilled Management (Project Managers, Risk Mangers, Finance)

Source: NCEDA (2022)

2.2.4 Local Economy and Poverty

Settlements in the Namakwa district are characterised by high levels of social and economic inequality. Approximately 22.1 per cent of the population of Namakwa district lives below the lower poverty line and the Gini coefficient in the district municipality was at 0.582 from 2010 to 2020 (Namakwa DM, 2022a). The Richtersveld LM has the highest Gini coefficient of 0.586 out of all the local municipalities in Namakwa district.

Figure 2 shows the respective sector contributions of economic activity in the Richtersveld LM and Namakwa DM in 2022.

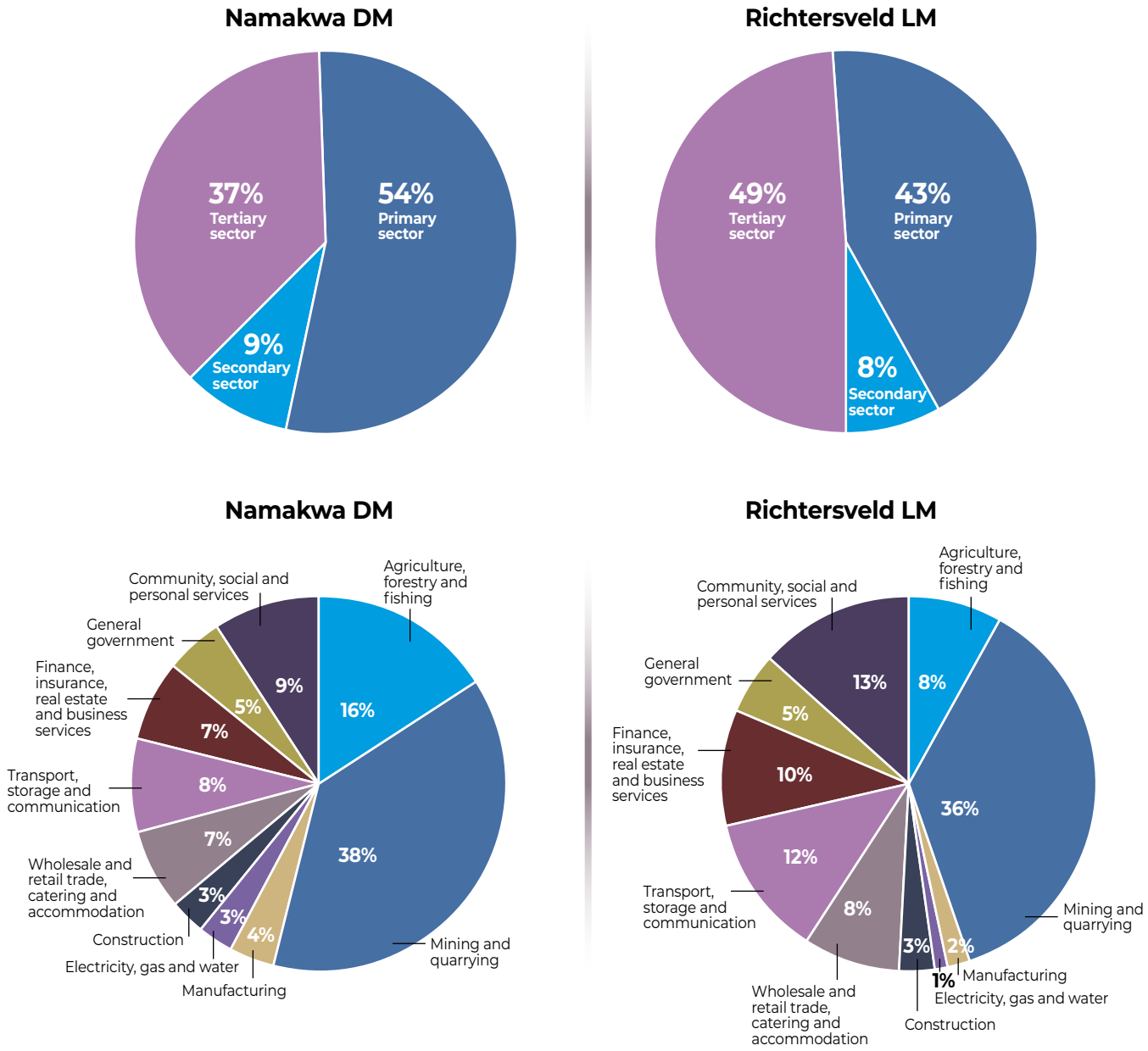

Figure 2: Sector Contributions to Gross Value Added (2022) (Quantec, 2023)

The primary sector (54 per cent) dominates the economy in the Namakwa DM, while the tertiary sector (49 per cent) is largest in Richtersveld LM. However, disaggregating this analysis shows that mining is the dominant sector in both municipalities, accounting for 38 per cent of total gross value added (GVA) in Namakwa and 36 per cent in Richtersveld LM. The mining activity in Namakwa DM is highly dependent on the diamond mining and zinc mining sector. Agriculture is the second largest sector in Namakwa DM (16 per cent), confirming the dominance of the primary sector in its economy, while the Richtersveld LM is relatively diversified, when compared to Namakwa, with community and social services (13 per cent) and transport and storage (12 per cent) being the second and third largest sectors respectively.

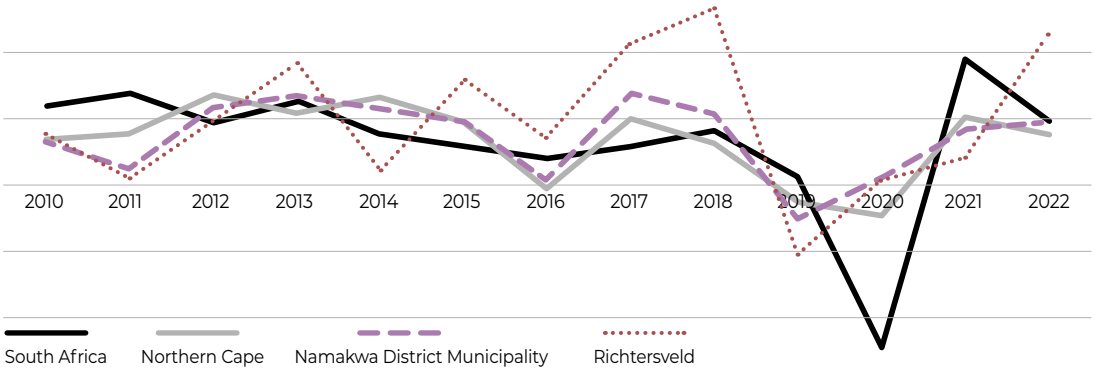

Figure 3: Real Growth in Total Gross Value Added (2010 - 2022) (Quantec, 2023)

Figure 3 shows the real growth rate in GVA from 2010 to 2022 for the Richtersveld LM, the Namakwa DM, the Northern Cape province and South Africa. The Richtersveld LM's economy appears more volatile relative to the district, province and national growth rates, with relatively more upswings and downswings. Both the local municipal economy and the district municipal economy showed positive growth over most of the period, with real growth rates reaching a high of over 5 per cent for Richtersveld LM in 2018. All economies were devastated by the Covid-19 pandemic in 2020, with the national economy being hit the hardest. With both areas being dependent on mining, it is likely that these municipal economies will be sensitive to global and national demand of mineral commodities.

2.2.5 The Boegoebaai Green Hydrogen Development Zone and its Comparative Advantage

Green hydrogen is produced through a process of electrolysis powered by renewable energies such as wind or solar. Electrolysis involves using an electrical current to break down the water molecule into oxygen and hydrogen by electrodes. The Boegoebaai site, which is situated on the west coast of the Atlantic Ocean in Namakwa DM, is strategically located due to the existence of two natural resources needed for green hydrogen production: 1) west coast ocean for the green hydrogen desalination process and deep harbour potential; and 2) optimal sun radiation for solar power generation with and has the highest peak sun hours at 2,600 to 3,000 hours per year in the country and when combined with wind will exceed 5,000 hours in certain locations.

Subsequent to the adoption of the Green Hydrogen Strategy in 2021, the Northern Cape Department of Cooperative Governance launched the Namakwa DDM in 2022. The Namakwa DDM intends to transform the district into a 'just, sustainable, modern and dynamic Atlantic gateway port and mining region that harvests the ocean and river economies, drives excellence in service provision by taking advantage of green hydrogen potential and solar energy production, serves the socio-economic upliftment and empowerment of the local community and expresses the Namakwa heritage and diverse culture'. These development plans are aligned with the National Spatial Development Framework (DRDLR, 2019) which identified the Namakwa district as part of the Arid

Innovation Region that has abundant natural resources that needs to be exploited for economic development. The Namakwa DDM illuminates how provincial and local government have come to reimagine the future of Namakwa's political economy, which is informed by the NSDF and reinforced by the JET-IP. Figure 4 illustrates the planned development and potential supply chains of the green hydrogen industry and complementary businesses.

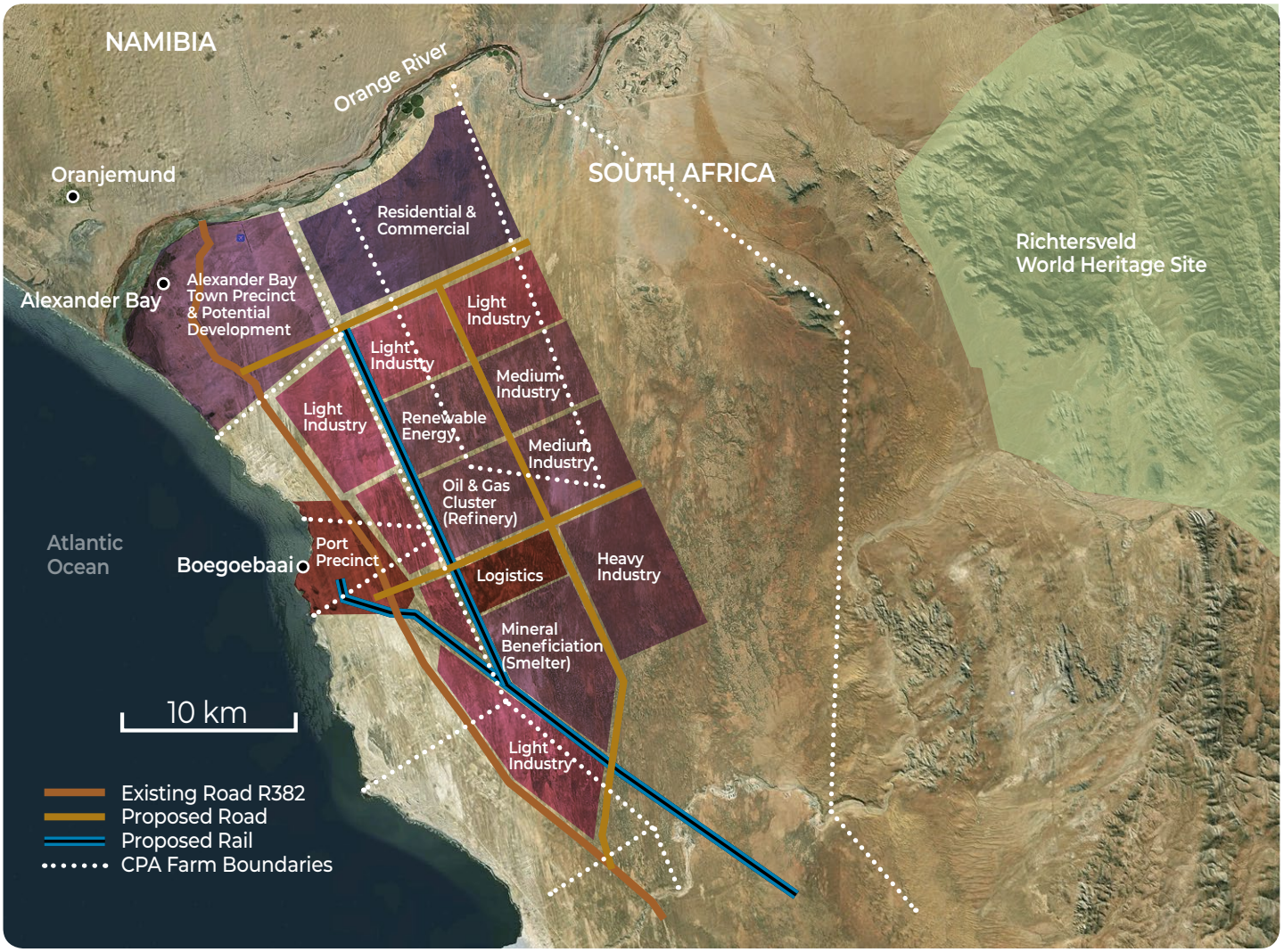

Figure 4: Boegoebaai Green Hydrogen Development Zone, (NCEDA, 2022)

According to the Boegoebaai Green Hydrogen Development Zone, this area will constitute several industrial activities such as the green hydrogen plant, the Boegoebaai port, mineral smelter, oil and gas, renewable energy, logistics and various other industries. Although currently there is not much economic activity and infrastructure development at Boegoebaai, the closest coastal town to Boegoebaai is Alexander Bay. The Boegoebaai green hydrogen SEZ is now designated as the Green Hydrogen Development Zone which has been developed. This provides a roadmap for attracting potential investments into the mining sector and green hydrogen cluster on the west coast, which will link to the Northern Cape solar resource and will be an optimal export opportunity to EU and potential American markets.

2.3 The Challenges of Coordinated Planning in SEZs and REDZ

The previous section provided a brief sociodemographic and economic analysis of the Namakwa DM and Richtersveld LM to contextualise the municipal area that is designated for the green hydrogen development. It also showed the general plan for the development of the green hydrogen initiative in the Boegoebaai area. This section commences the critical assessment of the level of inclusivity of the two municipalities in the overall planning process for the green hydrogen development by assessing some of the experiences and challenges of coordinating such a project within SEZs and across different spheres of government.

2.3.1 Overall Challenges in Implementing SEZs

SEZs, as regional economic planning tools, have been gradually gaining traction in the developing countries over the last two decades (Rodrigues-Pose et. al., 2022). These zones have been used as microeconomic development planning tools for demarcated geographic areas within a country that can enhance economic activities of a particular geographic location through attracting international investments, which can potentially contribute to the economic growth of a country. SEZs intend to leverage the relative comparative advantages specific geographical areas may have in factors of production endowments and/or overall production processes through integrated value chains.

While most SEZ development started decades ago in Europe and Asia, an increasing number of African countries have been developing SEZ policies and building SEZs in collaboration with internal and external players. For example, South Africa has a total of 11 SEZs that connect economic activities in five provinces.[9] Despite their adoption, SEZs in Africa have performed poorly in terms of foreign direct investments (FDI) flows and unsustainable employment generation (Farole, 2011). Furthermore, Farole (2011) and Rodriguez-Pose (2022) provide reasons behind this outcome. This includes a lack of inter-agency coordination, a mismatch between SEZs' sectoral focus and the host country's comparative advantage, a lack of provision of adequate infra-structure, poor environmental, social and governance performance, a lack of coordinated high-level political support and an unclear business strategy.

Chinguno (2012) argues that South Africa's SEZs have also failed to meet their intended objectives. This is due to similar challenges picked up in other countries. There is a general lack of inter-agency coordination, which is one of the primary drivers of the serious inefficiencies and ineffectiveness of developments in SEZs. Furthermore, the nature of the developments themselves have also failed to live up to expectations. Most of the industrial developments in SEZs have had little impact on expanding or diversifying South Africa's manufacturing sector or export performance, with most of the investments thus far are capital-intensive and have therefore generated relatively few jobs than expected.

9 United Nations Conference on Trade and Industry. 2021, *Handbook on Special Economic Zones in Africa: Towards Economic Diversification across the Continent*. [Accessed 17 May, 2023] https://unctad.org/system/files/official-document/diaeia2021d3_en.pdf

2.3.2 Current Coordination and Planning Challenges in the Boegoebaai SEZ

The development of the green hydrogen industry in the Boegoebaai area will be undertaken within the SEZ and REDZ frameworks, which promotes a coordinated approach to planning and implementation of such projects. Indeed, the NCEDA and the Northern Cape Office of the Premier have been consistently engaging with the Namakwa District Municipality about the SEZ and REDZ and its relation to the green hydrogen development. However, much of the planning and development of the initiative has thus far been driven by the province with little input from the municipalities. To date, NCEDA and the Office of the Premier in the province have already conducted assessments in the area to plan for future research. The Namakwa DM and Richtersveld LM were merely informed of these developments with no active participation in such assessments. These provincially driven activities have culminated in the Boegoebaai Green Hydrogen Development Zone (GHDZ), which has been adopted and gazetted by national government. The municipal officials in the Namakwa DM and Richtersveld LM have accepted the GHDZ as part of their economic strategy, even though it has not been thoroughly integrated into their local economic development (LED) strategies. The nature of these activities and developments have already shown the culture of local government exclusion in many of the key planning processes around the green hydrogen development. This is contradictory to the nature of industrial development and renewable energy development in the SEZ and REDZ frameworks, respectively.

Given the developments above and the clear push from the province, the Namakwa DM is under pressure to adopt and develop the SEZ and GHDZ plan without taking into consideration the local institutional, financial, infrastructure and special planning issues in Richtersveld Local Municipality. This shows that little consideration was given to the current capacities of both these municipalities to support the development of the green hydrogen project via their respective roles in the IGR system. Supporting this, concerns were expressed by the municipal manager and the senior management of the Namakwa DM:

- ***Limited institutional capacity to review the Local Economic Development (LED) Plan***: LED plans are the key planning tool used by local government to inform their service delivery responsibilities, infrastructure development and allocation of resources (budgeting). Ideally, in the coordinated development of projects within the SEZ framework, LED needs to be effectively linked to provincial and national developmental plans. Currently, however, LED plans are outdated. The Richtersveld LM does not have capable LED managers to urgently review and realign LED with the green hydrogen economy. LED plans that have gone through a process of consultation and engagement with local communities are important for ensuring that SEZs, REDs and GHDZ are responsive to the local economic needs and will produce sustainable socioeconomic developmental outcomes of the municipality and its communities. In other words, local municipalities cannot effectively formulate economic development plans needed to accommodate this level of investment.[10]

- ***Limited involvement in the design of the Green Hydrogen Development***: Local municipalities are expected to cooperate and adapt with the plans that have been designed by national and provincial departments in charge of economic development that do not necessary consider how municipalities might be affected by GHDZ industrial policies.[11]

10 Interview with the Municipal Manager and senior managers, Namakwa District Municipality, 27 July 2022.

11 Interviews with senior managers, Namakwa District Municipality, 28 July 2022.

- ***Due to the lack of coherence between local plans and international development proposal,*** the role of local plans becomes limited because of the rapid shift in the landscape to renewable energy and none of LED strategies/plans have made provision for these green economic activities.[12]

- ***Limited capacity of the (rural) local municipalities*** to host industrial investment dialogues and negotiations with potential investors at the large scale of the green hydrogen development. Renewable energy and green hydrogen projects require large sums of money which many municipalities, especially rural ones, do not have. Hence it is national and provincial government that lead the lobbying for international investors. This is also compounded by the fact that LED officials in these municipalities do not have a well-grounded understanding of what constitutes the green economy and how the municipalities can best position themselves and their communities to ensure full beneficiation.[13]

- ***Political pressure****:* The district mayor also highlighted that the political pressure local politicians face in endorsing and running with such developments is insurmountable, irrespective of them grappling with understanding basic concepts of renewable energy and green hydrogen, and how this sector will provide long-term benefits to previously marginalised and unskilled communities of Richtersveld LM.[14]

While SEZs, REDZs and now GHDZs are viewed as economic policy designs that off-set economic development in geographical locations and attract lucrative investments, these grand designs can also be disruptive and abrasive due to the imposing top-down approach in their design and implementation in local host municipalities. Using economic development policy and planning tools such as the SEZ and now REDZ, the renewable energy and green hydrogen development projects are designed to ambitiously change the hosting communities and municipalities in terms of its built infrastructure, natural environment and spatial landscape of municipalities.

Renewable energy and green hydrogen under the JET-IP are also sold to host communities on the grounds that they will revive a local economy by boosting job creation and raising local revenue for local host municipalities. This is often unquestionably accepted by host municipalities, particularly rural municipalities who have struggled to build their own economies to reduce unemployment and poverty. Although such projects have been positioned as contributors towards building local green economies, municipalities have very limited influence on the way in which they are planned and implemented. It is evident that JET-IP projects, like other economic development projects, are characterised by centralised planning processes where national and provincial government often take the lead inception to implementation stages.

Little attention is paid to understanding the local conditions, environment, built infrastructure, institutional variations of municipalities, multiple governance structures, and the socioeconomic history of rural communities and their municipalities. The concerns raised by the municipal manager about the way in which SEZs and investments into the green hydrogen industry has been planned,

12 ibid.
13 ibid.
14 ibid.

negotiated and cascaded to local government resonates with what Hirschman (1995) observed in the way mega-infrastructure development projects have been framed as 'trait making' projects in local areas, requiring large amounts of funds that most rural municipalities are not able to raise.

While politicians and technocrats in national government are working behind the scenes to develop industrial policies and green hydrogen investments projects, they continue to follow the same centralised institutional paths that give little attention to providing fiscal and institutional support to rural local municipalities — who are expected to plan for the large-scale renewable energy developments and their implications for service delivery. Nzo (2021) argues that the centralised policymaking approach and economic path-dependency in spatial development of renewable energy infrastructure programme in South Africa, contributes to the reproduction of structural disempowerment and displacement of rural municipalities into the margins of policymaking. More importantly, the inability to make the development process genuinely participatory and not solely dictated and engineered by the governments or economic development planning bodies and their international financial partners and business interests generates path-dependencies that do not necessarily take into the account the socioeconomic needs of local municipalities and their communities.

Therefore, while industrial development plans in the energy sector are spearheaded by national departments (that is, the Department of Trade and Industry, provincial economic development departments and the Department of Mineral Resources and Energy), they need to be accompanied by support interventions at local government level. This can be achieved through intergovernmental coordination between institutions such as National Treasury, CoGTA, Municipal Infrastructure Support Agency (MISA), Development Bank of Southern Africa (DBSA). The latter institutions should be playing a supportive role to rural municipalities who do not have financial and technical capacity to spatially plan for local government services needed to support industrialisation in their territories. These institutions can assist in providing underfunded and under-capacitated municipalities with **financial** and **technical support** to enhance the capabilities of rural municipalities for improved municipal infrastructure planning, delivery, operations and maintenance. It is often the case that rural municipalities such as Richtersveld LM in Namakwa DM do not have town planners, engineers and project management units.

2.4 Municipal Functions, Expenditure Trends and Revenue Generation

2.4.1 Expenditure Analysis in the Namakwa DM and Richtersveld LM

The report has thus far painted a complex picture of the dynamics related to the vision of implementing a strategic industry, in the form of renewable energy development, in nationally defined economic development nodes. In this case, the international demand for green hydrogen has promoted the national government of South Africa, along with the provincial government of the Northern Cape province, to identify regions within the Northern Cape as advantageous areas for green hydrogen development. This was done through the integration of SEZs, which tend to

leverage the comparative advantage of factors of production within specific zones for industrial development, with REDZ, which are areas of advantageous natural conditions for renewable energy generation. The Boegoebaai area, located in the Namakwa DM and the Richtersveld LM, was identified as a GHDZ due to its proximity to a coastline and thus offering access to the ocean and a potential harbour and its placement within a REDZ, indicating optimal renewable energy potential.

While the economic potential for the development of green hydrogen and related industries in this area is deemed feasible from an economic perspective, this report has thus far argued that the integrated planning across all three spheres of government required to effectively develop and accommodate such an industry in terms of infrastructure investment and supply chain integration is potentially lacking. Indeed, the intergovernmental relations aspect to planning in a South African context is pivotal in the delivery of services and infrastructure in SEZs. While areas can hold a comparative advantage for industrial development, supporting government services and infrastructure is provided across different spheres of government, thus emphasising the need for integrated planning in these special economic zones. As such, there is a risk that host municipalities can be excluded from planning processes of renewable energy initiatives — such as the green hydrogen development in Boegoebaai — due to poor coordination and top-down planning. The analysis in section 2.3 has partially confirmed the exclusion of municipalities in the planning process, ignoring the current capacity of the municipalities to play their respective role in the development and the perception of the projects being imposed on local government by the other spheres of government. Such inefficiencies in the planning and engagement processes of project development in SEZs or REDZ can compromise the effective development of industries and key renewable energy projects due to the important role local government plays in service delivery, infrastructure development and community consultations.

Local government plays a key role in the development and maintenance of bulk infrastructure that supports social and economic development within local communities. This includes the necessary infrastructure for basic services and transport networks required to facilitate economic activity. As such, the role of local government in the success of industrial development in SEZs is pivotal. This case includes the development of the green hydrogen industry as well. However, the ability of rural municipalities to play a role in setting the national and regional economic development is questionable. This is due to the limited technical and fiscal capacity for integrated planning and capability to support the infrastructure requirements of such investments. Indeed, the enthusiasm for the green hydrogen development at national and provincial government is not necessarily reciprocated with the requisite capability at the municipal level.

The crux of the argument in this research report is the extant asymmetric application of planning and inclusion across the different spheres of government and with communities in the development of nationally driven projects such as green hydrogen development in the Boegoebaai region which can potentially exclude key players from such developments. The fact that most rural municipalities lack the technical, institutional and financial capacity to deal with the additional requirements for nationally driven industrial initiatives exacerbates their and their communities' exclusion. This section of the report undertakes a financial and budget analysis to determine whether the current state of finances in the Namakwa DM and the Richtersveld LM can support such initiatives or whether some form of national or provincial government intervention is required to improve the


ALEXKOR
CRIME KILLS YOUR FUTURE
Assist ALEXKOR to combat fraud,
corruption, illegal diamond dealing
and unethical behaviour.
PHONE THE TOLL-FREE HOTLINE
To report any incidents of fraud,
corruption, illegal diamond dealing
and unethical behaviour.
You may remain anonymous .
Co fidentiality will e maintained.

feasibility of nationally driven industrial development initiatives and the inherent inclusion of local government in such initiatives.

Outside the metropolitan areas in South Africa, there exists a two-tier system of local government, comprising district and local municipalities. As per the Constitution, legislative and executive powers are shared between these two municipal governments in these areas. As in this case, Namakwa is the district municipality comprising of several local municipalities, including the Richtersveld LM, where Boegoebaai is situated. Namakwa DM and Richtersveld LM share the provision of services in these areas. This ultimately has an impact on the types of services they can deliver, but also how such services are funded.

Namakwa DM is a category C municipality and section 84 of the Municipal Structures Act (MSA) is assigned a range of functions, including:

i. Integrated development planning
ii. Bulk supply of water
iii. Bulk supply of electricity
iv. Bulk sewage purification works and main sewage disposal
v. Solid waste disposal
vi. Municipal roads
vii. Regulation of passenger transport services
viii. Municipal airports
ix. Municipal health services
x. Fire-fighting services
xi. Establishment, conduct and control of fresh produce markets and abattoirs
xii. Establishment, conduct and control of cemeteries and crematoria
xiii. Promotion of local tourism
xiv. Municipal public works relating to the above functions

Section 85 of the MSA allows the Member of the Executive Committee for local government within a province to adjust the above-mentioned powers and functions from the district to the local municipality. As a result, one can argue that there is an asymmetric division of powers and functions across the non-metropolitan areas in the country, where district municipalities in certain provinces have greater service delivery responsibilities than their counterparts in other provinces. In general, metropolitan and local municipalities are usually assigned the electricity[15] and refuse removal functions, while certain district municipalities are authorised to provide water and sanitation. These service delivery responsibilities encompass both the operating as well as the investment in new and existing infrastructure to increase service provision.

15 While these municipalities are legally authorised to provide electricity, in many cases, Eskom also distributes electricity within these jurisdictions.

As per most systems of decentralisation, the allocation of expenditure powers and functions has a bearing on the revenue sources also assigned to municipalities. In the case of Namakwa DM, all major service delivery powers and functions are assigned to the local municipalities including water, sanitation, refuse removal and electricity. Given this, the expenditure responsibilities of the district municipality are relatively smaller than that of the local municipalities. Figure 5 below shows the operating and capital budgets of Namakwa DM and Richtersveld LM over the past five financial years.

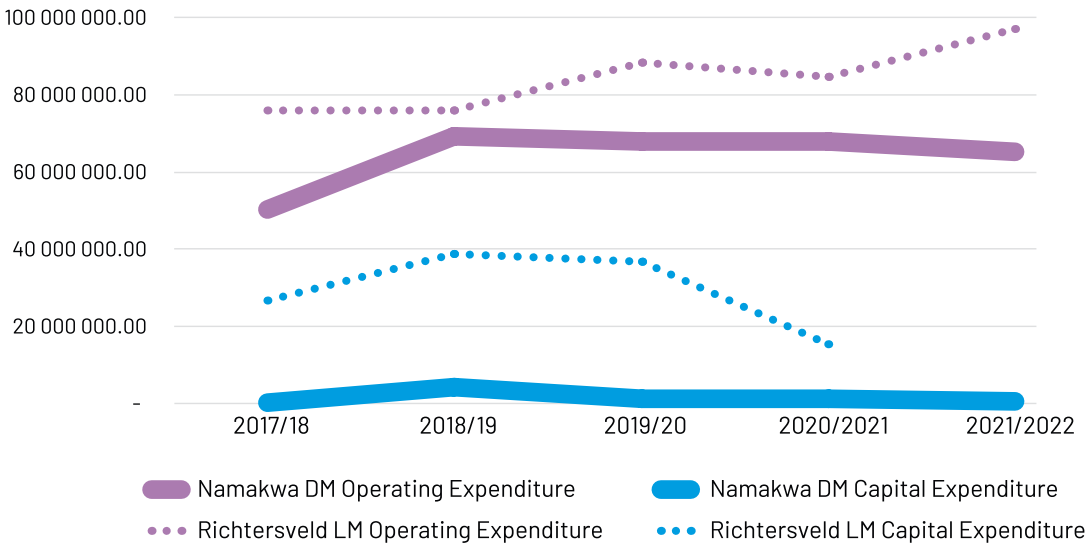

Figure 5: Operating and Capital Expenditure (Namakwa DM and Richtersveld LM – 2017/18 – 2021/22), (National Treasury Section 71 Reports – Schedule C[16])

Richtersveld LM tends to spend relatively more than Namakwa DM in both its operating and capital budgets, indicative of its powers and functions — the responsibilities for the provision of key basic services. In the 2021/2022 financial year, Richtersveld LM had an operating budget of R96 million, while Namakwa DM had an operating budget of around R65 million. The differences in expenditures is most apparent in the capital budget, with Richtersveld LM spending between R15 million to R40 million over the period while Namakwa DM's capital budget is relatively negligible, with a maximum spending in the 2018/19 financial year of around R4 million.

From a planning and investment perspective related to the green hydrogen initiative in the area, the analysis above suggests that Richtersveld LM is responsible for the provision of key infrastructure in the Boegoebaai area. Figure 6 shows Richtersveld capital expenditure by functional area for the 2020/21 municipal financial year. Almost the entire capital budget in 2020/21 was spent on

16 The schedule C financial reports present audited figures. However, these figures, while presented as audited, do sometimes differ from the audited figures presented in municipal budgets.

infrastructure in trading services, that is, water and sanitation infrastructure.[17] Capital expenditure includes the investment in new infrastructure, the renewal of existing infrastructure and the upgrading of existing infrastructure. In this case, 64 per cent of capital expenditure was on new water and sanitation infrastructure, while 35 per cent was used to upgrade sanitation infrastructure. Indeed, over the past four financial years (2017/18 – 2020/21), Richtersveld LM invested the majority of its capital spend on new and existing water and sanitation infrastructure, with only some form of capital investment in electricity and roads infrastructure in the 2017/18 financial year (National Treasury, 2023). On the other hand, and to reiterate, the Namakwa capital spend is negligible, not focused on trading services infrastructure but on intangible assets.

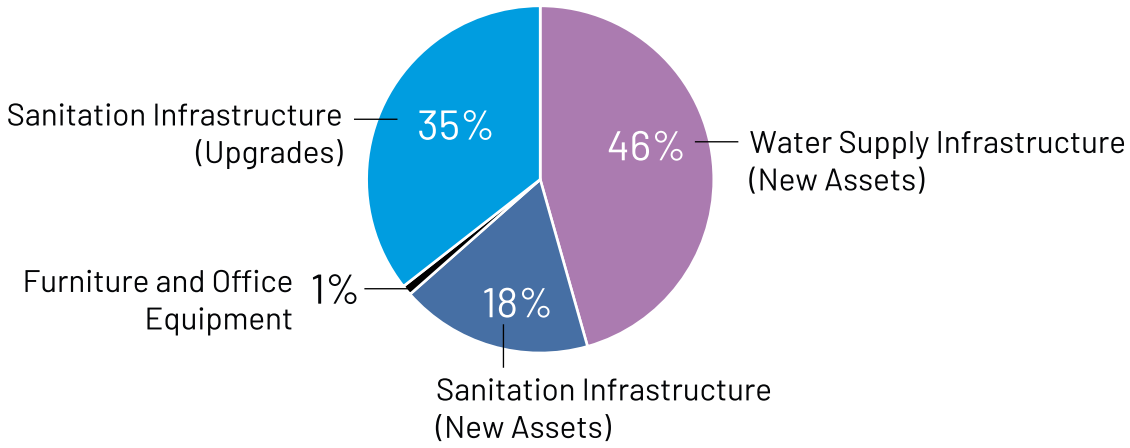

Figure 6: Capital Expenditure by Functional Area - Richtersveld LM (2020/2021), (National Treasury Section 71 Reports – Schedule C)

The discussion and analysis of the powers and functions of the Namakwa DM and Richtersveld LM within the Boegoebaai area is important to understand the potential roles each will play in the development of the green hydrogen initiative in the SEZ in question. Furthermore, it is important to understand the role of municipal trading and economic infrastructure in regional development. The provision of trading and community services infrastructure is pivotal in support to existing communities and settlements but is also necessary to support the potential influx of migrant skills to the area. Furthermore, municipal provision and maintenance of economic infrastructure, such as roads, is important in supporting any potential developments within SEZs. Local government is key in the coherent and integrated approach to high-level investment plans in SEZs. As such, a pertinent question is whether the Richtersveld LM would have the institutional and fiscal capacity

17 It is important to highlight that the expenditure figures from across the Schedule C financial report tables for the municipality do not necessarily correspond even though these are purported to be audited figures and officially published by the National Treasury.

to meet any potential increase in the demand for services in the area and to support regional industrial development. The exclusion of this important aspect of local government capacity can compromise the effective development of regional-based industrial development and projects.

2.4.2 Fiscal Capacity Analysis in the Namakwa DM and Richtersveld LM

To assess the Richtersveld LM's ability to finance its current infrastructure plans and potential future infrastructure requirements towards the development of the green hydrogen industry within the area, an analysis of the revenue sources available to the municipalities for its capital spend is important. Figure 7 shows the breakdown of Richtersveld financing sources for capital spending in the 2020/2021 financial year while Figure 8 shows the revenue sources for both Richtersveld LM and Namakwa DM for operating expenditures for the same year.

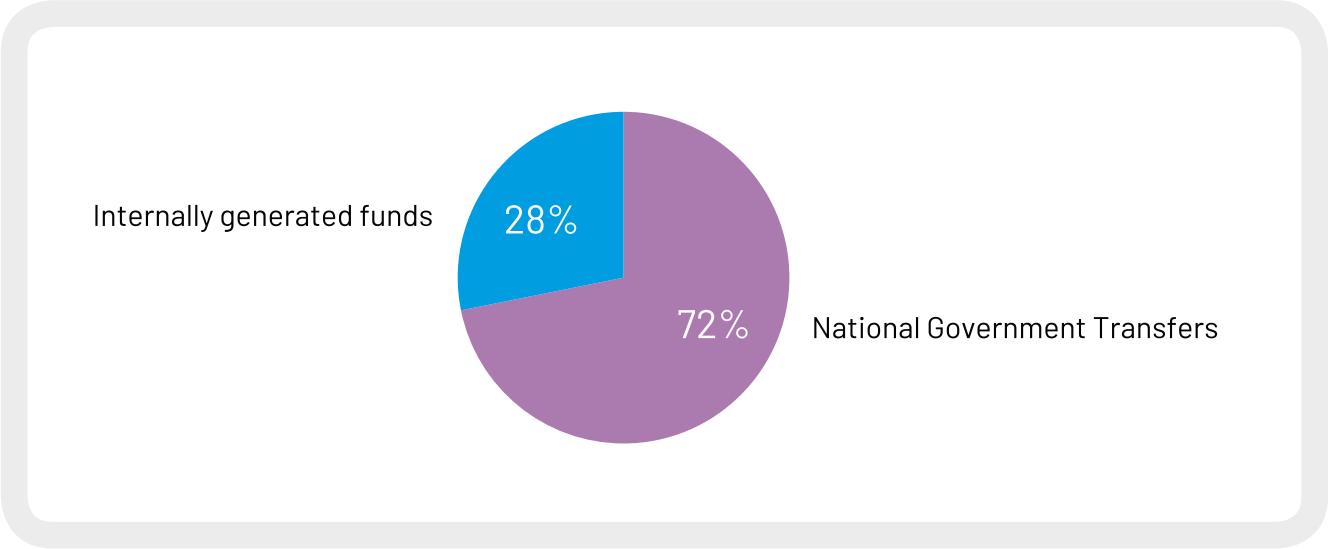

Figure 7: Financing Sources for Capital Expenditures - Richtersveld LM (2020/2021), (National Treasury Section 71 Reports – Schedule C)

In general, capital budgets are financed by municipal own revenues (internally generated funds), government infrastructure grants (usually conditional grants) and municipal borrowing (engaging in credit markets for financing). In the 2020/2021 financial year, Richtersveld LM funded around 72 per cent of their capital budgets (infrastructure investments) with national government transfers/grants while the balance was funded by internally generated funds. In this year, the municipality did not engage in any debt-financed spending on their capital budgets.

The key infrastructure-related grant that local government receives is the municipal infrastructure grant (MIG), which is a conditional grant for funding largely social infrastructure related to the municipal areas of competence. The grant is largely intended towards extending services to poor households and the subsequent refurbishment and argumentation of existing social infrastructure servicing mostly poor households. Funds assigned for capital expenditures from municipal own revenues should, theoretically, be generated from operating tariffs, either through surpluses from

the tariffs, that is, a 'profit' margin that is reinvested into the sector in the form of new infrastructure or within the tariff, which should take into consideration the cost of infrastructure use and maintenance. The municipal contribution to capital expenditure is largely fungible and can also be generated from general operating surpluses in the municipal revenue funds.

Given the discussions above, the health of the municipal operating account provides a general sense of the financial position and sustainability of the municipality. Figure 8 shows the operating revenues for both Richtersveld LM and Namakwa DM for the 2020/21 financial year.

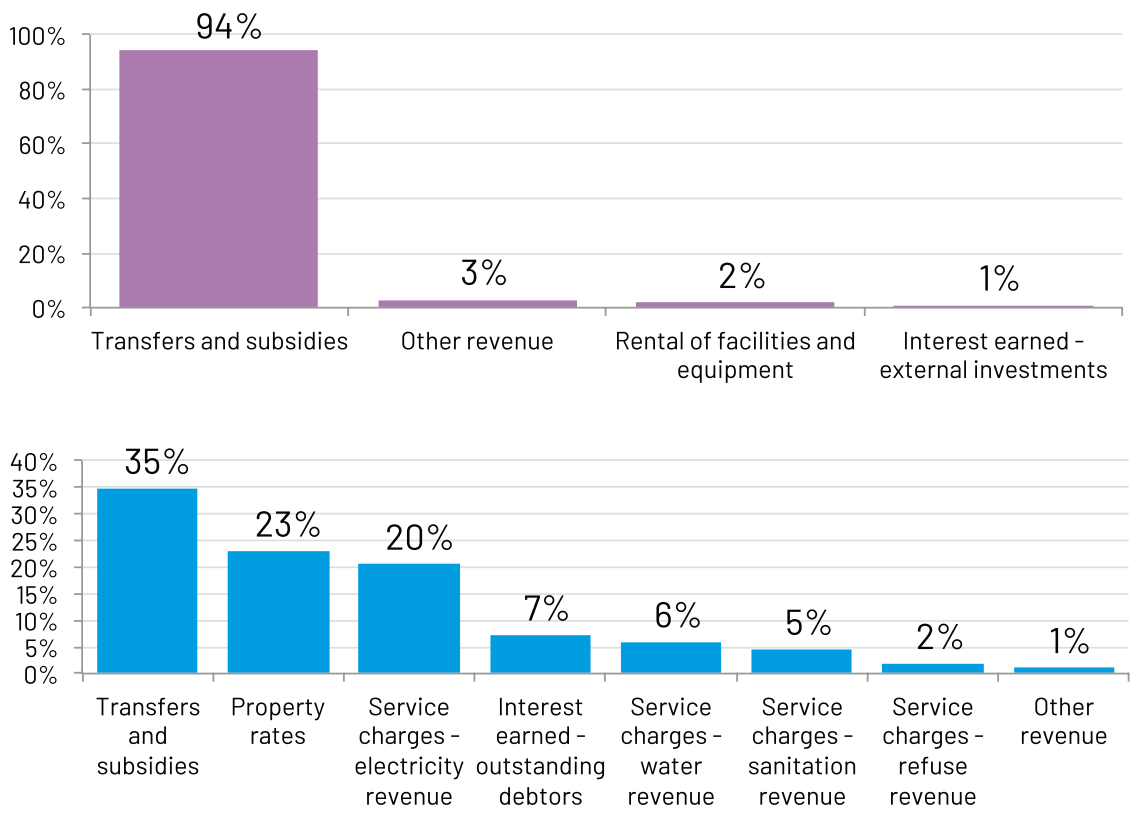

Figure 8: Operating Budget Revenue Sources (2020/21) – Namakwa DM (Top Panel) Richtersveld LM (Bottom Panel), (National Treasury Section 71 Reports – Schedule C)[18]

The most apparent distinction between the revenue sources of Namakwa DM (top panel) and Richtersveld LM (bottom panel) is the greater array of revenue sources available to the local municipality. This clearly reflects the varying powers and functions afforded to the respective municipalities. Richtersveld LM, which is responsible for the provision of key basic (trading) services, is able to charge customers for consuming such services, thus generating revenues. While the

18 The figure shows the largest contributors of operating revenues. As a result, the total does not sum to 100 per cent, as it excludes other negligible revenue sources.

majority of revenues generated from tariffs charged to customers cover the cost of providing such services, municipalities also generate additional revenues via additional charges and surcharges applied on these tariffs. In Richtersveld LM, revenues from user charges for the different services account for approximately 33 per cent of total operating revenues, with revenues from trading electricity constituting the bulk of this revenue. Richtersveld LM, like most local and metropolitan municipalities, is assigned a major tax instrument, in the form of property taxes (also known as property rates), which accounts for 23 per cent of their total operating revenues. Richtersveld LM also receives intergovernmental fiscal transfers, mainly from national government, in the form of the local government equitable share (LES). The LES is a constitutional entitlement of a share of nationally raised revenues allocated to all three spheres of government aimed at supporting the expenditure needs of each sphere, in this case, local government. Theoretically, the LES intends to minimise vertical and horizontal fiscal gaps that can arise in a fiscally decentralised system. In South Africa, the grant is specifically designed to provide free basic services[19] to indigent households and to account for these costs (or revenue foregone) for free basic services to municipalities. On average, Richtersveld LM's operating budget is 75 per cent funded from own revenues.

In contrast, the operating revenues sources for Namakwa DM is very limited and is almost fully funded by intergovernmental fiscal transfers (94 per cent). Other revenue sources are negligible. While this may initially seem rather conspicuous, there is a greater context to such a trend. Firstly, and as already mentioned, Namakwa DM does not provide any of the basic services to its residents, as it is not assigned those functions. The basic services are referred to as trading services, due to the ability of a service provider, in this case a municipality, to charge consumers for their use to recover costs and generate additional revenues. Not having these powers and functions limits Namakwa DM's revenue instruments. Secondly, district municipalities that do not provide the key basic services still play a key role in district-wide planning, economic development and other regional services, such as environmental health. District municipalities in the country were initially assigned a local government tax, called the Regional Services Council levies, to support their general expenditures. However, this tax was abolished in 2005 and replaced with a 'temporary' grant to account for lost revenues. This grant is distributed via the LES and creates a misconception that district municipalities, in this case Namakwa DM, is technically grant dependent, when, in fact, the grant also includes replacement funds for a former tax.

The analysis above provides a snapshot of the revenue sources available to both the Richtersveld LM and Namakwa DM to potentially support local social and economic infrastructure towards contributing to the development of the green hydrogen industry in the Boegoebaai region. The potential development of the green hydrogen initiative in the Boegoebaai area is likely to result in a greater demand for both social and economic infrastructure, due possibly to the influx of migrant labour and spill-over economic activity. It is also likely to put pressure on existing municipal infrastructure and existing service delivery issues, such as service and infrastructure maintenance backlogs.

Integrated planning and coordination towards the development of key industries and renewable energy projects in SEZs would likely require some form of additional financial and/or capacity

19 *Free basic services* is a government social support policy that provides a portion of electricity, water, sanitation and refuse removal free to indigent households every month. While this is a national policy, local government is the responsible implementing agent, as these services are constitutionally assigned to municipalities.

support to the key government players, such as local government. Governments across the intergovernmental system will all clearly play an important enabling role for strategic industrial development within these areas. Therefore, it would be important to assess whether local government has the existing capacity to meet these additional requirements or whether support is required. To assess the ability of municipalities to meet additional service delivery requirements with current revenue instruments, one would be required to undertake a trend analysis on the changes of expenditure needs and revenue potential over time. Figure 9 shows the sources of capital financing from the 2014/15 to the 2020/21 financial years.

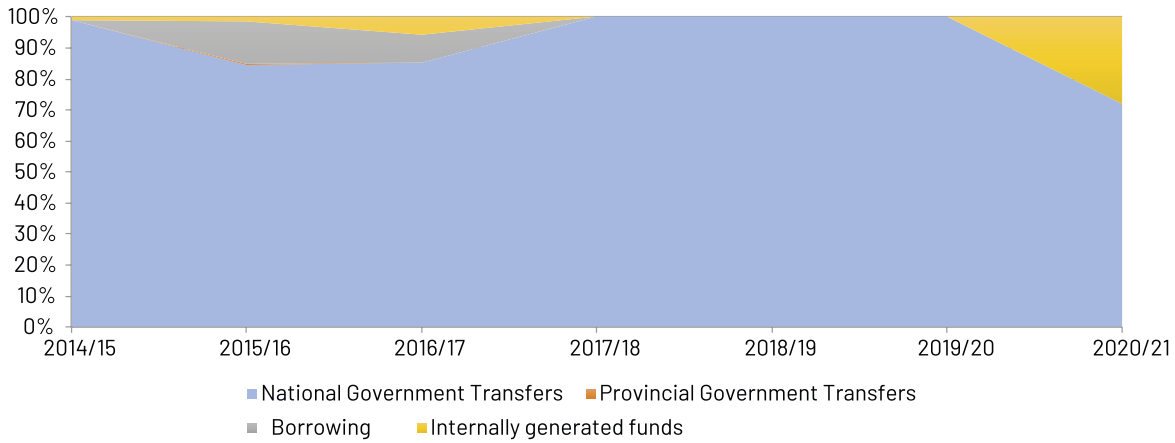

Figure 9: Financing Sources for Capital Expenditures - Richtersveld LM 2014/15 – 2021/22, (National Treasury Section 71 Reports – Schedule C)

The bulk of Richtersveld LM's capital budget over the past seven financial years is funded from national government transfers. Richtersveld currently receives funds from the MIG for water, sanitation, refuse, roads and sport infrastructure, the integrated national electrification programme (INEP) for electricity infrastructure and the water services infrastructure grant to support further water infrastructure. With exception of the MIG, most of these grants are not consistent, that is, they enter and exit the fiscal framework in a generally uncoordinated manner and the allocations can differ substantially between years. This likely explains the relatively large variations in the capital budget spend across the years in the Richtersveld LM. These grants are further constrained by a tight national fiscal framework, resulting in cuts to grant allocations at times of revenue pressures at the national level. Richtersveld LM's own contribution via internally generated funds and borrowing is negligible. Indeed, the municipality only supplemented its capital budget through credit financing for just three financial years, while capital funding from own revenues also varied substantially.

The nature of infrastructure grant funding in local government and the limited contribution from the Richtersveld LM, either through own revenues or borrowing, raises concerns over its ability to not only meet its current infrastructure demand requirements but any future infrastructure

requirement that may emanate from the green hydrogen development. At the very least, the above analysis emphasises the need for an integrated and coherent approach to the green hydrogen development, particularly to ascertain whether local government in the area is financially and institutionally capacitated to accommodate such developments. The above analysis also shows that, if national and provincial government have ignored local government's capacity to play a role in regional industrial development, municipalities will be inherently excluded from effectively engaging in and benefiting from nationally driven renewable energy projects.

With that said, the limited contribution of the Richtersveld LM towards its capital spending requirements raises concerns around either its long-term financial and fiscal sustainability and/or its institutional capacity to appropriately plan and execute its budget. To partially assess whether Richtersveld LM is facing some degree of financial pressures, Figure 10 looks at the trends in its revenue instruments from 2014/15 to 2021/22.

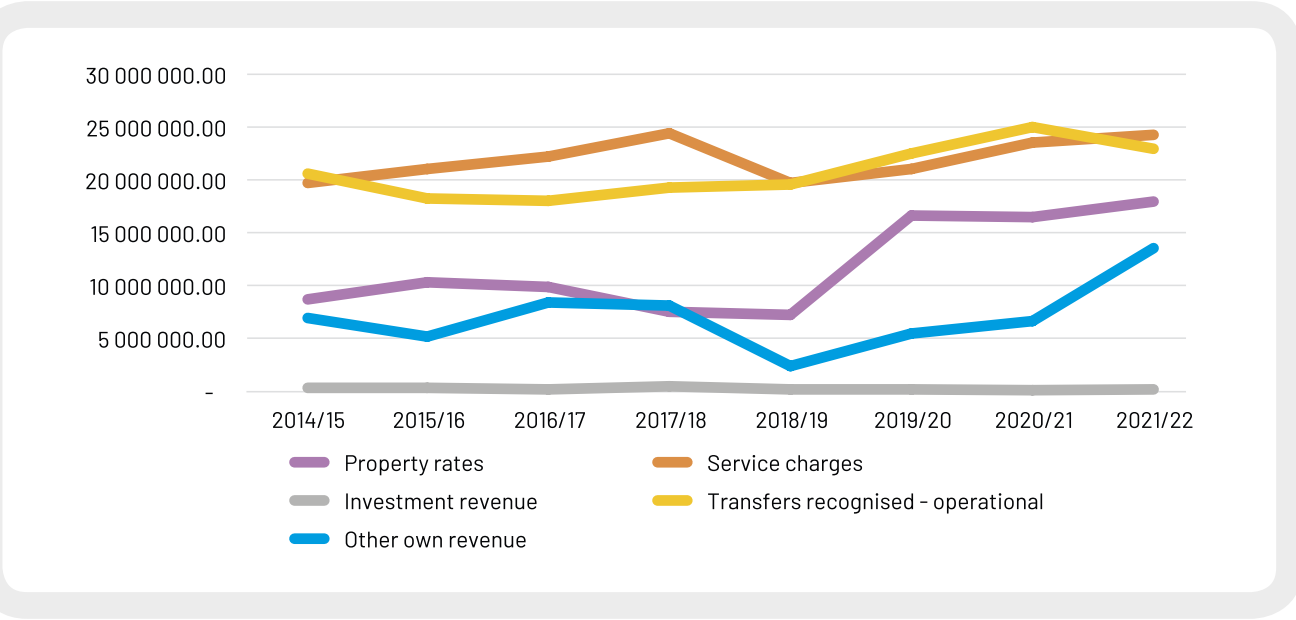

Figure 10: Operating Revenue Instruments - Richtersveld LM 2014/15 – 2021/22, (National Treasury Section 71 Reports – Schedule C)

A basic but telling sign of financial pressures on own-revenue generation is a gradual increase in grant dependency. However, from the analysis in Figure 10, it does not seem like the Richtersveld LM is becoming relatively more grant dependent. For most of the period, the municipality received the bulk of its revenues from service charges. Grant funding only becomes the highest single contributor to revenues in 2019/20 to 2021/21. This is very likely due to the financial pressures placed on households due to the Covid-19 pandemic and subsequent lockdown, resulting in a substantial shock to economic activity and revenues. At the same time, grant increases to municipalities were also likely during this Covid-19 period to protect municipalities from any potential revenue shocks. The municipality experienced further upward trends in its property rates revenues and 'other' revenues. There was a huge jump in property rates revenues in 2019/20, possibly due to a revaluation or some other administrative shock to the property tax base.

From the analysis above, it does not appear that the Richtersveld LM is facing any extreme pressures on its tax base. There is no evident downward trend on own-tax revenues. Therefore, it is not clear why the municipality's contribution to its capital budget is limited from the analysis above. Pressures on the operating account, such as raising costs for services, can result in limited surpluses in operations to allocate to capital expenditures. Therefore, it is important to assess the expenditure pressures placed on the municipality and whether these are eroding revenue surpluses.

Figure 11 shows a trend analysis of Richtersveld LM's operating expenditures and operating revenues (excluding capital transfers and contributions) from the 2014/15 to the 2021/22 financial year. Over the period, expenditures exceeded revenues collected, resulting in perennial deficits on the operating account. The analysis confirms that the financial pressures faced by the municipality in its operating budget leaves very little space for surpluses that can be allocated towards capital expenditures. It is important to emphasise that such pressures could be due to poor planning and inherent inefficiencies in municipal operations, as opposed to the increasing costs of providing services.

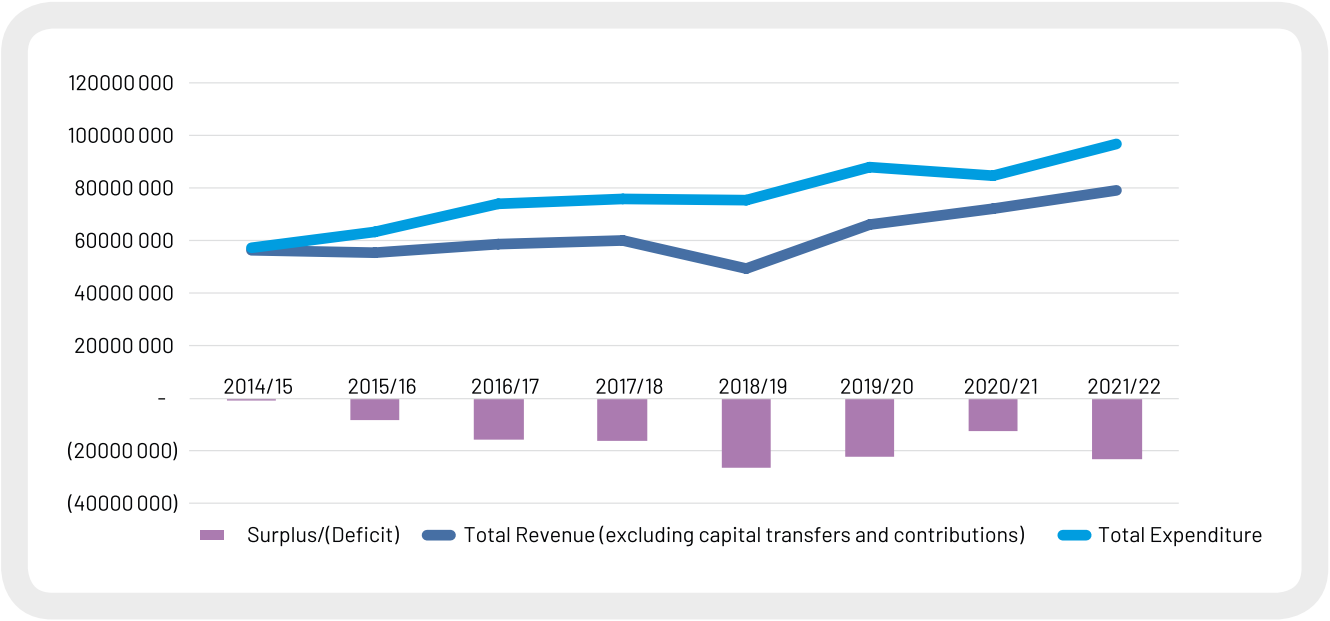

Figure 11: Comparison between Operating Revenue and Expenditures - Richtersveld LM 2014/15 – 2021/22, (National Treasury Section 71 Reports – Schedule C)

An assessment of the cost of providing municipal services and the efficiency of such expenditures is a complex exercise and goes beyond the budget analysis in this research. Furthermore, such a detailed assessment is not necessarily required to show potential financial pressures on municipal budgets. The analysis in Figure 11 confirmed the financial pressures faced by Richtersveld LM, which limits its ability to generate substantial surpluses to support greater spending on its capital budget. Regardless of the source of the pressures, Richtersveld LM remains largely dependent on grants for its capital spend.

With that said, Figure 12 shows some of the key cost drivers in the Richtersveld operating budget

and its growth rate from 2014/15 to 2021/22. Employee related costs form the largest component of the municipality's operating expenditures, accounting for around a third of total operating expenditures, with this share remaining relatively consistent over the period. The other major cost driver is bulk purchases, that is, raw or treated water and bulk electricity, which is required to provide water and electricity services to communities. Initial concerns can be raised regarding the share of the personnel budget to total operating budget, suggesting some form of inefficient labour use. However, this can only be confirmed with a benchmarking or efficiency analysis. There was a very large growth in personnel expenditure in the 2016/17 financial year, but subsequent increase has not been glaring by comparison, averaging around 6 per cent. There have been substantially large increases in bulk expenditures over the past two financial years, which are probably driven by the large increases in the cost of electricity. Such increases, which are outside the control of the municipality,[20] are likely to increase the cost of providing services to its customers.

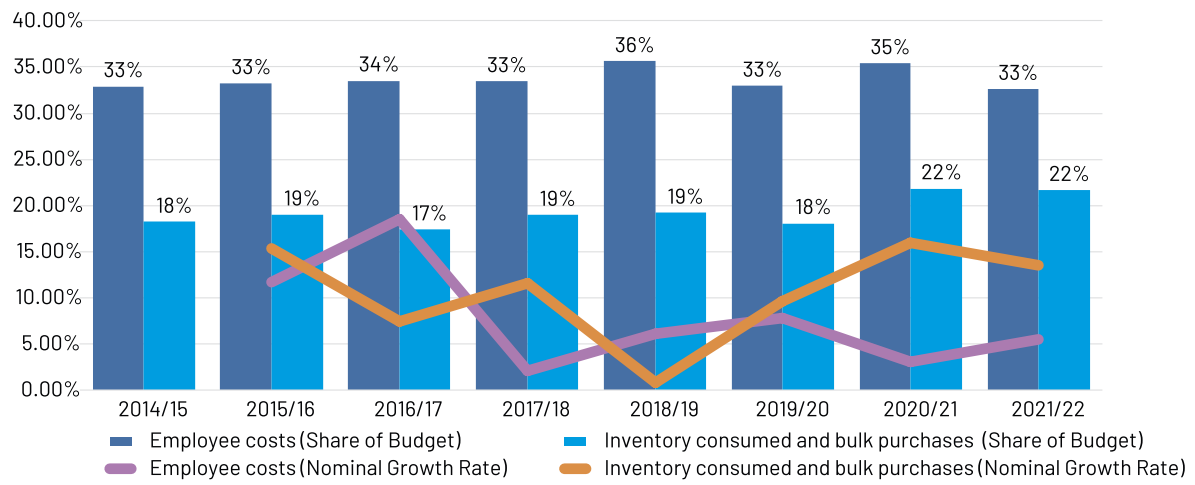

Figure 12: Growth in Employee Costs and Bulk Purchases - Richtersveld LM 2014/15 – 2021/22, (National Treasury Section 71 Reports – Schedule C)

Figure 13 shows the total value of debt owed to Richtersveld LM from 2017/18 to 2021/22. This is essentially the non-payment for services received and taxes by households, businesses and organs of state within the municipality. Growing debt levels is largely driven by three main factors. Firstly, it can indicate an *inability to pay* for services; consumers are facing financial pressures due to changing economic circumstances. Secondly, it can indicate an *unwillingness to pay* for services, which is an indication of unhappiness with government services. Lastly, it can also indicate *capacity issues in debt management* within the municipality, whereas the municipality's databases, billing, meter reading and credit control systems have fundamental issues that contribute to poor revenue collection. As indicated in Figure 13, there has been a growing concern regarding the non-payment

20 These increases are on the actual municipal expenditures on bulk purchases and not the actual tariff for bulk water and electricity. As a result, such increases in expenditures can also be driven by a greater demand for services from local communities and municipal inefficiencies, the latter of which can include water and electricity losses. In general, the bulk water and electricity tariff is the largest driver of these increases in the expenditures.

of municipal services. In 2021/22, the debt owed to the municipality exceeded R120 million, which is about 100 per cent of the municipality's current operating budget. Such a trend can put pressure on the revenue streams of the municipality and its ability to meet its service delivery and infrastructure requirements.

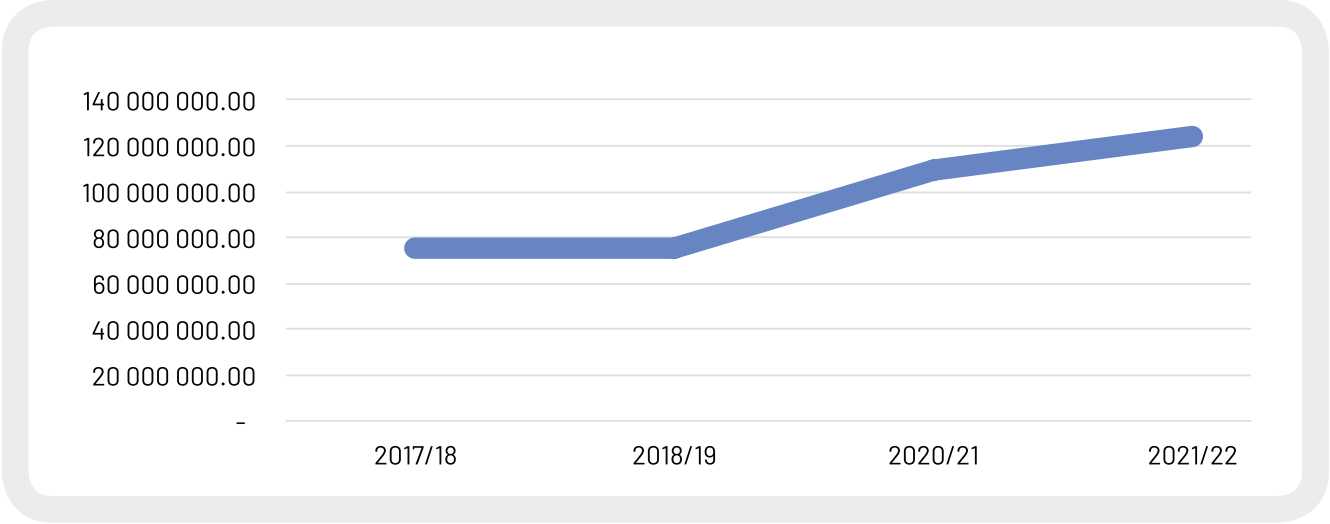

Figure 13: Consumer Debt - Richtersveld LM 2017/18 – 2021/22 (2019/20 missing), (National Treasury Section 71 Reports – Schedule C)

The financial assessment presented in this section intended to determine whether the Namakwa DM and the Richtersveld LM were in a financial and institutional position to play a significant role in supporting the potential development of the green hydrogen industry in the area. A lack of capacity to play a role in supporting the green hydrogen project will result in local government being inherently excluded from the nationally driven development process. As mentioned, the devolution of different powers and functions across spheres of government necessitates a coherent and integrated approach to supporting specific industrial developments in SEZs, such as the green hydrogen initiative. In other words, a lack of financial and institutional capacity in sub-national government can compromise the overall regional and national developmental plans for the country. This holds particularly true for rural municipalities, where finances are limited.

The financial analysis above was unable to expand on the current expenditure requirements of the area in terms of service or maintenance backlogs. As a result, one cannot determine any potential revenue shortfall or fiscal gap that currently exists in the Namakwa DM or Richtersveld LM to conclude that current finances are insufficient. Thus, the analysis concluded the following:

i. The division of powers and functions results in varying roles for the Namakwa DM and the Richtersveld LM in the provision of key economic and social services in the area.

ii. The Namakwa DM would need to play a very important coordination role towards an integrated approach to support the development of the green hydrogen industry in the area. This will include ensuring that plans and investment from local municipalities are integrated regionally to support supply chains of key industries in the area.

iii. The Richtersveld LM is the key supplier of social and economic infrastructure in the Boegoebaai area, given its powers and functions. Therefore, this municipality would need to be fully aware and capacitated to support the social and economic dynamics that may arise from the green hydrogen development.

iv. While a glance at the financial performance of the Richtersveld LM does not indicate any clear signs of distress, the analysis concluded that additional financial support would be required from central government to support specific initiatives in SEZs. Local government, with its current mandates and revenue limitations, are unlikely to be able to implement expansionary expenditures in support of targeted investments.

v. Provincial transfers or even existing national conditional grants can be used as strategic mechanisms to target additional funding to rural municipalities to support targeted infrastructure investment to support initiatives in SEZs.

vi. The lack of a financial plan for local government in the SEZ shows that there is a lack of proper planning across all the players towards the integrated approach and development of the green hydrogen initiative, inherently excluding local government.

vii. The financial analysis indicates that none of the municipalities in the region are financially prepared to accommodate a large-scale development and the related spill overs that may occur. Financial support and capacity building from other spheres of government is essential for the coherent and holistic development of regional industrial and renewable energy projects in SEZs.

2.4.3 Infrastructure Development in the SEZ – Municipal Planning Capacity

The Namakwa DM and Richtersveld LM plan for the development and implementation of several regional projects through their LED strategy and IDPs. However, the capacity to appropriately plan and implement can be lacking in municipalities with limited capacity. Figure 14 compares the budgeted and actual capital expenditure for Richtersveld LM from 2017/18 to 2020/21. In most years, there is a large deviation in planned and actual expenditures, raising questions as to whether the municipality can effectively implement a capital budget.

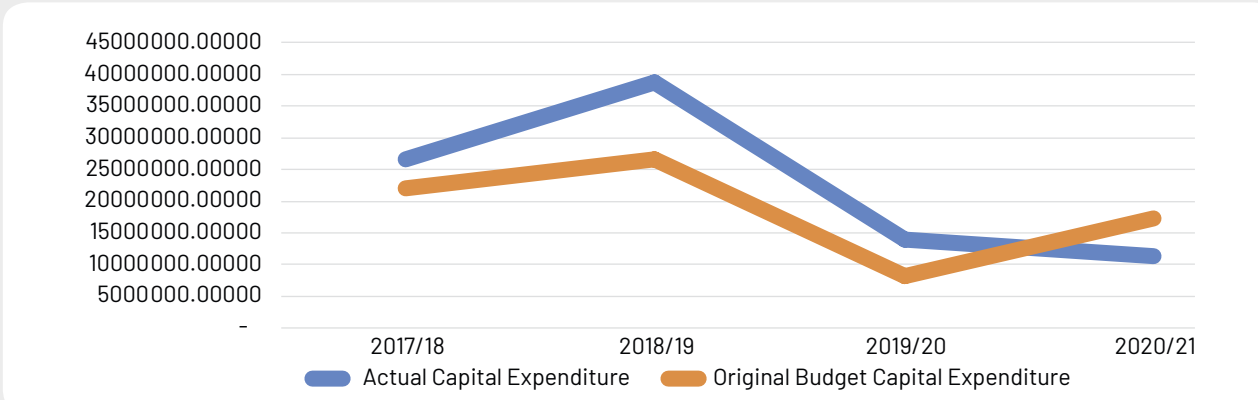

Figure 14: Budgeted versus Actual Capital Expenditures - Richtersveld LM 2017/18 – 2020/21), (National Treasury Section 71 Reports – Schedule C)

The lack of planning capacity for infrastructure development in the area is further emphasised by the fact that NCEDA has stepped in through advertising a bid calling for proposals from consulting companies to prepare an Infrastructure Master Plan.[21] The terms of reference of the bid of the Infrastructure Master Plan for the Namakwa SEZ should cover the following master plans: Water Services, Sanitation, Stormwater, Roads and Transport, Electricity and Energy, Solid Waste, Integrated Housing, Namakwa SEZ Facilities and Office Block.

Although it was mentioned that a funding model should also be developed for the financing of infrastructure development, there is no mention of costing of developing municipal bulk infrastructure for the SEZ (bulk infrastructure, municipal roads, upgrading of gravel roads, etc.). Instead, the Infrastructure Master Plan seeks to serve the business bulk infrastructure development needs of the mining development and national/provincial road and rail infrastructure, which ultimately capture the Boegoebaai industrial development.

One of the key factors which enables the continuous practices of the top-down approach into the economic planning and policy implementation of SEZs also relates to local government side-stepping in the intergovernmental relations interface between national, provincial and local government structures. Although the Namakwa DM notes that energy, road, water management projects have been prioritised under the R100 billion Infrastructure Fund managed by national government (to focus on water and sanitation projects), its IDP does not stipulate how much of that funding will be allocated to the Namakwa DM or if the district municipality has processed any applications for funding (Namakwa DM, 2022a: 85).

This is where institutions such as the South African Local Government Association (SALGA), national CoGTA, MISA and DBSA ought to be engaging with Namakwa DM and Richtersveld LM through the DDM to build a case for supporting the district and local municipality in accessing funds and technical support, as they are aware that the green hydrogen development is coming to their area. Thus far, there is no substantive evidence which shows that these institutions have been able to play their supportive role in effectively developing a support programme for the district and local municipality infrastructure developmental priorities that ought to serve the anticipated population growth from 2025 to 2035.

These institutions should be interrogating the prioritisation of infrastructure needs that will serve primarily business and industrial development zones, which the DTI has not been able to address in their SEZ plans for the district. The costing and funding of bulk infrastructure for SEZ and REDZ development corridors should be complemented with bulk infrastructure development of residential and commercial areas of municipality, which should be at the centre of project development for rural municipalities who do not have adequate resources and technical capabilities to develop infrastructure that will serve the population who will working in the green hydrogen and renewable energy industries.

21 https://www.etenders.gov.za/home/Download/?blobName=3a71aecf-bb4f-46e2-a527-f23005cc8848.pdf&downloadedFileName=TOR%20-%20Namakwa%20Special%20Economic%20Zone%20Infrastructure%20Master%20plan.pdf

Conclusion

Chapter 2 addressed two of the research questions of the study, namely, to ascertain the current financial and institutional capacity of the two municipalities that govern the Boegoebaai region and to determine if any support was provided to these municipalities to facilitate the development of the green hydrogen project in the area. Firstly, the chapter used the ethnographic research methodology to ascertain the degree to which the municipalities were included in the planning processes of the green hydrogen development. It was concluded that the Namakwa DM and Richterveld LM were largely consulted as subordinate members during the consultation processes, which is contradictory to the development goals in the SEZ and REDZ frameworks. The provincial government took the lead in the project and there was a perception that the green hydrogen project was imposed on the municipalities without their proper input and participation in the planning processes.

Secondly, the chapter attempted to determine the financial and institutional capacity of the municipalities in the area to play their role towards the development of the green hydrogen initiative in the area. This was done using financial and budget analysis to ascertain the financial health of the municipality to meet current expenditure obligations and potential future obligations relating to the green hydrogen project. While limited due to time constraints, the budget analysis suggested that a greater injection of funds, with clear planning and implementation guidelines, would be required to support municipal provision of additional infrastructure for the development of the green hydrogen project. Additionally, if this financial capacity constraint is not addressed, local government, by this design, will inherently be excluded from large-scale renewable energy initiatives, particularly in rural areas but be adversely affected by the demands that will be imposed on them by such developments. Many of these municipalities might not be ready in terms of their institutional and financial capacity to actively partake in nationally driven renewable energy projects or to fulfil their roles in supporting these projects. ■


Alexanderbaai

CHAPTER 3

An Assessment of Public Participation in the Green Hydrogen Development

> The Richtersveld community has just recently gotten their land back from government. And now, our provincial and local government is asking for 60 000 hectares from the CPA to give to the Germans for a lease period of 60 years for the green hydrogen development. And there is no clear ownership rights and real economic beneficiation for communities as shareholders. What is more worrying is that the process of leasing land from the CPA is done in an untransparent manner and not properly negotiated with the people of Richtersveld. Yes, its CPA land, but people who will be working in Boegoebaai will be coming from other near-by townships and former coloured reserve areas in Richtersveld. Why are they being excluded from understanding the beneficiation process?
>
> *Richtersveld Community Activists, 28 July 2022*

3.1 Introduction

This chapter provides a compelling insight into the way the energy transition to green industrial economic activities has invoked community and stakeholder participation rights in decision making in the proposed green hydrogen development. As argued throughout the research, effective and inclusive public participation and communication between government and local communities becomes paramount to ensure that local communities are prepared for, and can effectively benefit from, nationally driven strategic developments in local communities. This should be a key outcome of strategic economic development. For the people of Namakwa DM, the energy transition and its green hydrogen development agenda that has brought promises of transitioning their local economy from an extractive mining economy into a green industrial economy — which has heightened conflict in an ongoing battle among the communities of Richtersveld and Namakwa over their land-control rights and procedural injustices. It demonstrates insightful ways in which the communities of Richtersveld and those who claim to be the Nama Traditional Council have experienced exclusionary practices under the green hydrogen development, particularly during the consultative participation process and representation of communities' interests in the negotiations of land acquisition for the green hydrogen development with provincial and local government.

The Richtersveld CPA, which must agree on the leasing of land for the green hydrogen development, is alleged to be imbibed with political interference. This has muddied the green hydrogen negotiations, thus pacifying procedural justice and land rights of communities in Richtersveld under the Just Energy Transition. Environmental community activists in the Namakwa district, have also claimed that certain individuals in the Richtersveld CPA have been captured by the local

political elite in exchange for unquestioned cooperation in the green hydrogen development. This has perpetuated a lack of trust among the stakeholders in the process. The outcome of these tensions is resistance to leasing land in Boegoebaai for the green hydrogen development and a deepening mistrust of the state and its institutions (provincial and local government) in facilitating inclusive socioeconomic development at a local level.

The provincial and local government officials in the Northern Cape have shared popular depictions about the resistance and protest actions demonstrated by Richtersveld communities during public participation processes, viewing this resistance as a stumbling block in the processes of bringing industrial development to the Namakwa district. McAvoy (2005) points out that government officials tend to infantilise protesting citizens during public participation processes as unjustifiably enraged and uninformed, pursuing egoistic motives and indifferent to the common good — often negating the sheer possibility that citizens could show genuine content-related interest and commitment which may thereby harden fronts between conflicting parties. Indeed, such one-sided, prejudicial images might align all too well with the frequently postulated need for expert-driven policies, therein consolidating existing power constellations. In contrast to the popular notion of emotions as purely irrational phenomena, endangering progress by blocking changes (Beck, 1986), they may provide important insights into what moves people, which information is lacking in terms of how the energy transition is to gain local-level support.

According to Dahrendorf (1961), conflicts drive change in democratic societies as the distribution of life chances (referring to the sum of everyone's possibilities depending on their social position) is subject to constant negotiations. Saretzki (2010: 35) states that the questions that arise primarily from this perspective are: how intense and violent are these conflicts? what functions do they have for society? and how are they dealt with? The conflict emerging over the green hydrogen development can be conceptualised as a field of diverging positions, opinions and knowledge stocks, which clash and sometimes yield escalating conflicts within the energy democracy field (Kühne, 2019; Kühne, 2018; Weber et. al., 2017). However, when conflicts are resolved, they can contribute essentially to shaping society. To tame the destructive potential of conflicts without erasing their creative power, Dahrendorf (1961) favours regulative intervention. In the social science literature on conflicts, public participation is often considered a promising remedy, which additionally promotes essential democratic virtues, namely the legitimacy, fairness and effectiveness of decisions (Fung, 2015; Delli Carpini et. al., 2004).

Dialogue-oriented participation procedures are based on these values but implement them in a very particular way: as highly structured processes with a clearly defined aim, beginning and end — dialogue-oriented procedures potentially enable the inclusion of heterogeneous expertise, interests, views and opinions of different social groups (see Kamlage et. al., 2020). Focusing on the conditions of communication, they enhance the level of actors informed, facilitate a shared understanding of the contested issue and render a rational debate more likely, as they promote an exchange of arguments in contrast to bargaining and strategic action based on power. Ideally, this leads to trustful relationships and a deeper understanding of opposite standpoints, encouraging joint decision making (Fung, 2003; Goodin, 2000). The understanding and appropriate application of such dynamics regarding the sociopolitical aspects of project planning and implementation can likely improve the prospects and impact of nationally driven and sociopolitically integrated projects.

3.2 Public Participation in Local Government

The White Paper on Local Government (1998) and the Batho Pele Principles (1998) provide a policy framework on public participation at the local level and in service delivery, respectively. The Batho Pele Principles emphasises that public participation platforms should ensure inclusive platforms for multi-stakeholder engagement in South Africa. The Batho Pele Principles and the National Policy Framework for Public Participation (2007) also highlight the following principles which should be taken into consideration when initiating public participation at local government level:

- **Inclusivity –** embracing all views and opinions in the process of community participation.
- **Diversity** – in a community participation process, it is important to understand the differences associated with race, gender, religion, ethnicity, language, age, economic status and sexual orientation. These differences should be allowed to emerge and, where appropriate, ways sought to develop a consensus. Planning processes must build on this diversity.
- **Building community participation** – capacity-building is the active empowerment of role players so that they clearly and fully understand the objective of community participation and may in turn take such actions or conduct themselves in ways that are calculated to achieve or lead to the delivery of the objectives.
- **Transparency** – promoting openness, sincerity and honesty among all the role players in a participation process.

In South Africa, people can participate in such consultations as individuals, interest groups or communities. In the context of public participation, community is defined as a ward with an elected ward committee. Therefore, ward committees play a central role in linking up elected institutions with the people, and other forums of communication like the *izimbizo,* roadshows and *makgotla*. To strengthen community-based involvement in municipal decision making, municipalities should build on existing civil society sectoral groupings and district forums, as this is where there is already existing verve and interest in local development initiatives. These forums could then be used as a basis for the municipality and civil-society stakeholders to come together to deliberate on policies, programmes and any other development project that is coming to their community. The platform can potentially generate opportunities for multi-sectoral groups to come together to make input on broader policy.

In essence, a *partnership* orientated public participation process should ensure that the community has a substantive influence on the decision-making process. However, there is a tendency for South African government officials and project developers to opt for a formal model of 'compliance-based community consultation' (Jenkins et. al., 2016), which minimises meaningful public participation processes to *consultation*, where the community is merely informed about the project through meetings or leaflets. As we will see in this chapter, both provincial and local government, and developers of the green hydrogen industrial development do not see communities as partners in the development processes — partners who should be involved in all stages of development

project. In most instances, where the community is asked to share their views and opinions, these views are not considered in the project design. The community is not given feedback as to why their interests are not reflected.

As Okpanachi et. al. (2022: 8) notes with the current practices in public consultation practices in the renewable energy sector in most North African countries, people are often alienated by the focus of the energy reform design often framed within a restrictive language of technicalities such as technology transfer, industry competitiveness, cost recovery, financial risk or cost-benefit analysis, planning, private sector investment/finance, capacity building and other factors, with half-hearted commitments to genuine popular participation in the reform process. At times, public participation may be manipulated through the government and/or investors cherry-picking individuals who are viewed as the 'people's representatives' on official structures but who do not enjoy popular representational legitimacy in the community. At the same time, the community maybe selectively consulted on a project according to an existing agenda that the community has not been given an opportunity to shape the formulation of the agenda. In this case, the community's input is only used to further endorse this existing agenda. This practice has been observed in the public participation process in the green hydrogen development in Richtersveld LM.

3.3 Civil Society and Community Activism in Environmental Justice in Namakwa DM – Building Local Capacity Towards an Integrated and Inclusive Just Energy Transition and Project Implementation

During a focus group discussion with community activists in Namakwa DM, many members expressed acute levels of disenchantment with the way in which the Northern Cape provincial government and local municipalities, in particularly the Namakwa DM, have handled public participation concerning developments in the past and the present-day development of Boegoebaai port and green hydrogen development. Although the community activists are not part of the Richtersveld CPA, they view the Richtersveld community as one that is not isolated but part of the broader community of Namakwa DM and one that has a shared history of social and economic connections with neighbouring former 'coloured' reserve areas in all parts of the district. They provided us with background information about the development of other energy and mineral resource development that are taking place in conjunction with the green hydrogen development, which encapsulates their struggles of exclusionary practices in decision-making:

> ***What you must understand is that as social activists, we define ourselves as people of Namakwa. I live in Kommagas but I consider myself as child of Namakwa because we move freely in between all these towns, and we have social connections with people from other parts of Namakwa. We consider ourselves as part and parcel of those communities because Namakwa is our land of birth. So that is why we are actively involved in many socioeconomic and political dialogues across the district because some communities in other former coloured reserve areas are not clued up about environmental justice issues.***

—Focus Group Interview, Community Activist, 28 July 2022

The community activists related that their interest in environmental issues started in 2009, when Eskom was planning to build a nuclear station in Lutzville in 2010. Eskom went to the community of Lutzville to negotiate a 25-year lease agreement to develop a nuclear plant. They were primarily concerned about the community's land rights and environmental rights and the impact of having nuclear station development on land that communities were using communal farming that would disrupt their livelihoods. In their own words, they expressed that the 'difficulty with nuclear development is that it comes with economic exclusion because nuclear power stations are sensitive state properties that cannot be accessed by civilians'.[22] They mobilised the community not to agree with this development because it would have huge impact on their environment, and they would not get access to their land for subsistence farming for 25 years. Eventually this development did not take place.

Since the Namakwa DM has had numerous renewable energy project developments (solar and wind turbines) and other oil and gas prospecting coming into various towns in their area since 2012, community activists have taken a deliberate decision to build their own capacity in understanding basic concepts of the Just Energy Transition and decided to get involved in environmental activism by getting more information from the internet, networking with other environmental NGOs, attending workshops and participating extensively in these renewable energy consultation processes. They said that they managed to get bursaries from international donors for two students to study environmental justice in Cape Town because they saw that there was an upsurge in energy and mineral resources extraction interest in Namakwa. Because they didn't have adequate knowledge and education about environmental issues, as community activists, they saw a need to get younger people to advance their education in environmental rights, to help them gain more insight and information on how these economic activities will impact the environment and communities of the Namakwa district. They came to realise that the energy economy that was beginning to boom in the district was not for the benefit of local communities:

> ***What we have realised over the years with all these project developers who been coming in and out of Namakwa is that they are building economies for themselves, not for us. They are just using our land and resources for their own economies in Europe. Big companies coming into our areas, are leasing land from farmers and De Beers land in Kleinzee to do oil and gas prospecting (3000 hectares) and now they want to open a copper mine again in O'kiep and there's a lot prospecting going on there. Now it's the green hydrogen.***
>
> **—Focus Group Interview, Community Activist, 28 July 2022**

22 Focus group interview, community activists, 28 July 2022.

3.4 Examples of Exclusionary Government Participation Practices in other Energy Development Projects in the Region – A Major Deterrence to Inclusive Development in the Just Energy Transition

On the Namakwa coastal line, starting from the Orange River down to Vredendal, community members pointed out that there is a lot of gas and oil prospecting and acquisition of coastal land from private farmers and De Beers, done by international companies. Every month, they have been seeing international companies and 'white foreigners' coming to survey and prospect of the coastal land and shoreline. While this prospecting is unfolding, irrespective of the newspaper and notice boards that advertise dates for participation, community members claim that they have not heard any calls from councillors and ward committees informing communities about public participation in the potential development of these energy developments. They lamented the fact that their councillors do not even inform or distribute information widely to the communities about the consultative meetings. They spoke against the centralised approach adopted by local and national government departments when conducting public participation, where sites of public engagements are conducted in a central town, leaving out communities from neighbouring settlements and, particularly, other former coloured reserve settlements, who are expected to use their own resources and transport to attend public consultation meetings:

> *For example, last week we heard that there was a public consultation meeting taking place in Kleinzee regarding the oil and gas prospecting. The consultant was facilitating a public participation hearing, where the prospector from Norway was informing the community about the feasibility study they going to do on the coastal line. We heard through the other members who called us and asked if we knew about the meeting. Of course, we didn't know. So, we organised our own transport to drive to Kleinzee using our own money. We drove there because we knew that communities were going to be taken advantage of because they are not well educated, they don't understand the mineral and energy sector very well and they will just agree to everything they are saying because people are desperate for jobs. So, when we got there, we listened to the presentation that was made by the Norwegian fellow. He told us that they will come and drill below the sea, take samples to Norway for data analysis and then come back after eight months. They say there is a potential of extracting 300 million barrels of oil, which can provide employment for locals. We then asked a couple of questions after the presentation concerning the impact that oil extraction would have on the environment and the fish in the ocean. We raised concerns that their presentation didn't show any form of beneficiation except that they will employ 15 people local welders over a three-week period. The way that the Norwegian fellow was arrogant speaking to us, reminded me of how badly our people are always treated by wealthy international corporates.*
>
> **—Focus Group Interview, Community Activists, 28 July 2022**

As environmental activists, many in the focus group discussions expressed that they are fully aware that South Africa is moving away from fossil fuels and stepping into renewable energy as per the Paris Agreement and commitment to the Just Energy Transition. In the words of one of the respondents, 'They do not understand the contradictory decisions that government is taking in allowing international companies into our land to prospect gas and oil, side-by-side with green hydrogen and renewable energy.'[23]

They expressed that they are also fully aware about how the copper and diamond-mineral resource extraction industry had negatively affected their communities in Namakwa district, as an example of a top-down investor centric approach to 'opportunities' in local communities:

> ***We live to see the terrible things that mines did to our communities. When it was no longer profitable to mine, they left our communities in a bad state of impoverishment, with no jobs, no skills, leaving our land turned-upside, no-rehabilitation and left behind all sorts of waste, pollution and contamination of water in our communities. There was no beneficiation until the community of Richtersveld took Alexkor to court for compensation.***
>
> **—Focus Group Interview, Community Activists, 28 July 2022**

With regards to the green hydrogen development public consultation processes, the community activists also noted that the way in which public participation has been initiated with the green hydrogen development in Boegoebaai resonates with previous experience with other public consultative processes regarding mineral extraction or local project developments. However, with the green hydrogen development, they observed that certain members of the community of Richtersveld, who are known supporters of the African National Congress (ANC), are co-opted to participate in public consultation processes because they are likely to not question the development and issues related to long-term benefits for the community. This what they had to say:

> ***They [local politicians] are using their comrades in the CPA and community to endorse the decision-making processes regarding the leasing of Boegoebaai land. They no longer want to work with the rest of the community because communities ask tough questions. That's why councillors mobilise branch members to attend these so-called consultative meetings. Sometimes they even bus them to these meetings... held by the NCEDA, OTP, Sasol and Department of Economic Development.***
>
> **—Focus Group Interview, Community Activists, 28 July 2022**

The group of community activists who had recently attended a consultation process about the green hydrogen development provided an insight into the way the political dialogue initiative that took place in 2022, with 82 attendees, was dominated by provincial government and provincial government development agencies (NCEDA) and the private sector.[24] They were displeased about the way this process had unfolded and been handled by local and provincial government, including the conflict and protest action that emerged.

---

23 Focus group interview, member of the community activists, 28 July 2022.

24 The private sector delegation included Sasol, which is a public global chemicals and energy company partially owned by the South African government, who are considered relevant for the technological and financial advancement of the project

> ***The provincial government, NCEDA and Sasol called a meeting in Alexander Bay and Port Nolloth. When some of our activists came to the meeting, they were not allowed inside the venue and they were forcefully removed from the venue because they viewed as rabble rousers. People have the right to protest and question these developments because it's our communities who bear the brunt of all social and economic problems and negative impacts that comes with such developments. Most of the participants were individuals who are known to be members of the ANC, who are selected and being used to endorse these projects and they are signing concessions on behalf of the community. That's why there is now conflict, people asking who gave them the right to reach an agreement with the provincial government? Where did they get the mandate to do so?***
>
> **—Focus Group Interview, Community Activist, 28 July 2022**

They alluded to the provincial government and Sasol's main message communicated to communities as primarily being focused on employment opportunities. They said that there was no substantive information and education shared about 'what is green hydrogen, what processes are involved in producing green hydrogen, how can our work force upskill themselves in preparation for the development, so they can compete in the market rather than seeking highly skilled employees from outside Namakwa take over the better paying jobs'.[25] According to the community activists, most of the communities who participated left the engagement without knowing what green hydrogen was and how it related to the energy transition. They were unclear about how this development will impact social cohesion, culture and Nama traditions due to an influx of people coming from different parts of the country looking for work.

In addition, key social and cultural factors, which are pivotal for the harmonious integration of communities in such developments, were not appropriately addressed and considered in the consultations. For example, access to ancestral graves situated in Boegoebaai was an issue that was not properly negotiated on or addressed in the consultations. According to the community activists, what they were expecting was that the provincial and local government would hold community engagements in all the former coloured reserves, were most of their rural communities do not have employment, and have informative deliberations about the green hydrogen development. Another community activist expressed the following reflections on the history of exploitation in their community, citing allegations of bribery or paid participation being used to get the cooperation of people:

> ***Don't get us wrong, we do welcome development in our area. But the process of negotiating development must include us. We have been excluded for far too long as the people of Namakwa from participating in negotiations and having ownership and deriving benefits from economic activities that take place on our land. We have heard that some community members are being bought for their cooperation. This has been a strategy that has been used for a long time to get people to cooperate and agree to developments in our area. Because our people are vulnerable and poor, they easily fall into that trap.***
>
> **—Focus Group Interview, Community Activist, 28 July 2022**

25 Focus group interview, community activists, 28 July 2022.

In addition, another community activist provided a thought-provoking personal reflection about their historical experiences concerning the extraction industry in Namakwa district, which seem to illuminate colonial continuities in the way the current energy economic developments are unfolding under the post-apartheid government in their area:

> *It all seems like history is happening all over again, going back to 1652, to the arrival of Jan Van Riebeek, the arrival of British in the 1800s in Namakwa land when they came to explore copper and followed by the diamonds in 1927 — where our people have been taken advantage, disregarded and forced to make concessions in giving up our land for mineral-resource extraction. They are used to our people being beggars, where our people would be saying: asseblief Meneer, gee my bietjie werk, lat ek n bietjie kos vir my familie gee [Please Sir, give me some work so I can feed my family]. We can't allow this behaviour to continue. We need to be treated like equal human beings at the negotiation table. And our government is selling us out to these international corporates.*
>
> **—Focus Group Interview, Community Activist, 28 July 2022**

The major concern for community activists with the green hydrogen development process was that there is no transparency in the consultation and negotiation process of the land acquisition led by both local and provincial government. They felt that the Northern Cape provincial government is 'selling them out' instead of protecting their interests as a vulnerable community that has a history of colonial exploitation. They have alleged that they are doing things behind closed doors with German investors and Sasol, and not involving them in decision making.

Conclusion

This chapter addressed the third objective of the research by critically assessing the engagements and consultations with communities as part of the integrated and inclusive process of developing the green hydrogen industry in the Boegoebaai region in the Northern Cape province of South Africa. As argued throughout the paper, South Africa's just energy transition needs to be a holistic and an inclusive process, thus ensuring equity in its benefits and the protection of vulnerable groups with some of its potential shortcomings. Consequently, the planning and implementation of strategic, nationally driven renewable energy projects towards this just transition need to be done in an integrated manner, ensuring that all aspects of society and government are fully included in the processes.

Government has focused the development of many strategic industries, such as key renewable energy projects, through its SEZ and REDZ frameworks, which ensures that the development takes advantage of focused investment incentives and regional factors beneficial to the development of the industry. The approach also emphasises integrated planning through collaboration between all levels of government, the private sector and, importantly, local communities. The involvement of local communities attempts to ensure the equitable benefits of such projects on the local

economy and society through job creation and small business development. In addition to the economic benefits, social cohesion can be promoted and the success of such projects amplified if local communities feel an ownership of such projects. As such, communities need to be effectively consulted and 'prepared' to accommodate these projects and reap its potential benefits.

A critical assessment of the community consultation and engagement processes with the green hydrogen industry development in the Boegoebaai area found several flaws that fundamentally conflict with the goals of inclusive development. Using an ethnographic approach to gauge the efficacy of the consultation process across the different stakeholders, the chapter concluded as follows:

i. The nature of the consultations was perceived as a 'tick-box' exercise, where local communities felt that they are 'being told' what will be occurring rather than having a direct contribution to the planning and implementation of the project. This is contrary to the aims of the SEZ and REDZ frameworks, which encourages regional development, integration of local industries and promotion of jobs and skills transfers in SEZs. It is also contrary to the spirit of the Batho Pele Principles and the consultation processes promoted in the White Paper on Local Government.

ii. The top-down tendency of projects initiated from national government is clear in both the nature of the engagements and the role of local government in the engagements. Chapter 2 suggested that the local municipalities themselves where not fully integrated and included in the green hydrogen development process by national and provincial government. This was also confirmed in the assessment of the consultations with communities, where much of the consultations were driven by national and provincial government and the private sector, and less so by the municipalities. Indeed, it appears that the local governments were acting as implementing agents of national and provincial governments as opposed to being active facilitators of consultations with communities.

iii. Communities feel a gross extent of exclusion from such developments in terms of belonging and ownership of the project. The underlying view is that it is a neo-colonial structure where much of the innovation and ownership for the development is perceived to belong to the investor — usually investors from the global North — with the South African government simply facilitating the investment. As such, there is an inherent perception of exploitation of the local community from both the investors and the government and an increasing distrust of the latter. This finding has important implications for future foreign direct investment in general industrial development and, specifically, renewable energy projects, as such developments can lead to social and political tensions within local communities. Such tensions and lack of social cohesion can compromise future developments.

iv. The nature of the consultations on the part of government suggests that there is no coordinated and coherent plan for regional economic development, the integration of local industries into the development or the participation of the local labour force in the project. As a result, one can question the equitability of the benefits of region-

al industrial development and regional investment in renewable energy, especially from international investments.

v. Communities are concerned about the perceived impact of political affiliations, manoeuvring and vested interests inherent in the IGR system. Such a culture can lead to a patriarchal approach to the IGR system, thus compromising the interests of local communities for nationally based political interests. ■


SPOGPLAAS
GASTEHUIS
027 831 1592

CHAPTER 4

Concluding Remarks and Lessons Learnt

South Africa's just energy transition intends for inclusive development and the equitable benefit of all levels and sectors of society towards its move away from fossil fuels. As part of this just transition, the policies and implementation of renewable energy projects should be embedded in the country's IGR system by including all levels of government. Furthermore, the inclusion of communities that will host such projects becomes pivotal to promote inclusivity, limit social and political tension, and ensure that communities are ready to take advantage of the benefits that will arise from these initiatives. To achieve the myriad goals related to inclusive planning and shared benefits, the implementation of renewable energy projects is aligned to the country's SEZ and REDZ frameworks, which promotes coordinated and collaborative planning across all spheres of government and sectors of society.

While these initiatives and ideals appear sound from a high-level theoretical perspective, they are faced with several practical challenges that results in spheres of government and communities being excluded from nationally driven initiatives and project, such as renewable energy projects. This research delves deeper into these challenges by analysing an intended renewable energy project, in the form of green hydrogen development in the Boegoebaai area, that is being implemented via the SEZ and REDZ frameworks. The research primarily used an ethnographic methodology, complemented by financial and budget analysis, to critically assess the inclusivity and readiness of local government and communities in the Boegoebaai area for the development of the green hydrogen industry.

The research found that the inherent concerns regarding the implementation of large-scale renewable energy projects within SEZs and REDZ were clearly apparent in the assessment of the green hydrogen development in the Boegoebaai region. Thus far, the process implemented an asymmetric approach to consultation and planning across the IGR system, where certain spheres of government took patriarchal roles and local government seemed to be subordinate in the process. Municipal officials and community members felt isolated from the planning and related processes and that many of their concerns were not considered. The analysis also found that the Namakwa DM and Richtersveld LM, largely rural municipalities, did not have the financial capacity to meet the additional service delivery and infrastructure requirements of the green hydrogen development. As a result, local government is unable to fulfil its role in the IGR system in the development of a nationally driven initiative and are thus excluded from such processes.

The research revealed the how the state has been engaging with local government, stakeholders and communities on the green hydrogen development and how such engagements are characterised by a lack of inclusive participation. Little attention is being given to community conflict management in the development of the renewable energy industry, which has the potential to entrench conflict and injustices in vulnerable local communities who have suffered historical exploitation.

4.1 Key Lessons Learned

The case of Namakwa and Richtersveld municipalities sheds some lessons for local government and its role in the development and implementation of large-scale renewable energy projects of national importance. These lessons are for national, provincial and local government alike and must be heeded to ensure the *justness* of the transition from fossil fuels.

Rural and small municipalities are severely constrained to manage the transition to the green economy.

The first key lesson emanating from this research is that rural municipalities such as Namakwa DM and Richtersveld LM, that are anticipating an economic transition into the green economy, are likely to face challenges in planning, costing and providing bulk infrastructure (water, roads, sewerage systems and electricity) needed to support development activities and the population upsurge associated with the envisaged industrialisation initiatives. In this regard, the financial and budget analysis undertaken in this report concluded the following:

i. The division of powers and functions across the two-tier system of local government in South Africa is likely to see a limited role for Namakwa DM in the direct provision of services and infrastructure relating to the green hydrogen development. The Richtersveld LM is authorised to provide key basic services, as well as the related social and economic services potentially required to support industrial development in the area. This is an important finding to inform future renewable energy development in the non-metropolitan areas of the country, as future developments need to consider the respective roles of the local and district municipality in the planning and implementation process of large-scale projects.

ii. Unlike most rural municipalities in other areas of the country, the Richtersveld LM generates considerable revenues from its local tax base (approximately 75 per cent) on their operating account. However, the bulk of these revenues tend to cover the operating expenses of the municipality, with little own revenues allocated to capital expenditures on new and existing infrastructure in the region. This is due to a combination of limited surpluses being generated from operations to fund capital expenditures, which are driven by a combination of limited fiscal space, expenditure inefficiencies and poor planning and budgeting. This has important implications for the role of non-metropolitan municipalities in supporting regional industrial development within SEZs and related developmental nodes, in general and specifically to renewable energy projects. It is important for national government to critically assess the fiscal capacity of municipalities in areas of such developments and their subsequent financial and non-financial capabilities to play a supporting role.

iii. As a result of point ii, the capital budget of Richterveld LM is largely grant funded, particularly through the MIG and the INEP grant. The grant reliance on the capital budget, which, by design, are largely for social infrastructure, limits the municipality's ability for investing in economic infrastructure. The supporting role envisaged for the municipality with the green hydrogen industrial development would likely require a combination of economic and social infrastructure. It appears that the mu-

nicipality will struggle to meet any additional financial needs for such investments. The inherently social nature of South Africa's intergovernmental transfer system can discourage focus on economic infrastructure, particularly in rural areas that are earmarked for regional industrial development and renewable energy projects.

iv. The nature of South Africa's IGR system offers an opportunity for national and provincial government to use the current conditional grant system to direct funds to support the potential additional infrastructure requirements for local government in supporting regional renewable energy projects. National and provincial government could consider special transfers in existing grant frameworks, such as the MIG, to support additional infrastructure funding in an area. Not only does this supplement capital expenditure, but also the conditional nature of the grant ensures the funds are spent in accordance with national and provincial priorities.

Uncoordinated efforts by national and provincial government further undermine development potential in rural municipalities.

Given the fiscal status of Richtersveld LM and the Namakwa DM, there are concerns regarding their ability to develop the necessary municipal infrastructure to provide municipal services for the population, due to the possible influx of migrant workers as a result of industrial economic activities associated with the green hydrogen development.

The provincial CoGHSTA has begun to develop the One-Plan District Development Model (DDM) in anticipation of the green hydrogen project in Namakwa DM, which seeks to pull together all the necessary provincial government departments that can support Namakwa DM. However, the inability of relevant national and provincial government agencies to engage with local government in all stages of the One-Plan DDM undermines the opportunity for these municipalities to meaningfully carry out their developmental mandate when such projects are planned (CoGHSTA, 2022).

This lack of coherent multi-level government institutional engagements marginalises the rural local governments and demonstrates a highly centralised policy approach continuum of the industrial economic planning process through SEZs and REDZs in South Africa. This is seen from the inception of the green hydrogen development agenda, formulation, adoption of the development plans and consolidation of capital investments (Nzo, 2021). This suggests that very little effort has been made in learning from previous lessons from the implementation of the renewable energy projects in the Northern Cape, which left municipalities economically unviable and introduced strains on local municipality's infrastructure.

The lack of public participation in renewable energy projects increases the risk the energy transition becoming unjust.

The continuation of exclusionary, selective and minimalist public consultation approaches applied by the provincial and local government around the proposed green hydrogen plant highlights a concern about the inability to make the development process genuinely participatory. Such an exclusionary participatory process can result in renewable energy projects being solely dictated and

engineered by the governments or economic development planning bodies and their international financial partners and business interests, which generates path-dependencies that do not necessarily take into the account the socioeconomic needs of local communities. This is one of the sticking points of this issue because crucial decisions that affect the whole population are being taken by what Hamouche (2016) describes as a 'handful of technocrats, far from any democratic process or consultation at a local level'. This is a classic example of the latent cost and benefits of communal land acquisition for renewable energy mega-projects, that do not attempt to understand how major forms of procedural injustice and inequities in energy transition can negatively affect vulnerable communities and locations where the energy projects are situated.

Cock's (2019: 4) work on the phasing out of coal-based economies in South Africa, brings to attention the distinct social spaces of the energy transition entailing different priorities of resistance which remain deeply contested: 1) mining affected communities concerned with dispossession of land and livelihoods for local communities; 2) environmental justice organisations prioritising climate change mitigation; 3) and labour unions grappling with employment insecurity and related socio-economic impacts. Cock (2019) emphasises that deeper connections are needed between these three social spaces to develop a coherent vision of a just energy transition, which is fully aligned to narrowing inequalities. Cantoni et. al. (2022: 4) state that 'the spatiality and place-based granularity of the energy landscape becomes crucial when considering the facets of energy justice'. Other scholars have noted how renewable energy transition significantly affects existing power relations between national and the local state and can lead to unequal distribution of renewable energy development in a way that disadvantages peripheral or marginal locations or regions (Munro, 2019; Okpanachi et. al., 2022; Walker, 2022; Nzo, 2021).

On the other hand, concepts such as procedural justice and energy sovereignty conceptual frameworks challenge the energy transition perspectives that privileges top-down national economic development strategies over the local government spatial planning and community interpretations of beneficiation in the development of green hydrogen projects on community-owned land. It directs attention towards exclusive state power over renewable energy design and ongoing exclusionary practices of participation of local government and the right to participate of local communities who will be impacted by such developments. As Cantoni and Rignall (2019: 26) notes, 'Technicist discourses that dominated decision-making for ambitious renewable energy plans also contribute to and are used to mask the entrenchment and extension of a new form of governmentality that links state territorialization and centralization goals and the implantation of the central government's political and economic control in a peripheral region in the exclusion of the latter.'

The social costs and benefits of renewable energy industrial developments are not different to most industrial development found elsewhere.

Since the uptake of renewable energy (wind and solar) developments in 2010 under the energy transition REIPPP in rural regional territories in the Northern Cape, research shows how the REIPPP in the Northern Cape province left a renewable energy economic legacy of creating boom and bust cycles in the territories onto which they descended (Nzo, 2021). These developments impose many strains and unsustainability on the receiving locality, among which:


RICHTERSVELD
SOUTH
AFRICA

- Projects disrupt livelihoods of local communities because they largely take up land mass for the development of industrial scale renewable energy projects — land which can be used commercial or subsistence agricultural farming. Rural municipalities who do not have dedicated town planning departments struggle with rezoning agricultural to renewable energy.

- They attract mass employment during the construction phase, which is often temporary and unsustainable. Most community members and migrant workers are left unemployed post the construction phase since renewable energy projects are highly automated industries that use advanced technology for the energy generation operation.

- They reproduce uneven economic benefits for local entrepreneurs in the economic value-chain and enterprise development. Most of these developments require intensive capital business injections to compete in the supply-chain processes of construction development. Local entrepreneurs in rural municipalities often do not have access to substantial financing. Therefore, project consultants, construction and engineering companies are mostly outsourced from the urban centres, which creates friction with aspiring local entrepreneurs as they are unable to provide substantial industrial material and supplies needed for the construction (ibid.).

- Most importantly, they bring in an influx of job seekers and logistics traffic, which strains the local municipal infrastructure designed for a smaller population. They skew the availability of housing and create speculative rental markets, and those who cannot afford to pay high rental prices for accommodation tend to either take-up accommodation in townships as backyard dwellers or erect informal settlements on unproclaimed land. Unplanned migration and population growth also disrupts municipality's ability to apply spatial planning and securing financing needed for bulk infrastructure development. An upsurge in population can put pressure on existing infrastructure, particularly residential water and sewerage systems which have not been upgraded to handle increased number to household users which ultimately requires additional resources for infrastructure development that underfunded rural municipalities do not have.

- They mostly attract male migrant workers, partly because aspects of mega-project construction that is labour intensive, require semi-skill/unskilled labour. This can also create tensions between local labour and migrant labourers, where local communities feel threatened that jobs that they are supposed to be reserved for local communities get taken by migrant labourers due the limitations of local skilled work force. Technical and engineering experts are mostly contracted by the project development companies from the urban centres or from developed countries such as Germany, Canada, UK, Spain and China. As mining companies are expected to develop social and labour plans, so are renewable energy companies compelled to develop socioeconomic development plans and community trusts, primarily aimed at ensuring that renewable energy companies contribute towards the development of local communities. These socioeconomic plans and community trusts have made little contributions towards the upliftment of poor communities and municipal infrastructure upgrades/refurbishments.

- After the construction, infrastructure development projects tend to negatively affect the local economy, where majority of the labour force gets laid off work — meaning unemployment and reduced household incomes that are needed to pay municipal services. This has a negative ripple effect on the municipality's revenue collection needed for providing basic services such as water, electricity and waste collection, and including revenue that is needed to maintain roads and infrastructure that has been damaged by the logistics traffic during the construction phase of renewable energy farms. The result is that mega-development projects in general can often destabilise communities and municipal spatial planning. ■

References

AFDB (2016) 'The New Deal on Energy for Africa: A transformative partnership to light up and power Africa by 2025'. African Development Bank Group. https://www.afdb.org/fileadmin/uploads/afdb/Documents/Generic-Documents/Brochure_New_Deal_2_red.pdf (Accessed 6 December 2023).

Beck, U. (1986) *Risikogesellschaft – Auf dem Weg in eine andere Moderne*. Berlin: Suhrkamp.

Chinguno, A. (2012) 'An Evaluation of South Africa's Industrial Development Zones' in *Special Economic Zones: Lessons for South Africa from international evidence and local experience*. Roundtable discussion. https://www.cde.org.za/wp-content/uploads/2018/07/Special-Economic-Zones-Lessons-for-South-Africa-from-international-evidence-and-local-experience-CDE-Report.pdf. (Accessed 21 June 2023).

Cantoni, R. and K. Rignall (2019) 'Kingdom of the Sun: A critical, multiscalar analysis of Morocco's solar energy strategy'. *Energy Research and Social Science,* 51: 20–31.

Cantoni, R., F. Caprotti and J. de Groot (2022) 'Solar Energy at the Peri-Urban Frontier: An energy justice study of urban peripheries from Burkina Faso and South Africa'. *Energy Research and Social Science,* 94: 102884.

Cock, J. (2019) 'Resistance to Coal Inequalities and the Possibilities of a Just Transition in South Africa'. *Journal of Development Studies*, 36(6): 860–73.

CoGTA (2022) 'Namakwa District Municipality District Development Model'. https://www.cogta.gov.za/ddm/ (Accessed 8 December 2023)

CoGHSTA (2022) 'Namakwa DDM One Plan'. http://www.coghsta.ncpg.gov.za/index.php/resource/more-info/ddm-one-plan/category/65-namakwa (Accessed 8 December 2022).

Dahrendorf, R. (1961) *Class and Class Conflict in Industrial Society*. Stanford, CA: Stanford University Press.

Delli Carpini M.X., F.L. Cook and L.R. Jacobs (2004) 'Public Deliberations, Discursive Participation and Citizen Engagement: A review of the empirical literature'. *Annual Review of Political Science*, 7: 315–44.

DRDLR (2019) 'Draft National Spatial Development Framework NSDF'. Department of Rural Development and Land Reform. https://www.gov.za/documents/national-spatial-development-framework-draft-30-apr-2019-0000 (Accessed 23 May 2023).

DTIC (2022) 'Green Hydrogen Commercial Strategy for South Africa, Final Report'. The Department of Trade and Industry Competition . http://www.thedtic.gov.za/wp-content/uploads/Full-Report-Green-Hydrogen-Commercialisation-Strategy.pdf (Accessed 16 June 2023).

EU (2019) 'EU Green Hydrogen Strategy'. https://a9w7k6q9.stackpathcdn.com/wpcms/wp-content/uploads/2020/07/EU-Hydrogen-Strategy.pdf (Accessed 20 May 2023).

Farole, T. (2011) 'Special Economic Zones in Africa : Comparing Performance and Learning from Global Experience'. World Bank Report Series: *Directions in Development*. http://hdl.handle.net/10986/2268

Fung, A. (2003) 'Recipes for Public Spheres: Eight institutional design choices and their consequences'. *Journal of Politics and Philosophy*, 11: 338.

Fung, A. (2015) 'Putting the Public Back into Governance: The challenges of citizen participation and its future'. *Public Administration Review,* 75(4): 513–22.

Goodin, R.E. (2000) 'Democratic Deliberation Within'. *Philosophy and Public Affairs,* 29(1): 81–109.

Hirschman, A.O. (1995) *Development Projects Observed, Second edition with a new preface.* Washington D.C.: Brookings Institution.

Jenkins, K., D. McCauley, R. Heffron, H. Stephan and R. Rehner (2016) 'Energy Justice: A conceptual review'. *Energy Research and Social Science*, 11: 174–82.

McAvoy, G.E. (2005) 'Partisan Probing and Democratic Decisionmaking: Rethinking the Nimby Syndrome'. *Policy Studies Journal,* 26(2): 274–92.

Kamlage, J.H., E. Drewing, J.L. Reinermann, N. de Vries and M. Flores (2020) 'Fighting fruitfully? Participation and conflict in the context of electricity grid extension in Germany'. *Utilities Policy,* 64: 101022.

Kühne, O. (2018) *Landscape and Power in Geographical Space as a Social-Aesthetic Construct*. Cham: Springer.

Kühne, O. (2019) *Landscape Theories: A brief introduction*. Wiesbaden: Springer.

Munro, F. (2019) 'Renewable Energy and Transition-Periphery Dynamics in Scotland'. *Environmental Innovation and Societal Transitions,* 31: 273–81.

Namakwa DM (2022a) 'Namakwa District Municipality Integrated Development Plan 2022–27'. https://www.namakwa-dm.gov.za/wp-content/uploads/2022/04/NDM-Draft-DP-2022-2027-30-March-2022-Adopted-Council.pdf. (Accessed 07 February 2023)

Namakwa DM (2022b) 'Namakwa District Municipality Annual Report 2021/22'. https://www.namakwa-dm.gov.za/wp-content/uploads/2023/03/NDM-Council-Approved-Amended-IDP-2022-2027-27-Feb-2023.pdf (Accessed 6 December 2023).

Newell, P. and D. Mulvaney (2013) 'The Political Economy of the "Just Transition"'. *The Geographical Journal,* 179(2): 132–40.

Nzo, T. (2021) *Whose Power Is It Anyway: Local government and renewable energy independent power producers' procurement programme (REIPPP).* https://pari.org.za/whose-power-is-it-anyway-emthanjeni-local-municipality-and-renewable-energy/ (Accessed 1 October 2021).

Okpanachi, E., T. Ambe-Uva, A. Fassih (2022) 'Energy Regime Reconfiguration and Just Transitions in the Global South: Lessons for West Africa from Morocco's comparative experience'. *Journal of Policy, Planning and Future Studies*, 139: 102934.

Presidency (2023) 'South Africa Just Energy Transition Investment Plan (2023-2027)'. https://www.thepresidency.gov.za/content/south-africa%27s-just-energy-transition-investment-plan-jet-ip-2023-2027. (Accessed 16 June 2023).

Rodríguez-Pose, A., F. Bartalucci, S.A. Frick, A.U. Santos-Paulino and R. Bolwijn (2022) 'The Challenge of Developing Special Economic Zones in Africa: Evidence and lessons learnt'. *Regional Science: Policy and Practice Journal Special Issue: Spatial Development in the Global South*, 14(2): 209–484.

Saretzki, T. (2010) 'Umwelt- und Technikkonflikte: Theorien, Fragestellen, Forschungsperspektiven', in P. Feindt and T. Saretzki (eds) *Umwelt- und Technikkonflikte,* pp. 33–53. VS Verlag für Sozialwissenschaften.

StatsSA (2023) Richtersveld. https://www.statssa.gov.za/?page_id=993&id=richtersveld-municipality (Accessed 6 December 2023).

Strunz, S., P. Lehmann and E. Gawel (2021) 'Analysing the Ambitions of Renewable Energy Policy in the EU and its Member States'. *Energy Policy*, 156: 112447.

Walker, B. (2022) 'A Territorial Perspective on Urban and Regional Energy Transitions: Shifting power densities in the Berlin-Brandenburg region'. *International Journal of Urban and Regional Research,* 46(5): 766–83.

Weber, F., C. Jenal, A.M. Rossmeier and O. Kühne (2017) 'Conflicts Around Germany's Energiewende: discourse patterns of citizen's initiatives'. *Quaestiones Geographicae,* 36(4): 117–30.

PUBLIC AFFAIRS
RESEARCH INSTITUTE