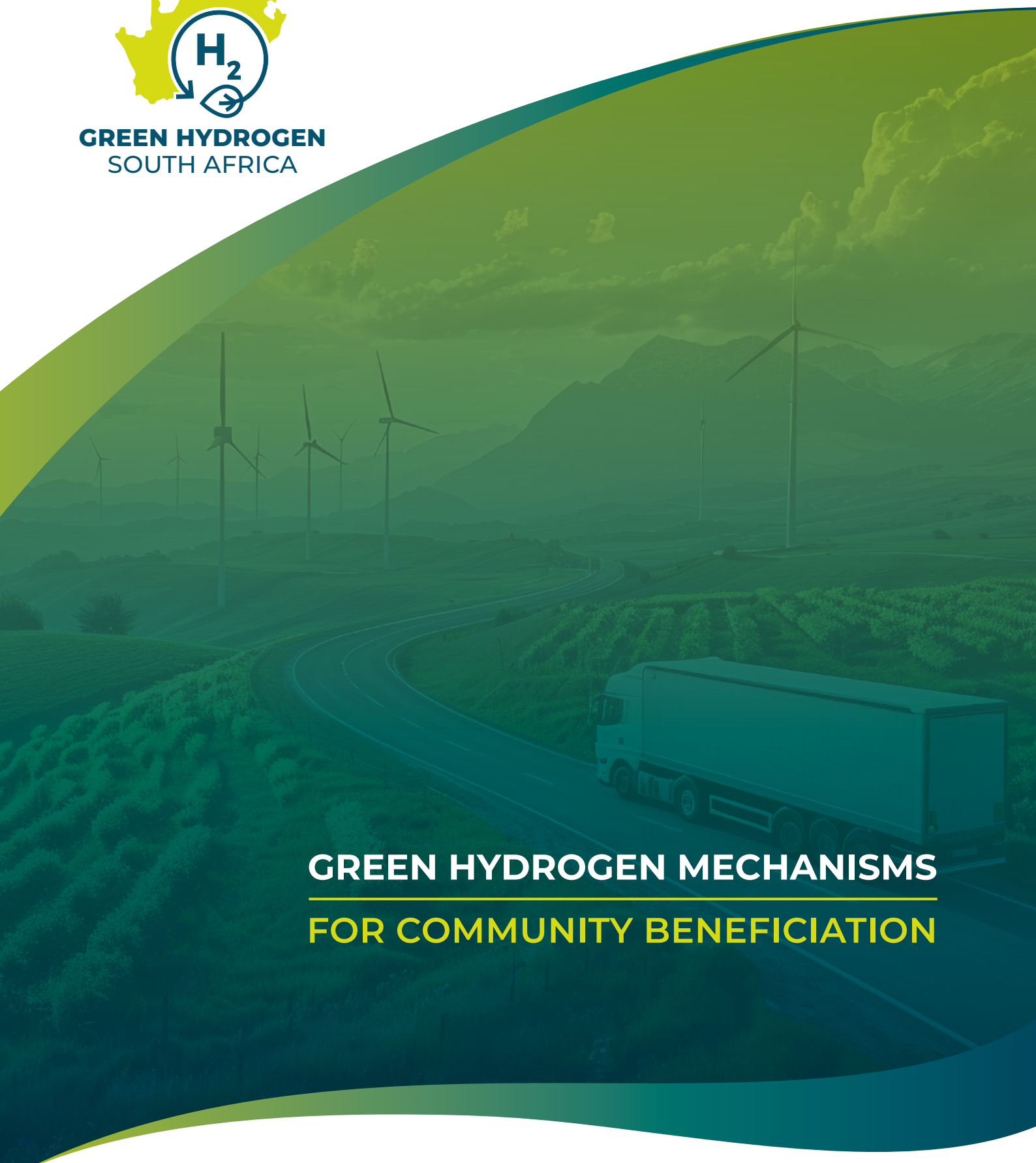
GREEN HYDROGEN
SOUTH AFRICA



GREEN HYDROGEN MECHANISMS

FOR COMMUNITY BENEFICIATION

THE PRESIDENCY
REPUBLIC OF SOUTH AFRICA

german cooperation
DEUTSCHE ZUSAMMENARBEIT

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GREEN HYDROGEN MECHANISMS

FOR COMMUNITY BENEFICIATION

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Green Hydrogen South Africa (GHSA): GHSA is a multi-stakeholder initiative that promotes South Africa as a leading green hydrogen producer and investment destination of choice. It is led by The Presidency of South Africa and home of the South African Green Hydrogen Summit (SAGHS).

H2.SA: H2.SA is a project of the German Development Cooperation with South Africa. It is commissioned by the German Federal Ministry for Economic Cooperation and Development (BMZ) and implemented by the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH in close cooperation with The Presidency of South Africa. H2.SA's main objective is to promote a South African green and sustainable hydrogen economy. Working closely with its partners from Government, private sector, and civil society, H2.SA provides expertise, resources, and builds capacity for a secure and sustainable energy future that holds opportunities for all South Africans.

GIZ South Africa, Lesotho and Eswatini: *The Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH* is a German development agency which provides services in the field of international development cooperation and international education. Its work in South Africa is carried out primarily on behalf of the German Federal Ministry for Economic Cooperation and Development (BMZ). Some of the core areas of cooperation are Climate, Energy and Just Transition. GIZ supports South Africa in developing an environmentally sustainable and secure energy infrastructure and enhancing energy efficiency.

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Disclaimer: The interventions proposed in this report are based on information collated by authors and collaborators from desktop research, interviews, and workshop engagements with stakeholders in the green hydrogen sector and associated sectors. The accuracy or completeness of the information is not guaranteed, and the authors, collaborators, and publisher cannot be held responsible for errors, omissions, or losses arising from its use.

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Executive Summary

Introduction

The Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH is implementing a project called "Promoting a South African Green Hydrogen Economy" (H2.SA) in partnership with The Presidency of South Africa. The project aims to foster a sustainable green hydrogen economy in South Africa, and as part of this initiative, a study titled "Green Hydrogen Mechanisms for Community Beneficiation" was commissioned.

The study's goal is to suggest strategies for implementing community benefits in South Africa's emerging green hydrogen economy. It aims to facilitate the process of how green hydrogen projects bring tangible benefits to communities. The study reviews Mechanisms for Community Beneficiation (MCB) used by the South African Renewable Energy Independent Power Producer Procurement Programme (REIPPPP) and associated sectors and, based on this review, it provides approaches and recommendations that could be adapted for MCB in the green hydrogen economy.

The report was drafted using a mixed-methods approach, which included a desktop assessment of available literature and organisation websites, interviews and input from key informants, and oversight from the Project Management Team.

For the purposes of creating community beneficiation in the green hydrogen economy in South Africa, "community" is defined as "the local municipal area and the larger community within the borders of South Africa". Furthermore, "beneficiation" is defined as "sustainably adding value to and/or creating value for a community during and after the life of a project".

Mechanisms for Community Beneficiation in the Renewable Energy Independent Power Producer Procurement Programme

In 2011, the South African National Government initiated the REIPPPP to facilitate private sector investment in the renewable energy sector. This programme has led to significant community investments, primarily in the form of socio-economic and enterprise development, and local community ownership. However, this report highlights that these investments have not always resulted in the desired impact due to various challenges such as a lack of capacity and skills within the community, misalignment between community needs and implemented projects, and a lack of project sustainability beyond the life of the power plant.

Mechanisms for Community Beneficiation in Associated Sectors

An overview is provided of MCB in various sectors such as mining, transport, and construction, which are linked to the production and conveyance of green hydrogen. An important observation in this section is the importance of the Broad-Based Black Economic Empowerment (B-BBEE) Codes of Good Practice and the related B-BBEE Scorecard and their impact on community development. The report highlights the four B-BBEE Elements and how these can be used to conceptualise MCB for the green hydrogen sector. These elements are:

1. Enterprise and Supplier Development (ESD)
2. Ownership
3. Skills Development
4. Socio-Economic Development (SED)
5. Community Beneficiation in the Green Hydrogen Economy in South Africa

The green hydrogen economy is an emerging sub-sector within South Africa's energy sector, and its growth and development are still uncertain. Several key factors will impact the implementation of community beneficiation in green hydrogen initiatives. These include:

- The regulatory environment
- The requirements of the capital providers
- The requirements of the purchaser of the green hydrogen
- The knowledge, skills and attitudes of the company implementing the initiative
- The nature of the planned initiative
- The knowledge, skills and needs of the community in the broader vicinity of the initiative

While all these factors affect the selection of MCB, they range from the most broadly limiting factor (the regulatory environment) to more specific factors. This report suggests that because these factors could significantly impact the design of a MCB for the green hydrogen sector in South Africa, all the factors will need to be considered during the design and feasibility phases of a green hydrogen project.

The way each of the six key factors that affect the selection of MCB is summarised below.

The regulatory environment: In summary, the regulatory environment in South Africa will focus the community beneficiation efforts of green hydrogen companies on one or more of the following four elements in the Generic B-BBEE Scorecard: Enterprise and Supplier Development (ESD), Ownership, Skills Development, and Socio-Economic Development (SED).

The requirements of the capital providers: Capital providers are a key influence on the extent to which green hydrogen product companies invest in community beneficiation. The main types of capital providers are the public sector, international development finance institutions (DFIs), local DFIs and commercial banks. The selection of MCB by an implementing company is influenced by the type of capital provider(s) chosen and the need of the implementing entity to align with the sustainability and reporting requirements of the capital provider(s).

The requirements of the purchaser of the green hydrogen: It is expected that entities operating in the green hydrogen economy will be required to follow the requirements of the purchasers of green hydrogen to secure and retain the purchaser. However, the future role of the purchaser in the green hydrogen economy in South Africa is uncertain. As a result, two scenarios regarding the purchaser were considered:

Scenario 1: Purchaser is a state-run green hydrogen procurement programme.

Scenario 2: The green hydrogen economy operates without a state-run procurement programme and there are a variety of purchasers.

Under Scenario 1, the requirements of the purchaser will also focus the community beneficiation efforts of green hydrogen companies on one or more of the four MCB already discussed under the regulatory environment. Depending on the requirements of the state-run green hydrogen procurement programme and the capital providers, one or more of the elements may be prioritised.

Under Scenario 2, community beneficiation is likely to be highly influenced by the purchasers of the green hydrogen and the markets in which these purchasers are located (whether local or international). South African purchasers of green hydrogen are likely to dictate specific community beneficiation and/or B-BBEE requirements from the suppliers of green hydrogen. International purchasers of green hydrogen are likely to require suppliers to meet international standards, regulations, and requirements (e.g., H2global) linked to the markets in which the purchasers are located.

The knowledge, skills and attitudes of the company implementing the initiative: The implementing entity must first review any internal corporate strategies that may influence the extent to which it will invest in community beneficiation and what

form of community beneficiation aligns best with existing strategies. Then it should analyse its internal knowledge, skills, and attitudes regarding community beneficiation to realistically assess its ability to successfully manage each MCB that it wants to implement.

The nature of the planned initiative: The implementing company should understand how much funding will be available for community beneficiation because investments in community development will impact the project's chosen financial model. Once a clear understanding of the financial resources is available, different MCB should be investigated in terms of the local context and opportunities provided by the planned initiative.

The knowledge, skills, and needs of the community in the broader vicinity of the initiative: Various structures and incentives exist that could enable and ease the implementation of community beneficiation. The knowledge, skills, and socio-economic opportunities of the community in the broader vicinity of the project should be considered by the implementing entity before it selects MCB for the project. To develop an understanding of the community in the broader vicinity of the project, consultations with communities should not only take place continuously throughout the project life but will also likely need to be instituted during the design and feasibility phase of a green hydrogen project.

Recommendations to Support Improved Community Beneficiation Efforts

This report concludes with a series of recommendations that would support the implementation of MCB within the green hydrogen economy in South Africa. First are cross-cutting recommendations that apply across different projects and scenarios, and then recommendations are summarised that are specific to each of the four mechanisms for community beneficiation aligned to the four B-BBEE Elements discussed earlier in the report. The recommendations are listed below:

Cross-cutting Recommendations

1. Establish a road map for the development of a complete green hydrogen value chain.
2. Clearly define the scope and outcome of each community beneficiation element.
3. Establish indicators of success for each community beneficiation element that measure alignment with the defined end goals.
4. Establish guidelines for the implementation of the four MCB.
5. Establish a database of community beneficiation services providers.

Enterprise and Supplier Development (ESD) Recommendations

1. Promote collaboration on ESD.
2. Encourage the making of ESD investments that address gaps in the local value chain identified in the Road Map.
3. Create mechanisms for entities to collaborate on ESD.
4. Improve ESD awareness in entities.
5. Monitor the effectiveness of business incubators and look for ways to improve their effectiveness.
6. Improve access to capital for small business beneficiaries of ESD.

Ownership Recommendations

1. Improve entities' understanding of the community ownership element.
2. Raise awareness in local communities about broad-based shareholdings and the related impacts.
3. Develop ownership capacity within communities.
4. Validate community assets to determine how leverageable they are.
5. Structure broad-based ownership vehicles in alignment with the B-BBEE codes and common practice – from a transaction perspective.
6. Use alternatives to Community Trusts.
7. Develop skills in local communities to administer community shareholding ownership vehicles.

Skills Development Recommendations

1. Identify skills required for the green hydrogen economy and areas where major skills gaps lie.
2. Ensure that skills development efforts align with the skills required.
3. Collaborate with the Energy and Water Sector Education and Training Authority (EWSETA) to improve skills development activities.
4. Focus on skills development linked to core competencies.
5. Link skills development to the requirements of the green hydrogen value chain.
6. Link skills development to community development requirements.

Socio-Economic Development (SED) Recommendations

1. Improve entities' understanding of SED and community engagements.
2. Improve the SED skills of entities.
3. Create a collaborative SED fund to scale outcomes.
4. Clarify roles and responsibilities in terms of SED.
5. Align SED plans with municipal planning documents.
6. Define additional SED metrics and targets, other than financial ones.

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Acronyms

B-BBEE	Broad-based Black Economic Empowerment
BW	Bid window
MCB	Mechanisms for Community Beneficiation
DALRRD	Department of Agriculture, Land Reform and Rural Development (South African, National)
DBSA	Development Bank of Southern Africa
DEL	Department of Employment and Labour (South African, National)
DFFE	Department of Forestry, Fisheries and the Environment (South African, National)
DFI	Development Finance Institution
DME	Department of Minerals and Energy (now known as the Department of Mineral Resources and Energy) (South African, National)
DMR	Department of Mineral Resources (now known as the Department of Mineral Resources and Energy) (South African, National)
DMRE	Department of Mineral Resources and Energy (South African, National)
DOT	Department of Transport (South African, National)
DPW	Department of Public Works (now known as the Department of Public Works and Infrastructure) (South African, National)
DSI	Department of Science and Innovation (South African, National)
dtic	Department of Trade, Industry and Competition (South African, National)
ESD	Enterprise and supplier development
ESG	Environmental, social and governance
EWSETA	Energy and Water Sector Education and Training Authority
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit
H2.SA	Promoting a South African Green Hydrogen Economy project
IDP	Integrated Development Plan
IIO	Investment and Infrastructure Office (falls under The Presidency)
IPAP	Industrial Policy Action Plan

Acronyms

IPP	Independent Power Producer
IPPPP	Independent Power Producer Procurement Programme
NDP	National Development Plan (South African, National)
NIP	National Industrial Participation Programme
NPC	National Planning Commission
PCC	Presidential Climate Commission
PPPFA	Preferential Procurement Policy Framework Act
REIPPPP	Renewable Energy Independent Power Producer Procurement Programme
SAPVIA	South African Photovoltaic Industry Association
SARS	South African Revenue Service
SAWEA	South African Wind Energy Association
SDG	Sustainable Development Goals
SED	Socio-economic development
SETA	Sector Education and Training Authority
SMME	Small, medium and micro enterprise
TVET	Technical and Vocational Education and Training
UNPRI	United Nations Principles for Responsible Investment

Introduction

The Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH is a German development agency which provides services in the field of international development cooperation, specifically in the core areas of climate, energy and just transition. GIZ is implementing the project "Promoting a South African Green Hydrogen Economy" (H2.SA) in close cooperation with The Presidency of South Africa. H2.SA is commissioned by the German Federal Ministry of Economic Cooperation and Development (BMZ). H2.SA's main objective is to promote a South African green and sustainable hydrogen economy, in collaboration with partners from Government, private sector and civil society. H2.SA commissioned a study to investigate potential community beneficiation opportunities in the green hydrogen economy.

The purpose of the "Green Hydrogen Mechanisms for Community Beneficiation" study is to propose approaches for the implementation of community beneficiation for the emerging green hydrogen economy in South Africa. These approaches should facilitate tangible benefits from green hydrogen projects for communities. To achieve this aim, the mechanisms for community beneficiation (MCB) used by the South African Renewable Energy Independent Power Producer Procurement Programme (REIPPPP) as well as MCB employed in other associated sectors in South Africa were reviewed. Based on this review, lessons and recommendations were derived that could be adapted for and transferred to MCB for the emerging green hydrogen economy in South Africa.

This report therefore (1) provides a review of the MCB used in the REIPPPP, (2) provides a review of the MCB used in four associated sectors (mining, transport, construction, and the broader energy sector), and (3) proposes potential approaches for introducing and recommendations to strengthen existing community beneficiation efforts in the emerging green hydrogen economy in South Africa.

Method

To draft this report, a mixed-methods approach was used, combining a desktop assessment of available literature and review of organisations' websites supported by interviews and input from key informants. Relevant literature was identified, encompassing academic papers, reports, and policy documents. The analysis of organisations' websites provided additional insights into initiatives, projects, and community benefit frameworks. Eleven key stakeholders actively involved in the REIPPPP and other relevant sectors were purposefully selected for semi-structured interviews.

These interviews explored the stakeholder's perspectives on existing community beneficiation approaches and on possible approaches to community beneficiation for the green hydrogen economy. During the process of drafting the report, the Project Management Team consisting of representatives from GIZ provided input and oversight through both written and verbal comments.

The report is divided into the following chapters:

- Introduction
- Community Beneficiation Background
- Mechanisms for Community Beneficiation in the REIPPPP
- Mechanisms for Community Beneficiation in Associated Sectors
- Overview of the Green Hydrogen Economy in South Africa
- Community Beneficiation in the Green Hydrogen Economy in South Africa
- Recommendations to Support Improved Community Beneficiation Efforts

Chapter 1 is an introductory chapter that highlights the background and purpose of this study, including the methodology used to complete this report. Chapter 2 provides background on community beneficiation, while the focus of Chapter 3 is on community beneficiation in the REIPPPP, and Chapter 4 is on community beneficiation in associated sectors (related to green hydrogen). The associated sectors that are detailed in Chapter 4 are the mining, energy,[1] transport, and construction sectors. These four sectors were selected during consultations with the Project Management Team as sectors that are linked to the production and conveyance of green hydrogen. Chapter 5 briefly summarises the green hydrogen economy in South Africa, Chapter 6 details community beneficiation in the green hydrogen economy in South Africa, and Chapter 7 provides recommendations for strengthening community beneficiation efforts in the green hydrogen economy.

1 *As a full chapter of this report is focused on renewable energy (Chapter 3), the focus of the energy sector here is on the non-renewable energy sub-sectors within the energy sector.*

Chapter 1:

Community Beneficiation Background

Chapter 1: Community Beneficiation Background

1.1 Policy Context for community beneficiation in South Africa

Community beneficiation initiatives in South Africa take place within a policy context that directs elements of this beneficiation. Some of the key policy documents are outlined below.

1.1.1 National Development Plan

The *National Development Plan 2030: Our Future – Make it Work* (NDP) was published in August 2012 by the National Planning Commission (NPC), which falls under the South African National Government (NPC 2012). The NDP is one of the main policy documents in South Africa and will shape national government budget allocations until 2030 (NPC 2012). It aims to reduce inequality and eliminate poverty in South Africa by 2030 by reaching key development goals through the implementation of actions laid out in the NDP (NPC 2012). It focuses on the crucial capabilities that are required to transform society and the economy (NPC 2012). The NDP's six interlinked priorities are (NPC 2012, 26):

- Uniting all South Africans around a common programme to achieve prosperity and equity.
- Promoting active citizenry to strengthen development, democracy and accountability.
- Bringing about faster economic growth, higher investment and greater labour absorption.
- Focusing on key capabilities of people and the state.
- Building a capable and developmental state.
- Encouraging strong leadership throughout society to work together to solve problems.
- The NDP focuses on the following areas (split into chapters) (NPC 2012):
- Economy and employment
- Economic infrastructure
- Environmental sustainability and resilience
- Inclusive rural economy

- South Africa in the region and the world
- Transforming human settlements
- Improving education, training, and innovation
- Health care for all
- Social protection
- Building safer communities
- Building a capable and developmental state
- Fighting corruption
- Nation building and social cohesion.

Within these areas, objectives and actions have been developed, many of which provide an overarching framework for community beneficiation projects which should align with the objectives of the NDP.

1.1.2 Broad-based Black Economic Empowerment Act and related Amendment Act

The *Broad-based Black Economic Empowerment Act (No. 53 of 2003)* (B-BBEE Act) was signed into law by the President of South Africa in January 2004 (Republic of South Africa 2004). More recently, this Act was amended by the *Broad-based Black Economic Empowerment Amendment Act (No. 46 of 2013)* (B-BBEE Amendment Act) which was enacted by the President of South Africa in January 2014 (Republic of South Africa 2014). The purpose of the B-BBEE Act and the B-BBEE Amendment Act are to provide the legal framework, together with the B-BBEE Codes of Good Practice (and its various amendments), for Broad-based Black Economic Empowerment in South Africa (Republic of South Africa 2004; 2014).

In the B-BBEE Act, as amended by the B-BBEE Amendment Act, "broad-based black economic empowerment" is defined as (Republic of South Africa 2004, 4; 2014, 4):

> *the viable economic empowerment of all black people, in particular women, workers, youth, people with disabilities and people living in rural areas through diverse but integrated socio-economic strategies that include but are not limited to*
>
> *(a) increasing the number of black people that manage, own and control enterprises and productive assets;*
>
> *(b) facilitating ownership and management of enterprises and productive assets by communities, workers, cooperatives and other collective enterprises;*
>
> *(c) human resource and skills development;*

(d) achieving equitable representation in all occupational categories and levels in the workforce;

(e) preferential procurement from enterprises that are owned or managed by black people; and

(f) investment in enterprises that are owned or managed by black people.

Community beneficiation in South Africa is directly influenced by the B-BBEE Act and the B-BBEE Amendment Act as one of the listed socioeconomic strategies in the B-BBEE Act to increase the viable economic empowerment of all black people by "facilitating ownership and management of enterprises and productive assets by communities, workers, cooperatives and other collective enterprises" (Republic of South Africa 2004, 4; 2014, 4).

1.1.3 Industrial Policy

The National Industrial Participation (NIP) Programme falls under the South African National Department of Trade, Industry and Competition (the dtic 2022d). The NIP Programme benefits South African industry through the implementation of the NIP Programme's business plans which generate additional or new business opportunities by one or more of the following: job creation, increased local sales, investment, export opportunities, the promotion of small, medium and micro enterprises (SMMEs) and black economic empowerment, research and development and technology transfer (the dtic 2022d).

The then South African National Department of Trade and Industry (DTI) published its *Industrial Policy Action Plan 2018/19 – 2020/21: Economic Sectors, Employment and Infrastructure Development Cluster* (IPAP) in 2018 (the dti 2018). The IPAP is focused on growing manufacturing-led industrial value addition in South Africa as a way of helping to address the challenges of unemployment, poverty, and inequality. The IPAP has since been redefined into sector-based master plans for a range of sectors, such as the *South African Steel and Metal Fabrication Master Plan 1.0* (the dtic 2022c). The master plans have transformative elements which speak to sector development strategies. The dtic also lists a number of sectors in which industrial development should take place including *inter alia* green industries, mineral beneficiation, and electrotechnical (the dtic 2022a).

Furthermore, the dtic, through the revised Preferential Procurement Policy Framework Act (PPPFA) Regulations of 2011 is allowed to designate minimum local content production thresholds for various industries, sectors and sub-sectors (the dtic 2022b).

This industrial policy has implications for how community beneficiation takes place within the industrial sectors.

1.2 What is community beneficiation?

There is a broad range of terms for investing and creating initiatives in communities that create benefits and improve the well-being of community members. These terms include socio-economic development, corporate social investment, corporate social responsibility, community beneficiation, etc.

In some cases, such as the Renewable Energy Independent Power Producer Procurement Programme (REIPPPP) and in the mining sector in South Africa, enterprises are obliged to contribute towards the economic development of communities in the vicinity of the enterprise's operations. In both instances, the community beneficiation plans and proposals are largely facilitated through and fall within the consideration of licence issuance.

In the case of the REIPPPP, Independent Power Producers (IPPs) have obligations in terms of their licencing requirements and agreements with the National Energy Regulator of South Africa, Eskom, and the National Department of Mineral Resources and Energy. For the REIPPPP, the sale of the energy produced by an IPP is contingent on the achievement of the economic development intentions set out in the IPP's bid.

In the case of the mining sector, entities have obligations in terms of their licence to mine (their "mining right") and agreements with the National Department of Mineral Resources and Energy and the. For the mining entities, their continued right to operate is dependent on their achievement of agreed community beneficiation milestones. These achievements are audited annually.

Entities in other sectors in South Africa (such as transport, construction, and the energy sector) do not have direct obligations to contribute towards the economic development of communities in the vicinity of their operations. Rather, such contributions are encouraged through the B-BBEE Regulations and related Codes of Good Practice. Compliance with the B-BBEE Regulations is enforced through the Preferential Procurement Policy Framework Act, the Public Finance Management Act and Regulations, and various other industry-level commitments.

Community beneficiation obligations are fulfilled by the enterprise engaging with the community to develop and implement projects that benefit the community. Projects may focus on *inter alia* enterprise development, socio-economic development, job creation and local community ownership initiatives. Some related categories of community benefits are provided in Table 1 (Wlokas 2017, 23–24; Wlokas, Westoby, and Soal 2017).

Table 1: Categories of community benefits

Category	Examples
Conventional economic benefits	Land rental income Local business rates and taxes Provision of job opportunities Provision of opportunities for local businesses
Flows of financial benefits to local communities	Sponsorship of local events Investment/ownership by a community in a project through acquisition of shareholding (equity/profit share) A community fund
In-kind contributions to local assets and facilities	Ecological/landscape enhancement measures to offset environmental costs Tourism and visitor facilities
Provision of other local services	Educational programmes and site visits
Involvement in the development process	Liaison activities

1.3 What is Local Community?

In the REIPPPP, the definition of "Local Community" has changed and broadened in definition as bid windows (BWs) have evolved. In REIPPPP BWs1 to 4, "Local Community" was defined as communities within 50 kilometres from the project site, while in BWs 5 and 6 the definition was expanded to the local or district municipality in which the Facility Site is located (DMRE 2021a). Furthermore, in the mining sector, the DMRE defines community on a scale (a series of five concentric circles) ranging from within a 50-kilometre radius to the national area. These multiple definitions of community indicate that the definition is not fixed but rather that it is evolving.

For the purposes of creating community beneficiation in the green hydrogen economy in South Africa, "community" will be defined as "the local municipal area and the larger community within the borders of South Africa". Furthermore, "beneficiation" will be defined as "sustainably adding value to and/or creating value for a community during and after the project life" (Table 2).

Table 2: Definitions for Community and Beneficiation used in this report

Community	Beneficiation
The local municipal area and the larger community within the borders of South Africa	Sustainably adding value to and/or creating value for a community during and after the project life

Chapter 2:

Mechanisms for Community Beneficiation in the REIPPPP

Chapter 2: Mechanisms for Community Beneficiation in the REIPPPP

2.1 Overview of the REIPPPP

The South African National Government, through the then National Department of Energy,[2] established the Independent Power Producer Procurement Programme (IPPPP) in late 2010 (IPP Office 2022). The IPPPP's primary mandate is to "secure electricity from renewable and non-renewable energy sources from the private sector" (IPP Office 2022, 1). Under the IPPPP, the Renewable Energy Independent Power Producer Procurement Programme (REIPPPP) was established in 2011, specifically to procure electricity from new renewable energy generation capacity established by Independent Power Producers (IPPs) in the private sector (Eberhard, Kolker, and Leigland 2014). Since the launch of the REIPPPP in 2011 and the end of 2022, seven bid windows (BW) have been launched (BW1, 2, 3, 3.5, 4, 5, and 6) (IPP Office 2022; Mantashe 2021; DMRE 2022). Each bid window represents a round in which renewable energy IPPs are procured in accordance with specific targets and limits as well as specified technology mixes including solar photovoltaic, wind, concentrating solar power, biomass, landfill gas, small hydro, etc. (IPP Office 2022). The specific technology mixes have been aligned with the existing policy frameworks, first with the *Integrated Resource Plan, 2010* and then more recently with the *Integrated Resource Plan, 2019* (IPP Office 2022).

The IPPPP and the REIPPPP are run through the IPP Office, which falls under the South African National Department of Mineral Resources and Energy (IPP Office 2022). The most recent report published by the IPP Office on the progress of the IPPPP and the REIPPPP was for the quarter year ending on 31 December 2021 (IPP Office 2022).

According to the IPP Office's online Project Database, 92 REIPPPP projects were procured through BW1 to BW4 (IPP Office 2023). Of the 92 listed REIPPPP projects, 88 are operational, three are under construction and one (a biomass project from BW 3) hasn't reached financial close and is in the process of being removed (IPP Office 2023).

As for BW5 and BW6 (announced in 2021 and 2022, respectively), the bid processes are both currently underway. Each BW goes through a six-stage bid process (request for proposals, bid submission, preferred bidders announced, financial close (including the signing of implementation agreements and power purchase agreements), construction, and commercial operation date) and this process can take anywhere from four months to several years to complete (IPP Office 2022; Pinto 2021).

2 *In June 2019, the Department of Energy merged with the Department of Mineral Resources to form the Department of Mineral Resources and Energy.*

2.1.1 Economic development elements in the REIPPPP

In the REIPPPP, community beneficiation falls within the economic development component of IPP projects. In the REIPPPP's BW5, "economic development" has been defined as (DMRE 2021a, 59):

> *the development of specific categories of people, enterprises and communities and/or economic sectors, as provided for in this Schedule 2 (Economic Development Obligations) and described in the Economic Development Elements*

In the REIPPPP, economic development includes the following elements (DMRE 2021a, 59): socio-economic development, enterprise and supplier development, ownership, local content, job creation, skills development and management control. In BW1 to BW4, bids were assessed using a 70/30 split between the offered price of electricity (70% of the assessment) and the economic development elements, listed above (30% of the assessment) (Wlokas 2017). However, from BW5 onwards, the split was changed to 90/10, with 90% of the assessment focused on the offered price of electricity and 10% focused on the economic development elements (Pinto 2021).

The sub-elements that are most relevant for community beneficiation and that are covered in the following sections of this report are:

- Socio-economic development
- Enterprise and supplier development
- Local content
- Ownership of the project (community shareholding in IPP's project)

2.2 Socio-economic Development

The B-BBEE Act (No 58 of 2003) (Republic of South Africa 2004) and the B-BBEE Amendment Act (No. 46 of 2013) (Republic of South Africa 2014), as well as the B-BBEE Codes of Good Practice (2007, amended 2019) (dtic 2019b), provide the legal framework and guidelines for the implementation of socio-economic development initiatives in South Africa, particularly for the empowerment of historically excluded individuals and communities.

The B-BBEE Act and its amendment define "Socio-Economic Development" as (Republic of South Africa 2004; 2014):

> *the process of providing assistance to black people to improve their education, skills, training, and access to the economy, with the ultimate goal of improving their economic circumstances and contributing to the development of sustainable communities.*

The *Codes of Good Practice on Broad-based Black Economic Empowerment: Schedule 1 – Terms and Definitions* further define "Socio-Economic Development contributions" as (the dti 2019, 326):

> *...monetary or non-monetary contributions implemented for communities, natural persons or groups of natural persons where at least 75% of the beneficiaries are [b]lack people. The objective of Socio-Economic Development Contribution is the promotion of sustainable access for the beneficiaries to the economy.*

And, "Socio-Economic Development project contributions" are defined as (the dti 2019, 327):

> *... monetary or non-monetary contributions carried out for the benefit of any projects approved for this purpose by any organ of state or sectors including without limitation:*
>
> *a) projects focusing on environmental conservation, awareness, education and waste management; and*
>
> *b) projects targeting infrastructural development or reconstruction in underdeveloped areas; rural communities or geographic areas identified in the government's integrated sustainable rural development or urban renewal programmes;*
>
> *c) new projects promoting beneficiation.*

According to the Generic B-BBEE Scorecard in the 2019 amendments to the B-BBEE Codes of Good Practice: Amended Code Series 000, Statement 000 (the dti 2019, 383), the "Socio-Economic Development element" is defined as:

> *... measures the extent to which entities carry out initiatives that contribute towards Socio-Economic Development or Sector Specific initiatives that promote access to the economy for [b]lack people.*

In BW5 of the REIPPPP, the definition of "socio-economic development" is further refined and is stated as (DMRE 2021a, 66–67):

> *the initiatives carried out by a Measured Entity towards broad social and economic advancement of [b]lack [p]eople in underdeveloped communities, which includes, without limitation, initiatives focusing on education, healthcare, social welfare, infrastructure development, reconstruction of underdeveloped areas, but excludes any initiatives or contributions carried on through, or which benefit, the entity or entities through which the Seller meets its Committed Obligations in respect of Shareholding by Local Communities in the Seller.*

In a nutshell, socio-economic development (SED) focuses on addressing local communities' socio-economic needs, with the goal of enabling economic access. An IPP does this by carrying out community development initiatives linked to education, healthcare, social welfare, and infrastructure development as well as the reconstruction of underdeveloped areas (DMRE 2021a; IPP Office 2022). SED contributions by IPPs are the value of monetary and non-monetary contributions towards SED activities (DMRE 2021a).

However, it should be noted that the economic development requirements of REIPPPP are seen to be evolving parallel to South Africa's B-BBEE framework. For example, in BW1 to BW4, SED included bursaries. However, in line with changes to South Africa's B-BBEE regulations, the bursaries sub-element was moved to a new "Skills Development" element for BW5 and BW6 (IPP Office 2022; DMRE 2021b).

2.2.1 How does the REIPPPP SED Mechanism work?

As part of their REIPPPP bid submissions, many IPPs conduct a community socio-economic baseline assessment and develop a SED plan (Wlokas 2017). In designing SED Plans and other economic development elements, practitioners in the field reported that they engaged with local communities, considered the needs of local communities and took into account local skills (Interviewee IP2 2023; Interviewee IP3 2023; Interviewee IP4 2023). Some IPPs have SED plans that appear to have drawn considerably from the relevant municipality's available planning documents, such as the municipality's integrated development plan (IDP) (Wlokas 2017). However, some IPPs are hesitant

to attempt aligning their SED plan with municipal IDP processes because the IPP's budget for SED is relatively constrained, and because IDPs are generally aimed at a more strategic level than SED plans.

Under BW5 of the REIPPPP, IPPs are obliged, as a minimum compliance threshold, to allocate 1.1% of revenue as SED contributions over the 20-year operational life of the project to community needs (DMRE 2021b). Under BW1 to BW4 of the REIPPPP, the minimum SED contribution is 1% of revenue over the 20-year operational life of the project (IPP Office 2022). SED contributions commence once the project becomes operational and starts generating revenue (IPP Office 2022). Almost all of the IPPs from BW1 to BW4 should currently be making SED contributions as 88 out of the 91 IPPs that have reached financial close are operational (IPP Office 2023; 2022).

To help to fulfil their SED obligations, some IPPs established non-profit organisations, while others identified non-governmental organisations to which they would allocate SED funding (Wlokas 2017). Some examples of SED projects implemented by IPPs are: painting a school and building a library (McDaid 2016), investing in a women's vegetable tunnel farming project, and purchasing computers and other technology for a local high school (Malope 2022). Another example is an IPP which developed a solar photovoltaic plant as part of BW2 (Shaw 2017). The IPP developed a five-year community development plan for a town in the Northern Cape as well as a 20-year SED management plan (Shaw 2017). The five-year community development plan is focused on investing in educational material, public art, and youth activation projects to benefit the town (Shaw 2017).

2.2.2 What have been the outcomes of the REIPPPP SED Mechanism?

From 2015 to June 2021 (by which time 85 IPPs across BW1 to BW4 were operational), total SED contributions amounted to R1.8 billion (IPP Office 2022). Much of this money went towards supporting educational institutions (R437.5 million) and the provision of bursaries (R210.8 million) (IPP Office 2022). In addition, SED contributions also went towards healthcare activities (IPP Office 2022). In total, 1,388 educational institutions were supported, including 474 early childhood development centres, 619 primary schools and 295 secondary schools; and 1,276 bursaries were awarded (IPP Office 2022). Of these bursaries, 56.3% were awarded to women and girls, and 97.4% were awarded to African and Coloured students (IPP Office 2022). Practitioners in the field have reported that the bursary programme has been a key success of the REIPPPP (Interviewee IP2 2023; Interviewee IP3 2023).

2.2.3 What are the limitations of the REIPPPP SED Mechanism?

Some of the limitations of the mechanism that have been identified are:

- **SED contributions will not continue beyond the life of the Project:** The SED contributions are dependent on the operation of the IPP Project. Once the IPP Project is complete and reaches the end of its lifetime, the SED contributions will come to an end. SED planning and implementation has had a social development leaning, which has resulted in more grant-making activities rather than investment in economic development initiatives that may have more sustainable outcomes.
- **SED is not a core competency of IPPs:** When SED plans are developed, it has been reported that IPPs often struggle to identify those areas that will successfully benefit from SED in affected communities because IPPs are not in the business of uplifting communities (McDaid 2016; Shaw 2017). This can result in IPPs undertaking inauthentic, compliance-driven engagements with communities simply to fulfil their SED obligations (Shaw 2017).
- **Shortcomings in SED plans:** While IPPs are required to develop and submit a SED plan as part of their REIPPPP bid (Wlokas 2017), there is a lack of specifications around how such a plan should be developed (Wlokas 2017). Furthermore, IPPs have a short time in which to develop and present their SED plan to the government (Shaw 2017). This short timeframe limits the depth of engagement with the community during the development phase of a SED plan, restricts the types of SED projects identified, leads to rushed SED plans, and risks only achieving a degree of tokenism rather than meaningful community engagement (Shaw 2017). In addition, municipalities are obliged to publish IDPs annually. When SED Plans are published, communities may feel that there are, in effect, two different development plans for their community, and this may lead to confusion and/or tensions within communities (McDaid 2016).
- **Short time frames of SED Plans:** The SED Plans are considered in 12-month timeframes, which are broken into quarterly expenditure targets. The short-term nature of the planning tends to create a focus on “quick win” activities rather than projects that may have more longevity and/or reach. As a result, IPPs do not currently have incentive to measure the impacts of the expenditure beyond 12 months and, thus, very few are monitoring, for example, whether the students who received bursaries also made their way into economic productivity.
- **Concerns regarding Community Engagements:** On the one hand, it has been highlighted that since IPPs have very limited budgets and need to manage expectations, the involvement of the community in planning is limited (Interviewee IP2 2023). However, others have highlighted that if interactions with local communities around SED are not undertaken and managed carefully and openly, IPPs run the risk of alienating the local communities through misaligned expectations, which could threaten the viability of the IPP’s whole renewable energy project (Baker and Wlokas 2015).

2.2.4 How could the REIPPPP SED mechanism be improved?

Some of the potential ways of improving the functioning of this mechanism are:

- **Define the stakeholder ecosystem around the beneficiary community:** Effective and efficient SED requires a multi-stakeholder approach.
- **Clarify roles and responsibilities:** All stakeholders must understand their roles and responsibilities in the SED ecosystem that surrounds a beneficiary community in order to avoid duplication of efforts and other inefficiencies. It is also crucial that communities are aware of how roles and responsibilities are defined, so that, for example, the IPPs are not burdened with issues that should be dealt with by the public sector.
- **Clarify the intention of SED:** Create awareness around the intention and long-term goal of SED in the context of REIPPPP. The current focus is largely on 'social' aspects whereas, in order to ensure project sustainability, increased focus on 'economic' impacts is required.
- **Align SED plans to municipal planning documents:** More closely aligning SED plans with a municipality's IDPs would allow IPPs to contribute towards community development while also reducing the potential uncertainty that occurs when two different development plans are published. However, because IDPs are updated annually and revised every five years, it could transpire that a municipality's priorities change relatively rapidly such that particular aspects of an SED plan become out of date and misaligned unless it, too, is updated periodically.
- **Improve the SED skills available to IPPs:** This could involve helping IPPs to upskill internally on SED plan development and community engagement. Alternatively, a network of skilled practitioners could be developed and smaller IPPs encouraged to procure appropriate skills at key points.
- **Establish a central SED fund:** Centralising SED would involve REIPPPP projects contributing to a central fund where experts manage and implement projects. This could "free" IPPs from the burden of implementing SED projects themselves and remove the issue of overspending in one geographical area. A centralised fund could also continue after the lifespan of the individual projects that contribute towards it. However, this approach could bring problems associated with centralised decision-making and large funds being available for misuse. To reduce the likelihood of such problems, a strong, credible governance system would be required to prevent mismanagement of the funds and to ensure buy-in from the IPPs. In addition, a central SED fund may reduce benefits to the IPP by weakening the direct relationship with adjacent beneficiary communities as less contact and engagement with the local community would be undertaken by the IPP.

- **Establish guidelines on implementing SED:** A set of guidelines on how to engage communities, develop SED plans, and identify what makes for effective SED would assist IPPs to implement SED programmes and projects more effectively.
- **Define metrics and targets, other than financial:** While compliant IPPs are meeting their financial/contribution targets, the impact of their contributions is being called into question. Additional metrics and targets that go beyond the financial contribution would assist in guiding financial contributions to areas of impact.
- **Create clear alignment between the B-BBEE regulation and REIPPPP by adopting the evaluation criteria for SED** (the dtic 2019):
    - Spend: the value of spend made for the benefit of qualifying beneficiaries, targeted at areas of greatest need, as identified by the NDP other government initiatives or similar (public sector or private sector) planning initiatives.
    - Sustainability: the extent to which SED contributions are likely to have a lasting impact on the beneficiaries and their communities.
    - Strategic Alignment: the extent to which the SED contributions made by the entity are aligned with the entity's and/or beneficiary's overall strategy and its efforts to promote economic transformation and empowerment.
    - Innovation and Engagement: the level of innovation demonstrated by the entity in the design and implementation of its SED initiatives, as well as the extent to which it has engaged with beneficiaries and stakeholders to ensure that the initiatives are relevant and effective.

2.2.5 Conclusion

The REIPPPP SED mechanism has successfully distributed over R1.8 billion to communities in the vicinity of IPP projects (IPP Office 2022). The impacts of the SED mechanism are measurable and will make a tangible difference to the healthcare services and educational institutions that have received either funds or support. In addition, the provision of bursaries will make a tangible difference in the lives of recipients and have been identified by practitioners as a key accomplishment of the REIPPPP (Interviewee IP2 2023; Interviewee IP3 2023).

However, these contributions may not be sustainable beyond the lifetime of the project, and effective implementation relies on the internal skills of the IPP to manage stakeholder engagement and design an effective SED plan.

2.3 Enterprise and Supplier Development

The B-BBEE Act and the B-BBEE Codes of Good Practice define Enterprise and Supplier Development (ESD) contributions as (Republic of South Africa 2014; the dti 2019):

> *monetary or non-monetary contributions carried out for the benefit of value-adding suppliers to the Measured Entity, with the objective of contributing to the development, sustainability and financial and operational independence of those beneficiaries*

In the REIPPPP's BW5, "enterprise development" has been defined as (DMRE 2021a, 60):

> *initiatives (which include monetary and non-monetary initiatives), carried out by a Measured Entity to assist and accelerate the development and sustainability of other enterprises, including the financial and operational independence of other enterprises.*

While "supplier development" has been defined as (DMRE 2021a, 67):

> *initiatives undertaken by a Measured Entity through the making of Supplier Development Contributions, to develop the Supply Chain.*

Enterprise and supplier development focuses on fostering the growth of emerging and small businesses, particularly those that are located in areas where the IPPs operate (IPP Office 2022).

2.3.1 How does the REIPPPP ESD mechanism work?

Under BW1 to BW5 of the REIPPPP, IPPs are obliged to contribute a minimum of 0.6% of revenue over the 20-year operational life of the project towards ESD (IPP Office 2022; DMRE 2021b). Unlike SED spending, which starts only once the IPP is generating revenue, ESD contributions commence during the 2-year construction period (IPP Office 2022).

ESD by IPPs is focused on the development of emerging enterprises, which includes empowering emerging businesses in local communities (IPP Office 2022) as well supplying equipment and assisting with capacity-building initiatives (Edith Kiragu, Fola Adeleke, and Tumai Murombo 2016). An example of enterprise development is that of a wind-energy IPP, Umoya Energy, which developed the Hopefield Wind Farm as part of the REIPPPP (Swartz 2019). Umoya Energy launched a combined SED and enterprise development project entitled "Home Improvement Project" that was aimed at providing sustainable energy solutions to low-income homes in the small town of Hopefield (Swartz 2019). This project involved providing training to previously unemployed and under-skilled people from the local community. These individuals then helped with implementing various sustainable energy solutions in low-income

homes, such as solar water heaters and insulated ceilings, rewiring electrical lighting and plug points, and installing water reticulation and kitchen sinks (Swartz 2019).

To implement enterprise and supplier development, many IPPs have partnered with intermediaries that offer business incubation and/or acceleration support. An example of this is the South African Institute of Chartered Accountants' (SAICA) "SAICA Enterprise Development" initiative that aims to advance the sustainable growth of small, medium and micro black-owned businesses in South Africa by building financial excellence in these organisations and in entrepreneurial incubators (SAICA 2020). This is necessary as roughly two-thirds of small, medium and micro enterprises in South Africa close due to financial reasons (SAICA 2020; n.d.).

2.3.2 What have been the outcomes of the REIPPPP ESD mechanism?

From 2014/2015 to the end of 2021, a total of R537.9 million was contributed towards ESD by the 85 IPPs that were operational across the BW1 to BW4 (IPP Office 2022).

Out of the total R537.9 million that has been contributed by operational IPPs towards ESD at the end of 2021, a total contribution of R504.1 million (94%) was given to local enterprises in the areas where IPPs are located (IPP Office 2022).

2.3.3 What are the limitations of the REIPPPP ESD mechanism?

Some of the limitations of the ESD mechanism that have been identified are:

- **Enterprise development is not a core competency of IPPs:** The core business of IPPs is to operate powerplants, and they have no core competencies in developing small businesses, entrepreneurs and micro enterprises (Interviewee IP3 2023).
- **SED preferred by IPPs:** IPPs can select from the various economic development elements and, as a result, many focus on SED (which is easier to achieve and so comply with REIPPPP requirements) rather than on enterprise and supplier development (Interviewee IP5 2023). This is illustrated by the far larger investment by IPPs in SED than in ESD.
- **Lack of participation from local businesses:** Research shows that the participation of local businesses in ESD initiatives was constrained due to the lack of skills and compliance with required safety standards (Edith Kiragu, Fola Adeleke, and Tumai Murombo 2016).
- **Concerns regarding sustainability of businesses:** Beneficiaries of ESD initiatives have expressed concern over the longevity and sustainability of their enterprises beyond the support they receive from the REIPPPP. Several beneficiaries have

explained how their enterprises depend on the REIPPPP to maintain their business operations and that they do not have clear plans for when their contracts with the REIPPPP expire (Swartz 2019).

- **Social development approach is applied to ESDs:** Often ESD is dealt with from the same perspective as SED and a "social development" approach is adopted during the implementation of ESD projects. This tends to focus more on capacitating the business owner, rather than on testing the viability of the business in the context of the market, which an "economic development" or "industrial development" approach would do.
- **Focus on small and micro enterprises:** The focus on small and micro enterprises constrains the ability of IPPs to address real gaps in the renewable energy value chain and, as such, the industry has remained reliant on imported goods and services.

2.3.4 How could the REIPPPP ESD mechanism be improved?

Some of the potential ways of improving the functioning of this mechanism are:

- **Define the end goal for ESD:** Create consistency when portraying or communicating the intent of ESD.
- **Create mechanisms for IPPs to collaborate on ESD:** Given that IPPs require similar suppliers, it would be optimal if ESD efforts were collaborative in order to build local value chains.
- **Apply an investor mindset when undertaking ESD:** Build businesses based on the viability and relevance of the product/service offering as well as market need.
- **Improve ESD awareness in IPPs:** This could involve helping IPPs to be more aware of ESD. A network of skilled ESD practitioners could also be established to develop and run ESD awareness-raising workshops for IPPs. IPPs could be encouraged to procure appropriate ESD skills at key points before and during the start of the project lifecycle.
- **Establish guidelines on implementing ESD:** A guideline on how to engage communities and develop ESD projects more effectively.
- **Create clear alignment between the B-BBEE regulation and REIPPPP by adopting the evaluation criteria for ESD** (the dtic 2019):
    - The number of black-owned enterprises supported: The number of qualifying black-owned enterprises that have received support from the measured entity during the year under review.
    - Value of funding provided to supported black-owned enterprises: The total funding provided by the measured entity to the qualifying black-owned enterprises that have received support during the year under review.

- Developmental contributions made to supported black-owned enterprises: The developmental contributions made by the measured entity to the qualifying black-owned enterprises that have received support during the year under review, such as incubation, mentorship, training, and technical assistance.
- Impact of developmental contributions on supported black-owned enterprises: The impact of the developmental contributions made by the measured entity on the qualifying black-owned enterprises that have received support during the year under review, such as increased revenue, employment, and sustainability.

2.3.5 Conclusion

The ESD mechanism has successfully contributed R537.9 million towards enterprise and supplier development (IPP Office 2022). While this mechanism has contributed to the establishment or expansion of local businesses, the success and/or sustainability of these businesses have not been proven or documented.

There are concerns that these businesses will not be sustainable beyond the lifetime of the projects to which they are linked as they have no other clients. In addition, because of the difficulties involved in successful ESD, most IPPs have elected not to pursue this mechanism in the earlier bidding windows when IPPs were allowed to select their preferred mechanism. However, Enterprise Development and Supplier Development are included as elements in the Economic Development scorecard in BW4 and BW5.

2.4 Local Content

B-BBEE Regulations in general, and particularly the Preferential Procurement and Supplier Development elements, form the framework for the application of "local content" requirements of industries. Local content refers to the amount of locally produced goods, services, or components used in the production of a product or service.

The Preferential Procurement element measures the extent to which a measured entity purchases goods and services from suppliers that meet certain B-BBEE criteria, including local content. The B-BBEE Codes of Good Practice indicate that a minimum of 40% of total procurement spend should be spent on goods or services from South African producers or service providers.

The Supplier Development element requires a measured entity to support and develop qualifying black-owned suppliers and enable the promotion of local content in the supply chain.

In the REIPPPP's BW5, "local content" has been defined as (DMRE 2021a, 62):

> *the Economic Development Element which measures the utilisation of South African products in the development, completion, implementation, operations and maintenance of the Project as part of undertaking Project Activities. These products relate to the utilisation of raw materials, manufactured parts and components, utilities and services.*

Essentially, local content relates to part of the total project value in a REIPPPP project in which products and services have been procured from South African suppliers.

2.4.1 How does the Local Procurement mechanism work?

Under BW1 to BW5 of the REIPPPP, minimum compliance thresholds for local content have varied by bid window and technology from 25% to 45% (IPP Office 2022; DMRE 2021b). Solar photovoltaic and concentrated solar power-type projects, for example, have had higher thresholds than onshore wind, concentrated solar power with storage, small hydro, landfill gas, biomass, and biogas-type projects (IPP Office 2022; DMRE 2021b). For BW5, the minimum compliance threshold for local content during both the construction and operating measurement periods for onshore wind IPPs was 40%, while for solar photovoltaic IPPs, it was 45% (DMRE 2021b).

An example of local content is found in two linked wind farms, Mainstream's Loeriesfontein 2 and Khobab Wind Farms, located outside the small Northern Cape town of Loeriesfontein (Malope 2022). The project total value of each wind farm was R3.5 billion and more than 40% of this was spent on local content, meaning that over R2.8 billion was spent in South Africa on locally manufactured components for these two wind farms (Malope 2022).

2.4.2 What have been the outcomes of the Local Procurement mechanism?

Under BW1 to BW4, the total construction spend on South African content, by IPPs that had started construction, was R63.3 billion from inception up until the end of 2021 (IPP Office 2022). This was equal to approximately 50% of the total project value up until the end of 2021 (IPP Office 2022). In addition, as of December 2021, the projected local content commitment during construction for 25 projects under BW5 was estimated to be R15.8 billion (or 44% of the total project value), while projected local content commitment during operations for these projects was estimated to be R9.1 billion (or 41.2% of total project value) (IPP Office 2022).

The REIPPPP's local content requirement has stimulated local manufacturing capacity in South Africa (IPP Office 2022). It has also resulted in some international manufacturers of renewable energy technology and components establishing local manufacturing operations in South Africa (IPP Office 2022). The direct benefit of such operations includes job creation and positive economic impacts such as rent, rates and taxes, etc.

2.4.3 What are the limitations of the Local Procurement mechanism?

Some of the limitations of the mechanism that have been identified are:

- **Manufacturing of local content occurs away from project sites:** The manufacturing of local components for the IPP projects (and the related job creation benefits) happens wherever the manufacturing plant is located, and the components are then transported to the project site (Malope 2022). As a result, communities in the vicinity of the IPPs are often not beneficiaries of the local content requirements.
- **Limited local manufacturing capacity:** As construction of REIPPPP projects only started in 2014 (IPP Office 2022), manufacturing of IPP project technology and components is a relatively new field in South Africa, with limited experience and capacity due to the relatively small market for such manufacturing.
- **Costly locally produced components:** Some IPP components are likely to be more expensive to manufacture locally and may be able to be sourced more cheaply from other countries that have better economies of scale due to lower input costs, bigger manufacturing sectors and more demand for such components.
- **The lag between BW4 and BW5 disrupted the development of the local value chain:** There was a five-year lag between BW4 and BW5 (Interviewee IP5 2023). The expansion of the local value chain that took place from BW1 to BW4 was disrupted and resulted in de-industrialisation (Interviewee IP5 2023).

- **High cost of capital in South Africa:** The macroeconomic outlook and the perceived investment risk in South Africa have inflated the cost of capital for local businesses. Given the capital intensity of industrial businesses, the cost of capital has significantly inhibited the growth of this part of the value chain.

2.4.4 How could the Local Procurement mechanism be improved?

Some of the potential ways of improving the functioning of this mechanism are:

- **Define clearer linkage between ESD and local content requirements:** There is potential for considerable synergy between the ESD and local content requirements of REIPPPP which could be harnessed if the REIPPPP established a clearer linkage between the intent of the two components.
- **Focus ESD and local content requirements to address specific gaps and opportunities in the local value chain:** To promote the effectiveness of ESD and local content requirements, they could be focussed on specific gaps and opportunities in the South African value chain.
- **Identify and mitigate barriers to entry for South African businesses:** The various barriers to entry in the renewable energy value chain for South African businesses should be identified and actively mitigated to enhance the potential impact of the local content requirements. Possible mitigation includes incentivising local industrialisation and/or reducing the cost of capital in key areas through, for example, subsidies, tax relief, sovereign securitisation, etc.
- **Develop consistent and regular procurement:** Consistent and regular procurement that provides more surety to the renewables sector would provide investors with the confidence needed to invest in local product development.

2.4.5 Conclusion

The local content component has successfully contributed R63.3 billion in spending on South African content during the construction of REIPPPP projects under BW1 to BW4 (IPP Office 2022) and effectively kick-started a renewable energy industry in South Africa that did not previously exist. The REIPPPP's local content requirement has stimulated local manufacturing capacity in South Africa for renewable energy technology and components (IPP Office 2022). However, the lack of consistency in the opening of new REIPPPP bid windows has interrupted the evolution of the renewable energy value chain in South Africa.

2.5 Project Ownership

The local ownership requirements of the REIPPPP have changed over time, but as of the latest bidding rounds (BW5 and BW6), the REIPPPP requires that all projects have a minimum of 40% South African ownership.

Additionally, a minimum of 10% of the total equity of the IPP is to be held for the benefit of local communities through a "broad-based structure" (25% of the 40%).

Broad-based structures refer to ownership structures that enable the exercisable voting rights of, and economic benefit to flow to, a broad range of black individuals or groups, rather than by a single individual, company or consortium (the dti 2019).

Regarding ownership by local communities, it is stated in the REIPPPP's BW5 that (DMRE 2021a, 74–75):

> *The Seller undertakes to the Department that it has participation by Local Communities of not less than the percentage of Shareholding required to be held by Local Communities in the Seller*

The seller in a REIPPPP implementation agreement is the IPP that generates and sells renewable energy to the DMRE (DMRE 2021a). Ownership by local communities takes the form of shareholding in the IPP, where "shareholding" has been defined as (DMRE 2021a, 65):

> *the Exercisable Voting Rights and Economic Interest in a Measured Entity*

In a nutshell, ownership is determined by the number of shares (equity) of an entity that are held by a particular grouping, such as local communities, black people, black women, etc. For example, under BW1 to BW5, IPPs are obliged to ensure that shareholding by local communities in the seller (the IPP) is above the minimum compliance threshold of 2.5% (IPP Office 2022; DMRE 2021b).

2.5.1 How does the Local Ownership mechanism work?

For each project under the REIPPPP, two companies are set up (Figure 1) by a controlling entity (a major company or group of companies). One is the company that will own the IPP project, and the other is the company that will undertake the operations and maintenance of the IPP facility (see Figure 1 below). A minimum level of local participation in the project-owning company and in the operations and maintenance entity is defined in each REIPPPP bidding round. This shareholding is typically financed through debt financing or preference share agreements.

In REIPPPP's BW6, local participation included considered shareholdings by:

- South African entities
- South African citizens
- Black South Africans
- Local communities (within the municipal area of the project)

In BW1 to BW4, all local communities' shareholdings have been organised through the creation of Community Trusts (IPP Office 2022). Each Community Trust holds equity (shares) in the IPP that have been acquired through the use of debt financing (IPP Office 2022). Projects only start generating revenue and paying dividends once they became operational. Once a Community Trust's debt repayment obligations have been settled, the Community Trust will start to receive dividends payments (from about 2028 onwards for BW1 to BW4) and these payments will continue until the end of the project's 20-year lifespan (IPP Office 2022). The projects under BW5 and BW6 have not yet reached financial close, so summary ownership information has not yet been made publicly available by the IPP Office.

An example of a community shareholder is found in two linked wind farms: Mainstream's Loeriesfontein 2 and Khobab Wind Farms, located outside the small Northern Cape town of Loeriesfontein (Malope 2022). The two wind farms were built in tandem on different portions of the same farm using the same main contractor and workforce, under BW3 (Malope 2022). For each of the two wind farms, a total shareholding of 5% of the IPP's project ownership was allocated to a local Community Trust (the Loeriesfontein Renewable Energy Community Trust and the Khobab Renewable Energy Community Trust) for the Loeriesfontein community (Malope 2022). A loan was set up so that the two local Community Trusts could invest in the projects through the purchase of equity. The loan obligations will take a number of years to pay off, after which the Community Trusts will begin to accrue dividends (Malope 2022). The project only started generating revenue once it became operational In 2018, so paying off the debt only began then (Malope 2022).

2.5.2 What have been the outcomes of the Local Ownership mechanism?

Across BW1 to BW4, black local communities own 9% of projects (on average) that have reached financial close (IPP Office 2022). This is substantially higher than the minimum compliance amount of 2.5% (IPP Office 2022). In addition, all shareholdings for local communities across BW1 to BW4 (up to the end of 2021) were structured as community trusts (IPP Office 2022).

Over the 20-year lifespan of the BW1 to BW4 projects that have reached financial close, communities are estimated to receive a projected net income amount of approximately R25.5 billion after payment of debt obligations (IPP Office 2022). Due to debt repayment obligations to development funding institutions, most local communities will only begin to receive the bulk of the dividends from their shareholdings in 2028 (IPP Office 2022).

2.5.3 What are the limitations of the Local Ownership mechanism?

Some of the limitations of the mechanism that have been identified are:

- **Community Trusts have been difficult to manage:** IPPs have found Community Trusts difficult to manage and administer (Interviewee IP2 2023) and trustees often lack the capacity and/or the will to engage (Interviewee IP2 2023). In some cases, there were no trustees from the local community on the Community Trust (Malope 2022). In some instances, there were inconsistencies in the circulated information and financial figures relating to the Community Trusts, and these discrepancies created mistrust between communities and IPPs (Malope 2022). Trusts can also be complex and expensive to establish and administer, particularly if they involve many beneficiaries and require the active management of assets.
- **Community Trusts have to take on debt to fund shareholding:** In most cases, Community Trusts need to take on debt from development funding institutions to fund their purchase of equity (shareholding) in the venture (IPP Office 2022). This means that the debt first needs to be repaid before benefits (dividends) can accrue to the community (IPP Office 2022).
- **Challenges to the governance of trusts:** Trusts require effective governance and management structures to ensure that the rights and interests of beneficiaries are protected, which can be difficult to establish and maintain. While communities are the beneficiaries of the trusts, there is little common understanding as to the effective management and administration of the trust.
- **Distribution of benefits:** Trusts can be limited in their ability to distribute benefits to beneficiaries, particularly if they are structured in a way that does not allow for direct ownership or control by beneficiaries (as is typically the case in Community Trusts). This complexity, and perceptions of lack of transparency, can lead to a level of distrust.
- **Taxation of Trusts:** Trusts can be subject to complex tax rules and regulations, which can affect their ability to generate economic benefits for beneficiaries.
- **Limited participation:** Trusts may not be accessible or attractive to all potential beneficiaries, particularly those who are not familiar with trust structures or who may have concerns about the governance and management of the trust.

Community Trusts, while legally sound, have not been structured in alignment with the provisions in the B-BBEE Codes. The economic benefits derived from these ownership structures have thus been called into question.

- **The expense of trust administration:** Trust administration is an expensive exercise which sees a lot of the economic benefit derived within the Trust distributed to the trust administrators (who are typically from outside the local communities).
- **Profitability of the tariff defines the level of value the community will accrue: I**n the first rounds of REIPPPP, the tariffs were high enough to attract investors and developers into the market despite their shareholding being diluted by the need for community ownership (Interviewee IP5 2023). The tariffs in BW5 dropped significantly, reducing the value that will accrue to developers, investors and communities (Interviewee IP5 2023).

2.5.4 How could this mechanism be improved?

Some of the potential ways of improving the functioning of this mechanism are:

- **Structure broad-based ownership vehicles in alignment with the B-BBEE codes and common practice – from a transaction perspective:** B-BBEE transactions are typically structured considering the parameters of the B-BBEE Codes to ensure compliance from inception. For example, the application of a "trickle dividend" ensures that the beneficiaries realise their economic interest from the first year of shareholding. These principles have not been applied in REIPPPP, and application thereof could:
  - reduce the cost of capital for the broad-based shareholders
  - achieve dividend flow from the first year of operation, which could allow for additional value creation through compounding
  - achieve B-BBEE outcomes for the IPPs

- **Use alternatives to Community Trusts:** The use of Community Trusts to hold local shareholding is a norm among IPPs (Interviewee IP2 2023); however, there is no requirement from REIPPPP to use Community Trusts, and these structures are not considered effective by practitioners in the field (Interviewee IP2 2023). Alternatives to be considered are:
- **Share ownership schemes structured in special purpose vehicles registered as entities with limited liability (Proprietary Limited):** These involve the direct issuance of ordinary share classes to beneficiaries (or categories of beneficiaries). These structures are governed by the provisions of the Companies Act and may provide greater transparency and control over ownership and economic benefits.

- **Broad-based schemes structured as cooperatives:** These are member-owned and democratically controlled enterprises that operate for the mutual benefit of their members and act as effective mechanisms for social venturing and economic participation.
- **Incorporated joint ventures:** These involve partnerships between companies and local communities or other stakeholders, which can help to promote shared ownership, decision-making, and economic benefits.
- **Share ownership through non-profit companies:** Non-profit companies are companies that are established for public-benefit purposes and are designed to create value, but not to generate profits for their members or shareholders. Non-profit companies can provide greater transparency and accountability since they are subject to reporting and governance requirements, such as the Companies Act, generally applied rules of governance (such as the King Codes), and Section 18 of the Tax Act. Additionally, non-profit companies may be eligible for certain tax benefits, which can help to increase the economic benefits that are distributed to beneficiaries.
- **Effectively regulate Community Trust decision-making:** To ensure transparency and accountability in the management of Community Trusts, it is critically important to effectively regulate how decisions are made about which initiatives to support and who is responsible for managing the funds (Malope 2022).
- **Develop Trust administration skills in local communities:** The development of Trust administration skills within local communities themselves would assist in ensuring more benefits are retained within the community instead of payments being made to external Trust administrators.
- **Raise awareness in local communities about broad-based shareholdings and the related impacts:** Improved engagement with local communities to create awareness and alignment between local ownership and the related impacts, intended and likely, of broad-based shareholdings.
- **Finance community shareholdings through mechanisms other than the commercial financial sector:** To advance the participation of black people in equity structures, a number of institutions in the country have designed special-purpose financial vehicles to enable the required transactions. For example, the has the Black Industrialists Programme and the Local Infrastructure Fund, while the National Empowerment Fund is an independent entity that exists for the purpose of financing B-BBEE transactions. These mechanisms have largely not been used to fund transactions in REIPPPP.

2.5.5 Conclusion

The local ownership of IPPs is projected to result in a substantial net income to Community Trusts of approximately R25.5 billion (after debt repayments) over the 20-year lifespan of the BW1 to BW4 projects (IPP Office 2022). However, due to debt repayment obligations to development funding institutions, most local communities will only begin to receive the bulk of the dividends from their shareholdings in 2028 (IPP Office 2022).

This mechanism has the potential to contribute significant financial inputs to shareholding local communities; however, since most Community Trusts still need to pay off initial debt, these benefits have not yet been realised. In addition, the scale of benefit involved in local ownership is inextricably linked to the level of profitability of IPPs.

As long as Trusts remain a mechanism for shareholding, it is critical that the custodians of these investments (the Trustees) are well-equipped to ensure that their investments are sustainable and can be maintained beyond the life of the project.

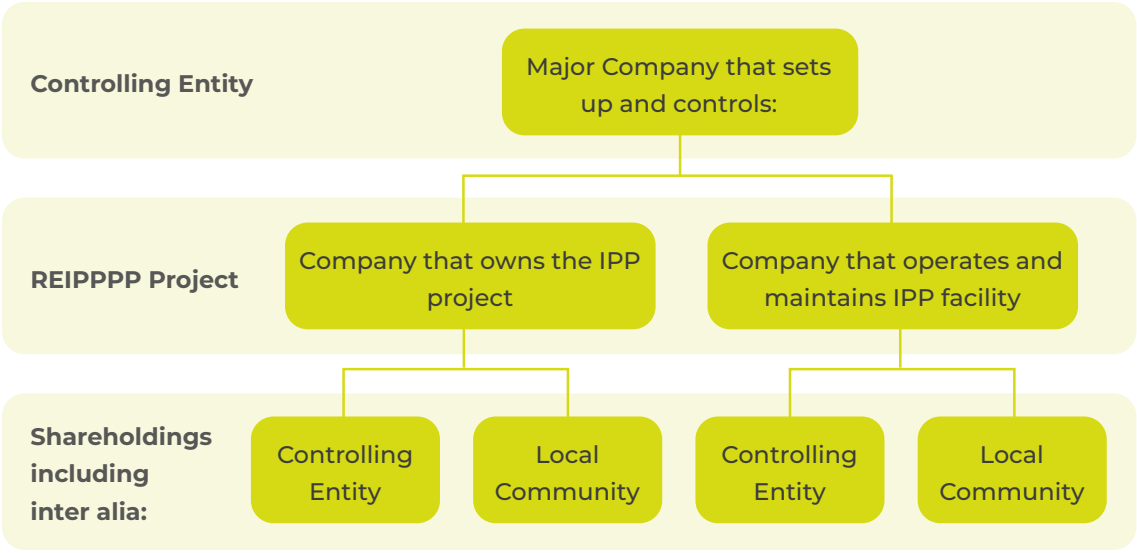
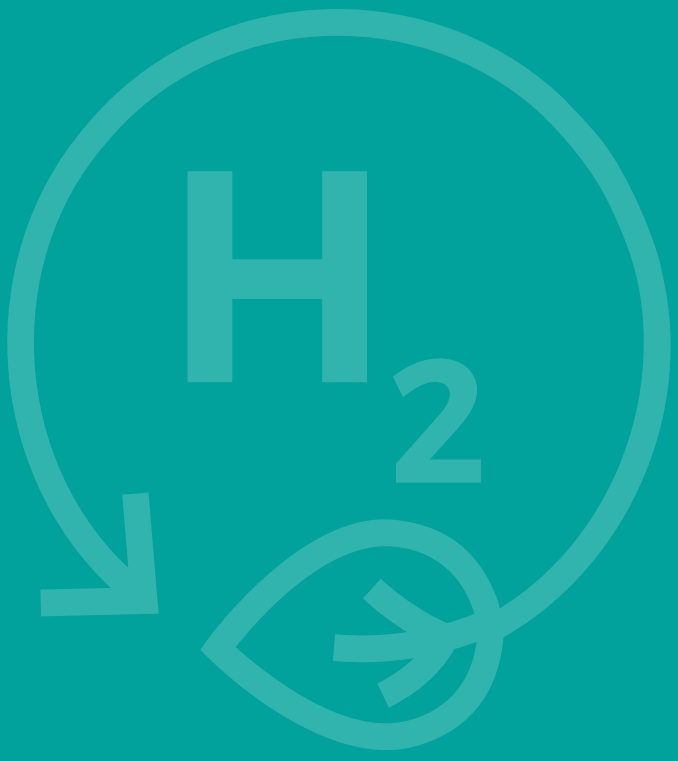


Figure 1: Example of the structure of an IPP in the REIPPPP

Chapter 3:

Mechanisms for Community Beneficiation in Associated Sectors



Chapter 3: Mechanisms for Community Beneficiation in Associated Sectors

3.1 Overview of the Associated Sectors Considered

3.1.1 Mining Sector

3.1.1.1 Overview of the Sector

The mining sector in South Africa includes the opencast (surface) and underground mining of South Africa's abundant mineral resources. South Africa has globally significant known reserves of gold, platinum group metals (platinum, palladium, rhodium, iridium, osmium and ruthenium), copper, chrome ore, manganese, coal, diamonds and industrial minerals (GCIS 2022a). Some of these reserves are the biggest known reserves on Earth. For example, 75% of the world reserves of platinum group metals are located in South Africa (GCIS 2022a).

- According to Statistics South Africa, the "Mining" sector contributed approximately R204 billion (in constant 2015 prices) or 4.4% to South Africa's gross domestic product in 2022 (Statistics SA 2023). In addition, according to the South African National Department of Employment and Labour (DEL) in their *22nd Commission for Employment Equity Annual Report 2021-22,* approximately 397,000 people were working in the South African "Mining and Quarrying" sector in 2021 (DEL 2022).

There are a number of state-owned enterprises involved in the mining sector in South Africa including the Mining Qualification Authority, Council for Geoscience, Council for Mineral Technology Research (Mintek), Alexkor (diamond mining), South African Diamond and Precious Metals Regulator, State Diamond Trader, and the African Exploration Mining and Finance Corporation (South African Government 2023).

Major companies involved in the mining sector in South Africa include *inter alia* Anglo American, Exxaro Resources, Glencore, Gold Fields, Harmony Gold, Impala Platinum, Kumba Iron Ore, Northam Platinum, Royal Bafokeng Platinum, Sibanye-Stillwater, etc. (MCSA n.d.).

3.1.1.2 *Policy Framework*

Key documents that are relevant to community beneficiation in the mining sector are highlighted in Table 3.

Table 3: Summary Policy Framework of community beneficiation in the Mining Sector in South Africa

Document Title	Date	Purpose of the document	Relevance to community beneficiation
Mineral and Petroleum Resources Development Act (No. 28 of 2022) (Republic of South Africa 2002)	2002	Provides regulations that govern the issuance of exploration and mining rights in South Africa	A key compliance requirement in this Act is the drafting and adherence to a Social and Labour Plan.
Guideline for the Submission of a Social and Labour Plan (DMR 2010)	2010	Assists applicants for mining and production rights in preparing the prescribed Social and Labour Plans	The Social and Labour Plan requires applicants for mining and production rights to develop and implement comprehensive Human Resources Development Programmes, a Mine Community Development Plan, a Housing and Living Conditions Plan, an Employment Equity Plan, and Processes to save jobs and manage downscaling and/or closure
Broad-based Socio-economic Empowerment Charter for the Mining and Minerals Industry, 2018 (Mining Charter III)[3] (DMR 2018a)	2018	Regulatory instrument to ensure broad-based economic empowerment and the meaningful participation of historically disadvantaged people in the mining and minerals industry. This is the third version of the mining charter, and it includes B-BBEE scorecards for the sector	The charter and the included scorecards therein provide guidance on various ways that the members of the mining sector must support ownership; SED; mineral beneficiation (equity equivalent); procurement, ESD; and mine community development

3 *The Broad-based Socio-economic Empowerment Charter for the Mining and Minerals Industry, 2018 (Mining Charter III) was the subject of a court case in the Gauteng High Court that resulted in a judgement in September 2021 that the Mining Charter III is simply policy and not legislation (Leon, Leyden, and Müller 2021). The judgement also set aside several of the key provisions in Mining Charter III linked to the Charter's re-empowerment obligations; its onerous procurement, supplier and enterprise development targets; and a number of penalty and enforcement clauses (Leon, Leyden, and Müller 2021).*

Document Title	Date	Purpose of the document	Relevance to community beneficiation
Implementation Guidelines for the Broad-based Socio-economic Empowerment Charter for the Mining and Minerals Industry, 2018 (DMR 2018b)	2018	Outlines the processes, procedures, forms, and templates to facilitate compliance with the requirements of the Mining Charter, 2018	Reporting tables for the above-listed elements are outlined and must be annually completed and submitted by all mining rights holders

3.1.2 Energy Sector[4]

3.1.2.1 Overview of the Sector

The energy sector in South Africa covers primary energy supply, including the local production, imports and exports across a number of energy sub-sectors including coal, crude oil, natural gas, nuclear energy, and renewable energy (which is covered under the REIPPPP chapter of this report) (Ratshome and Nembahe 2021).

According to Statistics South Africa, the "Electricity, Gas and Water" sector contributed approximately R101 billion (in constant 2015 prices) or 2.2% to South Africa's gross domestic product in 2022 (Statistics SA 2023). In addition, according to the South African National DEL in their *22nd Commission for Employment Equity Annual Report 2021-22,* approximately 102,000 people were working in the South African "Electricity, Gas, Steam and Air Conditioning Supply" sector in 2021 (DEL 2022).

There are a number of state-owned enterprises involved in the energy sector in South Africa including Eskom, the Petroleum Oil and Gas Corporation of South Africa (PetroSA), the National Energy Regulator of South Africa (NERSA), South African Nuclear Energy Corporation, National Nuclear Regulator, National Radioactive Waste Disposal Institute, Pebble Bed Modular Reactor Central Energy Fund, South African Gas Development Company (iGas), Petroleum Agency South Africa, Transnet pipelines, and the South African National Energy Development Institute (South African Government 2023).

Major companies involved in the energy sector in South Africa include *inter alia* Sasol, Automation and General Electric (AGE) Technologies, BP Southern Africa, Total, Shell South Africa, Caltex Oil (SA), Castrol South Africa, Renergen, etc. Furthermore, there are six major crude oil refineries in South Africa (Ratshome and Nembahe 2021).

4 *As a full chapter of this report is focused on renewable energy (Chapter 3), the focus of the energy sector here is on the non-renewable energy sub-sectors within the energy sector.*

3.1.2.2 Policy Framework

Key documents that are relevant to community beneficiation in the energy sector are highlighted in Table 4.

Table 4: Summary Policy Framework of community beneficiation in the Energy Sector in South Africa

Document Title	Date	Purpose of the document	Relevance to community beneficiation
South African Petroleum and Liquid Fuels Charter (DME 2000)	2000	Provides a framework for progressing the empowerment of historically disadvantaged South Africans across the value chain in the liquid fuels industry	The Charter was signed seven years before the B-BBEE Act was promulgated. It focuses on ownership, supportive culture and procurement policies, capacity building, and employment equity.
Broad-based Black Economic Empowerment Codes of Good Practice: Generic B-BBEE Scorecard (the dti 2007) Amended B-BBEE Codes of Good Practice (the dti 2013; 2019)	2007	Provides companies (e.g., Sasol) in sectors that do not have their own, sector-specific B-BBEE charter and scorecard a generic B-BBEE Scorecard, as amended by the Broad-based Black Economic Empowerment Amendment Act (No. 46 of 2013) (Republic of South Africa 2014) and the 2013 and 2019 amendments to the B-BBEE Codes of Good Practice (the dti 2013; 2019)	The amended B-BBEE Codes of Good Practice and Generic Scorecard (2019) lists as priority B-BBEE elements: Ownership, Skills Development, and ESD. It also includes other elements: SED and Management Control. The priority elements must be complied with by measured entities.

3.1.3 Transport Sector

3.1.3.1 Overview of the Sector

The transport sector in South Africa covers the transport of people and freight through various modes including road, rail, pipeline, aeroplane and ship (GCIS 2022b). According to Statistics South Africa, the "Transport, Storage and Communication" sector contributed approximately R362 billion (in constant 2015 prices) or 7.9% to South Africa's gross domestic product in 2022 (Statistics SA 2023). In addition, according to the South African National DEL in their *22nd Commission for Employment Equity Annual Report 2021-22*, approximately 330,000 people were working in the South African "Transport and Storage" sector in 2021 (DEL 2022).

There are a number of state-owned enterprises involved in the transport sector in South Africa. These include Transnet and its subsidiaries across various transport-related sub-sectors including Transnet Freight Rail, Transnet National Ports Authority, Transnet Port Terminals, Transnet Pipelines and Transnet Engineering (Transnet n.d.). There are also various other sub-sector-specific state-owned enterprises, such as (South African Government 2023):

- Air travel – South African Airlines, South African Express, Airports Company South Africa, Air Traffic and Navigation Services Company, South African Civil Aviation Authority, and various major airports around the country.
- Rail – Passenger Rail Agency of South Africa (PRASA).
- Road – South African National Roads Agency (SANRAL), Road Traffic Infringement Agency, Road Traffic Management Corporation, Road Accident Fund.

In addition, most metropolitan municipalities in South Africa play a role in the transport sector through their Bus Rapid Transit systems, for example, Rea Vaya in Johannesburg, MyCiTi in Cape Town, and Harambee in Ekurhuleni (DOT n.d.).

Major companies involved in the transport sector in South Africa include *inter alia:* Gautrain (a public-private partnership); logistics companies listed on the Johannesburg Stock Exchange such as Imperial Logistics, Grindrod Limited, Super Group Limited, Barloworld, and Value Group; maritime companies like Mediterranean Shipping Company, MACS Maritime Carrier Shipping, and Safmarine South Africa; and public transport companies like Frontier Transport Holdings (Teuteberg and Aina 2021).

3.1.3.2 Policy Framework

Key documents that are relevant to community beneficiation in the transport sector are highlighted in Table 5.

Table 5: Summary Policy Framework of community beneficiation in the Transport Sector in South Africa

Document Title	Date	Purpose of the document	Relevance to community beneficiation
Integrated and Sub-sector B-BBEE Charters of Transport (DOT 2008)	2008	Aimed at poverty alleviation and broad-based economic empowerment, while also creating economic growth, facilitating job creation, enforcing skills development, creating a supportive culture, and ensuring the entry into the industry of women and youth and rural people	The charter and the included scorecards therein provide guidance on various ways that the members of the transport sector must support ESD in the sector.
Integrated Transport Sector Codes (the dti 2009)	2009	Documents the B-BBEE codes of good practice for the transport sector in South Africa. Provides guidelines for transformation in the transport sector.	Provides guidance on B-BBEE requirements to the members of the transport sector to support ESD.
Draft Amended Transport Sector B-BBEE Codes (DOT 2016)	2016	Aligns the B-BBEE Codes of the Transport Sector and sub-sectors with the B-BBEE Amendment Act (No. 46 of 2013). However, the draft amended codes have not yet been finalised.	Outlines priority B-BBEE elements: Ownership, Skills Development, and ESD. Other elements are SED and Management Control.

3.1.4 Construction Sector

3.1.4.1 Overview of the Sector

According to the Construction, Education and Training Authority of South Africa, the construction sector in South Africa has five sub-sectors: Building Construction, Roads and Civil Construction, Built Environment Profession, Materials Manufacturing, and Electrical Construction (CETA n.d.).

According to Statistics South Africa, the "Construction" sector contributed approximately R538 billion (in constant 2015 prices) or 11.7% to South Africa's gross domestic product in 2022 (Statistics SA 2023). In addition, according to the South African National Department of Employment and Labour in their *22nd Commission for Employment*

Equity Annual Report 2021-22, approximately 285,000 people were working in the South African "Construction" sector in 2021 (DEL 2022).

Major companies involved in the construction sector in South Africa include inter alia Aveng, Concor, WBHO Construction, Group Five, Raubex, CSV Construction, Stefanutti Stocks, Motheo Construction Group, WK Construction and Lubbe Construction as well as engineering, procurement, and construction (EPC) companies like Zutari, Actom, and Juwi.

3.1.4.2 Policy Framework

Key documents that are relevant to community beneficiation in the construction sector are highlighted in Table 6.

Table 6: Summary Policy Framework of community beneficiation in the Construction Sector in South Africa

Document Title	Date	Purpose of the document	Relevance to community beneficiation
Construction Sector Broad-based Black Economic Empowerment Charter (DPW 2006)	2006	Provides a framework for the construction sector to address B-BBEE, enhance capacity and increase the productivity of the sector	The charter and the included scorecards therein provide guidance on the various ways that members of the construction sector must support SED, Ownership, Skills Development, etc.
Amended Construction Sector Codes of Good Practice on Broad-based Black Economic Empowerment (the dtic 2017)	2017	Supports the objectives of the B-BBEE Act (No. 53 of 2003) and its amendments in the construction industry	The document contains updated scorecards with relevant elements including SED, Preferential Procurement and Supplier Development, Ownership, and Skills Development
Amended Construction Sector Codes of Good Practice on Broad-based Black Economic Empowerment (the dtic 2017)	2017	Supports the objectives of the B-BBEE Act (No. 53 of 2003) and its amendments in the construction industry	The document contains updated scorecards with relevant elements including SED, Preferential Procurement and Supplier Development, Ownership, and Skills Development

3.2 Types of Community Beneficiation in Associated Sectors

The community beneficiation that takes place in the four associated sectors listed above is defined by the B-BBEE Codes of Good Practice and the related B-BBEE Scorecard. As a result, the same MCB are used across the four different sectors. However, the mining sector includes an additional B-BBEE element, "Mine Community Development", that is unique to the mining sector. These MCB, as implemented in the associated sectors, are detailed in the sections below.

In the generic B-BBEE scorecard, each of the B-BBEE elements is weighted (Table 7) as a measure of the relative importance of the elements to one another when determining an entity's B-BBEE status and related B-BBEE recognition level (the dti 2019, 386).

Table 7: Weightings of the B-BBEE elements according to the Generic B-BBEE Scorecard

B-BBEE Element	Weighting in Generic B-BBEE Scorecard
ESD	40 points (plus 4 bonus points)
Ownership	25 points
Skills Development	20 points (plus 5 bonus points)
SED	5 points

3.2.1 Enterprise and Supplier Development

ESD focuses on fostering the growth of emerging and small businesses in South Africa through the implementation of supplier and enterprise development initiatives as well as the purchasing of goods and services from B-BBEE-compliant entities.

3.2.1.1 Definition

Under the B-BBEE Act, the 2019 *B-BBEE Codes of Good Practice as Amended: Schedule 1 – Terms and Definitions* defined "Enterprise Development Contributions" as (the dti 2019, 316–17):

> *monetary or non-monetary contributions carried out for the benefit of value-adding suppliers to the Measured Entity, with the objective of contributing to the development, sustainability and financial and operational independence of those beneficiaries*

In addition, according to the Generic B-BBEE Scorecard in the 2019 amendments to the *B-BBEE Codes of Good Practice: Amended Code Series 000, Statement 000* (the dti 2019, 383), the "Enterprise and Supplier Development (ESD) element":

> *... measures the extent to which entities buy goods and services from Empowering Suppliers with strong B-BBEE recognition levels. This element also measures the extent to which enterprises carry out supplier development and enterprise development initiatives intended to assist and accelerate the growth and sustainability of black enterprises.*

According to the 2019 *Codes of Good Practice on Broad-based Black Economic Empowerment as amended: Code Series 000, Statement 000*, when using the Generic B-BBEE Scorecard, the ESD element of an organisation's B-BBEE performance has a weighting of 40 points (plus 4 bonus points) out of a total of 109 points (the dti 2019, 386). The ESD element has the highest weighting out of the B-BBEE elements.

3.2.1.2 How has the SED mechanism been implemented in associated sectors?

According to practitioners in the other sectors, implementation of the ESD element has worked well to create local economic activity, including local procurement and supplier development that has grown and diversified local supply chains (Interviewee IP8 2023; Interviewee IP9 2023; Interviewee IP10 2023; Interviewee IP11 2023).

ESD has been implemented in a variety of different ways. Examples from each of the four Associated Sectors are summarised in Table 8.

Table 8: Implementation of ESD in Associated Sectors in South Africa

Sector	Examples of ESD Implementation
Mining	Anglo American operates in South Africa as well as internationally and is a diversified mining company with mining subsidiaries in South Africa covering inter alia coal, diamonds, platinum group metals and iron ore (Anglo American 2021). Anglo has implemented a number of initiatives to promote ESD including the establishment of an ESD Programme (called Zimele) that assists beneficiaries with mentorship and coaching as well as enabling funding opportunities (Anglo American 2021). The company also leverages its existing procurement spend to help suppliers and enterprises in host communities access new markets (Anglo American 2021). Furthermore, Anglo trains youths from host communities in skills that make economic opportunities more accessible, such as digital upskilling and vocational training (Anglo American 2021). Anglo American, through Zimele, also assists SMMEs in host communities to apply for external support grants and loan packages that have been launched by the national government as well as the private sector (Anglo American 2021).

Sector	Examples of ESD Implementation
Energy[5]	Sasol Limited is a global chemicals and energy company that has its head office in South Africa (Sasol 2022). Sasol undertakes ESD through its ESD programmes including its "Sasol Transformation Agenda" that it launched in 2018 (Sasol 2022). To increase ESD, Sasol hosts supplier days in fence-line communities, runs a webinar series for small and medium-sized businesses, and has implemented its Sasol Women in Engineering Business Incubation Programme (Sasol 2022). Sasol also launched an online access platform (called Linkage) for small and medium-sized enterprises (Sasol 2022). Sasol uses Linkage to advertise ESD opportunities as they arise and to find enterprises that Sasol can consider for ESD support to develop such enterprises towards procurement readiness (Sasol 2022).
Transport	Transnet is a state-owned entity that manages South Africa's rail, port, and pipeline transport infrastructure. Transnet has an integrated ESD strategy that aims to support black entrepreneurs through various developmental levels including high school innovation programmes, business case development, business incubation, and through Transnet's Black Industrialists Programme as well as its regional and global exporting and trade programmes (Transnet 2022). Additional ESD programmes run by the company include its Godisa Fund (which undertakes loans to black-owned SMMEs), Mtiya Dynamics (which facilitates the integration of SMMEs into the Black Industrialists Programme), and Small Enterprise Development Agency (which incubates Transnet's former graduates-in-training who are unemployed (Transnet 2022). Transnet also funds research and development that contributes towards industrial capability-building (Transnet 2022).
Construction	Concor (formerly Murray & Roberts Construction) is a South African company involved in building, civil, road and earthworks construction as well as opencast mining and property development (Concor n.d.). Concor has developed an ESD programme that aims to develop and advance SMMEs in the construction sector through mentorship and training, by undertaking general mentorship and coaching, specialised technical training, and financial management and human resources training. The programme also provides access to office space, administrative support and transport as well as subsidised leasing of plants and equipment (Concor n.d.). Furthermore, the company assists entities in its ESD programme by facilitating access to financial institutions and networking opportunities, providing references and surety around future work, and tailoring its mentorship programme to the specific development needs of the beneficiary (Concor n.d.).

5 *As a full chapter of this report is focused on renewable energy (Chapter 3), the focus of the energy sector here is on the non-renewable energy sub-sectors within the energy sector.*

3.2.1.3 What are the limitations of the ESD mechanism in Associated Sectors?

Some of the limitations of the mechanism that have been identified are:

- **Sustainability of SMMEs in ESD programmes is challenging:** In sectors where entities have projects in different areas, e.g., the construction sector, entities' enterprise development programmes are impacted by regulations that prescribe that black-owned SMMEs must be employed from the local area. As a result of the local area clause, SMMEs participating in an ESD programme cannot move from project to project alongside an enterprise's operational teams, which makes it difficult to invest in the long-term growth and development of these SMMEs. A knock-on effect is that in sectors such as the construction sector, smaller black-owned construction businesses may struggle to grow in size and experience.
- **Smaller, newer companies have limited ESD competencies:** To implement ESD well, companies require a good level of internal competency. Large companies that are active in one or more existing sectors (e.g., Sasol, Exxaro, etc.) can utilise their existing internal ESD experience in new sectors like the emerging green hydrogen economy, while smaller and newer entities may lack internal ESD competencies and experience.
- **Allegations of price-fixing and collusion are concerning:** In the mining sector, ESD that includes procurement limitations from a designated geographic area may have created an environment that enables price-fixing and collusion in beneficiary communities (Interviewee IP9 2023). The price-fixing and collusion are a result of the limited number of suppliers in surrounding communities that are able to meet the ESD criteria and supply the required goods/services.
- **ESD may limit the organic growth of exempt micro enterprises:** Focus has been on supporting very small businesses (exempt micro enterprises) with little consideration of building supply chains and/or value chains. This has led to the creation of a highly competitive market for these very small businesses, which has inhibited their ability to grow organically. At the same time, larger companies still hold larger market share and are able to benefit from economies of scale and are, thus, able to achieve unencumbered growth.
- **Monitoring and evaluation of business incubators and accelerators for ESD is lacking:** The ESD space has created an abundant opportunity for business incubators and accelerators; however, the success of these entities is not well documented.
- **Access to capital for small businesses is constrained:** The ESD market remains capital constrained, which means that despite the work of the business incubators and accelerators, small businesses are still unable to access growth capital to scale their businesses.

- **Many businesses qualifying for ESD remain inefficient and unprofitable:** ESD may have also contributed to the growing dependency mindset of qualifying entrepreneurs. As most ESD programmes are grant-based, and the businesses do not have to prove their return on investment or repay the contribution, many businesses remain inefficient and unprofitable.

3.2.1.4 How could the ESD mechanism in Associated Sectors be improved?

Some of the potential ways of improving the functioning of this mechanism are:

- **Create mechanisms for entities to collaborate on ESD:** Given that entities in the same sector require similar suppliers, it would be optimal if ESD development efforts involved collaborating with other businesses and spheres of government to make ESD more effective (e.g., through building local supply chains) and to mitigate the limitations of ESD. For example, Anglo American collaborates with a range of partners to undertake long-term, sustainable development opportunities for the regions around its operations through its "collaborative regional development" approach to community development. However, such collaborative mechanisms would need to mitigate risks related to price-fixing and collusion by suppliers.
- **Apply an investor mindset when undertaking ESD:** See Section 3.3.4 of this report for details on this improvement measure.
- **Improve ESD awareness in enterprises:** See Section 3.3.4 of this report for details on this improvement measure.
- **Establish guidelines on implementing Enterprise Development:** See Section 3.3.4 of this report for details on this improvement measure.
- **Take a wider view of ESD:** Instead of focusing on the development of individual businesses, look to build supply or value chains and/or whole industries.
- **Monitor the effectiveness of business incubators and look for ways to improve effectiveness:** As the success of business incubators and accelerators is not well documented, actively monitoring and evaluating the effectiveness of business incubators could help to improve their effectiveness as well as the ESD benefits to the entities who use them.
- **Improve access to capital for small business beneficiaries of ESD:** Assisting small businesses who benefit from ESD to access growth capital to scale their businesses would help such businesses become more established and less reliant on any single ESD programme.

3.2.2 Ownership

Ownership focuses on ensuring local community shareholding in ventures operating in or adjacent to these communities.

3.2.2.1 Definition

According to the Generic B-BBEE Scorecard in the 2019 Amendments to the *B-BBEE Codes of Good Practice: Amended Code Series 000, Statement 000* (the dti 2019, 383), the "Ownership" element:

> *... measures effective ownership of entities by [b]lack people.*

Furthermore, when using the Generic B-BBEE Scorecard, the Ownership Element of an organisation's B-BBEE performance has a weighting of 25 points out of a total of 109 points (the dti 2019, 386). The Ownership element has the second highest weighting out of the B-BBEE elements.

In addition, as per the 2019 amendments to the *B-BBEE Codes of Good Practice as Amended: Schedule 1 – Terms and Definitions*, "Rights of Ownership" is defined as (the dti 2019, 325):

> *a collective term for the right to Economic Interest and the right to Exercisable Voting Rights*

In a nutshell, Ownership is determined by the number of shares (equity shareholding) of an entity that are held by a particular grouping such as black people, black women, participants in a broad-based ownership scheme, etc.

3.2.2.2 How has the ownership mechanism in Associated Sectors been implemented?

According to practitioners in the Associated Sectors, implementation of the Ownership element, through the acquisition of shareholdings by communities, has resulted in local value creation. However, the communities do not always see the benefits (dividends) of the shareholdings, or the benefits are less than the community members would like, as the management of Community Trusts and the disbursement of dividends is challenging (Interviewee IP7 2023; Interviewee IP8 2023; Interviewee IP9 2023; Interviewee IP10 2023; Interviewee IP11 2023).

Examples of how the Ownership element has been implemented in each of the four associated sectors are shown in Table 9.

Table 9: Implementation of the Ownership mechanism in Associated Sectors in South Africa

Sector	Examples of Ownership Implementation
Mining	Royal Bafokeng Holdings (RBH) is the investment arm of the Royal Bafokeng Nation (RBN), a community located predominantly in the North West Province of South Africa. The RBN are significant landowners in areas where the Merensky Reef is located. The Merensky Reef is part of the richest known platinum-group metals deposit in the world. All RBN resources are held in a Trust on behalf of the RBN. As a community-owned investment company, RBH manages the RBN's investments. RBH was the main shareholder in Royal Bafokeng Platinum (RBP) and its various subsidiaries (RBP 2023). The company mines, concentrates and produces platinum group metals in South Africa (RBP 2023). In 2010, RBH had a 57% shareholding in RBP; however, this shareholding decreased over the next decade to 40% before the majority of RBH's shareholding was sold to Northam Platinum Holdings Limited in 2021 (RBP 2023). The RBN benefits from dividends paid out by RBP as well as from the lease agreements that RBP hold with the RBN to access the land where the mineral rights are located (RBP 2023).
Energy[6]	Sasol Limited is a global chemicals and energy company that has its head office in South Africa (Sasol 2022). In terms of B-BBEE ownership in Sasol, the following shareholdings were in place in 2022 (Siyandisa 2022, 3): · Exercisable voting rights in the hands of black people – 43,37% · Exercisable voting rights in the hands of black women – 17,13% · Economic interest to which black people are entitled – 33,43% · Economic interest to which black women are entitled – 17,49% · Economic interest of any of the following black natural people in the entity: black designated groups,[7] employee share ownership programmes, broad-based ownership schemes or cooperatives – 2,39% · Black new entrants[8] – 2.47%

6 *As a full chapter of this report is focused on renewable energy (Chapter 3), the focus of the energy sector here is on the non-renewable energy sub-sectors within the energy sector.*

7 *These are defined as certain unemployed black people, black youth, black people with disabilities, black people living in rural and underdeveloped areas and black military veterans.*

8 *New Entrants are defined as black participants who have not held equity instruments in any entities with a total value of more than R50 million.*

Sector	Examples of Ownership Implementation
Transport	Super Group Holdings Limited is a South African road freight, logistics and mobility group with many divisions and subsidiaries that operate in South Africa, the United Kingdom, Australia, Kenya, and New Zealand (Super Group 2022). In terms of B-BBEE ownership in 2022, Super Group's Employee Share Ownership Plan had a shareholding of 10.22% of shares, while Black Youth Ownership had a shareholding of 2.74% of shares (TLVT 2022).
Construction	Grindrod Limited is a South African company that offers other businesses freight services and logistical solutions in South Africa and several other African countries as well as financial services (Grindrod Bank) in South Africa (Grindrod 2022). Grindrod Limited's B-BBEE initiatives focus on several elements including increasing black business ownership (Grindrod 2022). The company undertakes ongoing monitoring to achieve its B-BBEE ownership targets (Grindrod 2022).

3.2.2.3 What are the limitations of the ownership mechanism in associated sectors?

Some of the limitations of the mechanism that have been identified are:

- **Communities lack on-paper assets from which to leverage:** Most communities in South Africa do not have existing on-paper assets (in the form of title deeds and balance sheets) with which to leverage off or invest in acquiring shareholdings (an ownership stake) in a company. Communities must thus resort to complicated debt instruments to purchase shareholdings. An exception here is the RBN, which owns the land beneath which lies some of the richest known platinum-group metal deposits in the world. The RBN has benefited from lease agreements between its investment arm, RBH and mining rights holders. In addition, RBH was the main shareholder in a platinum mining company, RBP, and its various subsidiaries (RBP 2023).
- **Detailed reporting on B-BBEE ownership is limited:** Detailed reporting on ownership information is a requirement of the mining sector (through the Mining Charter III), but detailed reporting on ownership is limited/not required by the construction, mining, and broader energy[9] sectors.
- **Internal community management capacity is limited:** Community ownership requires that communities have sufficient internal capacity and a willingness to engage in the process. Ownership mechanisms such as Community Trusts can not only be complex and expensive to establish and administer, particularly if they involve many beneficiaries, but also require the active management of assets. In addition, effective governance and management structures need to be established and

9 *Excluding the renewable energy sector*

maintained to ensure that the rights and interests of beneficiaries are protected, and such structures take a lot of time, effort, and capacity to establish and run well.

- **Community participation in developing community ownership structure is often an afterthought:** Community participation is often an afterthought of the deal and, as such, communities are not offered the opportunity to negotiate for themselves and/or fully understand the terms to which they are agreeing.
- **Community ownership structures are not innovative or responsive to market changes:** Due to the nature of the deal-making, the community structures are not innovative and/or responsive to the changes in the marketplace. For example, Community Trust structures remain the standard, despite proven ineffectiveness. See Section 3.5.3 of this report for details on this limitation.

3.2.2.4 How could the ownership mechanism in associated sectors be improved?

Some of the potential ways of improving the functioning of this mechanism are:

- **Validate community assets**: Work to validate community assets on paper (i.e., land claims, title deed searches, valuations of livestock, etc.) in order to validate the community asset ownership and determine how leverageable these assets are **before entering into debt structures to acquire a shareholding.**
- **Develop ownership capacity within communities:** Developing sufficient internal capacity in communities around ownership through shareholdings and related mechanisms could increase the willingness of community members to engage in the active management and control of community shareholdings.
- **Improve the capacity of implementing companies to consult with communities and establish ownership structures:** Improving the capacity of organisations to consult with communities and to collaboratively establish ownership structures with communities may lead to a better, more inclusive structure that also contributes strongly to the entities' social licence to operate.
- **Raise awareness in local communities about broad-based shareholdings and the related impacts:** See Section 3.5.4 of this report for details on this improvement measure.

3.2.3 Socio-Economic Development

SED focuses on addressing local communities" socio-economic needs, with the goal of enabling economic access.

3.2.3.1 Definition

Under the B-BBEE A7ct, the 2019 *Codes of Good Practice on Broad-based Black Economic Empowerment as amended: Schedule 1 – Terms and Definitions* defined "Socio-Economic Development Contributions" as (the dti 2019, 326):

> *... monetary or non-monetary contributions implemented for communities, natural persons or groups of natural persons where at least 75% of the beneficiaries are [b]lack people. The objective of Socio-Economic Development Contribution is the promotion of sustainable access for the beneficiaries to the economy.*

And, it defines "Socio-Economic Development Project Contributions" as (the dti 2019, 327):

> *... monetary or non-monetary contributions carried out for the benefit of any projects approved for this purpose by any organ of state or sectors including without limitation:*
>
> *a) projects focusing on environmental conservation, awareness, education and waste management; and*
>
> *b) projects targeting infrastructural development or reconstruction in underdeveloped areas; rural communities or geographic areas identified in the government's integrated sustainable rural development or urban renewal programmes;*
>
> *c) new projects promoting beneficiation.*

According to the Generic B-BBEE Scorecard in the 2019 amendments to the B-BBEE Codes of Good Practice: Amended Code Series 000, Statement 000 (the dti 2019, 383), the "Socio-Economic Development" (SED) element:

> *... measures the extent to which entities carry out initiatives that contribute towards Socio-Economic Development or Sector Specific initiatives that promote access to the economy for [b]lack people.*

According to the 2019 *Codes of Good Practice on Broad-based Black Economic Empowerment as amended: Code Series 000, Statement 000*, when using the Generic B-BBEE Scorecard, the SED Element of an organisation's B-BBEE performance has a weighting of 5 points out of a total of 109 points (the dti 2019, 386). The SED element has the lowest weighting out of the B-BBEE elements.

3.2.3.2 How has the SED mechanism been implemented in associated sectors?

Examples of how the SED element has been implemented in each of the four associated sectors are shown in Table 10.

Table 10: Implementation of SED in Associated Sectors in South Africa

Sector	Examples of SED Implementation
Mining	Exxaro, a company that is primarily focused on coal mining, acknowledges that looking after communities and the environment around its mines, through mutually beneficial arrangements, ensures its social licence to operate (Exxaro 2022). Exxaro aligns its SED activities to sectors in alignment with the United Nations Sustainable Development Goals (SDGs) and South Africa's strategic needs (Exxaro 2022). These sectors include: education, skills development and capacity-building, health and welfare, environment, infrastructure, agriculture, ESD, and sports and recreation (Exxaro 2022, 111).
Energy[10]	Sasol Limited is a global chemicals and energy company that has its head office in South Africa (Sasol 2022). In terms of its SED impact, Sasol strives to realise measurable, data-driven socio-economic benefits for communities through a number of efforts (Sasol 2022, 28). These include enhancing the quality of educational opportunities for learners, the awarding of bursaries, and increasing the pool and quality of relevant skills in local communities. Sasol also seeks to build resilient community infrastructure and enhance the access of local communities to quality health systems and community service infrastructure. Environmental stewardship programmes are supported to increase environmental awareness and the "Sasol for Good" programme is used to assist non-governmental organisations in local communities.
Transport	Imperial Logistics provides logistics solutions and end-to-end, integrated market access (Imperial Logistics 2021). Imperial undertakes SED through corporate social investment in local communities through initiatives to provide access to quality and affordable healthcare services, increase the reach of quality education, and improve safety in the local communities (Imperial Logistics 2021, 111). Imperial also supports certain organisations and initiatives financially such as Unjani Clinics, the Imperial and Motus Community Trust, and several road safety initiatives (Imperial Logistics 2021, 111).

10 As a full chapter of this report is focused on renewable energy (Chapter 3), the focus of the energy sector here is on the non-renewable energy sub-sectors within the energy sector.

Sector	Examples of SED Implementation
Construction	Wilson Bayly Holmes-Ovcon Limited (WBHO) is one of the biggest construction companies in Southern Africa (WBHO 2022). WBHO has a SED policy and has implemented various SED programmes linked to community assistance and development, healthcare, and education as well as arts, culture and sporting development (WBHO 2022, 46). WBHO has a range of existing interventions that benefit communities, and these have been extended to incorporate SED (WBHO 2022). These interventions are linked to skills development and training, HIV/Aids awareness, employment equity, and education and bursaries (with a focus on science, technology, engineering and mathematics) through its Akani Scholarship Programme (WBHO 2022, 46).

3.2.3.3 What are the limitations of the SED mechanism in associated sectors?

Some of the limitations of the mechanism that have been identified are:

- **SED is not considered a priority element in the B-BBEE Codes of Good Practice:** The amended B-BBEE Codes of Good Practice (2019) lists the following as priority B-BBEE elements: Ownership, Skills Development, and ESD, which must be complied with by the measured entities (the dti 2019). It also includes other, non-priority elements: SED and Management Control (the dti 2019). Due to this prioritisation, entities focus more on complying with the three priority elements and less on SED.
- **SED is not a core competency of entities:** Entities in the associated sectors are not in the business of uplifting communities and so they lack the necessary skills to implement SED in an effective, sustainable manner. This increases the risk that entities implementing SED will undertake inauthentic, compliance-driven engagements with communities merely to fulfil the obligations of the SED element.
- **Communities are not adequately engaged in SED planning:** The involvement of communities in an entity's SED planning is often minimal, given that SED is not a B-BBEE priority element. Entities have limited budgets for SED, and they need to manage community expectations. However, if SED interactions with communities around SED activities are not undertaken or managed carefully and openly, entities run the risk of alienating the communities through misaligned expectations, which could jeopardise the entity's social licence to operate.
- **SED contributions are generally much lower than other B-BBEE elements:** Except for the mining sector, SED contributions are generally much lower in value than other B-BBEE elements. As such, it does not make sense for companies to deal with SED beyond a grant-making charitable exercise.

3.2.3.4 How could the SED mechanism in associated sectors be improved?

Some of the potential ways of improving the functioning of this mechanism are:

- **Improve entities' understanding of SED and community engagements:** Create awareness around the intention and long-term goal of SED, while helping entities to upskill internally on SED and community engagement. Establish guidelines on how to engage communities, develop SED plans, and identify what makes for effective SED.
- **Create collaborative SED funds to scale outcomes**: Establish collaborative SED funds that multiple entities could contribute towards to work on achieving scale/ value-for-money outcomes.

3.2.4 Mine Community Development

3.2.4.1 Definition

The Mine Community Development mechanism is unique to the Mining Charter III and so is only applicable to the mining sector. Mine Community Development is in keeping with a company's social licence to operate. In the Mining Charter III, in terms of Mine Community Development (DMR 2018a, 28):

> *A mining right holder must meaningfully contribute towards Mine Community Development; with a bias towards mine communities both in terms of impact and size, and in keeping with the principles of the social license to operate.*

Furthermore, for the Mine Community Development element, the term "Mine Community" is defined in the Mining Charter III (DMR 2018a, 29) as:

> *Communities where mining takes place, major labour sending areas, adjacent communities within a local municipality, metropolitan municipality or district municipality*

To achieve the Mine Community Development element, a mining rights holder must consult with relevant communities, municipalities, traditional authorities and affected stakeholders to identify the developmental priorities of the mining communities (DMR 2018a). These developmental priorities must then be contained in an approved Social and Labour Plan by the mining rights holder (DMR 2018a). The mining rights holder may collaborate with other mining rights holders in the same area on identified projects (DMR 2018a). The approved Social and Labour Plan must be published by the mining rights holder in at least two languages (DMR 2018a).

3.2.4.2 How has the Mine Community Development Mechanism been implemented?

As this Mine Community Development element only applies to the mining sector, the mining sector is the only sector from which an example of the element will be reported below.

Anglo American operates in South Africa as well as internationally and is a diversified mining company with mining subsidiaries (business units) in South Africa covering *inter alia* platinum group metals (Anglo American Platinum), iron ore (Kumba Iron Ore), diamonds (De Beers) and coal (Anglo American 2021). The company's approach to mine community development is informed by its regulatory obligations as well as its values, Code of Conduct, and the Anglo American Social Way 3.0, which defines Anglo American's social performance management system (Anglo American 2021). Each of Anglo American's business units in South Africa develops and implements a social and labour plan for each of its operations (Anglo American 2021). These projects form part of the IDPs of the local municipalities in whose jurisdictions Anglo American operates (Anglo American 2021). For example, Anglo American leveraged its existing working relationships and used its health-focused WeCare programme to provide extensive support and emergency relief efforts to communities around its mining sites during the COVID-19 pandemic (Anglo American 2021). The company used its WeCare programme to ensure the provision of food and water, personal protective equipment, healthcare and educational relief to surrounding communities (Anglo American 2021).

In addition, under its mine community development banner, Anglo American uses what it calls its "collaborative regional development" approach to undertake long-term, sustainable development opportunities in the regions around its operations (Anglo American 2021). The company uses this approach to assemble partners from business, government and civil society to deliver scalable development solutions that create opportunities independent of the company's mines (Anglo American 2021). Using this approach, Anglo American, together with the CSIR, Exxaro, Zutari, and World Vision South Africa, founded an initiative called Impact Catalyst to create mechanisms that drive large-scale, SED initiatives (by leveraging collaboration) through public-private partnerships (Anglo American 2021). One of the programmes undertaken by Anglo America and its partners through the Impact Catalyst initiative in 2020 was to help the Limpopo provincial government in the development of the new Limpopo Development Plan (Anglo American 2021).

3.2.4.3 What are the limitations of the Mine Community Development mechanism?

Some of the limitations of the mechanism that have been identified are:

- **Some uncertainty surrounds the Mining Charter policy:** The Mining Charter was first published in 2004 before being amended in 2010 and again in 2019 (Day 2021). The relatively short period between iterations of the Mining Charter, compared to the long-term investment and planning requirements needed to undertake new mining operations, results in policy uncertainty, especially as it often takes several years for a new mine to begin generating profits (Day 2021). It is challenging for investors to commit to a mining project when they are unsure of how certain factors will affect the project and the feasibility of investments in the long run.
- **Mine Community Development only applies to the mining sector:** The Mine Community Development element is part of the Mining Charter III and thus only applies to the mining sector and not the transport, construction, or broader energy sectors (or the emerging green hydrogen economy).
- **Mine Community Development requires a lot of internal capacity to implement:** Large mining rights holders (entities) are able to adequately implement the Mine Community Development element as they have the necessary financial and human resources and may collaborate with other mining rights holders. However, smaller and newer entities may lack the required resources and experience to successfully implement this element given the required consultations and collaborations as well as the need to develop a Social and Labour Plan for each mining operation and have the plan approved.

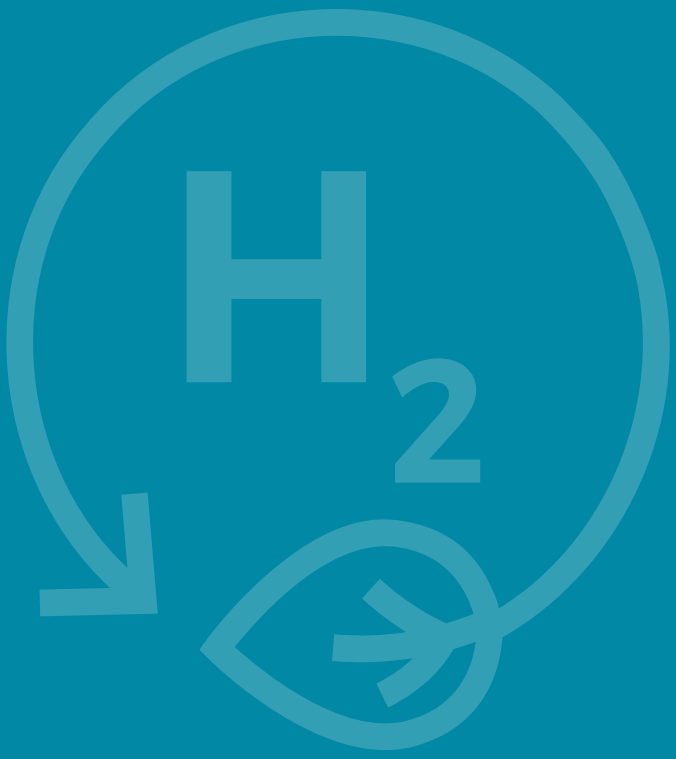
3.2.4.4 How could the Mine Community Development Mechanism be improved?

Some of the potential ways of improving the functioning of this mechanism are:

- **Include fixed time periods in the Mining Charter:** To reduce policy uncertainty in the Mining Charter (and other related policies), fixed time periods could be included for each of the current requirements. The fixed time period would detail how long the requirements will be enforceable, thereby giving a level of certainty for planning purposes (Day 2021).
- **Create an agreed-upon standard for Mine Community Development:** Mining companies could compile and agree on an industry standard in respect of Mine Community Development. For example, the mechanism could be used to improve public-private partnerships and as a way to enhance municipalities' Local Economic Development outcomes.
- **Use Mine Community Development to leap-frog traditional development pathways:** The mechanism could also be utilised to assist communities in leap-frogging traditional development pathways. For example, development could focus on the building of "smart towns" with digitally enabled schools and other infrastructure.

Chapter 4:

Overview of the Green Hydrogen Economy in South Africa



Chapter 4: Overview of the Green Hydrogen Economy in South Africa

4.1 Hydrogen

In South Africa, hydrogen from various production methods (mostly fossil-fuel-based) is used in the mining, processing, and chemical industries. However, little is known about hydrogen trading volumes within South Africa (the dtic 2022e). This lack of hydrogen-specific data results from Statistics South Africa not having a separate reporting code for hydrogen (the dtic 2022e). Rather, hydrogen is included under a single reporting code with several other gases and inorganic oxygen compounds (the dtic 2022e). Together sold quantities of these gases were valued at R5.5 Billion in 2017 (the dtic 2022e, 19).

In 2021, the Government of South Africa prioritised hydrogen when the President announced in his 2021 State of the Nation address that hydrogen fuel cells as an alternative energy source were a national priority (DSI et al. 2021). Since hydrogen became a national priority, the National Department of Science and Innovation (DSI) has published the *Hydrogen Society Roadmap for South Africa* (DSI 2021) and the *South African Hydrogen Valley Report* (DSI et al. 2021). In addition, the dtic has published the draft *Green Hydrogen Commercialisation Strategy for South Africa* (the dtic 2022e), currently under review.

The *Hydrogen Society Roadmap for South Africa* is the national coordinating framework for the hydrogen economy and the key document informing approaches to developing the green hydrogen economy in South Africa (DSI 2021). It also facilitates the integration of hydrogen-related technologies in various sectors of the South African economy (DSI 2021). In addition, the *South African Hydrogen Valley Report* outlines key information relating to the development of three high-potential hydrogen hubs in South Africa: Johannesburg, Durban/Richards Bay, and Mogalakwena/Limpopo (DSI et al. 2021).

4.2 Green hydrogen

Building on the *Hydrogen Society Roadmap for South Africa*, the draft *Green Hydrogen Commercialisation Strategy for South Africa* outlines the economic opportunities that the emerging green hydrogen economy in South Africa presents. It also outlines the developmental approach necessary to turn these potential opportunities into a viable green hydrogen economy in South Africa (the dtic 2022e).

The green hydrogen economy is an emerging economic sub-sector within South Africa's energy sector. Within the broader hydrogen economy, green hydrogen has become a government priority because it fits the national government's aim of facilitating a just and equitable transition in South Africa towards a low-emissions and climate-resilient economy.

The greenhouse gas emissions associated with green hydrogen can be significantly less than other hydrogen-producing processes. In general, green hydrogen is produced through electrolysis, powered by renewable energy (World Economic Forum 2017). Electrolysis separates water to produce hydrogen and a by-product of oxygen (World Economic Forum 2017). Out of all the hydrogen production methods, the green hydrogen production method is the most sustainable and favourable to the environment as it does not result in any Scope 1[11] greenhouse gas emissions because renewable energy is used to power the electrolysis process (World Economic Forum 2017).

The benefits of green hydrogen are not limited to climate change mitigation. There are also SED benefits for platinum-rich countries (such as South Africa). The movement towards green hydrogen is likely to increase the demand for platinum-group metals, which could improve South Africa's balance of trade (and ultimately, the broader balance of payments).

4.3 The green hydrogen value chain

The green hydrogen value chain is complex because it involves multiple sources of green hydrogen, multiple transport and storage options, and multiple uses (for example, in industry and the transport and energy sectors). The *Draft Green Hydrogen Commercialisation Strategy for South Africa* (the dtic 2022e) outlines a simplified green hydrogen value chain with the associated technologies (Figure 2). The steps in the value chain range from the production of renewable energy through the conversion and storage of hydrogen, to the use and transportation of green hydrogen and beneficiated products (DSI 2021).

11 *Scope 2 and 3 greenhouse gas emissions were not mapped.*

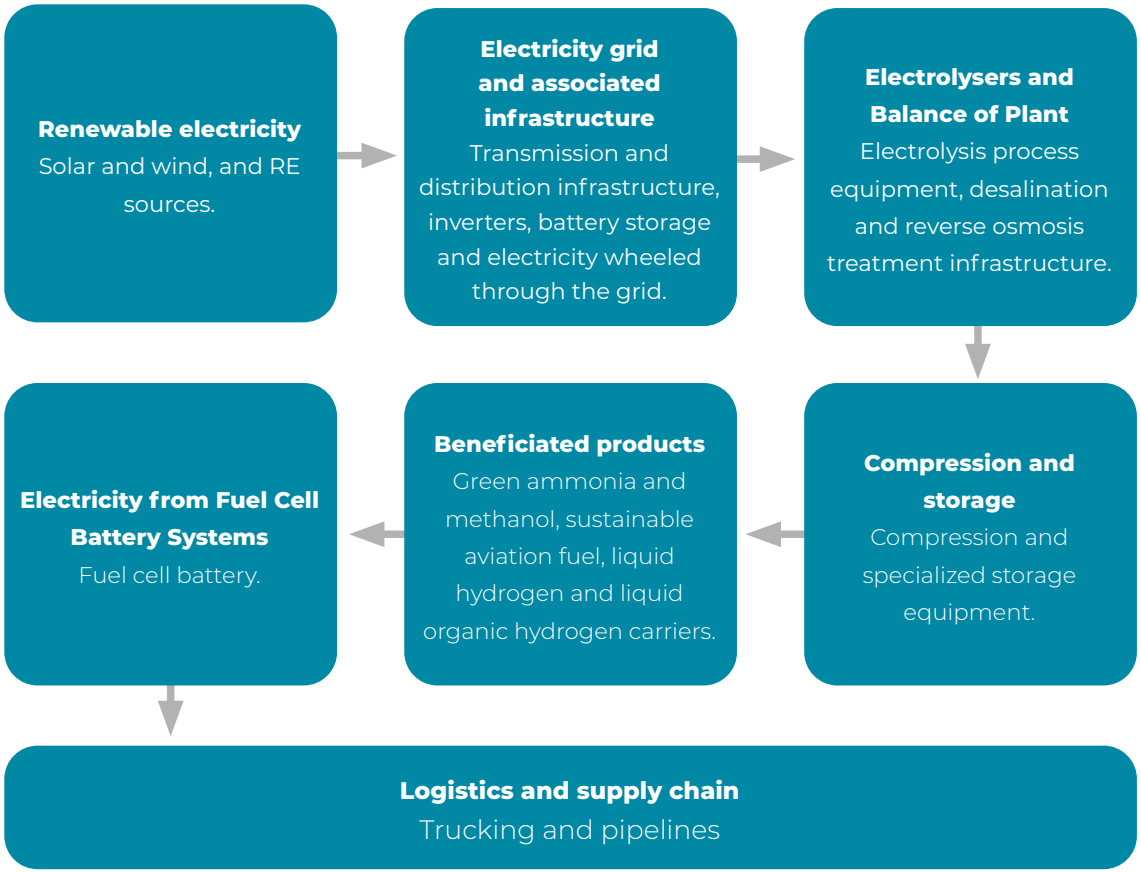


Figure 2: A simplified green hydrogen value chain (dtic 2022)

4.4 Key role-players in the green hydrogen economy

Key role-players in the green hydrogen economy in South Africa are summarised in Table 11.

Table 11: Key role-players in the green hydrogen economy in South Africa

Name	Description	Relevance to the green hydrogen economy
National Treasury	The National Treasury is the national government department that is mandated to promote the government's fiscal policy framework; coordinate macroeconomic policy and intergovernmental financial relations; manage the budget preparation process; facilitate the Division of Revenue Act; and monitor the implementation of provincial budgets.	Manages and regulates South Africa's economic policy and government's finances, as well as directing the country's investment priorities, so the green hydrogen economy will have to follow all relevant regulations set out by the NT.
Department of Mineral Resources and Energy (DMRE)	The DMRE is the national level government department responsible for regulating the country's mining and energy sectors.	Hydrogen production falls under the larger oil and gas industry category, which falls within the mandate of the DMRE. As green hydrogen is established as an energy carrier, the DMRE will oversee the development of legislation and regulations for the green hydrogen economy.
Department of Science and Innovation (DSI)	The DSI is the national government department responsible for scientific research in the country.	The DSI has led significant scientific research and innovation needed to develop the green hydrogen economy.

Name	Description	Relevance to the green hydrogen economy
Department of Trade, Industry and Competition (dtic)	The is the national government department responsible for South Africa's commercial (trade) policy and industrial policy as well as promoting economic development, B-BBEE, implementing commercial law, promoting and regulating international trade, and consumer protection. The dtic is also the custodian of various grants and incentives (e.g., the Black Industrialists Programme and the Local Infrastructure Fund), which serve to catalyse and support industrial development and participation by Black people in various value streams and equity structures.	The green hydrogen economy will be directly affected by the dtic through the Department's implementation of South Africa's commercial (trade) policy and industrial policy as well as its regulation of the country's economic development, B-BBEE and international trade.
Department of Forestry, Fisheries and the Environment (DFFE)	The DFFE is the national government department that is responsible for South Africa's forestry, fisheries, and environmental sectors. The DFFE controls environmental authorisation, permitting, and zoning in South Africa	Green hydrogen entities must get environmental authorisation from the DFFE before they may operate.
South African Bureau of Standards (SABS)	The SABS is a public entity that falls under the dtic and provides national standards and conformity assessment services.	SABS sets national standards, some of which will apply to the green hydrogen economy.
The Presidency	The Presidency consists of four political principals: the President; the Deputy President; the Minister of the NPC; and the Minister of Planning, Monitoring and Evaluation as well as three structures, which support governance operations directly: the Cabinet Office; Policy Coordination and Advisory Services; and Legal and Executive Services.	As The Presidency is in charge of national-level planning, including the setting of priorities, oversight of government policies and programmes as well as monitoring and evaluating performance, it has the authority to make the green hydrogen economy a priority economic sector.

Name	Description	Relevance to the green hydrogen economy
Investment and Infrastructure Office (IIO)	Under The Presidency, the IIO coordinates economic and social infrastructure development and is mandated to solve regulatory and other bottlenecks that may inhibit investment in South Africa. The IIO aims to improve infrastructure investment in the country and to close the viability gap in specific sectors, including the energy sector and its enabling network of industries/ economic infrastructure.	The IIO is able to solve regulatory and other bottlenecks that may inhibit investment in the green hydrogen economy in South Africa.
Presidential Climate Commission (PCC) (Formerly, the Presidential Climate Change Coordinating Commission or P4C)	The purpose of the PCC, with its wide range of representatives, is to oversee and facilitate a just and equitable transition in South Africa towards a low-emissions and climate-resilient economy, including the vision for the country's just transition and the means of achieving that vision. The PCC also advises on South Africa's climate change responses and provides independent monitoring and reviewing of the country's progress in meeting its emissions reduction and adaptation goals.	The South African green hydrogen economy will have to operate and grow as a sector while South Africa undertakes a just and equitable transition, guided by the PCC, towards a low-emissions and climate-resilient economy.
Sector Education and Training Authority (SETA)	South Africa has 21 SETAs that were established to promote skills development in terms of the Skills Development Act (No. 97 of 1998) as amended. These SETAs cover a wide range of sectors, and each focuses on learnerships, internships, unit-based skills programmes, and apprenticeships in their sector. All the SETAs are responsible for skills development in both the private and public sectors within their own sector as a whole. A SETA may facilitate the process of training by paying grants, registering moderators and assessors, identifying scarce skills, accrediting providers, monitoring the quality of training, and implementing projects to close the identified skills gap.	The promotion of skills development in the green hydrogen economy would fall to the Energy and Water Sector Education and Training Authority (EWSETA). However, other SETAs could become involved in specific parts of the green hydrogen production and transportation processes, such as the Transport Education Training Authority (TETA), the Mining Qualifications Authority (MQA), and the Manufacturing, Engineering and Related Services Sector Education and Training Authority (merSETA).

Name	Description	Relevance to the green hydrogen economy
Academic and Research Institutions	Academic and research institutions include universities, other institutions of higher education, and research organisations.	As the green hydrogen economy is in an early stage of development, much research will need to be conducted to develop the green hydrogen economy in South Africa.
Private Sector	The private sector includes South African and international companies.	These are companies that work in the green hydrogen economy as well as other entities that work in sectors that supply the green hydrogen economy with goods and services. These entities form the backbone of the green hydrogen economy and will shape the green hydrogen market in the country.
Financial Sector	The financial sector includes funder and financial service providers including inter alia: - International development finance institutions (DFIs) such as KfW Development Bank, AFD (the French Development Agency), Norfund (the Norwegian Investment Fund), the International Finance Corporation, etc. - South African DFIs like the Industrial Development Corporation of South Africa and the Development Bank of Southern Africa (DBSA). - Commercial banks like Absa, First National Bank, Nedbank, Standard Bank, etc. - Other types of investors, such as pension funds, venture capitalists, etc.	Funders and financial service providers will heavily influence how the green hydrogen market is shaped, what levels of compliance and consideration are internalised by entities, and to what extent the projects/ businesses can afford additional beneficiation efforts.
Civil Society	Civil Society includes *inter alia* industry associations, unions, non-governmental organisations, community-based organisations, non-profit organisations, etc.	Civil society plays a role in all sectors, especially concerning social and environmental well-being.

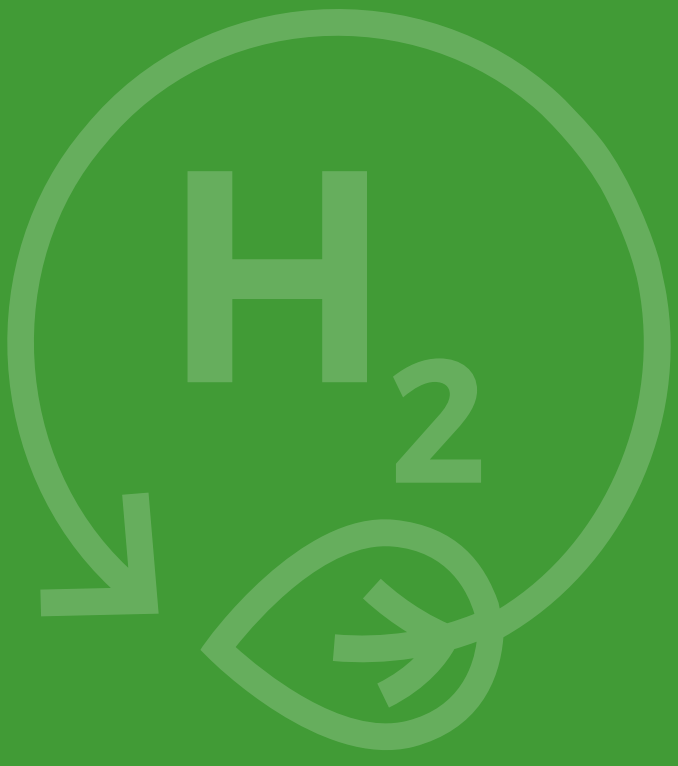
4.5 Alignment of the green hydrogen economy to B-BBEE in South Africa

From the observations in the REIPPPP and associated sectors chapters above, it is apparent that there are similar pieces of legislation and regulations across all the different industries and economic sectors in South Africa relating to B-BBEE and its developmental elements. The development and promulgation of this legislation and regulations are strongly influenced by a guiding principle of social and economic development. This guiding principle aligns with South Africa's top planning policy, the *NDP 2030*, which aims to eliminate poverty and inequity in South Africa (NPC 2012).

The green hydrogen economy will have to operate similarly to these other sectors to undertake business in South Africa. For example, South Africa's green hydrogen economy entities must align with the B-BBEE legislation and related Regulations and Codes of Good Practice. In addition, any legislation, regulations, and charters for the green hydrogen economy will likely have similar concepts and wording. It is, therefore, apparent that there is limited flexibility in what types of community beneficiation are undertaken in South Africa, but there is some flexibility in how community beneficiation is implemented. Specifically, there is space in the green hydrogen economy for creativity and applying the lessons learnt from other sectors to the various MCB that are available.

Chapter 5:

Community Beneficiation in the Green Hydrogen Economy in South Africa



Chapter 5: Community Beneficiation in the Green Hydrogen Economy in South Africa

The green hydrogen economy is an emerging sub-sector within South Africa's energy sector. There is still much uncertainty about how it will grow and what form it will take as it matures. However, several key factors will impact the community beneficiation implementation of green hydrogen initiatives in South Africa. These are:

- the regulatory environment
- the requirements of the capital providers
- the requirements of the purchaser of the green hydrogen
- the knowledge, skills and attitudes of the company implementing the initiative.
- the nature of the planned project
- the knowledge, skills and needs of the community in the broader vicinity of the initiative

While these key factors (see Figure 3) all affect the selection of MCB, the key factors start with the most significant limiting key factor – the regulatory environment – and get progressively narrower.

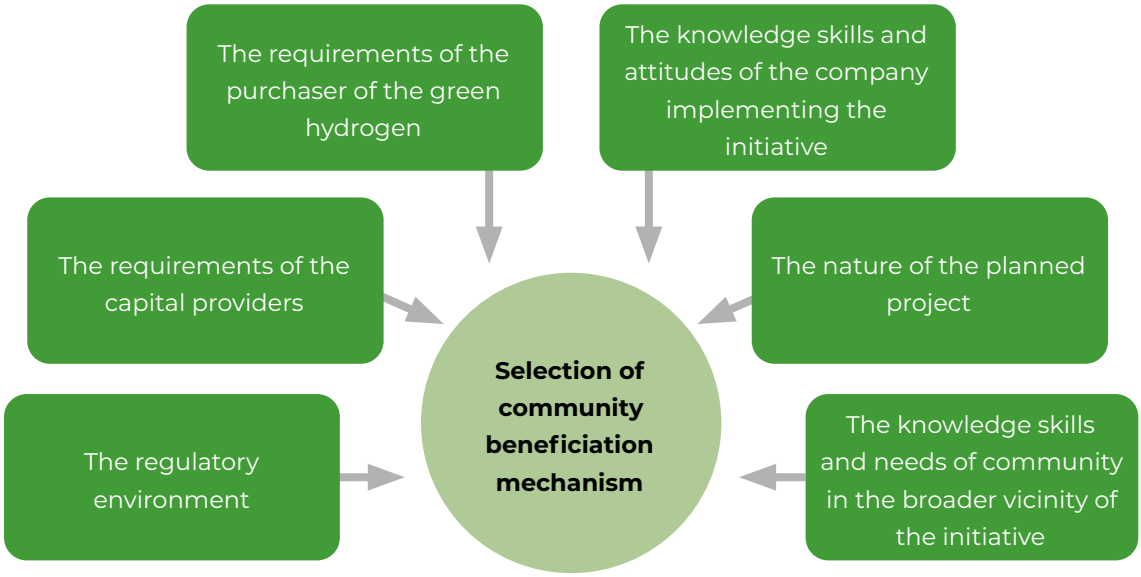


Figure 3: Key factors affecting the selection of mechanisms for community beneficiation

The purpose of this section is to provide an overview of the different ways in which these implementation factors could impact the design of MCB for the green hydrogen economy in South Africa.

5.1 The regulatory environment

Entities operating in the green hydrogen economy will likely be required to comply with the generic B-BBEE Codes of Good Practice, including submitting the required documents to the. Given the focus on green hydrogen as a key growth sector for South Africa, it is likely that industrialisation mechanisms (similar to those set out in South Africa's National Infrastructure Protection Plan and aligned to B-BBEE) will be imposed on the green hydrogen economy as a condition of operation.

It is further anticipated that entities operating in the green hydrogen economy will be reporting on the generic B-BBEE Scorecard.[12] Following the Generic B-BBEE Scorecard means that a green hydrogen company's community beneficiation actions will be measured against four B-BBEE elements in the Generic B-BBEE Scorecard. These elements, their current weightings according to the Generic B-BBEE Scorecard,[13] and their prioritisation in B-BBEE Codes of Good Practice are outlined in Table 12.

Table 12: Weightings and prioritisation of the B-BBEE elements according to the Generic B-BBEE Scorecard

Element	B-BBEE Weighting	Priority
ESD	40 points (+ 4 bonus points)	Priority
Ownership	25 points	Priority
Skills Development	20 points (+ 5 bonus points)	Priority
SED	5 points	No

To be compliant with the B-BBEE codes, entities in the green hydrogen sector will be required to devise and implement community beneficiation strategies in alignment with the elements of the B-BBEE Scorecard. The strategies employed will be determined by the required B-BBEE Contributor Level, and the consequent number of points required for the entities to meet the regulatory expectations and be competitive in the marketplace.

12 *In time, a B-BBEE Scorecard could be developed specifically for the entire hydrogen sector, similarly to what has been done in the mining sector. However, the hydrogen sector would first have to become an economically significant sector in South Africa before a specific B-BBEE Scorecard is developed it.*

13 *The full Generic B-BBEE Scorecard includes a fifth element, Management Control, (that has a B-BBEE weighting of 10 points and is not a priority element), but it has not been included in this report as it does not include any community beneficiation aspects.*

In summary, the regulatory environment in South Africa will focus the community beneficiation efforts of green hydrogen companies on one or more of the following four elements in the Generic B-BBEE Scorecard: ESD, Ownership, Skills Development, and SED.

5.2 The requirements of the capital providers

Capital providers are key influencers in how markets are shaped, and how industrial policy and practice are developed. To this end, capital providers are likely to be a significant influence on how green hydrogen projects are designed, the mechanisms through which green hydrogen is traded, and the extent to which green hydrogen product companies invest in community beneficiation.

For potential green hydrogen projects in South Africa, there are several main types of capital providers. These are the public sector, international DFIs, local DFIs and commercial banks. These capital providers are described in the sections below.

5.2.1 Public sector

The public sector includes different spheres of government (but mainly national government) that can provide capital to businesses in specific sectors. The South African public sector incentive strategies are designed to further the goals articulated in the NDP such as the growth of the green economy, local industrialisation, and participation of historically marginalised individuals in economic activities. These strategies are typically deployed using monetary and non-monetary incentives, schemes, and programmes. For example, tax-related incentives in the manufacturing sector include tax allowances for investment and training purposes. To access the incentives, entities usually must fulfil a list of eligibility criteria.

Examples of public sector programmes include (but are not limited to):

The most favourable incentive offered by the public sector is the 's Black Industrialists Programme. This programme incentivises majority local (black South African) participation in ownership structures by offering grants of up to 50% of the capital required (for projects valued in excess of R30 million) (the dtic 2021).

- The dtic's Capital Projects Feasibility Programme subsidises the cost of feasibility studies for capital-intensive projects, with the intention of stimulating "value-adding economic activities in South Africa" in order to further impact the "the country's industrial policy objectives". The subsidies cover up to 55% of the cost of feasibility studies, provided that the project is likely to result in sustainable job creation, the participation of B-BBEE compliant firms in the upstream and downstream value chains, and a positive impact on other developmental aspects including skills development.

- The DSI incentivises the private sector to invest in scientific and technological research and development by offering a tax incentive of up to 150% of operating expenses incurred in research and development activities. This subsidy is administered by the South African Revenue Service through Section 11D of the Tax Act.
- The SETAs incentivise human capital and skills development in priority areas through the deployment of mandatory and discretionary grants every year. Businesses qualify for mandatory grants relative to the extent to which they enable skills development within the business; and discretionary grants are based on the extent to which they intend to implement learning programmes that are linked to priority skills development areas within a particular industry. Additionally, businesses that implement learnerships, internships and/or apprenticeships are able to benefit from the learnership incentive in terms of Section 12H of the Tax Act. While the grants and incentives are rebates, if they are effectively structured, they can effectively remove the cost of skills development activities.

5.2.1.1 Implications for community beneficiation

The implications of the requirements of the public sector for community beneficiation include:

- Structuring initiatives to take advantage of the dtic's Black Industrialists Programme can have the dual benefit of reducing the cost of capital for the project (thereby improving the market competitiveness of the product), while also achieving community beneficiation through local ownership.
- Structuring initiatives in consideration of local economic empowerment objectives – for example, by including local, compliant businesses into the supply chain and building business models to include investment in skills development and local job creation – can enable the unlocking of several government incentives that are designed to reduce operational costs.
- Local incentives, like the research and development tax incentive, could enable local upstream and downstream industrial development. These incentives could be used to enhance ESD initiatives and ensure the building of local value chains.
- Skills development incentives, administered through SETAs and the South African Revenue Service, could enable community beneficiation activities at very little cost. By enabling the development of local individuals, the implementing entity would be able to reduce the cost of labour (by avoiding having to accommodate individuals commuting to the project's work site, and other associated costs), while also investing in community beneficiation.

5.2.2 International DFIs

The global financial market is greatly influenced by governing frameworks such as the United Nations Principles for Responsible Investment (UNPRI), the world's largest reporting project on responsible investment activities, and by applying the requirements through the adoption of environmental, social and governance (ESG) considerations. These principles and considerations influence their investment mandates and thus compel industries, businesses and projects seeking capital to align with the requirements.

Examples of international DFIs include KFW Development Bank (German), AFD (the French Development Agency), Norfund (the Norwegian Investment Fund), the International Finance Corporation, etc.

After the 2008 global financial crisis, all international financiers and DFIs have included ESG and sustainability requirements (linked to the UN SDGs) in their investment mandates that determine how they allocate capital to entities and projects.

5.2.2.1 Priorities indicated by international DFIs include:

The European DFI network asserts that "European Development Finance Institutions are mandated by their governments to contribute to the UN SDGs and to align with the Paris Climate Agreement by supporting the creation of decent jobs, boosting sustainable economic growth, and contributing to fighting climate change in low- and middle-income countries" (EDFI n.d.).

- Developmental themes/priorities common to all European DFIs include:
  - Sustainable, inclusive, economic growth and development.
  - Enablement of local supply chains through building entrepreneurial capacity and local industrialisation.
  - Sustainable job creation to enable poverty alleviation.
  - Climate Fund Managers and Invest International of the Netherlands administer a USD 1 billion blended-finance fund targeted at accelerating the development of the green hydrogen value chain in South Africa. Their stated developmental priorities include SDG 7 Affordable and Clean Energy, SDG 13 Climate Action, SDG 9 Industry Innovation and Infrastructure, SDG 8 Decent Work and Economic Growth, and SDG 5 Gender Equality. To achieve their goals, the Climate Fund Managers only invest in projects and businesses that are similarly aligned and can articulate strategies and metrics against which to report activities.

5.2.2.2 Implications for community beneficiation

The implications of the requirements of international DFIs for community beneficiation include:

- Expressly including MCB in the project design is likely to be more attractive to investors, to the extent that the mechanisms align with the investor priorities.
- The utilisation of community beneficiation as a strategy to achieve targets measured against the UN SDGs is likely to have global appeal in the capital market.
- Additionally, reporting on community beneficiation activity in terms of ESG reporting frameworks is recommended.
- It is unlikely that projects will be able to capture international capital if they do not address developmental targets and/or outcomes.

5.2.3 Local DFIs and commercial banks

In South Africa, local DFIs and commercial banks are aligned to the Code for Responsible Investing in South Africa (CRISA), which is a derivative of the United Nations Principles for Responsible Investment and the Financial Sector Charter (a derivative of the B-BBEE Codes of Good Practice), among other regulations.

Local (South African) DFIs include the Industrial Development Corporation of South Africa and the DBSA.

Commercial banks in South Africa include banks such as Absa, First National Bank, Nedbank, Standard Bank, etc.

Priorities indicated by local DFIs and commercial banks include:

- The Industrial Development Corporation cites its priority as the enablement of local entrepreneurship to effectively support the development of local industrial capacity. The Industrial Development Corporation requires that projects/entities have local (South African) shareholding; comply with international standards and sustainability; and provide B-BBEE shareholders with concessions in terms of security and the cost of financing.
- The DBSA indicates its goal as “driving inclusive growth and securing innovative solutions that drive socio-economic development” (DBSA n.d.). To achieve this goal, the DBSA has developed an approach to environmental and social sustainability that is aligned with the South African Constitution, National Environmental Management Act (Act 107 of 1998), Equator Principles, the World Bank, International Finance Corporation, and the UN SDGs.
- Commercial financiers in South Africa are guided by various regulations in respect of priorities. The financial sector charter requires that all businesses in this sector comply with an amended version of the B-BBEE Scorecard and enforces compliance by also

requiring that financiers track and measure the performance of their customers against developmental objectives. The requirements of the Johannesburg Stock Exchange further embed the requirement for B-BBEE compliance and, therefore, investment in community beneficiation. To meet the regulatory requirements and retain competitiveness, commercial financiers have prioritised investment in entities and projects that have South African ownership, governance structures that apply the King Code for Governance, include local B-BBEE compliant suppliers, invest in ESD and/or are aligned to local and/or international sustainability standards.

5.2.3.1 Implications for community beneficiation

The implications of the requirements of local DFIs and commercial banks for community beneficiation include:

Structuring projects and operational entities to have local South African ownership and alignment to B-BBEE requirements is likely to be more attractive to local investors, to the extent that the mechanisms align with the investor priorities. (See *Appendix A: Local Community Ownership – Requirements in Terms of the B-BBEE Codes* for a list of requirements for local ownership in South Africa.)

The utilisation of community beneficiation as a strategy to achieve alignment with local B-BBEE and global sustainability goals will appeal to the local capital market in that it will enable the demonstrable alignment to global standards.

Concessions are available for the inclusion of historically excluded groups in project and business structures that can help to reduce the cost of capital.

In short, to be an attractive investment destination, the green hydrogen project/company is likely to align with the sustainability requirements of its capital providers.

In addition to the priorities and focus areas of the capital providers, another factor that green hydrogen project developers will need to consider is that all the capital providers have different requirements that the green hydrogen company will have to meet, such as reporting obligations.

Before designing and undertaking a green hydrogen project or any community beneficiation in the community in the broader vicinity of the project, the implementing company first needs to understand the links between community beneficiation and the capital providers from which it will secure the capital necessary to develop and implement the green hydrogen project.

In summary, capital providers are a key influence on the extent to which green hydrogen product companies invest in community beneficiation. The main types of capital providers are the public sector, international DFIs, local DFIs and commercial

banks. The selection of MCB by an implementing company is influenced by the type of capital provider(s) chosen and the need of the implementing entity to align with the sustainability and reporting requirements of the capital provider(s).

5.3 The requirements of the purchaser of the green hydrogen

The previous sections of the report have highlighted the significant role the purchaser can play in the REIPPPP and other sectors by imposing community beneficiation requirements on entities operating in these sectors. As a result, it is expected that entities operating in the green hydrogen economy will be required to follow the requirements of the purchasers of green hydrogen to secure and retain the purchaser.

Since the future role of the purchaser in the green hydrogen economy in South Africa is uncertain, two scenarios regarding the purchaser will be considered:

- Scenario 1: Purchaser is a state-run green hydrogen procurement programme
- Scenario 2: The green hydrogen economy operates without a state-run procurement programme and there are a variety of purchasers

The key assumptions made regarding these two scenarios are presented in Table 13.

Table 13: Assumptions of the two scenarios

Criteria	Scenario 1	Scenario 2
Name	State-run green hydrogen procurement programme	The green hydrogen economy operates without a state-run procurement programme
Main assumption	The South African national government will develop a procurement programme (similar to the REIPPPP) for the green hydrogen economy in South Africa.	South Africa's green hydrogen economy will not have a government-led procurement programme.

Criteria	Scenario 1	Scenario 2
Governing Framework	The green hydrogen procurement programme will establish its own specific rules and expectations of entities bidding for projects within the programme. It is expected that, similarly to the REIPPPP, there will be alignment with the B-BBEE Codes of Good Practice and related Generic B-BBEE Scorecard. It is presumed that entities would have to submit data and information related to their performance against the various requirement of the green hydrogen programme.	Since initially it is not anticipated that a charter specific to the hydrogen economy will be established, it is anticipated that entities operating in the green hydrogen economy will follow the generic B-BBEE Codes of Good Practice and related Generic B-BBEE Scorecard, including submitting the required documents to the dtic .
Institutions	It is anticipated that a structure (a "Green Hydrogen Office") will be set up by the DMRE to deliver on the objectives of the green hydrogen procurement programme. This structure would be similar in function to the IPP Office in the REIPPPP. It is expected that the Green Hydrogen Office would undertake activities such as: - contract management services - verifying all data received from participating entities - monitoring, evaluating, and reporting on community beneficiation achievements within the programme	As there is no state-run procurement programme, there would be no need to set up an institution to run the programme.
Industry Body	It is assumed that a representative body/association will be established for the hydrogen sector as a whole that would include the green hydrogen economy. This representative body would have a similar role and function to, for example, South African Photovoltaic Industry Association (SAPVIA) in the solar energy sector or South African Wind Energy Association (SAWEA) in the wind energy sector.	It is assumed that a representative body/ association will be established for the Hydrogen sector as a whole that would include the green hydrogen economy. This representative body would have a similar role and function to, for example, SAPVIA in the solar energy sector or SAWEA in the wind energy sector.

Scenario 1: Purchaser is a state-run green hydrogen procurement programme

Similarly to the REIPPPP, in Scenario 1 there will be one main buyer of green hydrogen in South Africa, the South African national government. Having a single buyer will enable a greater level of price elasticity in the price of green hydrogen as the single buyer (the national government) can dictate prices. In addition, having a single buyer should result in unified thinking, which should result in more coherence and a higher level of investment in community beneficiation. While it is not possible to be certain of the exact framing of a South African government procurement programme for green hydrogen, it is anticipated that the framing of the procurement programme and related policy will be guided by the economic development priorities of the public sector and imposed directly (similar to the REIPPPP). The economic development obligations would be imposed as conditions for a licence to operate at the project level. As is highlighted in Chapter 2 of this report, the REIPPPP programme aligned its community beneficiation requirements with the B-BBEE Codes and also awarded points for the four MCB that have been discussed previously.

In summary, under Scenario 1, the requirements of the purchaser will also focus the community beneficiation efforts of green hydrogen companies on one or more of the four MCB already well established in South Africa and as defined in the B-BBEE Codes of Good Practice. These are:

1. ESD
2. Ownership
3. Skills Development
4. SED

Depending on the requirements of the state-run green hydrogen procurement programme and the capital providers, one or more of the elements may be prioritised.

Scenario 2: The green hydrogen economy operates without a state-run procurement programme and there are a variety of purchasers

In Scenario 2, there is likely to be a diverse off-take landscape of purchasers of green hydrogen produced in South Africa. It is anticipated that in this scenario, purchases will be both internationally and locally based (See Appendix B: “Sectors that are likely purchasers of green hydrogen and related products” for an overview). Community beneficiation is likely to be highly influenced by the purchasers of the green hydrogen and the markets in which these purchasers are located. This variety of purchasers would likely result in less coherence and investment in community beneficiation as compared to Scenario 1, as purchasers (especially international purchasers) will differ in their goals and objectives as well as the standards, frameworks, and guidelines (e.g., environmental, social, and governance) that they follow.

Before identifying and implementing a community beneficiation project, the entities operating in the green hydrogen economy should have a clear understanding of the likely purchasers of its products. Based on an understanding of the purchaser, an analysis of any community beneficiation requirements of the purchaser should be undertaken. The two key categories of purchasers (i.e., South African and international purchasers) are discussed in the following sections.

5.3.1 South Africa purchasers

Like the entities in other sectors, purchasers of green hydrogen that are based in South Africa will follow the B-BBEE Codes of Good Practice. The previous sections of the report have highlighted how entities in other sectors often impose community beneficiation requirements on service providers aligned with the purchaser's own reporting to their B-BBEE Scorecard. South African purchasers of green hydrogen are therefore likely to dictate specific community beneficiation and/or B-BBEE requirements from the suppliers of green hydrogen.

In the event the purchaser is in the local mining industry, conditions of the Mining Sector Charter will also be built into the conditions of supply agreements. Similarly, in the event the purchaser is in the transport industry, conditions of the Transport Sector Charter will be built into the conditions of supply agreements.

In addition to the above, purchasers' procurement policies will determine the level of B-BBEE compliance required from their supply chain, which will, in turn, impose compliance on the suppliers of green hydrogen in the local market.

5.3.2 International purchasers

Given that the procurement of green hydrogen specifically is likely to be driven by "hard-to-abate industries"[14] and businesses looking to offset their emissions and address other global sustainability concerns, market forces will likely compel suppliers of green hydrogen to also align with global sustainability standards. These standards include the:

- Sustainability-related disclosure requirements of the International Financial Reporting Standards
- Sustainability Accounting Standards Board Standards
- Climate Disclosure Standards Board Framework
- Global Reporting Initiative Standards
- CDP (formerly, the Carbon Disclosure Project)
- Task Force on Climate-related Financial Disclosures
- United Nations Global Compact
- Workforce Disclosure Initiative

14 "Hard-to-abate industries" refer to sectors of the economy where reducing greenhouse gas emissions is particularly challenging.

In aligning to any set of standards, companies will be required to design strategies and action plans that enable the achievement of extended social impact (and environmental and climate change) goals, and the achievement of these is likely to further enable or contribute to community beneficiation.

Furthermore, in order for green hydrogen to be exportable, there will likely be additional international standards, regulations and requirements linked to the markets in which the buyers are located that need to be met, e.g., Germany's H_2Global regulations (see Text Box 1). These standards and regulations may also impose community beneficiation requirements on green hydrogen projects in South Africa.

As can be seen from the summary of Germany's H2Global regulations, international purchasers also have preferences regarding community beneficiation and, if an entity operating in the green hydrogen economy is planning to target an international purchaser, these preferences should be considered at the outset before selecting MCB.

In summary, under Scenario 2, community beneficiation is likely to be highly influenced by the purchasers of the green hydrogen and the markets in which these purchasers are located (whether local or international). South African purchasers of green hydrogen are likely to dictate specific community beneficiation and/or B-BBEE requirements from the suppliers of green hydrogen. International purchasers of green hydrogen are likely to require suppliers to meet international standards, regulations, and requirements (e.g., H2Global), linked to the markets in which the purchasers are located.

5.4 The knowledge, skills and attitudes of the company implementing the initiative

The previous sections of the report have highlighted that the knowledge and capacities of companies implementing MCB linked to projects in the REIPPPP and other sectors have an impact on how successful these MCB are.

To create an enabling environment for MCB, entities implementing green hydrogen initiatives should review any internal corporate strategies that they may have that may influence the extent to which they will invest in community beneficiation. For example, if a company has a strong internal ethos around sustainability, localisation, local development, etc., then community beneficiation becomes more of a strategic values exercise rather than a tactical or operational exercise involving a matrix of knowledge, skills, and abilities.

Before selecting a community beneficiation project, the implementing company should also undertake an analysis of the internal knowledge, skills, and attitudes within the company regarding community beneficiation. *Tool 1: Competencies Assessment in the Green Hydrogen Community Development Toolkit* (GIZ 2023a), developed by

GIZ, could be used to assist with this process. Additional key points to be considered when undertaking the competency assessment that link to the four mechanisms for community beneficiation are proposed in Table 14.

Table 14: Key points to be considered when undertaking the competency assessment

	Knowledge	Skills	Attitudes
ESD	An understanding of: ESD best practices. · Supplier requirements for green hydrogen projects. · The regulations that affect small and emerging businesses in the green hydrogen sector. · The local business ecosystem. · How to measure and report on the impact of ESD initiatives.	Demonstrated capacity in: · Integrating local suppliers into the company's value chain and supporting their growth and development. · Providing mentorship and training to local businesses on topics such as business management, compliance, and green hydrogen specific skills. · Facilitating access to different financing options for emerging and small businesses.	Respect for: · The economic autonomy of local businesses and their agency to make their own decisions. · The idea of shared success and recognising that the success of local businesses contributes to the success of the company and the community.
Ownership	An understanding of: · Best practice in community ownership models · Corporate law and governance structures, especially those relating to community ownership, shareholder rights, and board representation. · Different ways to distribute the benefits of ownership to the community, such as dividends or reinvestment in community projects. · How to measure and report on the impact of community ownership.	Demonstrated capacity in: · Structuring and implementing community ownership models. · Educating community members about their rights and responsibilities as shareholders. · Managing a diverse shareholder base that includes community members.	Respect for: · Community shareholders and their representatives. · The community's autonomy in making decisions related to their ownership stake.

	Knowledge	Skills	Attitudes
Skills Development	An understanding of: · Best practice in skills development. · Career paths in the green hydrogen sector. · Company green hydrogen job requirements and associated qualifications and skills. · Local educational and training institutions. · How to measure and report on the impact of skills development.	Demonstrated capacity in: · Designing effective, tailored training programmes. · Forming partnerships for training development, delivery, and funding. · Integrating new employees graduating from skills development programmes.	Respect for: · Individuals benefitting from skills development programmes and their own preferences.
SED	An understanding of: Best practice in SED. · The community's specific socio-economic conditions and needs. · Opportunities created by green hydrogen projects for SED benefits for local communities. · How to measure and report on the impact of SED.	Demonstrated capacity in: · Designing and implementing SED programmes. · Forming partnerships for SED programmes. · Integrating SED provision into the operations of the company.	Respect for: · The community's own priorities, needs, and goals for SED.

It is critical that a company realistically assesses its ability to successfully manage each of these four mechanisms so that a mechanism outside the ability of the company is not selected or that alternatively, the company secures the appropriate external personnel who can assist with the design, implementation, and monitoring of the MCB.

In summary, the implementing entity must first review any internal corporate strategies that may influence the extent to which it will invest in community beneficiation and what form of community beneficiation aligns best with existing strategies. Then it should analyse its internal knowledge, skills, and attitudes regarding community beneficiation to realistically assess its ability to successfully manage each MCB that it wants to implement.

5.5 The nature of the planned project

The nature of the planned green hydrogen project has an impact on the types of MCB that are appropriate. The scope and funding structure of the project, the sector in which the project takes place, and the physical location of the project will all impact the types of MCB that are implemented.

5.5.1 Funding structure

Before designing and implementing a MCB, the implementing entity should understand how much funding will be available for community beneficiation, as investment in communities impacts the financial model that is chosen for a project. It should also be noted that if MCB are driven by market positioning considerations, then the extent to which the entity invests in community beneficiation is likely to impact the profitability of the company and/or the market competitiveness of the product.

From a financial perspective, there are two prevalent methodologies employed when implementing MCB:

- Income statement-based transactions, which are expense driven, are typically distributed in the form of grants.
- Balance sheet-based transactions, which are typically in the form of an initial capital investment, result in sustained benefits.

Local (South African) drivers for MCB are likely to enforce community beneficiation (particularly skills development, ESD, and SED) as either a percentage of project revenue (as in the case of REIPPPP and the National Infrastructure Protection Plan) or as a percentage of payroll and profit (as in the case of B-BBEE and the various sector charters). The capital availability for community beneficiation is thus substantially greater in the income statement-based transactions scenario than in the balance sheet-based transactions, and this will materially impede the nature and extent of community beneficiation that can be implemented.

A clear understanding of the amount of funding available for community beneficiation is a key input into the selection of the appropriate combination of mechanisms.

5.5.2 Project context

Over and above the financial structure of the project there is a range of other considerations that could impact the type of MCB that are implemented. These considerations are summarised for each MCB in Table 15.

Table 15: Project context considerations for MCB

Community Beneficiation Mechanism	Considerations
ESD	In the municipal area, consideration should be given to: Investigating if there are any opportunities for individuals and businesses in the surrounding area to provide goods and services to the entity operating in the green hydrogen economy. Tool 13: Local Economic Investment in the Green Hydrogen Community Development Toolkit (GIZ 2023b), developed by GIZ, can be used to assess the opportunities that could be created. · Integrating businesses from the immediate community into the supply chain. These are likely to be small, micro, and subsistence-level enterprises, with limited ability to grow due to limited demand and other constraints. · The development of new businesses, through new venture creation and incubation-type initiatives. · Investigating if there are opportunities arising out of the project to create "spin-off" businesses that could utilise by-products of the hydrogen production process (e.g., related to water, brine, oxygen, etc.) and/or project infrastructure development. For example, oxygen could be co-produced for use in hospitals when producing green hydrogen by electrolysis (Maggio, Squadrito, and Nicita 2022). In addition, if a desalinisation plant were set up to supply the green hydrogen production process with water, the brine resulting from the desalination process could be used to produce a number of products for industrial and consumer use, such as salt (as an industrial feedstock for the manufacturing of chlorine and caustic soda), sodium bicarbonate (baking soda), calcium chloride, ammonia, etc. (Sharkh et al. 2022; Mavukkandy et al. 2019; Gies 2016). There are currently economic and technical constraints to making use of brine to create salt for industrial use and capturing oxygen for medical use; however, it is anticipated that future breakthroughs may allow these by-products to become viable, and local businesses could be established to take advantage of these opportunities. In the provincial/national area, consideration should be given to: · Taking advantage of concessions afforded within special economic zones to reduce operating costs and centralise supply chains. · Developing logistics routes, distribution points and central warehousing, which could serve to improve the economic viability of the region while improving supply chain efficiencies. · Collectively investing in the localisation of key suppliers.

Community Beneficiation Mechanism	Considerations
Ownership	In the municipal area, consideration should be given to: · How the project would benefit from local ownership. For instance, if the project is to be located on or adjacent to land owned by communities, a community share in ownership would contribute to achieving a social licence to operate. In addition, as in many instances, local communities can secure loans at preferential rates, so including a portion of local ownership in a project can reduce the cost of capital and make a project more financially viable. · Local ownership as a form of "barter" or bargaining, which could have benefits such as: - reduced land rental costs - mitigation of risks related to social unrest - enabling community buy-in - ensuring the entity's social licence to operate · Local ownership as a form of social investment to enable dividend flows to the community for the duration/term of the project and allow shared value creation. · Accessing concessionary financing from empowerment-focused financiers. · Enabling compliance with the terms of the supply contract and/or B-BBEE compliance. In the provincial/national area, consideration should be given to: · Concessionary financing from empowerment-focused financiers. · Compliance with the terms of the supply contract and/or B-BBEE compliance.

Community Beneficiation Mechanism	Considerations
Skills Development	In the municipal area, consideration should be given to: Local employment · The types of jobs available during the construction and operational phases of the project, the skills required to undertake the job categories and, if opportunities exist, to upskill members of the local community to perform these jobs. · Leveraging the EWSETA, youth programmes, and available tax concessions to subsidise the costs of training and employing young people from the local community. In the provincial/national area, consideration should be given to: · Partnering with training institutions to ensure the continuous development and upskilling of employees. · Extending skills development activity to address needs within the supply/value chain. · Enhancing employability by providing apprenticeships and internships.
SED	Consideration should be given to whether there is an opportunity for a socio-economic benefit for the local community arising out of the project design. For instance, there may be an opportunity for the project to produce excess energy or excess potable water that could be used locally. Building a desalination plant that is larger than the needs of the green hydrogen project, for example, could allow the excess water to be supplied to the community or local small entities relatively cheaply, especially as water to produce green hydrogen requires a higher level of purification than is necessary for domestic and commercial use. In the green hydrogen production process, excess renewable energy is also likely to be available some of the time (unless massive battery capacity is available to the renewable energy entity). In this example, the renewable energy supply will need to be oversized compared to energy demand due to the intermittency of renewable energy sources like solar and wind energy. Thus, in times of excess, the additional energy could be made available to be used by an adjacent community and/or small enterprise. Communities could also benefit under SED from the construction of service infrastructure (e.g., a tar road or housing and related amenities for workers, if in a remote area) that will have to be built by the entity as a requirement for a new green hydrogen project to be implemented. Such infrastructure could be extended at a relatively low cost to benefit the community. Project planners will need to consider what new infrastructure will be built and brought in that might intrinsically be a benefit without any change or would be of benefit with some small changes to the infrastructure.

In summary, the implementing company should understand how much funding will be available for community beneficiation as an investment in communities impacts the financial model that is chosen for a project. Once a clear understanding of the financial resources is available, different MCB should be investigated in terms of the local context and opportunities.

5.6 The knowledge, skills and needs of the community in the vicinity of the initiative

A critical element of community beneficiation (in the immediate vicinity of the project, and for the national base) is skills development and capacitation. To ensure the success of the green hydrogen economy, South Africa will require the relevant skills to enable and support these projects. Similarly, the most effective MCB is likely to involve elements of skills development, which will need to take into consideration the existing knowledge, skills, and needs of the community.

The regulatory environment, the requirements of the purchaser, the knowledge, skills, and attitudes of the entity operating in the green hydrogen economy, and the nature of the planned initiative can all significantly shape what MCB can viably be implemented by the implementing entity. However, the MCB enabled through the SETAs and their associated incentives can significantly help reduce the cost of skills development for the implementing entity.

To understand the project environment, green hydrogen project developers will need to engage with communities, starting at the point of the project design phase and continuing through the implementation phase. This will assist in achieving an understanding of the knowledge, skills, and needs of the community in the vicinity of the project. To incentivise engaging with communities, the dtic's Capital Projects Feasibility Programme helps to reduce the cost of thorough studies that could include in-depth community engagements (in the vicinity of the project, in the municipal area, and in the provincial area) for the mapping of social impact opportunities as well as local economic development opportunities.

To better understand the perspectives of the community, several toots in GIZ's Green Hydrogen Community Development Toolkit can be used. Tools of relevance are Tool 9: Development Opportunity Ranking, Tool 10: Social Impact and Opportunity Assessment, and Tool 11: Community Action Plans. To understand the perspective of the municipalities, the IDPs of relevant municipalities (local and district or metropolitan) should also be reviewed.

To ensure sufficient information is gathered regarding the implementation of the four possible MCB, additional research tasks and goals specific to these mechanisms is detailed in Table 16.

Table 16: Information and research needs of MCB

Community Beneficiation Mechanism	Research
ESD	Research should be conducted into the existing business operating in the community. Key questions are: · What businesses already exist in the community, in the municipal area, in the provincial area and nationally? · Could these businesses supply the project with any goods or services? · Could local businesses be enabled to fulfil a more prominent role in the value chain? · How could businesses access working, operational and/or growth capital to fulfil growing demand by a growing industry? · Would individuals and businesses in the surrounding area require additional support to be successful service providers for the project? · Are there any business incubator services in the vicinity that could provide support to new and emerging businesses? · Are there any technical support, investor readiness or accelerator facilities that could enable local industrialisation?
Ownership	Research should be conducted to understand existing community knowledge and capacity regarding ownership. Key questions are: · What is the community's investment strategy, and to what extent does this project align with their strategy? · Does the immediate community have prior experience in ownership shareholdings and/or share participation vehicles? · Are the immediate community's assets adequately documented, e.g., land rights, moveable assets, etc? · Is the community adequately professionally represented by financial and legal experts at negotiation tables? · Are there existing community structures that would be appropriate vehicles for the community ownership shareholdings? · Is the proposed community ownership vehicle adequately structured to meet the development vision of the community as well as the required target of the project? · To what extent is the proposed community ownership vehicle encumbered, what is the financial strategy to reduce the encumbrance, and who is managing the strategy?

Community Beneficiation Mechanism	Research
Skills Development	Research should be conducted into: · What are the skills gaps in the green hydrogen value chain? · What institutions and/or skills development providers offer programmes that relate directly to the skills required in the green hydrogen value chain? · What are the available skills in the community? · Are there opportunities to use these skill sets in the project? · Can vocational education programmes build on these skill sets for possible future employment? · Can local educational institutions or training providers support the building of appropriate skill sets? · What are the barriers to access and progress in maths and sciences at local schools? · What are the barriers to access and progress in institutions of higher learning and other training providers?
SED	Research should be conducted into: What are the opportunities for SED, that could be aligned to the project, in the immediate local, municipal, provincial, and national areas?

In summary, various structures and incentives exist that could enable and ease the implementation of community beneficiation. the knowledge, skills, and socio-economic opportunities of the community in the broader vicinity of the project should be considered by the implementing entity before it selects MCB for the project. However, the implementing entity first needs to assess all the areas detailed earlier in this chapter before embarking on consultations with local communities to ensure that all opportunities and any constraints to possible community beneficiation options are well understood. These consultations with communities should take place continuously throughout the project life but will likely need to be instituted during the design and feasibility phase of a green hydrogen project.

Chapter 6:

Recommendations to Support Improved Community Beneficiation Efforts

Chapter 6: Recommendations to Support Improved Community Beneficiation Efforts

The purpose of this chapter is to provide a series of recommendations that would support the implementation of MCB within the emerging green hydrogen economy in South Africa. First are cross-cutting recommendations that apply across different MCB, and then recommendations are summarised that are specific to each of the four MCB discussed throughout this report.

GIZ's Green Hydrogen Community Development Toolkit[15] provides several tools that address some of these recommendations. For example, those recommendations related to establishing guidelines and those related to raising awareness and developing capacity are covered extensively in the Toolkit.

6.1 Cross-cutting recommendations

A summary of cross-cutting recommendations that can assist in mitigating the limitations of all the MCB is provided in Table 17.

Table 17: Cross-cutting recommendations for facilitating MCB in the green hydrogen sector in South Africa

Action	Description	Implementor
Establish a road map for the development of a complete green hydrogen value chain	A road map is required that highlights key areas of the green hydrogen value chain where opportunities for development or expansion exist as well as where skills gaps need to be filled. This road map should be used to influence the design of the community beneficiation elements, and it should align with the draft *Green Hydrogen Commercialisation Strategy for South Africa* (the draft of which is currently under review) and draw from *The South African Green Hydrogen Technical and Vocational Education and Training (TVET) Ecosystem Just Transition Strategic Framework*. This document outlines what additional courses need to be developed and what re-skilling of existing employees needs to take place, to develop the skills that are required for the green hydrogen economy.	The dtic and DMRE

15 *The toolkit includes 15 tools for project developers in the green hydrogen economy to implement community development programmes.*

Action	Description	Implementor
Clearly define the end goal of each community beneficiation element	The end goals of ESD, Ownership, Skills Development and SED should be clearly defined in a document to create consistency in understanding the intent of each element. The documentation should also include rules and guidelines for bidding companies that encourage a sector-wide approach to each of the elements.	The dtic and DMRE (unless a South African government-run procurement process is in operation, in which case the Green Hydrogen Office running[16] the progress could undertake this task)
Establish indicators of success for each community beneficiation element that measure alignment with the defined end goals	In the REIPPPP, indicators of success were often limited to measuring total investment in community beneficiation elements but there was limited measurement of whether the goals of the MCB were achieved. To address this limitation, indicators of success must be introduced that measure if the end goals of each community beneficiation element have been achieved. For instance, an indicator could measure to what degree the skills development programme has resulted in new skilled entrants entering the green hydrogen economy.	The dtic and DMRE (unless a South African government-run procurement process is in operation, in which case the Green Hydrogen Office running the progress could undertake this task)
Establish guidelines for the implementation of the four MCB	Develop and implement guidelines for entities on how to effectively implement each of the four MCB to assist private sector companies in understanding best practice community beneficiation and to help avoid repeating mistakes made in the past.	The dtic and DMRE (unless a South African government-run procurement process is in operation, in which case the Green Hydrogen Office running the progress could undertake this task)

16 *See Section 6.2 which discusses the possible scenario of a government-run procurement programme referred to as Scenario 1.*

Action	Description	Implementor
Establish a database of community beneficiation service providers	A database of service providers with experience in community beneficiation should be established to allow smaller companies or those with limited experience in community beneficiation to procure the necessary skills and expertise in community beneficiation.	Representative body for the green hydrogen economy

6.2 Recommendations specific to the ESD element

Recommendations that are specific to the ESD element are detailed in Table 18.

Table 18: Recommendations for facilitating ESD MCB in the green hydrogen sector in South Africa

Action	Description	Implementor
Promote collaboration on ESD	Encourage collaboration on ESD by green hydrogen entities in the same geographic areas. Given that entities in the same sector or industry require similar suppliers, it would be optimal if ESD development efforts involved collaboration between entities.	The dtic
Encourage the making of ESD investments that address gaps in the local value chain identified in the Road Map	Encourage the making of ESD investments that address gaps in the local value chain as identified in the Road Map (discussed in cross-cutting recommendations, above) and that encourage the building and strengthening of local value chains, while mitigating the limitations of ESD.	The dtic
Create mechanisms for entities to collaborate on ESD	Given that entities in the same sector or industry require similar suppliers, it would be optimal if ESD development efforts involved collaborating with other private sector entities and the dtic to make ESD more effective (e.g., through building local value chains) and to mitigate the limitations of ESD.	The dtic

Action	Description	Implementor
Improve ESD awareness in entities	To make entities more aware of ESD, a network of skilled ESD practitioners could be established to develop and run ESD awareness-raising workshops. While attending these workshops would be voluntary, attendance would be encouraged by including a networking element in the workshops.	Representative body for the green hydrogen economy
Monitor the effectiveness of business incubators and look for ways to improve their effectiveness	As the success of ESD business incubators and accelerators is not well documented, actively monitoring and evaluating the effectiveness of business incubators could help to improve their effectiveness as well as the ESD benefits to the entities who use them.	The dtic and DMRE
Improve access to capital for small business beneficiaries of ESD	Assisting small businesses who benefit from ESD to access growth capital to scale their businesses would help such businesses become more established and less reliant on any single ESD programme. A fund to assist small businesses could be established by the DBSA.	DBSA

6.3 Recommendations specific to the Ownership element

Recommendations that are specific to the Ownership element are detailed in Table 19.

Table 19: Recommendations for facilitating Ownership MCB in the green hydrogen sector in South Africa

Action	Description	Implementor
Improve entities' understanding of the community Ownership element	Create awareness around the intention and long-term goal of community ownership (in terms of a community's shareholding in an entity) while helping entities to improve the quality of their engagements with communities.	The dtic, the B-BBEE Commissioner
Raise awareness in local communities about broad-based shareholdings and the related impacts	Communities should be engaged through training sessions to create awareness and alignment between local ownership and the related impacts, intended and likely, of broad-based shareholdings. The training sessions should happen once a community has been approached by an entity to participate in its green hydrogen project.	The dtic, the B-BBEE Commissioner
Develop ownership capacity within communities	Entities should undertake training with the community to help community members develop sufficient internal capacity and skills so that the community members are able to actively manage and control the community shareholdings, undertake effective decision-making, and participate in shareholder events held by the entity. To ensure transparency and accountability in the management of a Community Trust, it is critically important to effectively regulate how decisions are made by the community about which initiatives to support and who is responsible for managing the funds. This action would only need to take place after a community has been approached by an entity to participate in its green hydrogen project.	Private sector

Action	Description	Implementor
Validate community assets to determine how leverageable they are	When a community is approached by an entity to partner with them on a green hydrogen project as a shareholder (in terms of community ownership), the entity undertaking the project would approach the National Department of Agriculture, Land Reform and Rural Development (DALRRD) to get the DALRRD to validate the community's assets on paper (e.g., land claims, title deed searches, valuations of livestock, etc.) in order to determine how leverageable these assets are before the community enters into debt structures to acquire a shareholding. The DALRRD would be mandated by the DMRE to be responsible for working with the community to validate the community's assets. This action would only need to take place after a community has been approached by an entity to participate in its green hydrogen project.	DALRRD, Private sector
Structure broad-based ownership vehicles in alignment with the B-BBEE Codes and common practice – from a transaction perspective	Community shareholding ownership vehicles should be structured to consider the parameters of the B-BBEE Codes of Good Practice to ensure compliance from inception. This structuring could include, for example, the application of a "trickle dividend" that would ensure that the beneficiaries realise their economic interest from the first year of shareholding and include benefits such as (1) reducing the cost of capital for the broad-based shareholders, (2) achieving dividend flow from the first year of operation, which could allow for additional value creation through compounding, and (3) achieving B-BBEE outcomes for the entities.	Private sector working with the B-BBEE Commissioner

Action	Description	Implementor
Use alternatives to Community Trusts	When entities are working with a community to set up community shareholding ownership vehicles, more effective alternatives to Community Trusts should be considered. The use of Community Trusts to hold local shareholdings is a norm; however, there is no requirement to use Community Trusts, which are known to have many limitations (see Section 4.2.2.3). Alternatives to Community Trusts that could be considered include: · Share ownership schemes structured in special purpose vehicles registered as entities with limited liability (Proprietary Limited) · Broad-based schemes structured as cooperatives · Incorporated joint ventures · Share ownership through non-profit companies · This action would only need to take place after a community has been approached by an entity to participate in its green hydrogen project.	Private sector, the dtic, civil society
Development of skills in local communities to administer community shareholding ownership vehicles	The development of skills within local communities so that they can administer community shareholding ownership vehicles themselves would assist in ensuring more benefits are retained within the community instead of payments being made to external administrators. This action would only need to take place (1) after a community has been approached by an entity to participate in its green hydrogen project, and (2) once a community shareholding ownership vehicle has been selected.	Private sector, civil society

6.4 Recommendations specific to the Skills Development element

Recommendations that are specific to the Skills Development element are detailed in Table 20.

Table 20: Recommendations for facilitating Skills Development MCB in the green hydrogen sector in South Africa

Action	Description	Implementor
Identify skills required for the green hydrogen economy and areas where major skills gaps lie	Mapping of the skills that will be needed in the future and related requirements as well as capacitating employees in respect of these future skills should be undertaken periodically by the EWSETA in collaboration with hydrogen producers in the private sector and be informed by industry surveys. As part of these surveys, entities in the green hydrogen industry should be encouraged to forecast (and perhaps back-cast) the labour requirements of the industry based on current skills deficiencies. For example, given that South Africa currently has a shortage of diesel mechanics (and this shortage has remained consistent over the last 10 years), it is likely that hydrogen mechanics would be a new skill set that would be required as heavy machinery transitions to hydrogen fuel.	EWSETA, private sector
Ensure that skills development efforts align with the skills required	Based on the required skills identified in the action above, EWSETA should put in place a mechanism to monitor that skills development efforts by entities align with identified skills gaps.	EWSETA
Collaborate with EWSETA to improve Skills Development activities	Undertake a collaborative approach between entities and EWSETA to leverage existing structures to improve skills development outcomes, lower the cost of skills development activities, and encourage cross-sectoral training. The collaborative approach should incentivise credible, established training providers and institutions of higher learning to implement de-centralised learning solutions that can be accessed by geographically dispersed communities while capacitating local providers to support learning and skills transfer.	EWSETA, private sector

Action	Description	Implementor
Focus on Skills Development linked to core competencies	Entities could focus their skills development programmes for communities and employees on the core competencies of the company which would be in line with the industry-specific skills of the sector in which they operate.	Private sector
Link Skills Development to the requirements of the green hydrogen value chain	Internal Skills Development activities undertaken by entities for their employees could be used to supplement and improve the entity's value chain and to streamline its operational processes.	Private sector
Link Skills Development to community development requirements	External Skills Development activities undertaken by entities to benefit surrounding communities could be aimed at developing specific skills in the community relating to the green hydrogen economy and the identified skills gaps.	Private sector

6.5 Recommendations specific to the SED element

Recommendations that are specific to the SED element are detailed in Table 21.

Table 21: Recommendations for facilitating SED MCB in the green hydrogen sector in South Africa

Action	Description	Implementor
Improve entities' understanding of SED and community engagements	Create awareness around the intention and long-term goal of SED, while helping entities to upskill internally on SED and community engagement.	Representative body for the green hydrogen economy (unless a South African government-run procurement process is in operation, in which case the Green Hydrogen Office running the progress could undertake this task)

Action	Description	Implementor
Improve the SED skills of entities	This could involve facilitating workshops to help entities upskill internally on the development of SED programmes and plan for community engagement. Alternatively, a network of skilled practitioners could be developed and smaller entities encouraged to procure appropriate skills at key points.	Representative body for the green hydrogen economy (unless a South African government-run procurement process is in operation, in which case the Green Hydrogen Office running the progress could undertake this task)
Create a collaborative SED fund to scale outcomes	Establish a collaborative SED fund that multiple entities in the same sector could contribute towards and where experts manage and implement projects. This fund would aim to achieve scale/value-for-money outcomes related to SED per sector. This could "free" entities from the burden of implementing SED projects themselves and remove the issue of overspending in one geographical area. A centralised fund could also continue after the lifespan of the individual projects that contribute towards it. However, this approach could bring problems associated with centralised decision-making and large funds being available for misuse. To reduce the likelihood of such problems, a strong, credible governance system would be required to prevent mismanagement of the funds and to ensure buy-in from the private sector. In addition, such a fund may reduce benefits to entities by weakening their direct relationship with adjacent beneficiary communities, as less contact and engagement with the local community would be undertaken by the entities themselves.	Representative body for the green hydrogen economy (unless a South African government-run procurement process is in operation, in which case the Green Hydrogen Office running the progress could undertake this task)

Action	Description	Implementor
Clarify roles and responsibilities in terms of SED	Defining roles and responsibilities related to SED in communities is needed so that all stakeholders understand their roles and responsibilities in the SED ecosystem around a beneficiary community, in order to avoid duplication of efforts and other inefficiencies. It is also crucial that communities are aware of these roles and their definitions so that entities are not burdened with issues that should be dealt with by the public sector.	Private sector
Align SED plans with municipal planning documents	Aligning SED plans with municipality IDPs would allow entities to contribute towards community development and reduce potential uncertainty in communities that may occur if two different development plans are published. However, as IDPs must be updated annually and revised every five years, it could transpire that the municipality's priorities could change relatively rapidly causing SED plans to become misaligned and potentially out of date unless they, too, are updated periodically.	Private sector
Define additional SED metrics and targets, other than financial ones	There need to be metrics and targets beyond financial contributions to assist in guiding financial contributions to areas of impact. Examples of such targets and metrics could be: · Number of people from the surrounding community who have directly benefited from the entity's SED contributions. · Number of SED workshops held in the surrounding community. · Number of people from the surrounding community who attended at least one SED workshop. · Number of beneficial facilities (e.g., early childhood development centres, employment centres, etc.) developed and capacitated in the surrounding community. · Social risk: The number of people in the surrounding municipality who believe that the entity's SED activities create social risk or conflict in the community. · Perception of benefits: The number of people in the surrounding municipality who believe that the entity's SED activities are benefiting the community.	Private sector

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Appendix A: Local Community Ownership – Requirements in Terms of the B-BBEE Codes

While the B-BBEE Codes of Good Practice are prescriptive in terms of what is deemed broad-based ownership, there are various mechanisms that projects can employ in order to achieve their local ownership objectives as long as they comply with the basic requirements set out below.

Governance Requirements

In the structuring of the Local Community Ownership scheme, the following governance requirements are mandated by the B-BBEE Codes of Good Practice:

- The Ownership Scheme must be a recognised and registered juristic entity.
- The beneficiaries, or representatives of the beneficiaries, of the scheme, must appoint a board of fiduciaries, in accordance with the juristic legislation and regulation under which it is convened. If the entity is registered as a Trust, it is regulated by the Trust Property Act and requires a Board of Trustees. If the entity is registered as a non-profit company, it is regulated by the Companies Act and requires a Board of Directors.
- At least 50% of the fiduciaries of the entity must be independent, meaning that they derive no direct or indirect beneficial interest in the scheme.
- At least 50% of the fiduciaries of the entity must be black South Africans, and at least 25% must be black South African women.
- The Board Chair must be independent.
- The intention, purpose, investment mandate, roles and responsibilities of the fiduciaries, and defined beneficiaries must be articulated in the entity's constitution.
- Economic interests must accrue to the beneficiaries of the scheme.

Operational Requirements

- The scheme must have provided evidence of operational capacity, including suitably qualified and experienced staff, operating premises, professional advisors, and all other necessary requirements for operating a business.

Financial Requirements

- Administration fees may not exceed 15% of the revenue/dividends realised in the scheme.
- 85% of the benefits of the scheme must accrue to black South Africans.
- Accurate financial reports must be kept and presented to the beneficiaries of the scheme on an annual basis.

Appendix B: Sectors that are likely purchasers of green hydrogen and related products

International and national sectors that are likely purchasers of green hydrogen and green hydrogen related products that are produced in South Africa are listed in the table below (CSIR 2023; IHS Markit 2021; SAIIA 2022; Andreoni, Bell, and Roberts 2023). All the uses of green hydrogen, where green hydrogen could replace sources of fossil fuels (e.g., the mining and steel industries), would also help companies in those industries to reduce their Scope 1 (direct) greenhouse gas emissions.

Buyers	Reason/Use
Airlines industry	Sustainable aviation fuels (SAF) and synthetic fuels derived from green hydrogen for use by the airline industry in South Africa and for export to the international airline industry.
Shipping industry	Green hydrogen can be used as a replacement for fossil fuels in the South African shipping industry and for export to the international shipping industry.
Mining industry	The use of green hydrogen in fuel-cell electric vehicles to replace internal combustion engines in heavy-duty mining trucks.
Fertiliser industry	Chemicals including hydrogen and ammonia to produce fertilisers (including for export).
Steel and iron industries	Green steel and iron (including for export) can be produced using green hydrogen as a replacement for fossil fuels in blast furnaces.
Motor vehicle industry	Green car products (including for export); hydrogen fuel-cell vehicles and fuel-cell electric vehicles including remote mining transport, heavy-duty vehicles (trucks and busses) and light-duty vehicles (passenger vehicles and light commercial vehicles) including for export.
Cement industry	The use of green hydrogen, in place of fossil fuels in the cement production process as well as to power carbon recycling, capture and storage technologies. In addition, once captured carbon has been reacted with green hydrogen, it can be used as feedstock for cement production processes.

Buyers	Reason/Use
Energy industry	Green hydrogen can be used in gas-to-liquid facilities to produce sustainable fuels. Green hydrogen can also be used in power plants with hydrogen turbines.
Other industries	Green hydrogen can be used instead of fossil fuels in industrial processes that require heat, e.g., gas boilers. Green hydrogen and ammonia are also used for explosives and other chemicals. Green hydrogen is also used in the refining of platinum, glass manufacturing and food processing. Green hydrogen is also used as industrial feedstock, that is the raw materials used to make industrial products and many consumer goods.

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