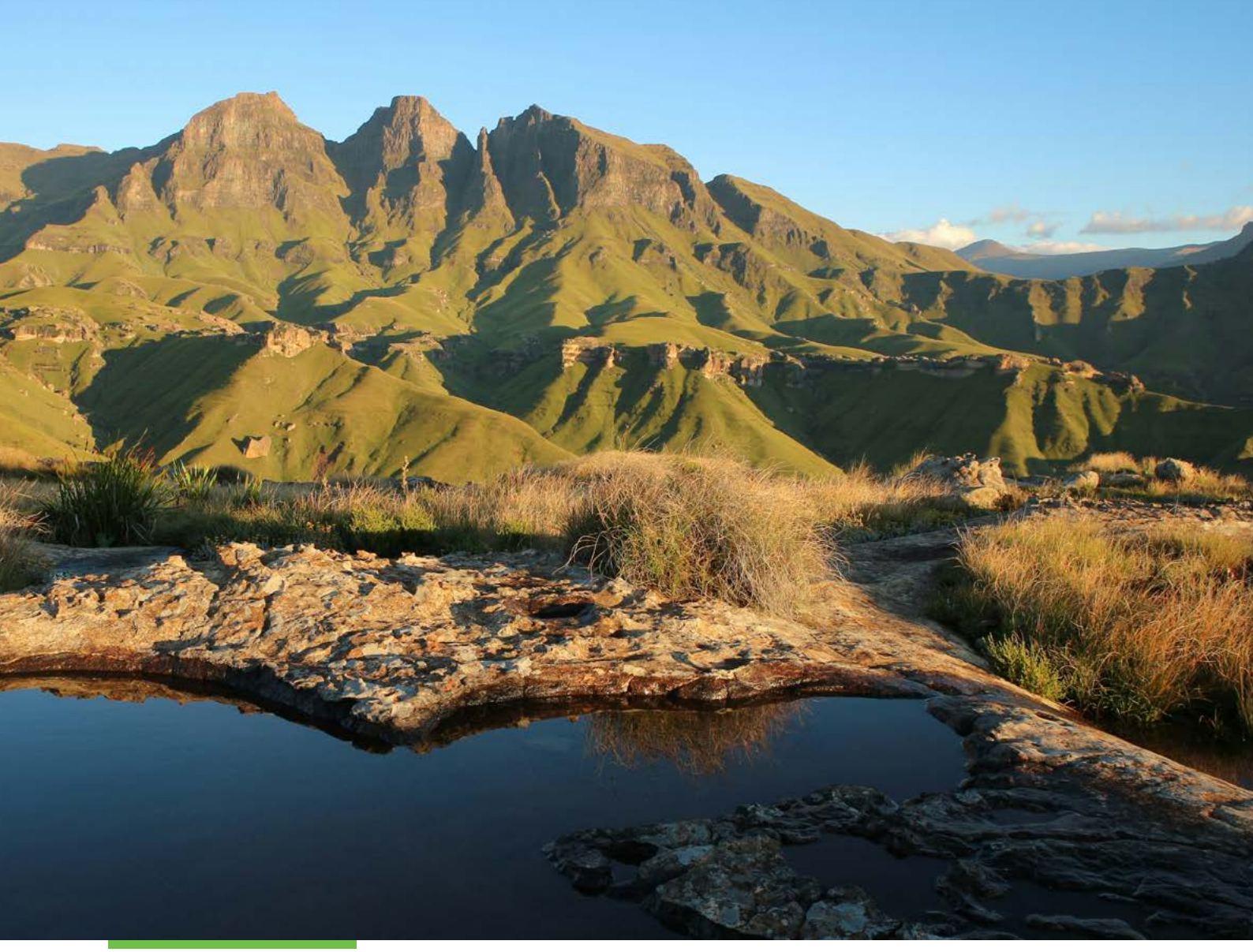

The South African Climate Finance Landscape 2025

A technical report prepared for the Presidential Climate Commission

PRESIDENTIAL
CLIMATE COMMISSION
TOWARDS A JUST TRANSITION

About this Report

The South African Climate Finance Landscape 2025 report provides empirical evidence on climate finance investment flows directed toward low-carbon and climate-resilient interventions in South Africa, along with additional market intelligence on the South African policy landscape and investment opportunities and barriers in the end-use sector. Building on the previous edition published in 2023, this report maps project-level investments spanning the calendar years 2022 and 2023, identifying financial sources and intermediaries; instruments used; uses of climate finance; and sectors receiving climate-related funding. Through the periodic tracking of climate finance investments and needs in South Africa, the report aims to identify gaps and potential opportunities to facilitate the scaling up of climate finance in South Africa.

About the Presidential Climate Commission

The Presidential Climate Commission (PCC) is an independent, statutory, multi-stakeholder body established by South Africa's President Cyril Ramaphosa in 2020 with the purpose of overseeing and facilitating a just and equitable transition towards a low-emissions and climate-resilient economy in South Africa. The PCC engages with a wide range of stakeholders, including all spheres of government, business, labour, academia, communities, and civil society.

About Climate Policy Initiative

Climate Policy Initiative (CPI) is an analysis and advisory organisation with deep expertise in finance and policy. Its mission is to help governments, businesses, and financial institutions drive economic growth while addressing climate change. CPI has seven offices in Brazil, India, Indonesia, South Africa, the United Kingdom, and the United States.

About Greencape

GreenCape is a non-profit organisation registered in South Africa that looks to drive the widespread adoption of economically viable green economy solutions. It works with businesses, investors, academia, and government to help unlock the investment and employment potential of green technologies and services, and to support a transition to a resilient green economy. Its sector experts specialise in energy, waste, water, smart agriculture, alternative service delivery and climate finance.

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List of Abbreviations

AFF	Agriculture, Forestry and Fisheries
BNEF	Bloomberg New Energy Finance
CBAM	Carbon Border Adjustment Mechanism
CBT	Climate Budget Tagging
CCDR	Country Climate and Development Report
CCUS	Carbon Capture, Utilisation, and Storage
CO_2	Carbon Dioxide
CPI	Climate Policy Initiative
COP	Conference of the Parties to the
DBSA	Development Bank of Southern Africa
DFFE	Department of Forestry, Fisheries and the Environment
DFI	Development Finance Institution
DEE	Department of Electricity and Energy
DMPR	Department of Mineral and Petroleum Resources
DMRE	Department of Mineral Resources and Energy
DNSH	Do No Significant Harm
DTIC	Department of Trade, Industry and Competition
DSM	Demand-Side Management
EV	Electric Vehicle
FSCA	Financial Sector Conduct Authority
GDP	Gross Domestic Product
GHG	Greenhouse Gas
ICE	Internal Combustion Engine
IDC	Industrial Development Corporation
IEA	International Energy Agency
IRP	Integrated Resource Plan
JET-IP	Just Energy Transition Investment Plan
JETP	Just Energy Transition Partnership
MDB	Multilateral Development Bank
MRV	Monitoring, Reporting, and Verification
MT CO_2e	Metric Tonnes of Carbon Dioxide Equivalent
MW	Megawatt
NBI	National Business Initiative
NDC	Nationally Determined Contribution
NERSA	National Energy Regulator of South Africa
NGO	Non-governmental Organisation
NWRIA	National Water Resources Infrastructure Agency
OECD	Organisation for Economic Co-operation and Development
PCC	Presidential Climate Commission
PIC	Public Investment Corporation
PV	Photovoltaic
SA GFT	South Africa Green Finance Taxonomy
SALGA	South African Local Government Association
SET	Sectoral Emission Target
SOE	State-owned Enterprise
TA	Technical Assistance
UN	United Nations
UNCTAD	United Nations Conference on Trade and Development
UNFCCC	United Nations Framework Convention on Climate Change
USD	United States Dollar
ZAR	South African Rand

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Foreword

Understanding how South Africa mobilises, channels, and makes use of climate finance is fundamental to meeting our development and climate goals. Climate finance flows are not only about scale, but also about where funds come from, how they move through our markets, and how they are directed towards the areas of greatest need, impact and return. Understanding and tracking these flows, over time is essential to inform evidence-based policy and investment decisions that deliver both climate and development outcomes.

That is why the Presidential Climate Commission prioritises the systematic mapping of South Africa's climate finance landscape. This 2025 edition builds on the baseline established in 2023, offering the first biannual update of our national climate finance tracking effort. By following resources from their source, through financial instruments and intermediaries, to their final use in sectors, this report provides a clear, evidence-based picture of both progress and persistent gaps that must be addressed to advance South Africa's climate transition within the Just Transition Framework.The findings show that annual climate finance reached an average of ZAR 188.3 billion over the 2022-23 tracking period, underpinned by continued private sector investment in clean energy, particularly renewables. This growth reflects the impact of policy reforms, improved capacity for project risk assessment and financing, and the strong investors' confidence to back South Africa's energy transition.

However, the report also brings persistent imbalances into sharp focus. More than 70% of total flows went to energy, while less than 10% supported critical adaptation priorities in water, agriculture, forestry, and transport. Estimates of South Africa's annual investment needs to meet its NDCs and long-term net-zero goals range widely, reaching up to ZAR 499 billion and implying an annual financing gap of up to ZAR 311 billion —with adaptation and just transition measures the most underfunded. In reality, the investment required is likely far greater, since most current estimates capture only mitigation and energy-related needs, leaving adaptation and just transition priorities largely under-costed. Bridging this gap will require not only scaling up investment but also making the business case for adaptation and just transition investments, diversifying financial instruments, and managing risk through blending concessional and commercial capital.

The 2025 edition introduces important methodological innovations, including closer alignment with the Green Finance Taxonomy, greater data granularity, and a first trial methodology for tracking just transition investments. These improvements deepen our understanding of where finance is flowing, and where it is not, strengthening the foundation for a socially inclusive, data-driven, and evidence-based policy planning.

We are grateful to GreenCape and the Climate Policy Initiative for their rigorous work in developing this report, and to the finance sector and other stakeholders who provided data and insights. The results remind us that South Africa must both accelerate investment and broaden its scope beyond energy. Climate resilience, equitable development, and the just transition all demand far greater attention.

It gives me great pleasure to invite policymakers, regulators, financial institutions, business leaders, and civil society to make use of this report as a guide for action. Only through coordinated, targeted, and transparent mobilisation of resources can we meet the challenges and potential of our climate transition and Just Transition Framework.

Dr. Crispian Olver
Deputy Chair, Presidential Climate Commission

Executive summary

Regulatory, policy, and financial shifts are reshaping South Africa's climate transition, marking a decisive move from commitment to implementation. The country's climate policy framework now closely aligns with national development priorities, reflecting two decades of progress in integrating climate considerations into economic and social planning. Internationally, South Africa has deepened its leadership in climate diplomacy. As G20 President in 2025, it continues to engage actively through the UNFCCC, BRICS, and the African Union to advocate for the priorities of developing economies. The country is also leveraging its Just Energy Transition Partnership (JETP) to mobilise concessional and blended finance, while championing multilateral development bank reform and debt-relief mechanisms to expand fiscal space for climate action, and contributing to global dialogue on the evolution of country platforms.

As South Africa advances its climate transition, tracking how resources are mobilised and deployed is critical not only to strengthen domestic and international decisions, but also to guide development finance institutions (DFIs) strategies, and inspire and inform other countries. The South Africa Climate Finance Landscape 2025 supports this effort by examining how climate finance was mobilised in 2022 and 2023, tracking flows for climate mitigation and adaptation solutions, as well as those with dual benefits across both mitigation and adaptation. This study tracks finance from both domestic and international sources, at both private and public levels, and indicates the instruments used to disperse those funds, ultimately identifying the sectors that benefited. This is the third iteration of the South African Climate Finance Landscape, following publications in 2021[1] and 2023[2].

This study is based on publicly available and proprietary data, sourced on a best-effort basis, to provide a comprehensive mapping of South Africa's climate finance landscape. Methodological and data limitations remain, particularly on the periodic availability, quality, and robustness of information on private and public investment. To help address these gaps, this report uses CPI's robust climate finance accounting methodology and adapts it to the South African context, complemented by insights from extensive interviews with market experts and stakeholders within the climate finance ecosystem. Notable improvements in this 2025 edition includes:

- Alignment of sectoral classifications with the South African Green Finance Taxonomy (SA GFT), published in 2022.
- Four new datasets and 16 additional domestic private and public-sector stakeholders, adding an annual average of ZAR 32 billion.
- Tracking just transition aligned climate investment.

1 South African Climate Finance Landscape 2020 (Cassim et al., 2021)
2 South African Climate Finance Landscape 2023 (de Aragão Fernandes et al., 2023)

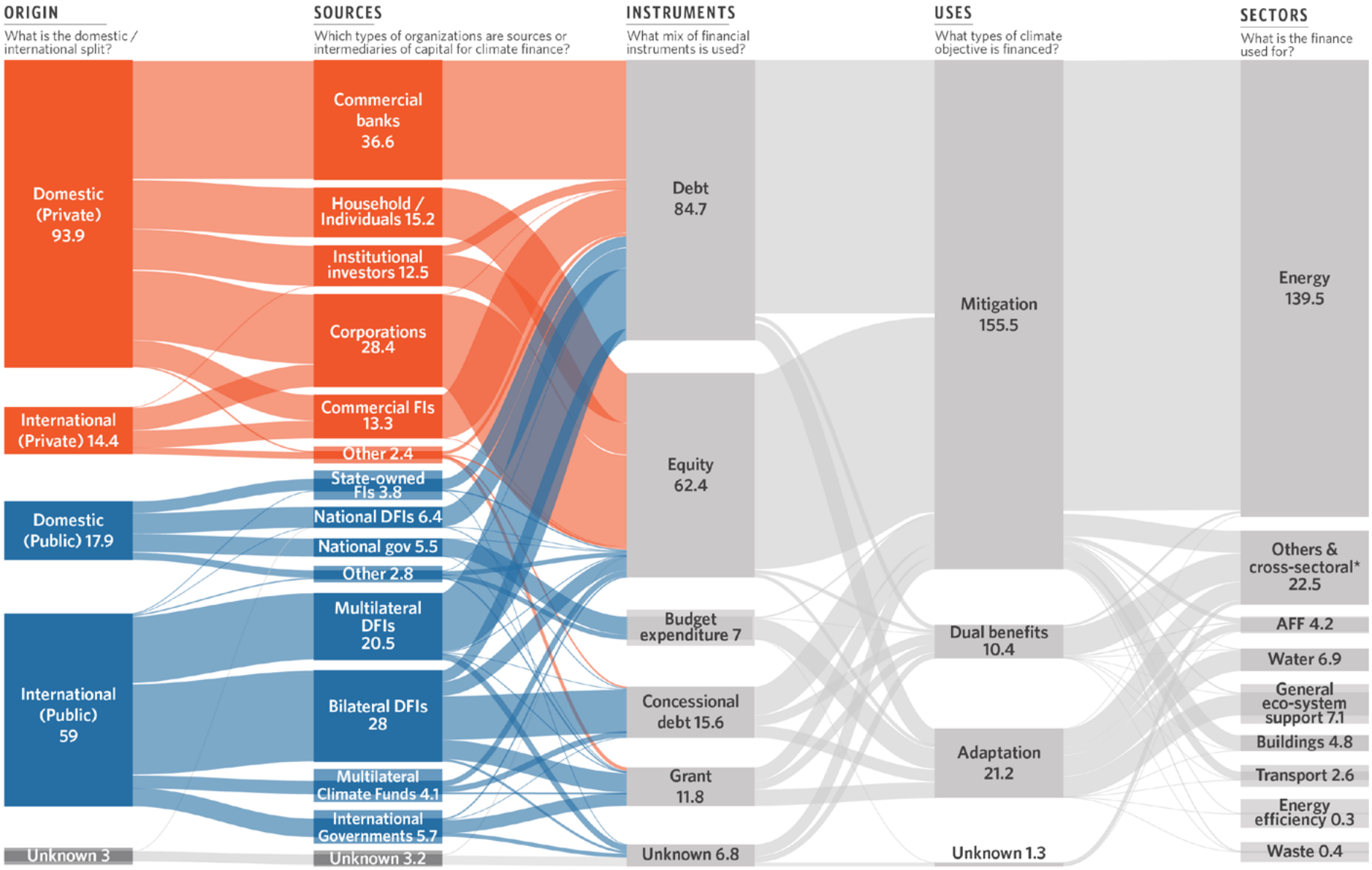
FIGURE 1 The South African Climate Finance Landscape, ZAR bn

LANDSCAPE OF CLIMATE FINANCE IN SOUTH AFRICA, 2022-2023

ZAR billion

188.3 BILLION ZAR

CLIMATE POLICY INITIATIVE



PRIVATE PUBLIC

"Other" private sources include Funds and Third Sector Organisation.
"Other" public sources include Public Funds, SOE and Provincial Government.

**Includes projects and investments that cannot be attributed to a single sector, such as multi-sector programmes, cross-cutting technical assistance, policy and regulatory support, capacity building, and enabling environment activities.*

Key findings

The 2025 Landscape tracked an annual average of ZAR 188.3 billion in climate finance for 2022-2023. Meeting NDC and net-zero targets will require at least two to threefold increase in current climate finance, with estimated needs reaching up to ZAR499 billion per year. Actual investment requirements are likely higher, as most available estimates focus primarily on mitigation and energy investments, while adaptation needs remain under-costed.

South Africa is mobilising climate finance at scale, but current flows are below needs. Adaptation and just transition finance, in particular, fall far behind the country's vulnerability and policy ambitions. Climate finance flows, averaging ZAR 188.3 billion per year for the tracked period, sit at the intersection of energy security, fiscal constraints, and the evolving role of domestic and international capital.

- **Energy dominates climate investment, with an annual average of ZAR 139.5 billion (74.1%) going into the sector, particularly for renewable electricity generation.** This reflects the urgency of South Africa's electricity crisis. In 2023 the country experienced record load shedding levels of more than 6,800 hours. The drive to stabilise supply has spurred investment into solar photovoltaics (PV), wind power, and battery storage. Policy changes, such as lifting the 100 MW licensing cap for private embedded generation in 2022 and introducing new wheeling frameworks in metros including Cape Town and Johannesburg, have enabled rapid private sector uptake. Falling global technology costs have reinforced this trend with utility-scale solar PV prices dropping by more than 80% between 2010 and 2023, making projects increasingly viable without heavy concessional support required. During the tracked period, key energy-related mitigation investments included solar PV (ZAR 64.8 billion, 47%), wind (ZAR 14.2 billion, 10.2%), energy storage (ZAR 14.0 billion, 10.1%), and off-grid renewables (ZAR 3.8 billion, 2.7%) annually. About ZAR 35.6 billion (25.7%) was classified as unspecified renewables, highlighting the need for further climate data tagging and granularity of sector-specific information.

- **Adaptation finance is lagging**. Only 11.3% of tracked finance supported adaptation, well below the African average of 33.7%, as captured in the Landscape of Climate Finance in Africa 2024, tracking years 2021–2022[3]. Adaptation projects often generate public benefits, such as enhanced resilience and reduced vulnerability to climate risks, but typically lack clear revenue streams. This limits their attractiveness to private capital. In addition, many resilience investments are embedded within municipal budgets or take the form of small-scale initiatives, which are often harder to identify and capture in climate finance tracking. Fiscal constraints add to the challenge. With South Africa's debt-to-GDP sitting at ~74% in 2024, and debt service consuming over 20% of expenditure, the government has limited room to scale adaptation finance despite growing climate risks. There exists a notable data gap in capturing adaptation finance in that national and provincial spend is captured in the Landscape methodology; however municipal spend is largely missing due to a lack of project-level tagging.

- **South Africa's climate finance mix reflects its middle-income country status.** Market-rate debt (45.0% of total flows) and equity (33.1%) dominate, underscoring both the strength of the domestic financial sector and the central role of commercial actors. Domestic financial institutions, such as commercial banks, are seasoned project financiers, while corporates and households are increasingly investing in rooftop solar PV. However, high borrowing costs — with the repo rate reaching a 14-year high of 8.25% in 2023 – continue

3 The most recent period for which pan-African data is available.

to constrain access to finance for municipalities and small, medium, and micro enterprises (SMMEs). Grid expansion, particularly transmission lines into new renewable energy zones, rural electrification, or grid-strengthening for variable renewables, involves large upfront capital costs, long payback periods, regulatory as well as off-take uncertainties. Concessional finance and grants collectively account for less than 15% of total climate flows. This leaves a gap for activities that require long-term, low-cost, or risk-tolerant capital, such as early-stage grid expansion, just transition support, and ecosystem restoration. While it is expected that private capital can fund much of the grid build-out, concessional resources are needed to de-risk large transmission investments, enhance grid readiness for renewable energy integration, and extend access to underserved regions.

- **Nearly 60% of total climate finance flows originated from domestic sources.** Commercial banks contributed an annual average of ZAR 36.6 billion (32.7% of domestic finance), corporations ZAR 28.4 billion (19.2%), and households ZAR 15.2 billion (13.6%). This reflects strong local market participation in advancing South Africa's climate response, while also highlighting opportunities to attract greater volumes of international finance, particularly from private sources. However, currency volatility, macroeconomic headwinds, and regulatory uncertainty continue to weigh on foreign investor confidence and participation.

- **Public sources dominate South Africa's international climate finance flows**. Bilateral development finance institutions (DFIs) provided an annual average of ZAR 28.0 billion, followed by multilateral DFIs (ZAR 20.5 billion), foreign governments (ZAR 5.7 billion), and multilateral climate funds (ZAR 4.1 billion). Collectively, these four intermediaries accounted for 79.2% (an annual average of ZAR 58.3 billion) of South Africa's total international climate flows. International finance was primarily channelled through market-rate debt (37.9%), equity (20.1%), concessional debt (20.8%), and grants (15.9%). The majority of international climate finance flows originated from Western Europe (71.2%), primarily reflecting commitments from the International Partners Group (IPG) under the JETP established in 2021. Despite the United States' withdrawal from the IPG and the associated JETP in early 2025, renewed commitments from European partners have sustained momentum, keeping the JETP central to South Africa's international climate finance landscape.

- **South Africa's just transition is emerging but modest.** Over 2022-2023, tracked just transition-aligned flows averaged ZAR 16.0 billion, mostly sourced from government and DFIs. Private sector participation remains limited, constrained by an under-developed project pipeline and ongoing challenges in classifying social investments as climate finance. Actual spending on worker support, reskilling, and community development is likely higher than captured to date. This report's tracking provides an initial snapshot of South Africa's emerging just transition finance landscape, highlighting the need for more systematic data collection and clearer methodologies to assess how finance supports a fair and inclusive transition. The methodology is further explained in the Methodology Annexure.

- **Cross-cutting challenges continue to constrain outcomes.** Grid bottlenecks in high-resource provinces restrict renewable rollout. Policy fragmentation, such as delays in updating the Integrated Resource Plan (IRP) and uneven municipal permitting processes, creates uncertainty. Weak GDP growth and rising borrowing costs limit fiscal space and investor confidence for climate finance.

- **The South African Climate Finance Landscape 2025, tracking years 2022–2023, highlights both significant progress and persistent gaps compared to previous tracking periods.** As shown in Figure 2, the reported average annual climate finance flows increased from ZAR 62.2 billion in 2017–2018 to ZAR 130.6 billion in 2019–2021, and further to ZAR 188.3 billion in 2022–2023. However, direct comparisons between Landscape editions are indicative only and should be interpreted with caution, reflecting the current limitations of climate data tracking systems in South Africa and the evolving methodologies (See Chapter 2).

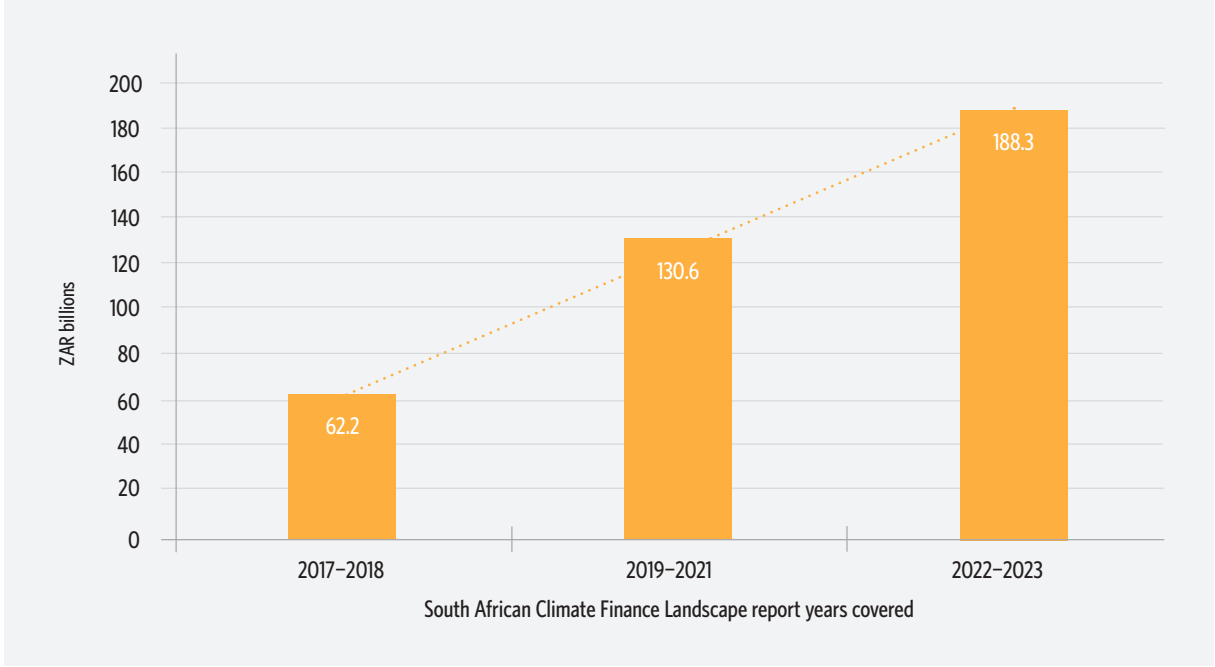


FIGURE 2 Annual average tracked South African climate finance flows 2017-2023, ZAR bn

Note: Climate finance flows are presented as averages to smooth out any fluctuations.

Key recommendations

Immediate actions to build investor confidence, reduce transaction risks, strengthen domestic resource mobilization, and accelerate financing for bankable projects could unlock significant near-term investment. These efforts should leverage existing policy frameworks and institutional mechanisms, including the PCC's Just Transition Framework, the South African Green Finance Taxonomy (SA GFT), and the JETP Country Platform. Sustaining and scaling climate finance will also require deeper structural reforms that address the root causes of the financing gap. Such reforms could strengthen public investment planning, institutional capacity, financial markets, and infrastructure systems to ensure alignment with South Africa's long-term climate and development objectives.

The below table provides a snapshot of key recommendations, with potential lead stakeholders and key implementation steps, per suggested immediate actions and structural reforms. These are further explored in Section 8.

TABLE 1 Key Recommendations

Recommendation	Lead Stakeholders	Key Implementation Steps
IMMEDIATE ACTION: Unlock near-term investment by enhancing data transparency, policy certainty, and financing mechanisms.		
Enhance climate finance data transparency and tracking.	National Treasury, PCC, Prudential Authority, SALGA, FSCA, DFFE, cooperative governance institutions	• Institutionalise climate budget tagging across national, provincial, and municipal budgets (currently in progress). • Require DFIs, SOEs, and private FIs to disclose climate-related investments in line with the SA GFT. • Issue regulatory guidance to harmonise SA GFT adoption, including clarification of the "Do No Significant Harm" criteria. • Establish a central open-access climate finance data portal. • Conduct a comprehensive sectoral climate investment needs assessment to 2030/2040/2050 to build a national blueprint.

Recommendation	Lead Stakeholders	Key Implementation Steps
Provide clear and stable policy signals for climate investment.	DFFE, DEE, DTIC, DMRE, PCC, National Treasury	• Finalise the draft Integrated Resource Plan (IRP) 2023 to set a clear renewable build trajectory. • Roll out the EV roadmap, including demand incentives (rebates and/or tax credits) and a timeline for phasing in efficiency standards and phasing out ICE vehicles. • Publish a long-term carbon tax schedule with rate increases and declining allowance thresholds that clarify future offset eligibility. • Develop a domestic carbon border adjustment mechanism (CBAM) response strategy for trade-exposed industries (steel, cement, aluminium, mining). • Strengthen enforcement of existing climate-related regulations (waste, water, energy efficiency, renewable procurement) with compliance directives and technical support.
Expand concessional and blended finance for adaptation and just transition.	National Treasury, DFFE, PCC, DBSA, IDC, DFIs, international partners	• Building on existing efforts set portfolio targets for DFIs to increase financing in adaptation and just transition sectors. • Expand DBSA's Climate Finance Facility to de-risk municipal adaptation projects; and create IDC concessional loan windows for just transition investments. • Channel public and concessional resources to worker reskilling, SME green enterprises, community renewable energy, and social infrastructure in coal-dependent regions.
Deploy risk mitigation and management instruments to mobilise private capital.	National Treasury, DFIs, MDBs, commercial banks, institutional investors	• Expand on guarantee facilities covering political, regulatory, off-taker and currency risk. • Provide credit enhancement tools (e.g., public-backed reserves, dedicated guarantee companies) to improve green bond/loan ratings. • Coordinate blended climate funds with first-loss public/donor tranches to de-risk high-potential but high-risk sectors (battery storage, CCUS, hydrogen, e-mobility). • Further development in debt-for-climate swaps and subsidised forex hedging instruments to reduce currency risk.
Strengthen project preparation, pipelines and institutional capacity.	PCC, DBSA, IDC, DFIs, National Treasury, JET PMU, SALGA, Operation Vulindlela, municipalities	• Coordinate existing project preparation facilities to offer end-to-end support through to financial close. • Establish sector-specific public–private working groups to generate and troubleshoot project pipelines. • Expand "green lanes" and fast-track permitting and licensing processes (build on Energy One Stop Shop, extend Operation Vulindlela/PICC mandates). • Expand technical capacity-building programmes (City Support Programme, Energy & Water SETA) to upskill municipal officials and young professionals. • Provide DFIs' technical assistance alongside financing and create PCC knowledge platforms for public–private skills exchange.

Recommendation	Lead Stakeholders	Key Implementation Steps
STRUCTURAL REFORMS: **Embed climate priorities into South Africa's financial architecture and economic planning**		
Institutionalise climate finance governance and coordination.	National Treasury, DFFE, SALGA	• Establish a dedicated climate finance unit in the National Treasury to drive strategy, monitor flows, and coordinate delivery. • Create a cross-ministerial climate finance steering committee convened by the National Treasury. • Embed climate priorities into fiscal policy decisions using green budget tagging to inform allocations.
Empower municipalities and cities as climate finance actors.	National Treasury, COGTA, SALGA, PCC, metros, municipalities	• Expand the City Support Programme to include a Green City Finance window to help metros issue green bonds (with guarantees/credit enhancements). • Establish pooled financing facilities to help smaller municipalities access climate finance. • Support municipalities to tag climate projects in budgets and access international climate funds. • Support city-to-city learning networks. • Enable cities to generate revenue from carbon credit projects (e.g., landfill gas-to-energy, urban forestry) with national monitoring, reporting, and verification (MRV) standards.
Deepen domestic financial markets for climate investment.	National Treasury, the Prudential Authority, FSCA, JSE, institutional investors	• Develop a SA GFT-aligned green bond standard. • Enable infrastructure and green investments to be a recognised asset class under Regulation 28, allowing further allocation and enabling access to institutional domestic savings. • Support a domestic carbon credit market linked to the carbon tax regime to create new price signals and revenue streams.
Rewire infrastructure systems to enable transition technologies.	DEE, DMRE, Transnet, NWRIA, PICC, municipalities	• Fast-track establishment of the Transmission System Operator and competitive electricity market under the Electricity Regulation Act. • Accelerate grid build-out and upgrades to ports and freight rail to support renewables, green hydrogen, and EVs. • Operationalise the National Water Resources Infrastructure Agency (NWRIA) to attract private investment into bulk water infrastructure.
Leverage international finance and partnerships.	National Treasury, DBSA, PCC, DIRCO, DFFE, DFIs	• Supporting the G20 Roadmap for Multilateral Development Banks (MDB) reform (increased lending capacity, enhanced private sector mobilisation, strengthened country-level collaboration and climate action). • Deepen South–South cooperation through regional infrastructure projects and BRICS/AU platforms. • Champion developing country needs in global climate finance policy (UNFCCC, G20, IMF/WB), including pushing for expanded developed country commitments, climate debt relief, and sustainability-linked debt instruments.

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01 Introduction

1.1 South Africa's climate risk context

Mobilising capital and advancing strategic policy reforms to achieve South Africa's 2050 net-zero target and strengthen climate resilience is an environmental, social, and economic imperative. To succeed, the transition must be inclusive. This means supporting livelihoods, addressing structural inequalities, and strengthening economic resilience through safeguarding trade competitiveness, market access, and investment attraction. Yet, South Africa's economy carries a significant carbon burden, underpinned by structural dependence on fossil fuels. In 2023, coal accounted for 81.6–82% for 2023 of the country's electricity generation in 2023, while the industrial and transportation sectors contributed over 20% and 10% of national greenhouse gas (GHG) emissions, respectively. Decarbonising these emission-intensive sectors comes with socioeconomic complexities, given that the country's deep-rooted inequality, high unemployment, and widespread poverty are closely tied to its historic and ongoing dependence on carbon-intensive industries (IEA, 2025).

The reconfiguration of international markets and global value chains toward low-carbon production represents a major challenge for South Africa's carbon-intensive exports. Many key export industries, particularly the basic metals and automotive sectors, are emissions-intensive, leaving them vulnerable to global decarbonisation measures, such as the European Union's carbon border adjustment mechanism (CBAM). As South Africa's key trading partners integrate climate considerations into their trade and investment frameworks, the country's dependence on carbon-intensive value chains and exports poses risks for jobs, competitiveness, and long-term growth.

Regulatory, policy, and financial shifts are already reshaping South Africa's climate transition, signalling decisive moves from commitment to implementation. South African policymakers recognise the scale of the challenge and, in partnership with domestic stakeholders and international partners, are charting a course to achieve the Paris Agreement goal of limiting global warming to 1.5°C. A series of climate-aligned actions and policies responds to domestic climate risks as well as the country's responsibility to contribute to global efforts to reach net-zero emissions by 2050. This is reflected in the country's Nationally Determined Contribution (NDC), which outlines ambitious emission reduction targets,[4] prioritising adaptation (alongside climate change mitigation), finance mobilisation, and a just socioeconomic transition, anchored in a Just Transition Framework that reflects national circumstances.

Key institutions such as the PCC facilitate inclusive dialogue, monitor progress, and advise on pathways for a just transition. In parallel, strategic tools such as the SA GFT, a classification system for sustainable investments, help align public and private capital flows with climate objectives. Additionally, South Africa is actively leveraging the country platform model, a collaborative mechanism that brings together international partners, multilateral development banks, and domestic stakeholders to mobilise and align financing for the Just Energy Transition Investment Plan (JET-IP). The enactment of the Climate Change Act 22 of 2024 further strengthens the legal foundation for climate action, reinforcing institutional alignment and accountability across the transition agenda (see Section 3 for details on South Africa's climate finance policy landscape).

4 The 2025 draft NDC (DFFE, 2025) sets the 2026–2030 (short-term ambition) emissions range at 350–420 Mt CO_2e, representing greater ambition compared to the 2021–25 (previous short-term) range of 398–510 Mt CO_2e. This ambition is further extended in the medium term, with the draft lowering the 2031–35 emissions range to 320–380 Mt CO_2e, compared to the 2025–30 (previous medium-term) range of 350–420 Mt CO_2e.

1.2 Report objectives and structure

This report assesses data on project-level investment commitments to ascertain climate finance flows in South Africa for the calendar years 2022 and 2023, within the context of the country's national climate policy goals and objectives. It builds on two earlier mapping efforts: The South African Climate Finance Landscapes of 2020, which covered data from calendar years 2017-2018; and 2023, covering years 2019-2021. The current report aims to inform key stakeholders, including the South African government, DFIs, investors, and development partners, by identifying opportunities to enhance the effectiveness, coordination, and scale of climate-related investments. Using CPI global and national climate finance tracking methodology (CPI, 2025), the report maps the lifecycle of climate finance flows across sources, intermediaries, instruments, and end uses to achieve the following objectives:

- **Establish a comprehensive evidence base** on public and private climate finance flows in South Africa, mapped by volume, source, instrument, use, and sector.
- **Identify financing gaps and opportunities** to help scale up climate finance across priority sectors.
- Strengthen alignment and coordination between international and domestic stakeholders to facilitate the scaling of climate finance.
- **Identify and propose solutions to methodological challenges** and address persistent data gaps to improve the transparency and comparability of climate finance tracking over time.
- **Test a methodological approach to measuring just transition** investments in the broader climate finance landscape.

The remainder of this report is structured as follows:

- **Section 2:** Methodology applied in this report.
- **Section 3:** South Africa's climate finance policy landscape.
- **Section 4:** Sectoral context, relevance, and investment needs.
- **Section 5:** Landscape of climate finance flows in South Africa.
- **Section 6:** Emerging themes: Just transition, guarantees and urban climate finance.
- **Section 7:** Barriers and challenges to scale climate finance in South Africa.
- **Section 8:** Recommendations for scaling climate finance in South Africa.

02 Methodology

2.1 Scope and definitions

This report analyses South Africa's climate investment during the calendar years 2022 and 2023. It applies CPI's climate finance tracking framework utilising the SA GFT to guide the classifications of sectors and activities, creating an integrated mapping of flows that is both internationally comparable and domestically aligned (see Figure 1 for details).

Definition: In this report, *climate finance* refers to local, national, or transnational funding from public, private, or alternative sources that is directed towards covering the costs of transitioning to a low-carbon economy and/or adapting to, and building climate resilience, against current and future impacts of climate change[5] (CPI, 2017). Investment projects are identified and classified according to the following objectives, as defined in the SA GFT:

- **Mitigation:** An economic activity that contributes to reducing or stabilising greenhouse gas (GHG) concentrations in the atmosphere at a level that prevents dangerous anthropogenic interference with the climate system, either by avoiding or reducing GHG emissions or by enhancing GHG removals.
- **Adaptation:** An economic activity that substantially reduces the risk or impact of current or expected future climate change on the activity itself, without increasing risks to other people, nature, or assets, or that prevents or reduces climate-related risks and impacts on other people, nature, or assets, again without shifting risks elsewhere.
- **Dual-benefit:** An economic activity that supports both climate change mitigation and adaptation, meeting the respective criteria for each category.

Data sources: Domestic data was primarily collected through a voluntary survey of South African financial institutions, with 28 institutions responding, and supplemented by climate-related expenditure data from the National Treasury Public Finance Department. The latter covers climate-relevant spending at both national and provincial levels but excludes subnational data, as well as allocations for administrative, policy, and sectoral oversight. In addition, publicly available sources such as corporate sustainability reports were incorporated where sufficient detail was provided. International data was sourced from CPI and includes sources such as BNEF, IJ Global, surveys to multilateral, bilateral and national DFIs, OECD, climate funds update (see Figure 3 for details).

Dimensions: Climate finance flows are tagged at the project level across their entire lifecycle, from the source of capital, through the financial instrument used for disbursement, to the sector and subsector of activity, and ultimately the climate change objective addressed. Only sources of finance providing primary investments into the real economy were included in scope, and secondary market transactions were excluded. All figures reflect financial commitments made within the calendar year, rather than actual disbursement (see Annexures for more details).

5 "Local funding" refers to subnational sources (e.g., municipalities, provincial governments, local development banks, or community-based funds), whereas "national funding" refers to sovereign-level resources mobilised by central government or national institutions.

2.2 Methodological updates and refinements

New project-level datasets and actors. New datasets were incorporated to strengthen coverage and accuracy across sectors and financial instruments. International sources provide additional data on private flows, including IJGlobal Africa (infrastructure investments), LGX DataHub (green bonds), The Big Deal (private venture capital), and the World Bank's Private Participation in Infrastructure (private participation in publicly led infrastructure finance). The domestic surveys were collated from actors including commercial banks, private equity firms, pension funds, asset managers, impact investors, DFIs, and other financial institutions. Together, these sources allow for a more comprehensive and precise picture of climate finance flows across both public and private actors.

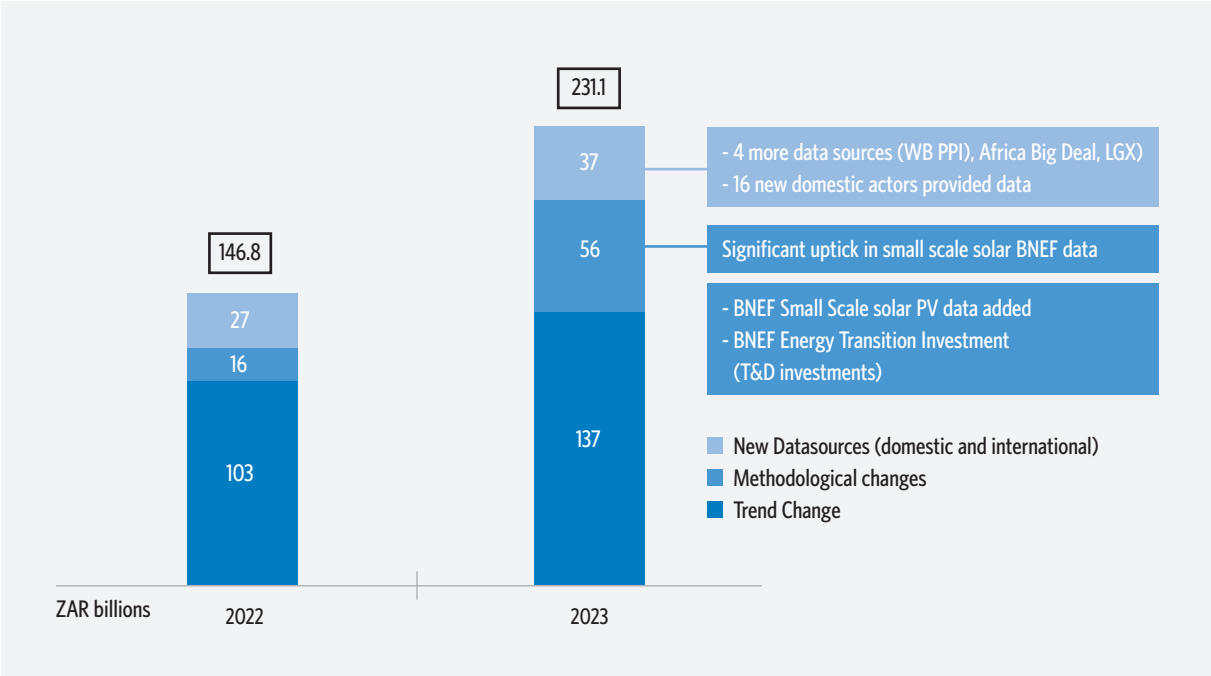


FIGURE 3 Methodological updates to the South African Climate Finance Landscape 2025

Small-scale solar PV. For South Africa, Bloomberg New Energy Finance (BNEF) Small-Scale Renewables dataset was used to capture residential and commercial rooftop solar PV investments, which are often absent from project-level datasets. For more details on CPI's global approach for tracking small-scale solar investments, see Global Landscape of Climate Finance 2025: Tracking Methodology.

Transmission and distribution (T&D). In previous editions, project-level data was used to identify T&D investments, which limited the coverage to projects that were exclusively connected to renewable energy power plants. In this edition, BNEF Grid Data (2025a) was incorporated, which tracks T&D investments individually, encompassing investments in new connections, asset replacement, and system reinforcement. While this data provides a more comprehensive view, the investments are not energy-source specific and may include infrastructure used for fossil-powered generation. As a result, not all T&D investments can be automatically classified as climate aligned.

To address this limitation, the project team collected country-level data on installed capacity and electricity generation, both renewable and non-renewable, over a rolling five-year period (IRENA, 2024a). This data is used to estimate the share of T&D investment that can be reasonably attributed to clean energy, following two differentiated approaches:

New connections: Specifically, for all new T&D connection investments, if a market has recorded more than 67% renewable energy generation added capacity over the five-year backward-looking rolling average, that same proportion of T&D investment is considered to be climate-aligned. The methodology is more conservative than the SA GFT, which stipulates that at least 67% of newly added capacity must be below the generation threshold value of 100 gCO_2e/kWh over a rolling five-year period for investments to be considered on a trajectory to full decarbonization.

Existing infrastructure (asset replacement and system reinforcement): In this category, the methodology deviates from the SA GFT, as applying the generation threshold value of 100 gCO_2e/kWh over a five-year basis is not feasible due to the lack of available data. Instead, the five-year backward-looking rolling average renewable generation ratio is applied to these investments. From 2017 to 2022, the generation of renewable in SA has gone up from 3% to 5%, showcasing strong growth trajectory (>10% CAGR), enabling the average proportion of renewable energy generation of the investment in system reinforcement and asset replacement to be counted as climate aligned. For more details on CPI's global approach for tracking T&D, refer to Global Landscape of Climate Finance 2025: Tracking Methodology.

Mapping just transition finance. This 2025 Landscape pilots a new methodology that overlays just transition considerations onto climate finance flows. This identifies projects that not only reduce emissions or build climate resilience but also include measures to support workers, communities, and vulnerable groups affected by decarbonisation, drawing primarily on voluntary self-reporting through domestic surveys. This focused and exploratory scope does not aim to quantify all just transition disbursements in South Africa, nor to provide an authoritative figure on the finance mobilised; but rather to identify the relevant portion of climate finance flows. This highlights the emerging scale and direction of finance aligned with just transition objectives, within the boundaries of recognised climate finance. The purpose is to equip policymakers, financiers, and stakeholders with early insights into just transition-aligned flows, while laying the foundation for more comprehensive tracking in future Landscape reports (see Section 6 for details).

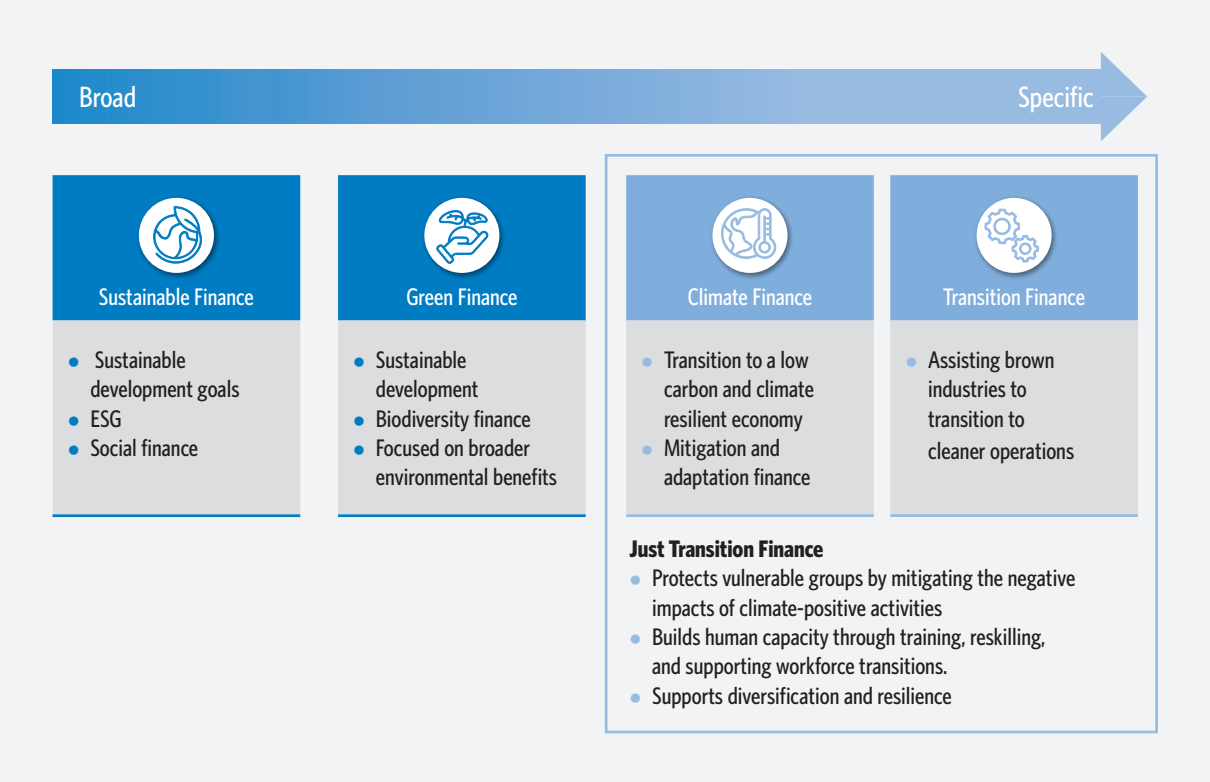


FIGURE 4 Sustainable, green, climate, transition finance and just transition

2.3 Data limitations

Tracking climate finance continues to face significant challenges related to the availability, quality, and consistency of investment data across both the public and private sectors. Confidentiality constraints, as well as inconsistent reporting by financial institutions, pose particular challenges. While methodologies have improved and data sources have expanded, important limitations remain.

Key data gaps:

- **Subnational budgets:** Climate-related public spending is not systematically tracked below the national level. Current coverage includes national and provincial expenditures but not municipal and other subnational data.
- **Hard-to-abate sectors:** Investments in energy-intensive industries, heavy transport like shipping, aviation, and supply-chain transitions are poorly captured, despite their vulnerability to climate risks and critical role in resilient supply chains.
- **Insurance:** Largely untracked, with no consistent data on insurers' investment or underwriting contributions. Expanding products such as index-based insurance, agricultural schemes, and catastrophe bonds are seldom reported systematically in terms of volumes or beneficiaries.
- **Venture capital:** Currently tracked, but likely underestimated, particularly for early-stage and project-level investments.
- **Adaptation:** Data gaps are particularly acute in resilience, water management, and ecosystem-based adaptation, despite these being central to South Africa's climate response. This gap likely arises from the lack of tracked tagging at a subnational budget level.

	Agriculture, forestry and fisheries	Buildings and the built environment	Waste	Energy	Energy Efficiency and DSM	General eco-system support	Transport	Water	Other and Cross-sectoral
Private Domestic	0.1	<0.1	0.2	91	<0.1	<0.1	0.7	1.9	<0.1
Private International	0.6	<0.1	<0.1	13.6	<0.1	<0.1	0.1	<0.1	0.1
Public Domestic	0.4	0.1	0.1	9.9	0.2	6	0.8	0.2	0.1
Public International	3.1	4.7	0.1	21.9	0	1	1.1	4.8	22.3

ZAR bn (2023 constant prices) Tracked Limited Tracking Not Tracked

FIGURE 5 Coverage and completeness of data, ZAR bn

03 Climate Finance Policy Developments in South Africa

South Africa's climate transition is not a departure from its current economic trajectory, but rather a call to green the existing economy, enhancing long-term sustainability and global competitiveness, and building value chains that promote local manufacturing and job creation.

3.1 South Africa's climate policy landscape

South Africa's climate policy framework comprises several pillars that reflect national development priorities, capabilities, and domestic circumstances alongside a commitment to the global effort to achieve net-zero carbon emissions by 2050:

- **Ambitious national targets** under the Paris Agreement.
- **Strengthened legal framework** through the accession of the Climate Change Act (2024, effective March 2025).
- **Bold energy sector reforms** to drive decarbonisation.
- **Financial instruments** including the carbon tax and targeted incentives to mobilise investment.
- **Growing emphasis on adaptation and resilience**, supported by new funds and institutions.
- **Commitment to a just transition**, underpinned by plans for green industrialisation and job creation.
- **Enhanced transparency and accountability,** demonstrated by the submission of South Africa's first Biennial Transparency Report in 2024, which details progress on emissions reductions and adaptation efforts (SouthSouthNorth, 2024).

South Africa has made several advancements in climate policy in recent years, from planning to implementation, passing key legislation, operationalising frameworks, and mobilising climate finance. While still evolving, there is now clarity on the country's policy direction, which is now firmly oriented toward a climate-resilient, low-carbon economy and an opportunity to align investments with well-defined strategies and substantial financing needs. This progress is reflected in policy reforms, enabling legislation, and increasing climate finance flows.

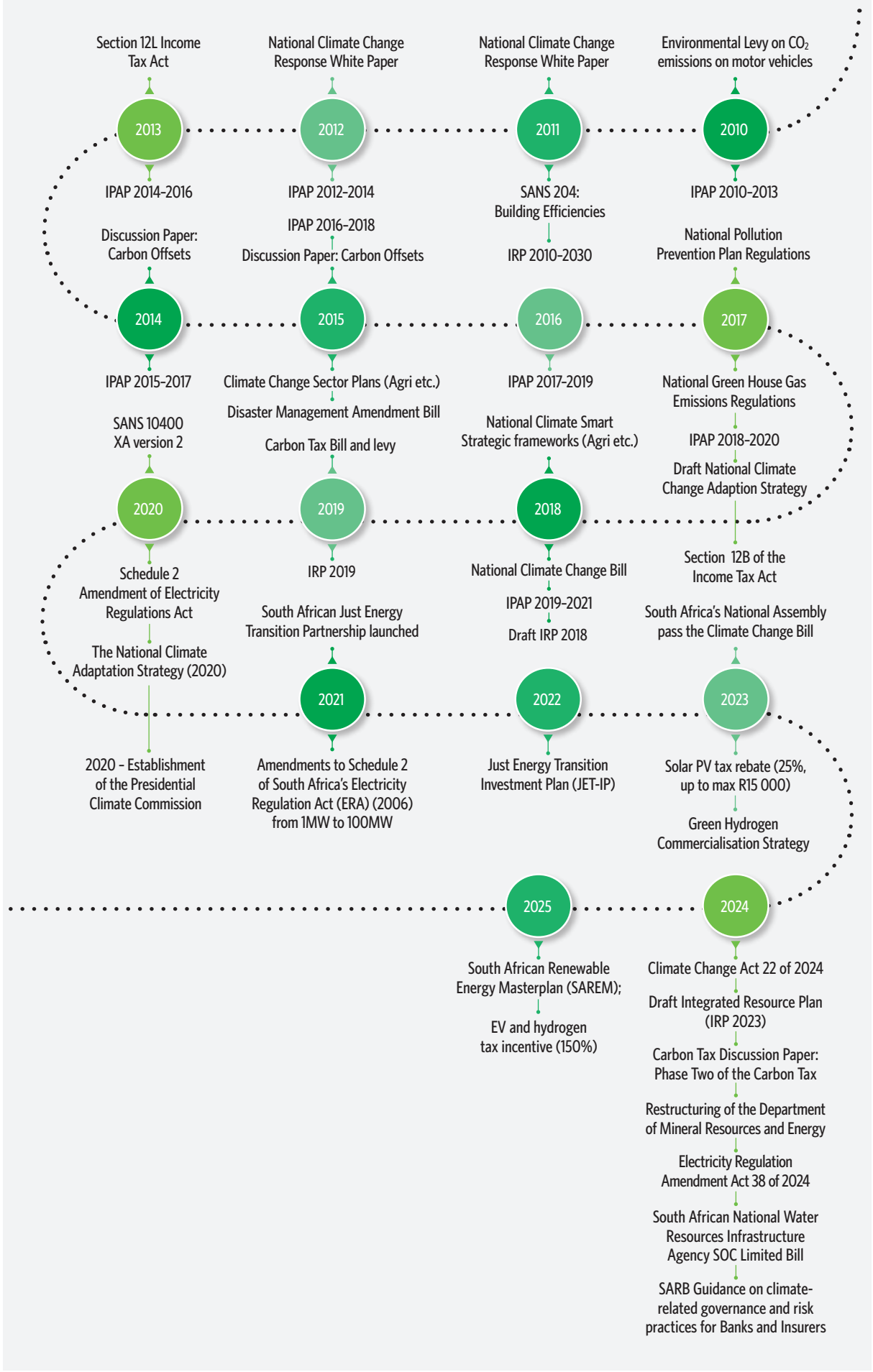


FIGURE 6 South Africa's climate policy milestones

3.1.1. International commitments and national targets

South Africa's commitment to the Paris Agreement is embodied in its NDC submissions. beginning with its first NDC in 2016 and updated in 2021. In July 2025, the Department of Forestry, Fisheries and the Environment (DFFE) released South Africa's draft second NDC for public consultation. The draft sets the 2026–2030 (short-term) emissions range at 350–420 Mt CO_2e, reflecting greater ambition than the 2021–2025 range of 398–510 Mt CO_2e. This ambition is extended into the medium term, with the draft lowering the 2031–2035 emissions range to 320–380 Mt CO_2e, compared to the 2025–2030 range of 350–420 Mt CO_2e set in the 2021 updated NDC. The tightening emission thresholds underscore the recognition that South Africa is a climate change hotspot, where average temperatures are rising at more than twice the global rate, accompanied by an increase in more frequent extreme weather events (Scholes and Engelbrecht, 2021). To uphold transparency, the government submitted its First Biennial Transparency Report to the UNFCCC in December 2024, detailing progress on emissions reductions and adaptation efforts.

3.1.2. South Africa Green Finance Taxonomy

The National Treasury published its SA GFT in 2022, with the objectives of:

- Facilitating South Africa's position as an attractive destination for foreign direct investment;
- Supporting the setting of a fair carbon price;
- Guiding the local financial market in developing credible labels for green investment products; and
- Establishing credible, taxonomy-based metrics and avoiding "greenwashing".

A recent study assessed the international interoperability and usability of the SA GFT, given its low adoption rate and usability challenges (Gwebu, L., et al. 2025). The findings and recommendations are summarised in the box below.

BOX 1: Interoperability of the South African Green Finance Taxonomy

Taxonomies must reflect a country's specific sustainable development needs while avoiding excessive variation from other taxonomies, to facilitate consistent reporting by international investors across jurisdictions. With an annual average of ZAR 73.7 billion (39.1%) of South Africa's climate finance coming from international flows in 2022–2023, aligning taxonomies and frameworks across borders is essential. The SA GFT, first published in 2022, outlines the criteria for classifying an investment as "green" to guide investors on what constitutes climate finance. The SA GFT is broadly aligned with other major green taxonomies, particularly the EU framework, incorporating key principles such as Making a Substantial Contribution (MSC), Doing No Significant Harm (DNSH), and meeting Minimum Social Safeguards. It also shares a common focus on climate change mitigation and adaptation, covering a range of environmental objectives and economic sectors (UK PACT, CPI, and GreenCape, 2025). However, the Taxonomy could benefit from some improvements in terms of clarity and specificity, particularly for DNSH and Minimum Social Safeguard criteria, as well as quantitative thresholds, which also make it more challenging to determine whether compliance has been achieved.

The notable omission of transition finance from the taxonomy narrows its relevance for South Africa's high-emitting sectors. By focusing on identifying green activities, the taxonomy fails to accommodate those that contribute to the transition but would not be classified as climate finance. South Africa's power sector and carbon-intensive industries, such as mining and transportation, are key to achieving decarbonisation, but this will occur incrementally. This absence creates a disincentive for private investors to a) support intermediate solutions, particularly in sectors such as mining and energy that are central to the just energy transition, and b) disclose and label finance for this purpose. This will result in transition efforts remaining underrepresented in national and global reporting systems, as well as climate finance tracking and performance assessments.

The SA GFT must be embedded in the country's existing climate finance tracking and disclosure architecture. While South Africa does not yet have a formal national climate finance tracking system, a set of collaborative efforts (among institutions including the National Treasury, the DFFE, and PCC, etc.) has laid the groundwork for tracking public and private climate-related flows. The taxonomy should now be fully integrated into these systems. Embedding taxonomy criteria into these evolving systems would strengthen the classification, monitoring, and reporting of climate finance, helping align national investment flows with both domestic priorities and international finance. For instance, public finance institutions like the DBSA and the IDC are already applying green screening criteria. Similarly, commercial banks in South Africa apply international frameworks such as the International Finance Corporation Performance Standards and Equator Principles to undertake ESG (environmental, social, and governance) assessment of projects. However, they are not currently harmonised with the SA GFT necessarily in their approach and implementation. Linking the taxonomy to tracking tools and country platforms such as those associated with the JETP could substantially improve data consistency/transparency and better direct concessional finance.

Access the full report here. (National Treasury, 2025)

3.1.3. Climate Change Act 2024

The enactment of South Africa's comprehensive climate change law, the **Climate Change Act, 2024 (Act No. 22 of 2024)**, marked a significant milestone in climate legislation. This Act codified several key policy elements that were previously implemented through plans or regulations to drive the country's transition to a low-carbon, climate-resilient economy. The Act makes climate action a whole-of-government mandate by requiring national, provincial, and local governments to integrate climate change mitigation and adaptation considerations into their development planning, supported by mechanisms for monitoring, reporting, and oversight.

Key provisions of the Act include:

- The development of a **coordinated National Adaptation Plan (NAP)** by 2026, aligned with South Africa's NDC.
- The establishment of **Sectoral Emission Targets (SETs)**, to be followed by detailed sectoral adaptation strategies across 21 key departments and state entities.
- The introduction of **carbon budgets** for significant emitters represents a shift toward enforceable mitigation measures.

Draft sectoral targets are aligned with South Africa's current 2030 NDC and will inform the next NDC cycle (OECD & UNDP, 2025). The PCC is formally recognised in the legislation as a key advisory body, continuing its mandate to guide and facilitate a just transition.

The codification of climate obligations into law marks a shift from voluntary or policy-based tools, such as the SA GFT, which is voluntary at the time of this report's publication, to **legally binding targets and enhanced accountability.** Overall, the Climate Change Act underpins South Africa's climate objectives by statute, marking a significant step forward in climate governance.

3.1.4. Climate finance policy tools and incentives

South Africa blends regulatory enforcement with targeted financial support to catalyse low-carbon investment. Recent years have seen growing emphasis on implementation and investment mobilisation.

The carbon tax, implemented in 2019, is a central mitigation lever and is set to strengthen in its Phase II (2026–2030). The tax currently covers about 90% of South Africa's GHG emissions. Significant allowances in the first phase (2019–2025) have kept the effective carbon tax burden low. However, National Treasury's latest plans show that South Africa's carbon tax rate increased to R236 per tonne of CO_2e on January 1, 2025, from R190 in

2024, and will continue to rise significantly, reaching R462 by 2030. The Treasury released a Discussion Paper for Phase Two of the Carbon Tax in November 2024, proposing a phased-in reduction of tax-free allowances and a phase-out of the carbon budget allowance, with legislative changes expected in the 2025 or 2026 Taxation Laws Amendment Bill. These adjustments would strengthen the price signal for emission reductions, supporting South Africa's NDC target and preparing for the CBAM.

In 2023, Carbon Tax Offset listings declined by 29%, while stockpiles in the Carbon Offset Administration System rose by 127% (Brundtland, 2024). This trend may indicate that the local carbon credit market is responding to anticipated carbon tax rate increases expected by 2026, with corporations stockpiling offsets in anticipation of higher future tax liabilities.

In parallel, the government has rolled out tax incentives to encourage private investment in green technologies. In 2023 and 2024, time-bound tax rebates were introduced to alleviate electricity shortfalls and cut diesel generator use. Households/individuals installing new rooftop solar PV panels became eligible for a personal income tax rebate of 25% of the panel cost (capped at ZAR 15,000) for the 2023/24 tax year.

Businesses have benefited from an enhanced depreciation allowance for renewable energy assets: a 125% deduction of the cost of solar, wind, or battery installations in the first year, available for assets brought into use from March 2023 to February 2025 (South African National Treasury, 2023). This effectively accelerates the tax write-off, spurring companies' deployment of embedded generation.

Building on this approach, the government announced an incentive for the automotive industry to transition towards clean transportation manufacturing. Starting 1 March 2026, domestic automotive manufacturers will be able to claim a 150% tax deduction on qualifying investments in electric vehicle (EV) and green hydrogen fuel-cell vehicle production (NEDLAC, 2024). This allowance, currently active for ten years (2026–2036), targets new plants, equipment, and tooling for EV/hydrogen vehicle manufacturing, with the aim of maintaining South Africa's competitiveness as an automotive hub amid a global shift to zero-emission vehicles (Business Insider Africa, 2024). The incentive was signed into law in early 2025 and is expected to attract both domestic and foreign automakers to establish EV production lines, supporting green industrialisation and job retention in a key export sector.

3.1.5. Mitigation policies and energy transition

Mitigation efforts in South Africa are largely focused on decarbonising its coal-dependent energy sector. The government has accelerated reforms in the electricity sector to enable a cleaner and more secure energy supply. A major reform was the unbundling of the energy ministry and the power utility framework. In 2023, the government initiated the reconfiguration of the Department of Mineral Resources and Energy (DMRE) into two separate ministries: a dedicated Department of Mineral and Petroleum Resources, and a Department of Electricity and Energy (DEE) focused on power sector oversight (Norton Rose Fulbright, 2025). This reform aims to resolve regulatory bottlenecks by giving focused attention to electricity policy and the energy transition (OECD, 2025).

In August 2024, President Cyril Ramaphosa assented to the Electricity Regulation Amendment Act, 2024 (Act 38 of 2024), which lays the foundation for a competitive electricity market (UNCTAD, 2024). This Act provides for the establishment of an independent, state-owned Transmission System Operator within five years. It also mandates a market operator and a new Market Code to govern electricity trading, ensuring non-discriminatory access to the grid for multiple power producers. In addition, the energy regulator, National Energy Regulator of South Africa (NERSA), approved a national wheeling framework, standardising how privately generated power can be transmitted across the grid, which further enables renewable energy projects to supply consumers.

Another notable development is that the update of the country's Integrated Resource Plan 2019 (IRP 2019), the blueprint for the electricity generation mix, is being revised to reflect more ambitious renewable energy targets. A draft IRP 2023 was released for public comment in January 2024, outlining electricity supply scenarios through 2030 and beyond (South African Government, 2023). Once approved by Parliament, the updated IRP will give investors clearer signals on planned capacity for renewables, gas, and other technologies.

The government has also launched green industrial policy initiatives to capitalise on new economic opportunities arising from the global clean energy transition. One such initiative is the South African Renewable Energy Masterplan, approved by the South African Cabinet in 2025. This public-private industrial plan is designed to develop local manufacturing capacity for renewable energy components (e.g., solar panels, wind turbine parts, and battery systems) and create jobs across the renewable energy value chain. It outlines targets for local content in renewable projects and support for factories producing clean energy equipment.

Similarly, the Cabinet approved a Green Hydrogen Commercialisation Strategy in late 2022 (DTIC, 2022). The strategy provides a blueprint for South Africa to become a major producer and exporter of green hydrogen and Power-to-X fuels (e.g., ammonia), capitalising on the country's vast solar and wind resources and existing technology expertise. It identifies priority hydrogen hubs (e.g., in Northern Cape's solar belt and coastal industrial zones) and actions to develop infrastructure, regulations, and offtake agreements for green hydrogen. By fostering a domestic hydrogen industry, the strategy aims to create new industries and decarbonise hard-to-abate sectors while boosting industrial growth.

3.1.6. Adaptation and resilience initiatives

Water security has emerged as a national priority in the face of recurring droughts and failing infrastructure. The South African National Water Resources Infrastructure Agency Act, 2024, a major institutional reform, establishes a new National Water Resources Infrastructure Agency (NWRIA) as a state-owned entity to finance, develop, and manage bulk water supply infrastructure (Republic of South Africa, 2024). The NWRIA will consolidate the assets and functions of the Trans-Caledon Tunnel Authority, previously the agency responsible for large dams and inter-basin transfer projects, into a single entity with an expanded mandate (Republic of South Africa, 2024).

The NWRIA aims to unlock greater private and development finance for water infrastructure. Under the old model, the Trans-Caledon Tunnel Authority relied on government guarantees as it lacked its own asset base. The new agency will inherit significant infrastructure assets and revenue streams (e.g., raw water tariffs), creating a stronger balance sheet that can be leveraged to raise commercial funding and engage in public-private partnerships. By reducing reliance on the fiscus and Treasury guarantees, this reform aims to accelerate investment in dams, water transfer schemes, and wastewater treatment, all crucial for building climate resilience against droughts and floods.

This initiative reflects a shift noted since the 2023 Landscape report, where, previously, water infrastructure financing was a constraint. Innovative institutional solutions are now being deployed to crowd in private finance for climate adaptation needs. One such initiative is the Sustainable Infrastructure Development and Financial Facility, launched by the Western Cape government in February 2025.

The financial sector is also increasingly integrating climate risk into its regulatory framework, recognising climate change as a threat to financial stability. In 2024, the South African Prudential Authority, within the South African Reserve Bank, issued pioneering Guidance Notices on Climate-Related Risk Management and Disclosure for banks and insurers (South African Reserve Bank, 2024). These guidance notes (G2/2024 for banks, and G4/2024 for insurers) outline expectations for governance, risk assessment, stress testing, and public disclosure of climate-related financial risks. Banks are expected to incorporate climate risks into their overall risk management (including the Internal Capital Adequacy process) and to enhance transparency around their climate exposures and strategies.

Although not a binding regulation, this supervisory guidance is an important step in aligning South Africa's financial sector with global best practices, such as the Task Force on Climate-related Financial Disclosures. Foreshadowed in the 2023 Landscape report's discussion on rising climate risk awareness, the South African Reserve Bank's actions have, by 2025, culminated in the issuance of concrete climate risk guidelines for insurers. As these practices take hold, they will improve the resilience of South Africa's banking and insurance industries to climate shocks and help channel finance towards climate-smart investments.

3.1.7. Just transition

The just transition is a cornerstone of South Africa's climate policy landscape, addressing both social impacts and long-term timelines for action and delivery. The country's approach recognises that high levels of inequality, unemployment, and coal-sector dependence necessitate that climate action be integrated with social and economic measures to support affected workers and communities (PCC, 2022).

To manage this transition equitably, the PCC conceptualised the Just Transition Financing Mechanism (JTFM), a policy-aligned national platform designed to mobilise and coordinate capital where conventional public and private finance fall short. The JTFM is envisioned to house a Just Transition Fund (JTF) with distinct grant-making and blended finance windows to address both non-commercial, socially-driven projects and high-impact, de-risked ventures. In 2022, the Cabinet approved the PCC's Just Transition Framework, which outlined core principles and plans for protecting workers and communities during the transition.

Building on this, the government developed the Just Energy Transition Investment Plan (JET-IP), a five-year roadmap (2023-2027) for mobilising finance for a coal-to-clean transition (Government of South Africa, 2023). The JET-IP identifies an investment need of around ZAR 1.5 trillion between 2023 and 2027 for electricity infrastructure, new energy vehicles, green hydrogen, and skills development. The JETP Secretariat has been established to coordinate these efforts. This plan, supported by the International Partners Group (IPG) through the JETP announced at COP26, represents a commitment to channel large-scale finance into projects that reduce emissions while creating jobs and alternative livelihoods.

The JET-IP has reshaped institutional thinking about the JTFM, leading key stakeholders to prefer incubating the mechanism within established domestic DFIs, such as the DBSA in cooperation with the IDC, rather than forming a new entity. This preference is grounded in the assessment by PCC and civil society that using an existing DFI will allow for faster operationalisation, leveraging existing governance, financial, and project-management infrastructures, reducing duplicative setup costs, and meeting urgent needs more promptly. However, this model is not yet formally legislated or confirmed via a government-gazetted decision: major details, such as the host DFI(s) will host, the governance arrangements, legal status, operational mandate, and whether the mechanism will remain incubated or evolve into a standalone entity, remain under negotiation, subject to stakeholder input and further analysis.

Collectively, South Africa's climate policy landscape, supported by green industrial strategies, legislation, electricity and energy sector reforms, and climate finance instruments and incentives, is closely aligned with the just transition agenda. These efforts aim to diversify coal-dependent regional economies, retain and reskill workers (e.g., through initiatives such as manufacturing wind turbines in Mpumalanga), and ensure South Africa remains globally competitive in a low-carbon future.

Several of the reforms highlighted in earlier Landscape reports as future policy intentions have moved from aspiration to implementation, reflecting tangible progress in South Africa's climate policy, institutional, and financial landscape.

The foundations have been laid for accelerated climate finance in South Africa ensuring sustainable and equitable growth.

04 Climate Finance needs by Sector

Energy needs are well-assessed through various studies, but comprehensive costing for the sectors of agriculture, industry, and water can help to clarify investment requirements and support effective mobilisation.

4.1 Sectoral context, relevance, and investment needs

This section analyses the estimated sectoral climate finance requirements to achieve South Africa's NDC and net-zero goals. It examines recent trends, sector-specific drivers and challenges, policy gaps and indicative investment opportunities across climate-aligned sectors. While most studies focus on mitigation, adaptation finance needs have been highlighted where available.

The investment needs outlined below reflect different timeframes, sectoral coverage, and methodological approaches across various studies; therefore, they should be interpreted only as indicative estimates to support climate finance gap assessments, serving as proxies for market size and investment potential rather than precise valuations. While this report does not seek to verify or refine these estimates, it highlights the need for more granular and high-quality data at the sector and subsector levels to inform effective financing roadmaps and strategies.

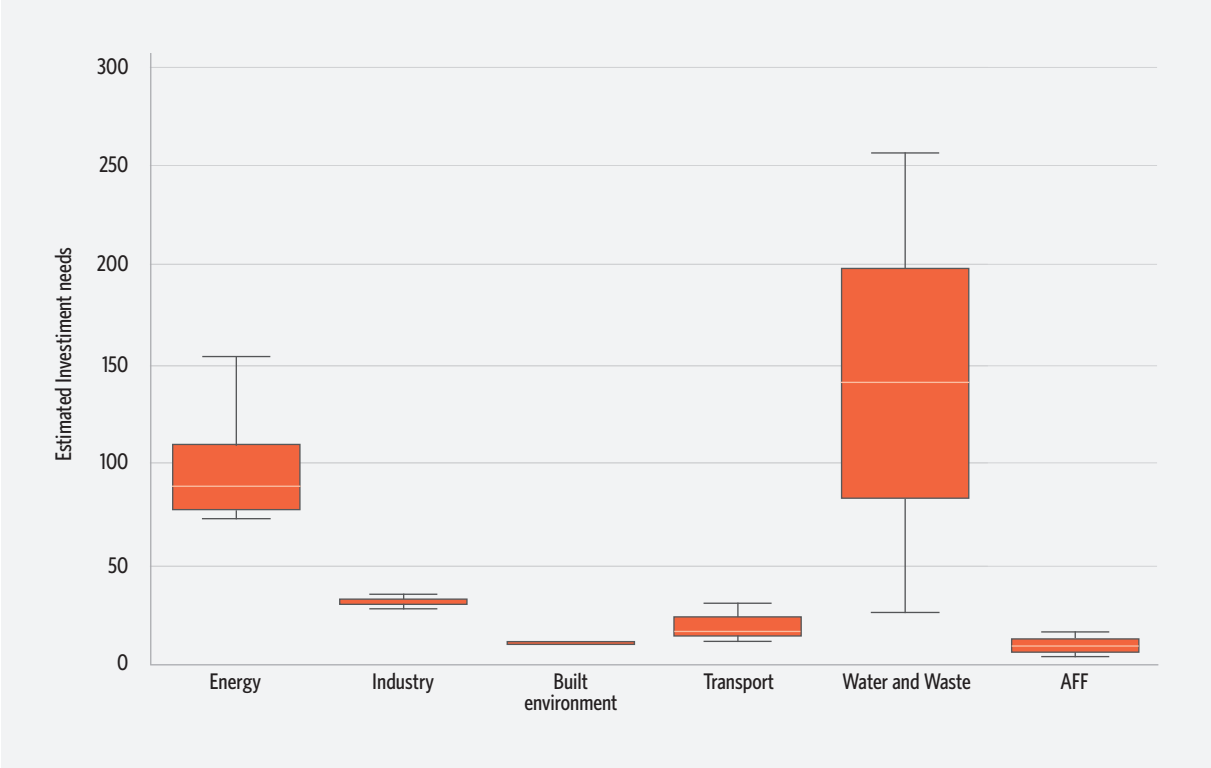


FIGURE 7 Average sectoral climate finance requirements and investment needs, ZAR bn

4.2 Energy

Coal-related jobs and assets are geographically concentrated in already vulnerable regions, particularly Mpumalanga, where economic diversification and social support are urgently required. Decarbonising other sectors, such as industry and transport, will also depend on strong investment in clean energy and energy efficiency systems. Moreover, the energy sector underpins adaptation objectives by enhancing the reliability and climate resilience of critical infrastructure.

TABLE 2 **Cumulative investment requirements by segment of the electricity system, ZAR bn**

Study/Range	Period	Generation*	T&D	Storage	Other	Total
JET-IP	2023–2035	1293	501	44	–	1838
NBI/BCG	2020–2050	630	560	890	420	2500
NBI et.al	2022–2050	1174	440	373–747	–	2174
BFT*/ CST	2022–2050	1866	770	395	32	3063
World Bank	2022–2050	1602	305	153	–	2060
Min		630	305	44	32	1838
Max		1866	770	890	420	3063

* Only solar and wind generation

Note: The available estimated needs for the water and waste sector include other capex and opex. Figures for other sectors only cover capex.

Electricity generation: Utility-scale solar renewable energy generation is estimated to require ZAR 387–697 billion to align with the net-zero scenario by 2050, which averages out at approximately ZAR 13 billion per year. Wind energy, as the other cornerstone of South Africa's clean electricity expansion, will require even more capital than solar. By 2050, cumulative wind investments of around ZAR 787–1,169 billion will be needed. This is similar in magnitude to the 2035 figure (ZAR 874 billion), which indicates that the bulk of wind build (and spending) is required in the 2020s and 2030s to meet these needs.

Grid infrastructure: Grid infrastructure, encompassing T&D networks, must be significantly strengthened to integrate new renewable generation, maintain reliability, and connect previously underserved areas. Grid infrastructure needs are estimated at ZAR 501 billion in T&D by 2035 and between ZAR 440 billion in cumulative grid investment by 2050, indicating that the bulk of capital requirements for grid infrastructure is largely required in the 2020s and 2030s to meet these needs. Within T&D, the JET-IP estimates that around ZAR 132 billion in transmission investments will be required by 2027, and around ZAR 373 billion by 2035. Distribution networks (both those of state electricity utility Eskom and municipalities) require around ZAR 127.5 billion by 2035, for strengthening and expansion.[6] This is in addition to the need to handle the growing electrification of transport and industry. If the electrification for EVs and green hydrogen production accelerates, grid expansion needs could be higher than this baseline estimate.

6 This figure notably excludes the existing maintenance backlog in municipal grids, which would require additional funding.

Energy storage has become a pivotal component of the integrated electricity system, particularly as reliance on intermittent solar and wind sources increases significantly. To meet NDC and net-zero goals, storage deployment must accelerate in two phases: near-term battery projects to alleviate load shedding and integrate renewables, and large-scale storage (batteries, pumped hydro, possibly new technologies like thermal or hydrogen storage) by the 2040s to handle long-duration needs once coal is mostly retired. In the short term, the JET-IP indicates that ZAR 23.1 billion is required for investment in new batteries by 2027, increasing to ZAR 44.2 billion by 2035. This is modest compared to generation and grid spending, reflecting that storage deployment is in its infancy. However, for a net-zero 2050 scenario, the required storage capacity to manage daily and seasonal variability with minimal fossil-fuel backup and the associated investment needs, are enormous. Estimates suggest ZAR 153–890 billion might be needed for storage investments through 2050 (nearly 13 times). A mid-range scenario projects cumulative storage needs of around ZAR 521.5 billion.

The wide range in estimates is due to uncertainties in technology mix and costs. Battery costs are expected to continue falling, and alternative solutions like green hydrogen for power storage, advanced demand management, or new pumped storage sites, could supplement pure battery deployment. If battery prices continue to decline, the higher end of the investment range could finance even greater capacity, enhancing reliability on a 100% renewables-based grid. Conversely, if new technologies reduce the need for battery storage, the lower end could suffice. Regardless, by the 2040s, annual storage investments will likely rival generation investments in scale, as the focus shifts from building new renewables to balancing and firming a mostly renewable system.

4.3 Industry

There is significant uncertainty regarding the total investment required to fully decarbonise the heavy manufacturing sector in line with South Africa's net-zero target by 2050. The industrial sector is a significant contributor to South Africa's GHG emissions, accounting for approximately 20% of the national total. Key subsectors include heavy manufacturing (iron and steel, cement, aluminium, and related industries), petrochemicals and chemicals, as well as mining.

TABLE 3 Investment requirements and key mitigation options by industrial subsector, ZAR bn

		Heavy manufacturing			Chemicals	Mining			
Study	**Period**	**Iron & steel**	**Cement**	**Aluminium**	**Chemicals**	**Hybrid supply of clean electricity**	**Conversion of mining vehicle fleet**	**Others**	**Total**
NBI/BCG (2022)	2022–2050	60	67.5	20	420	290	90	-	948
World Bank	2022–2050	-	-	-	-	-	-	792	792

4.1.1. Heavy manufacturing

South Africa's heavy manufacturing sector could achieve up to 40% of its Scope 1 and Scope 2 emissions reductions through the implementation of mature technologies, such as process and energy efficiency improvements, fuel and feedstock switching, and material substitution. A further 50% reduction could come from disruptive technologies, including the use of green hydrogen in steel production and carbon dioxide removal solutions such as carbon capture, utilisation, and storage (CCUS) in cement. However, limited information is available on the total investment required to realise these reductions.

Switching to green hydrogen as a feedstock and energy source in place of fossil fuels is estimated to enable up to 36% of Scope 1 and Scope 2 emissions reductions in South Africa's heavy manufacturing sector by 2050, potentially positioning green hydrogen as a central decarbonisation lever. According to the National Business Initiative and Boston Consulting Group (NBI & BCG, 2022), South Africa is well-positioned to produce 7–10 million tonnes (Mt) of green hydrogen per annum at globally cost-competitive prices, with a levelized cost of hydrogen as low as USD 2–3/kg by 2030. This suggests an annualised cost of production of around USD 14–30 billion to support a 7–10 Mt/year green hydrogen economy. However, the actual upfront capital investment remains uncertain, as the levelized cost of hydrogen reflects both capital and operating costs amortised over the asset's lifetime and assumes a steady-state production capacity.

Iron and steel manufacturing: A full-scale technological transformation required to decarbonise iron and steel manufacturing is estimated at ZAR 60 billion in transition finance dedicated to capital expenditure.

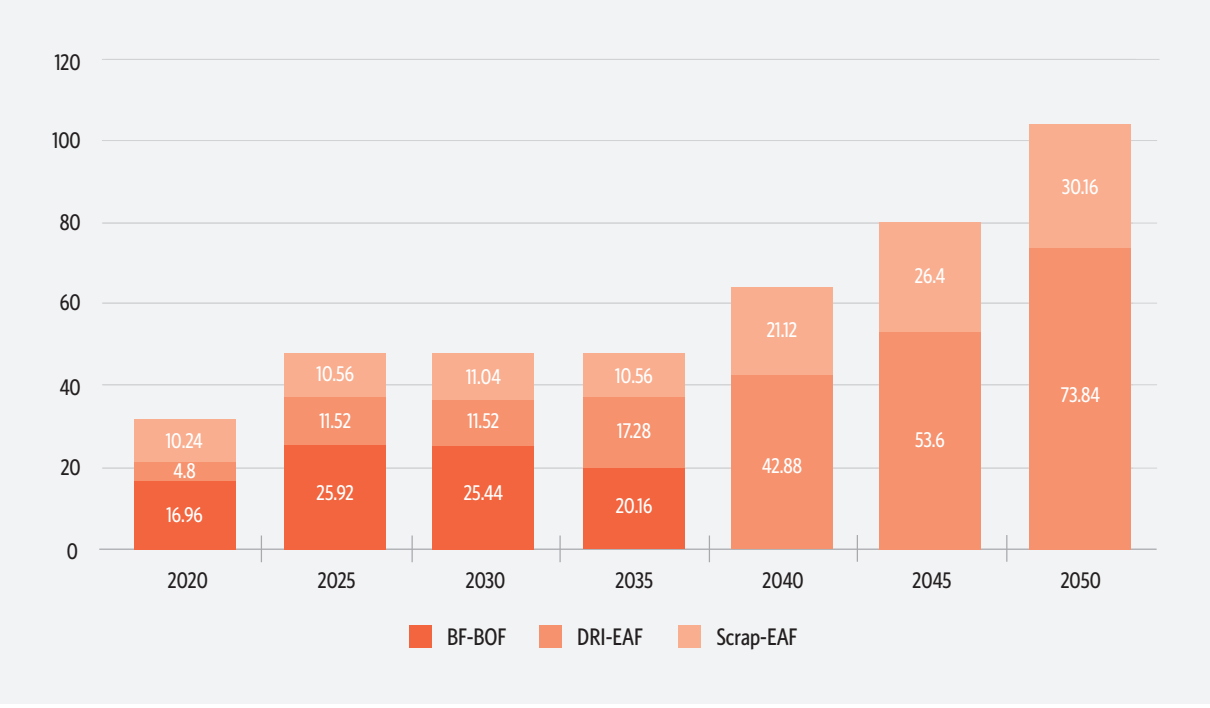


FIGURE 8 Projected costs of steel production in South Africa by technology route, ZAR bn

Source: NBI & BCG

The estimated costs are based on projected steel output multiplied by the levelized cost of production for each pathway. The projections indicate a sharp rise in Direct Reduced Iron - Electric Arc Furnace costs as Blast Furnace – Basic Oxygen Furnace is phased out from the mid-2030s, underscoring the scale of investment required to transition South Africa's steel sector to a low-carbon future. Estimates are indicative, and while the levelized cost of production includes both capex and opex, it smooths capex over the asset lifetime, whereas actual investment needs are lumpy and heavily front-loaded during plant construction.

Green cement production: Cement is a hard-to-abate sector as CCUS is currently the only viable option to address process-related emissions, while alternative low-carbon production methods remain technically immature or commercially unviable at scale. In South Africa, cement production has the potential to reduce approximately 55% of the subsector's current emissions through the adoption of proven mitigation levers such as energy efficiency improvements, fuel switching, and clinker substitution. The remaining 45% of emissions stem from process-inherent sources, particularly the calcination of limestone, a chemical reaction that releases CO_2 as part of the production process. These process emissions reduction remains viable mainly through CCUS.

However, there is high uncertainty regarding the deployment of CCUS in the South African context. Currently, there are no proven sites for permanent CO_2 storage, and utilisation applications are not yet commercially viable at scale. As a result, investment priorities have centred on efficiency improvements and pilot initiatives, including process and energy efficiency upgrades, fuel switching, and material substitution using supplementary cementitious materials such as fly ash and slag which are by-products from other industries (NBI & BCG, 2022).

Overall, the decarbonisation of cement production in South Africa is estimated to require around ZAR60–75 billion in cumulative capital investment by 2050. However, given the uncertainty surrounding CCUS and the commercial viability of alternative low-carbon production technologies, multiple decarbonisation pathways remain possible, each with varying cost implications, resulting in significant uncertainty around the total investment (NBI & BCG, 2022).

Aluminium production: In South Africa, approximately 70% of aluminium production-related emissions stem from the sector's reliance on coal-based electricity. As such, substituting fossil-fuel-based power with renewable energy is the primary decarbonisation lever. Full decarbonisation of aluminium production, covering both Scope 1 and Scope 2 emissions, is technically feasible by 2050 through the deployment of proven technologies.

Achieving this transition is estimated to require at least ZAR 20 billion in cumulative investments by 2050. These investments would primarily support the deployment of renewable energy, as well as plant upgrades for energy and process efficiency, material substitution, and enhanced recycling capacity.

4.1.2. Petrochemicals and chemicals sector

South Africa's petrochemicals and chemicals sector accounts for approximately 13% of national GHG emissions (second only to the electricity sector), making efforts aimed at decarbonising this sector pivotal for both NDC and net-zero targets (NBI & BCG, 2022). The sector's primary emissions stem from its carbon-intensive feedstock, particularly coal-based synthetic fuels used in upstream production, and fuel combustion, rather than from inherent chemical processes. Given that the synthetic fuels industry accounts for approximately 90% of the sector's emissions, decarbonising petrochemicals and chemicals will require a transition to sustainable feedstock (such as green hydrogen) and the deployment of negative emissions technologies like CCUS.

In total, estimated cumulative investment requirements for South Africa's petrochemicals and chemicals sector amount to around ZAR 420 billion to transition to net-zero by 2050. This is the largest of any industrial sub-segment and the second-largest nationally, after the power sector. However, the investment requirement is also proportional to the significant carbon footprint of the sector and the need to essentially rebuild the feedstock and energy basis of the industry (NBI & BCG, 2022).

That said, the sector's heavy reliance on fossil feedstock makes it one of the most challenging to decarbonise, with major emission cuts in petrochemicals anticipated to only occur in the 2040s once green hydrogen and other replacements scale up.

4.1.3. Mining

The carbon footprint of South Africa's mining sector is primarily driven by its reliance on fossil-fuel-based electricity, particularly from coal-fired power plants. Scope 2 emissions (linked to electricity consumption) account for around 77% of the sector's total emissions, while Scope 1 emissions from diesel use in mining vehicles, stationary equipment, and coal-based heating contribute around 15% (NBI & BCG, 2022). The remaining 8% comes from fugitive emissions. As such, the decarbonisation of the mining sector will primarily hinge on access to cleaner, renewable electricity and the phase-down of coal-based power.

The cumulative investment required to support the transition of South Africa's mining sector to net-zero emissions includes approximately ZAR 290 billion for establishing a predominantly renewable power supply and deploying battery storage systems at mining sites, and ZAR 90 billion for converting mining vehicle fleets to electric and/or hydrogen-powered systems. A hybrid power supply model, combining self-generation with grid-connected renewable electricity, is considered the most cost-effective mitigation pathway for the mining sector.

A crucial step in decarbonising the mining sector is to strengthen and expand South Africa's national transmission grid, enabling the delivery of large volumes of renewable power, particularly from high-resource regions, to remote mining operations. In parallel, decarbonising mining vehicle fleets will require close collaboration between mining companies and original equipment manufacturers to address the current technical challenges associated with deploying battery-EVs and fuel-cell EVs in demanding mining environments.

Additionally, the mining sector is a priority focus area for South Africa's just transition, introducing an added layer of socioeconomic complexity to decarbonisation efforts. Policymakers and mining stakeholders look to address potential impacts on employment, regional development, and equity outcomes. The investment needs and implications of the just transition are explored further in Section 6.

4.4 Transport

South Africa's transport sector is the third-largest domestic emitter of GHGs, following the energy and industry sectors. Within transport, road transport accounts for approximately 90% of total emissions, highlighting the sector's deep dependence on fossil fuels, particularly petrol and diesel.

Decarbonising road transport, the largest emissions source, will require both a modal shift to rail and a technological shift from ICE to EVs. These levers also represent the sector's largest investment needs, estimated at approximately ZAR 300 billion for the shift to rail and ZAR 100 billion for EV adoption. While shifting short-haul trips from air to rail can support decarbonisation in aviation, it offers limited replacement of maritime transport. In both these transport modes, fuel greening through alternative fuels such as hydrogen, ammonia, or sustainable aviation fuels will be essential, with investment needs estimated at approximately ZAR 60 billion.

TABLE 4 **Indicative investment requirements for transport sector decarbonisation, ZAR bn**

Study/Source	Period	Modal shift	Technology shift	Fuel greening	Other	Total
World Bank	2022–2050	–	–	–	834	834
NBI/BCG (2022)	2020–2050	300	100	60	–	460
JET-IP (2022)	2023–2027	–	–	–	128	128

South Africa's transport sector balances a dual imperative to decarbonise its operations while enhancing mobility services for consumers and enabling emissions reductions in other sectors, such as the petrochemical industry and urban development.

Even in the absence of strong domestic policy, global decarbonisation trends, particularly the growing adoption of EVs, could drive an up to 50% reduction in South Africa's transport emissions by 2050 (NBI and BCG, 2022). This highlights the increasing impact of international market shifts and technological diffusion on domestic emissions trajectories. However, decarbonisation driven by external forces may also introduce social and economic challenges, including risks to domestic industrial competitiveness, employment, and transport affordability. These dynamics position transport as a strategic priority within South Africa's JTF, requiring alignment of climate goals with inclusive socioeconomic development.

4.5 Buildings and built environment

South Africa's buildings and built environment (construction) value chain comprises three main segments:

1. Design and materials for new buildings.
2. Construction activities.
3. Operation of existing buildings.

Currently, the carbon footprint of the built environment is overwhelmingly concentrated in building operations, accounting for 98% of sectoral emissions. Approximately 69% of non-residential and 52% of residential building operations emissions are linked to electricity consumption, underscoring the central role of energy efficiency and clean energy in sectoral decarbonisation.

As a result, retrofitting existing buildings is a top priority for reducing GHG emissions in the sector. It also represents the largest share of required investment, estimated at ZAR 170 billion by 2050, compared to ZAR 50–60 billion needed for decarbonising construction sites, and ZAR 43–55 billion for new low-carbon buildings and infrastructure.

TABLE 5 Investment needs for buildings and construction sector decarbonisation, ZAR bn

Study/Source	Period	Construction	Existing buildings	New buildings	Total
NBI/BCG (2022)	2020–2050	55	170	49	274

Although the sector currently contributes a relatively modest 7% (34 MtCO2e) to national direct emissions, unabated growth could increase annual emissions by 81% to 127% by 2050, in line with a projected 74% to 125% increase in building stock. Decarbonising the sector also has positive spillover effects, such as reducing demand for carbon-intensive materials like cement and steel, thereby lowering emissions in those sectors. Additionally, the sector is economically significant, employing approximately 1.2 million people (University of Pretoria, 2024). Combined with the country's affordable housing gap, this places the buildings and construction sector as another intersection of climate action and South Africa's just transition agenda (explored further in Section 6).

4.6 Agriculture, forestry and fisheries

Despite accounting for only 2.9% of national GDP in 2024 (World Bank, 2025), South Africa's agriculture, forestry and fisheries (AFF) sector plays a critical role in achieving the country's climate targets. The AFF sector remains a key socioeconomic pillar in South Africa, supporting approximately 890,000 direct jobs and representing one of the largest contributors to export revenues.

The sector contributes to both mitigation and adaptation outcomes. On the mitigation side, it can reduce land-based emissions (e.g., from fertiliser use and deforestation) and enhance carbon sinks through practices such as reforestation, agroforestry, and soil carbon sequestration. On the adaptation front, the AFF sector is among the most climate-vulnerable, facing escalating risks from droughts, shifting rainfall patterns, wildfires, and ocean warming. Although the sector's direct GHG emissions are currently modest, around 10% of national emissions, emissions could rise by up to 40% by 2050 if food demand grows as projected (by approximately 50%), absent effective mitigation interventions.

TABLE 6 Investment requirements for AFF sector decarbonisation

Study/Source	Period	Embedded generation	Water resource management	Infrastructure	Conservation	Total
NBI & BCG (2022)	2020–2050	35	–	61	–	96
World Bank (2022)	2022–2050	–	227	204	23	453

Note: Embedded generation involves small-scale on-site generation systems at agricultural locations.

While the priority interventions to decarbonise and climate-proof the sector are generally well understood, the investment requirements to implement this are rarely quantified, due to low data availability. The table below outlines the key mitigation and adaptation interventions across the AFF subsectors, drawing on publicly available and sector-relevant studies.

TABLE 7 Priority agriculture, forestry and fisheries subsectors

Subsector	Priority intervention	Description
Agriculture	Climate-smart agriculture rollout	Scale up conservation agriculture (no-till, cover cropping) and agroforestry on commercial and small farms.
	Water infrastructure for adaptation	Invest heavily in irrigation and water storage upgrades dedicated to agricultural areas.
	Renewable energy and efficiency	Deploy solar pumps, biogas, and efficient equipment to cut on-farm fuel use (backed by green credit lines).
	Medium- to smallholder support	Provide grants, affordable loans, and extension services to farmers for climate adaptation (drought-resistant seeds, diversified crops, micro irrigation).
	Landscape-level resilience	Integrate farming into resilient landscapes (e.g., regenerative agriculture building soil carbon at scale, farms buffered by restored wetlands and tree belts).
	Financial inclusion	Robust climate finance mechanisms for farmers (index insurance, carbon credits for soil carbon sequestration, etc.) to sustain adaptation.
Forestry/ Land Us	Afforestation and reforestation	Launch large-scale tree planting on suitable land; community and commercial projects to increase forest cover.
	Natural ecosystem restoration	Rehabilitate thickets, woodlands, and grasslands for carbon sinks and adaptation (e.g., expand programmes like Working for Ecosystems).
	Wildfire and pest management	Upgrade fire monitoring systems, firefighting resources, and pest surveillance to protect carbon stocks (important as fire risk grows).
	Carbon finance integration	Mature carbon offset market or payment for ecosystem services in place, providing sustainable finance for forest conservation/ restoration.
	Bioeconomy development	Thriving industry in sustainable timber, biomass energy, and bioproducts, providing revenue to reinvest in forest management (supporting the cycle of finance).
Fisheries & Aquaculture	Aquaculture pilots and expansion	Finance new aquaculture projects (fish, shellfish, seaweed) with technical support – aiming to prove models and ramp up production.
	Habitat conservation	Protect critical marine nurseries (estuaries, reefs) through marine protected areas (MPAs) and community ecomanagement.
	Ecosystem-based adaptation	Fully integrate blue carbon ecosystems (mangroves, seagrasses, kelp) into climate strategy – restored and expanding, contributing to carbon sinks and coastal protection.
	Low-emission fishing fleet	Modernised fishing vessels using green fuels or electric power where feasible, and cold chains running on renewable energy.

4.7 Water and waste

South Africa's water and waste sectors, although not the largest sources of emissions, will continue to emit unabated as population and service delivery expand. Additionally, both water supply and wastewater services are energy-intensive, which implicitly requires a systems planning that integrates water and waste management in national climate planning. On the water side, South Africa is one of the thirty driest countries in the world with an average annual rainfall that is less than half the world's average, making water an important sector from an adaptation perspective (CSIR, 2021). On the waste side, most municipal solid waste still ends up in landfills, with low recycling rates, and many landfills lack methane capture capabilities. Achieving climate targets will therefore require investment to upgrade infrastructure, deploy new technologies, and develop circular economy value chains.

4.7.1. Water sector

The water sector's response to climate change is largely adaptation-focused (ensuring supply under drought, managing flood risks, addressing failing infrastructure, etc.), but it also has mitigation potential through energy efficiency and decarbonisation of water systems. Pumping, treating, and distributing water and wastewater require a significant amount of electricity. Projects that cut energy use, shift to clean energy, and reduce water losses, alongside ensuring a reliable water supply under climate stress, underline the main investment needs in the water sector.

The World Bank's Country Climate Development Report (CCDR) for South Africa quotes an investment need for resilient water of ZAR 720 billion between 2022 and 2050, on a Net Present Value basis (World Bank, 2022). Although the report indicates that this was drawn from the National Water and Sanitation Master Plan, it is significantly lower than the figure in that plan because it assumed that some water investments have been included in the World Bank CCDR figures for resilient agriculture and resilient cities. Although the report indicates that this was drawn from the National Water and Sanitation Master Plan, it is significantly lower than the figure in that plan because it assumed that some water investments have been included in the World Bank CCDR figures for resilient agriculture and resilient cities (DBSA, 2023)

The DBSA (2023) study projects that the average annual investment (capex + opex) would rise to ZAR 306 billion per year in 2041–2050 under a base scenario, around ZAR 3 trillion per decade by the 2040s. Cumulatively, 2023–2050 water sector needs may exceed ZAR 7 trillion (nominal). The large range in potential investment requirements is largely driven by the sensitivity of funding required for water resources (as opposed to water services) to exogenous factors and policy choices.

TABLE 8 **Indicative investment requirements for water and waste sector decarbonisation, ZAR bn**

Study/Source	Period	Resilient water infrastructure	Waste	Total
World Bank (2022)	2022–2050	720	–	720
DBSA/SA-TIED (2023)	2023–2050	7160	–	7160

4.7.2. Waste sector

South Africa's waste sector includes three segments, namely:

1. Municipal solid waste, which covers the household and commercial waste managed by municipalities.
2. Industrial waste (by-products of mining, manufacturing, energy production); and
3. Hazardous waste (medical, chemical, toxic materials requiring special handling).

The country currently relies heavily on landfilling as the primary disposal method, with an estimated 92.7% of hazardous waste and 65% of general waste being landfilled, and only modest fractions are recycled or treated (Parliamentary Monitoring Group, 2022). This linear model, known as the "take-make-dispose" approach, results in significant methane emissions from the anaerobic decomposition of organic waste in landfills and dumps.

While quantifying precise investment needs for the waste sector transition is challenging due to the fragmented nature of data, many waste projects can generate revenue (from energy sales, compost sales, and recyclable sales) if structured well, which highlights a significant opportunity for private investment.

05 Landscape of Climate Finance Flows in South Africa

The 2025 Landscape tracked an annual average of ZAR 188.3 billion in climate finance for 2022–2023. Meeting NDC and net-zero targets will require at least two to threefold increase in current climate finance, with estimated needs reaching up to ZAR 499 billion per year. Actual investment requirements are likely higher, as most available estimates focus primarily on mitigation and energy investments, while adaptation needs remain under-costed.

5.1 Key findings

- Energy dominates climate investment, with an annual average of ZAR 139.5 billion (74.1%) going into the sector, especially renewable electricity generation. This reflects the urgency of South Africa's electricity crisis, falling global technology costs, in parallel with enabling policy changes.
- Climate finance flows into adaptation is lagging behind and accounts for ZAR 21.2 billion annually (11.3%). Many resilience investments are embedded in municipal budgets or take the form of smaller-scale initiatives that are harder to capture. This key finding highlights a data gap in that municipal budgets aren't tracked, given the lack of climate data tagging at a sub-national level.
- The mix of financing instruments revealed in the tracked period a middle-income context. Market-rate debt accounting for an annual average ZAR 84.7 billion (45%) and equity with an annual average of ZAR 62.4 billion annually (33.2%) dominate, showing the strength of South Africa's financial sector and the central role of commercial actors. Concessional finance and grants collectively make up less than 15% of climate finance flows, leaving gaps in sectors that need long-term or lower-cost capital, such as grid expansion, just transition support, or ecosystem restoration.
- More than 60% of climate finance comes from domestic actors. Commercial banks contributed an annual average of ZAR 36.6 billion (39%), corporations an annual average of ZAR 21.5 billion (22.9%), and households/individuals at an average of ZAR 15.2 billion (16.2%).
- The 2025 Landscape tracked an annual average of ZAR 188.3 billion in climate finance for 2022-2023. Meeting NDC and net-zero targets will require at least two to threefold increase in current climate finance, with estimated needs reaching up to ZAR 499 billion per year. Actual investment requirements are likely higher, as most available estimates focus primarily on mitigation and energy investments, while adaptation needs remain under-costed.

TABLE 9 Annual average climate finance flows for 2022-2023 versus indicative annual climate finance needs per sector, ZAR bn

Category	Indicative climate finance needs	Tracked climate finance	Indicative climate finance gap
Energy	153.0	139.5	13.5
Industry	34,0	-	34
Built environment	10.0	4.8	5.2
Transport	30.0	2.6	27.4
Water and Waste	256.0	7.3	248.7
AFF	16.0	4.2	11.8

5.2 Climate finance by source

Domestic sources accounted for 59.4% of South Africa's tracked climate finance, and international sources for 39.1%. A minor 1.5% is tagged as undefined.

Domestic public climate finance in South Africa is led by the national DFIs at an annual average of ZAR 6.4 billion (35.9% of domestic public finance) and the national government with an annual average of ZAR 5.5 billion (31.0% of domestic public finance). Together, these sources account for over two-thirds of tracked domestic public flows (Figure 9).

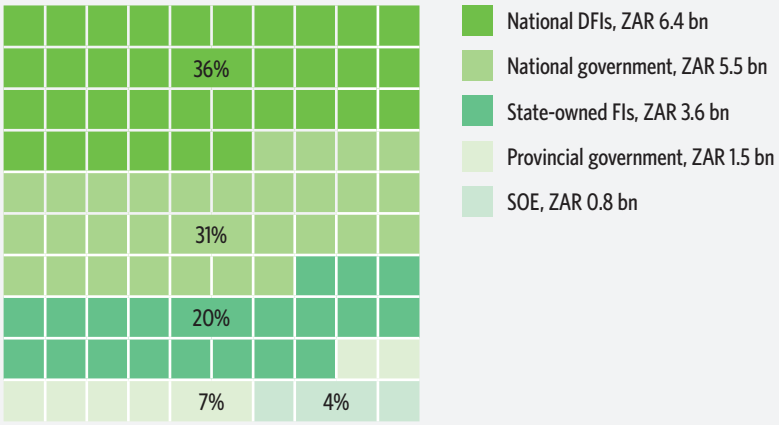


FIGURE 9 Domestic climate finance by public actor type, ZAR bn

Domestic private climate finance actors encompass non-state financial players such as commercial banks, corporations, households/individuals, institutional investors and financial institutions. Commercial banks provide the largest volume of climate finance, with an annual average of ZAR 36.6 billion (39.0%). Climate finance flows from corporations with an annual average of ZAR 21.5 billion (22.9%), and households/individuals with an annual average of ZAR 15.2 billion (16.2%).

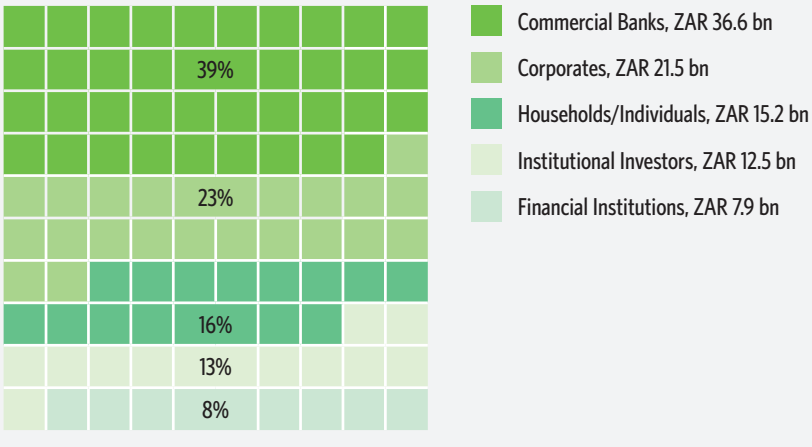


FIGURE 10 Domestic climate finance by private actor type, 2022–2023 annual average, ZAR bn

The significant private investment in energy from corporations and households/individuals was largely driven in rooftop solar PV installations in response to a supply-demand energy imbalance due to Eskom's ailing coal power plants, resulting in intermittent planned blackouts referred to as load shedding. Load shedding incidents reached a record high in 2023 exceeding 6,800 hours. Figure 11 below demonstrates the severity of load shedding as a measure of Stage 1–5 for years 2014–23 where each stage represents an additional 1,000 megawatts (MW) of demand that must be cut from the national grid. In response, households/individuals and corporations invested in rooftop PV installations and behind-the-metre energy storage, driving clean energy investment.

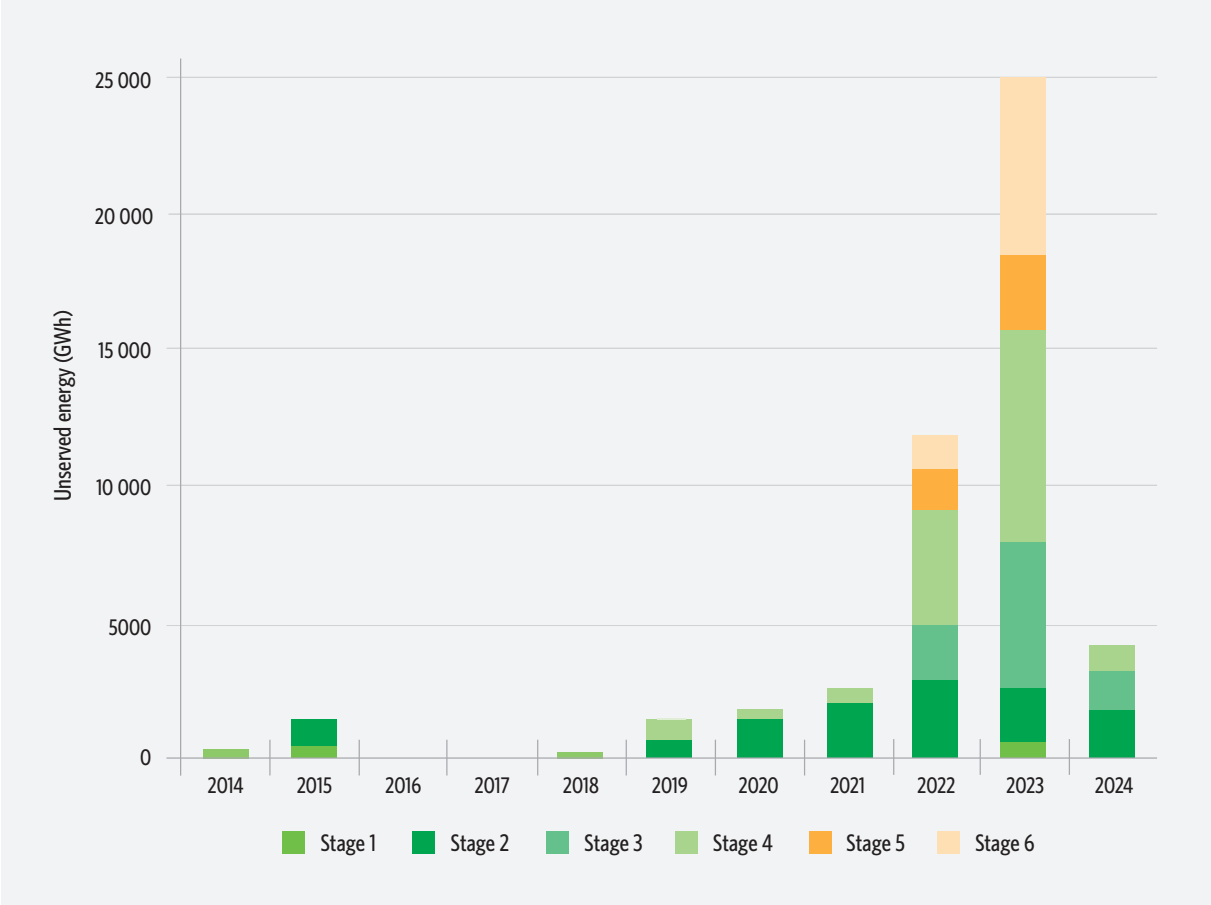


FIGURE 11 Load shedding per year demonstrating severity of Stages 1-5

Source: ESP (2024)

Private institutional investors are notably low with climate finance contributions accounting for an annual average of ZAR 12.5 billion (11.2 % of domestic climate finance). Given these actors had assets under management of ZAR 3.4 trillion at the end of the second quarter of 2025, this is a significant gap revealing several barriers. Firstly, many climate projects in South Africa are too small, risky, or fragmented to meet institutional thresholds. Secondly, fiduciary constraints, specifically Regulation 28, and risk perceptions dissuade funds from exposure to newer, climate-focused asset classes. An ongoing discussion in the South African landscape includes introducing new asset classes into Regulation 28 to explore the potential of leveraging retirement savings specifically for climate finance. Regulation 28 is a key regulation under the Act, and sets out the investment limits and guidelines for retirement funds, including retirement annuities and other related funds, to ensure that they are managed prudently and in the best interests of their members. The Sanlam Benchmark Survey (2024) highlights that the actual allocation of retirement funds to alternative asset class remains low, with many funds still heavily weighted towards traditional assets; despite the provisions of Regulation 28.

BOX 2: Alignment of private institutions toward net zero targets

Private financial institutions (FIs), including commercial banks, asset managers, insurers and asset owners, hold substantial influence over the speed and direction of the climate transition, given their ability to allocate capital at scale either in support of climate-aligned activities or against them. This means that assuring the integrity of FIs' net zero progress is imperative to a country's successful transition. Many institutions are beginning to make changes to their governance, target-setting, and financing strategies to better align them with climate goals. However, progress is uneven and not at the pace required. It is key that institutions are held accountable for not just their climate commitments, but also how these are reflected in their governance practices and lead to impact on the real economy.

The Net Zero Finance Tracker (NZFT), developed by CPI, monitors how private FIs are responding to the climate crisis across three key dimensions:

- **Targets:** Such as portfolio emissions reduction goals, commitments to increase climate finance, and targets to phase out fossil fuel investments.
- **Implementation actions:** Such as participating in shareholder votes on climate issues and ensuring senior leadership is accountable for climate outcomes.
- **Climate impact:** Real-world impacts including the volume of institutions' investments in fossil fuels vs. clean energy and exposure to physical climate risks.

The latest version of the NZFT tracks over 1,500 FIs in these areas globally, including ten South African institutions: Alexander Forbes, Allan Gray, Coronation Fund Managers, Eskom Pension and Provident Fund, Liberty Holdings, Momentum Metropolitan Holdings (MMI holdings), Old Mutual, Old Mutual Investment Group, Public Investment Corporation and Sanlam. The following summarises their progress across the aforementioned three elements

Targets: Between 2019 and 2024, target-setting increased among the ten tracked South African institutions. By 2024, seven of the ten, with cumulative assets owned and managed of over ZAR 33.8 billion, had set either a mitigation target, fossil fuel phases out target, or climate investment target. However, notably none of the institutions had set quality targets.

Implementation: As of 2024, eight of the ten entities had taken at least one climate-related implementation action. Five have taken robust actions in at least half the NZFT-tracked implementation areas, up from zero in 2019. This reflects increasing recognition that credible climate strategies require more than target-setting and must be embedded into core business practices such as governance, risk management, incentives, engagement, and disclosure.

- **Climate Impact:** The NZFT also looks at physical climate risk, energy portfolio exposure, and direct energy project financing.
- **Physical climate risks** could significantly erode the value of FIs' core portfolio holdings. For South African institutions, the average expected portfolio losses due to physical climate risks increase from 1.5% under a 1.5°C scenario to 7.4% under a 5°C scenario.
- **Energy portfolio exposure.** The average ratio of clean energy to fossil fuel exposure in South African FI equity and corporate bonds portfolios is approximately [0.08:1]. This is equivalent to 7% of their energy related corporate bonds and shareholdings going to clean energy, with the remaining 93% in fossil fuels.

International climate finance is overwhelmingly public (80.1%), as private capital remains under 20%. It is led by the bilateral DFIs with average annual investment of ZAR 28 billion (38.0% of international finance), and multilateral DFIs representing an annual average of ZAR 20.5 billion (27.9% of international finance).

Western Europe accounted for an annual average of ZAR 52.5 billion (71.2%) of committed international climate finance flows to South Africa, followed by the US and Canada at ZAR 6.3 billion (8.6%). The Middle East and North Africa (MENA) had an annual average of ZAR 4.4 billion (5.9%) and East Asia and the Pacific with an annual average of ZAR 3.4 billion (4.6%). This distribution reflects South Africa's strong international partnerships, most notably the JETP established in 2021 with the original partnership of France, Germany, the UK, the US, and the EU, who together formed the JET International Partners Group (JET IPG). Despite the withdrawal of the US, which had pledged USD 1.56 billion (~ ZAR 28 billion), the total commitments of the JET IPG remain above the original pledge. New contributions from Spain, Switzerland, and Canada, alongside the accession of the Netherlands and Denmark to the IPG, have more than offset the shortfall. As of March 2025, total international financing pledged stood at USD 12.9 billion (ZAR 220 billion), comprising grants, concessional loans, and commercial debt and equity (JET PMU, 2025).

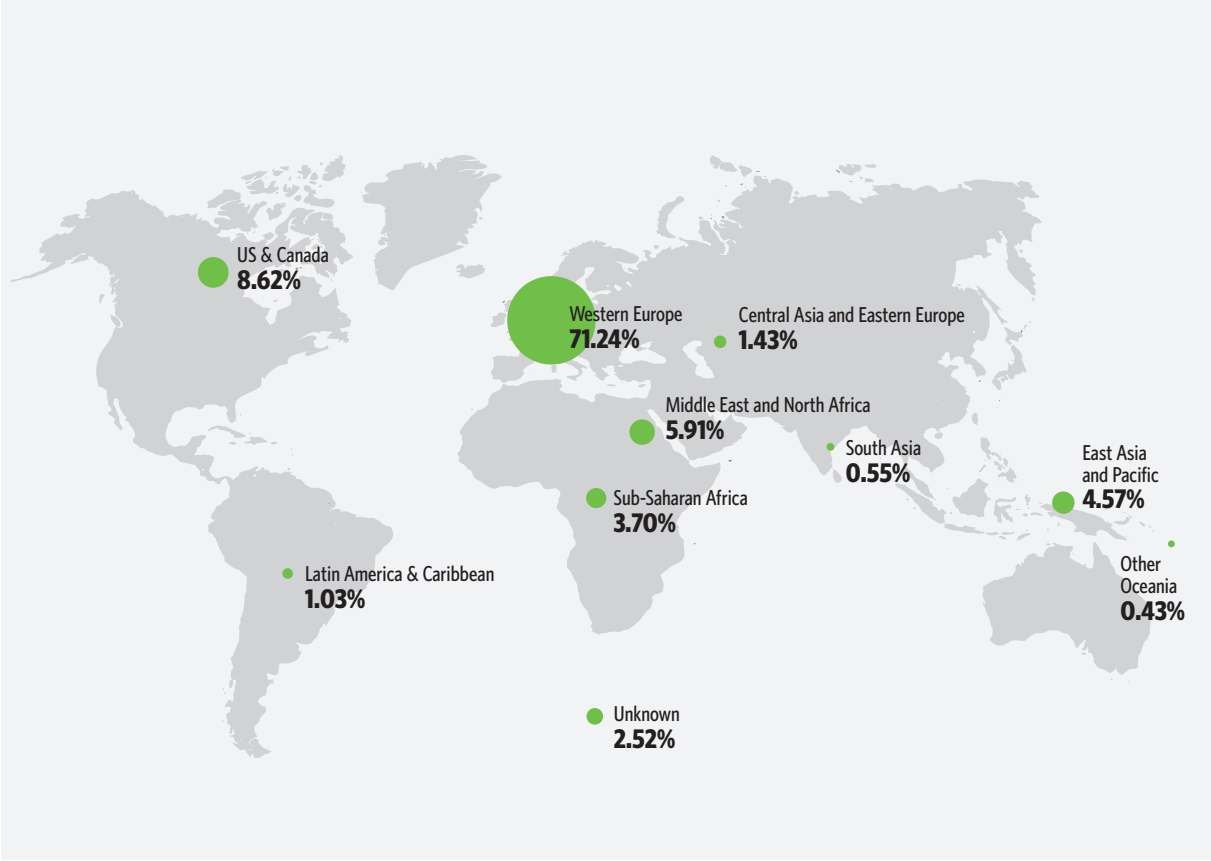


FIGURE 12 International climate finance by source region, %

BOX 3: Positioning South Africa in Africa, the BRICS, and the Global South

South Africa's climate finance often contrasts trends across the rest of the continent. The country's relatively developed financial market attracted 25% of Africa's private climate finance between 2021 and 2022 (CPI, 2024). Unlike most African countries, which rely heavily on international public funding, South Africa financed 50% of its climate investments through domestic private capital in 2022–2023, far outstripping the average of 5% for the rest of the continent (See Box 4 for more details). This results in a more self-reliant and market-driven climate finance approach, aligning with middle-income economies, even as the country continues to seek support to meet its vast climate transition needs.

South Africa's growing influence can help shape the climate finance agenda of Africa but also an expanded BRICS+[7]. South Africa has increasingly positioned itself as a champion for increasing climate finance to the continent and the rest of the Global South. This leadership comes at a critical time, as the US having withdrawn from the Paris Agreement and aid budgets shrinking across North America and Europe, climate finance from BRICS+ economies is increasingly important. Through its G20 presidency in 2025, South Africa has called for more concessional finance from the Global North to support the energy transition in Global South countries (Reuters, 2025).

At the continent level, the new African Continental Free Trade Area (AfCFTA) has potential to boost intra-Africa trade by up to 52.3% through the removal of tariffs and other barriers (AfCFTA, n.d). It holds sustainable development among its principles and gives states the right to prosecute investors if they feel that this obligation is not being upheld (Dagbanja and Ng'eno, 2025). AfCFTA could therefore not only increase trade in the continent but also mainstream climate within these trade flows.

Meanwhile, within BRICS+ cooperation, climate finance is gaining increasing attention. In 2023, the bloc adopted its first joint framework on climate and sustainable development (The Print, 2024), and in February 2025, the expanded BRICS+ group released the Brazilian Presidency Declaration, identifying the climate crisis as one of its top priorities (BRICS. 2025). It should also support finance goals for the block, such as the recent call by India for BRICS economies to mobilize USD 1.3 trillion annually by 2035 under the New Collective Quantified Goal on Climate Finance (Sharma, 2025). South Africa has a particular interest in exploring new financing mechanisms such as piloting local currency instruments to reduce foreign exchange risk, regionally pooled guarantees, and public-private investment platforms. The block and South Africa should advocate for these tools to be applied to climate finance efforts within BRICS+.

Building on its emerging national tracking systems, South Africa can champion greater transparency of South-South climate finance. Only a few countries in the Global South track climate finance, providing insights into public and private flows aligned with national priorities. This technical capacity and commitment to data transparency positions South Africa to lead efforts to improve the visibility of South-South climate finance. A growing share of South Africa international climate finance now originates from the Global South, rising from ZAR 9.6 billion in 2022 to ZAR 14.3 billion in 2023. More broadly, flows between Global South countries reached USD 23 billion (ZAR 376 billion) in 2022, about 1.6% of global climate finance, marking a more than fivefold increase from USD 4.1 billion (ZAR 238 billion) in 2018 (CPI, 2024).

Despite this growth, the data on South-South flows, both within the African continent and between BRICS countries, remains limited, inconsistent, and largely absent from global tracking efforts. These countries are not currently obliged to report climate finance data, and there is no platform that aggregates this data. South Africa is well-positioned to address this gap by advocating for voluntary disclosure standards and promoting improved coordination through existing mechanisms, such as country platforms to improved transparency and coordination within the Global South.

7 Brazil, Russia, India, China, South Africa and additional emerging economies or partners

Figure 13 below presents a structured overview of how climate finance is mobilised in terms of climate uses, instruments used, and sectors across South Africa's economy. The data is organised from the most aggregated to the most granular levels of tracking, providing a foundation for understanding the structural overview of climate finance and assessing alignment with national climate objectives.

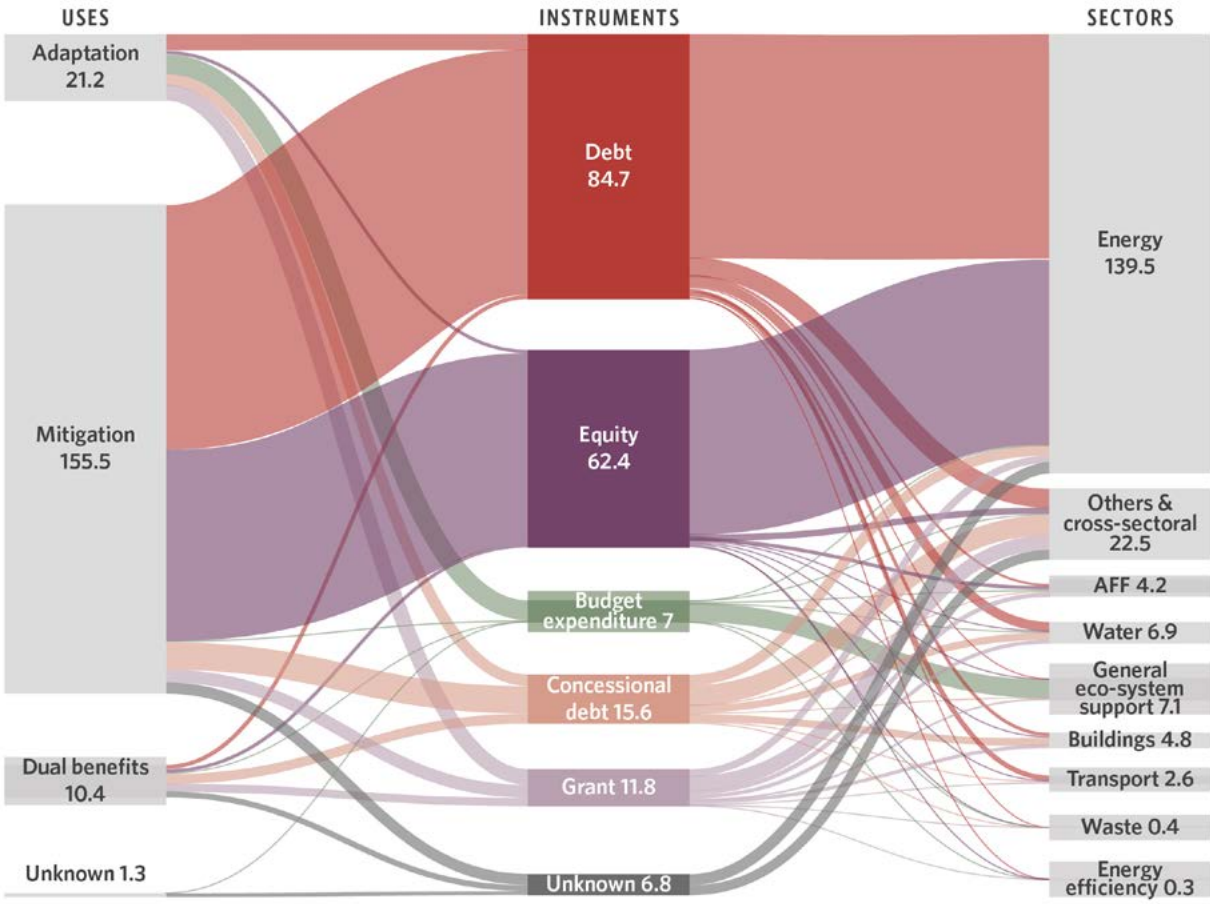


FIGURE 13 Average annual climate finance uses, instruments and sectors, ZAR bn

5.3 Climate finance by use

Adaptation finance in South Africa remains low, public-led, and fragmented. Adaptation accounted for 11.3% of all tracked climate flows to the country. This amounts to an annual average of ZAR 21.2 billion, a figure critically insufficient given the country's estimated adaptation needs of over ZAR 500 billion (USD 29 billion) (CPI, 2024). The cost of inaction is also compounding: the less adaptation finance mobilised today, the greater the scale and cost of future interventions.

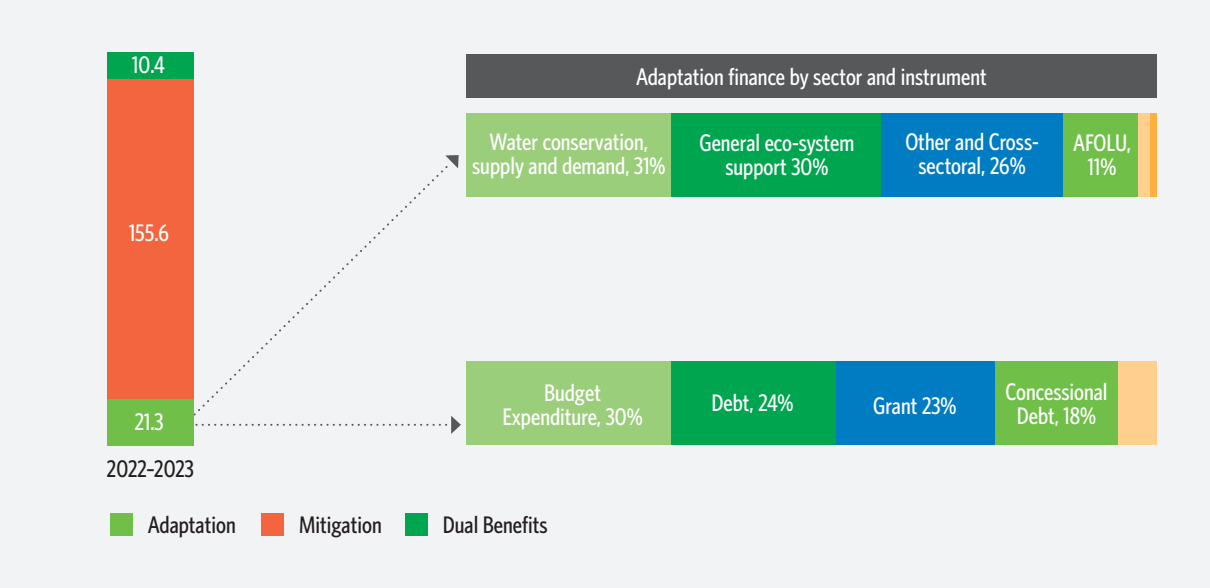


FIGURE 14 Adaptation finance by sector and instruments, ZAR bn and %

While private actors dominate domestic mitigation finance (providing 86.6%), domestic adaptation is primarily funded by the public sector averaging ZAR 6.3 billion (76.5%). Similarly, international finance also came mainly from public actors, making up 58.4% of adaptation finance via DFIs and governments. The bulk of adaptation flows target water (30.6%), ecosystem support (30.1%), cross-sectoral programmes (26.5%), and AFF (11.1%). This distribution reflects fundamental differences in commercial viability. Mitigation investments, particularly in renewable energy and infrastructure, offer clearer revenue streams and stronger market incentives, while adaptation projects often lack direct financial returns, limiting private participation. The contrast is stark given that overall domestic finance is overwhelmingly private (81.9%), suggesting that while the private sector plays a critical role in decarbonising commercially attractive sectors, adaptation and cross-cutting initiatives require other finance sources. This underscores the need for policy tools, public investment, and innovative financing mechanisms, such as blended finance, to crowd in private capital for adaptation and cross-cutting initiatives.

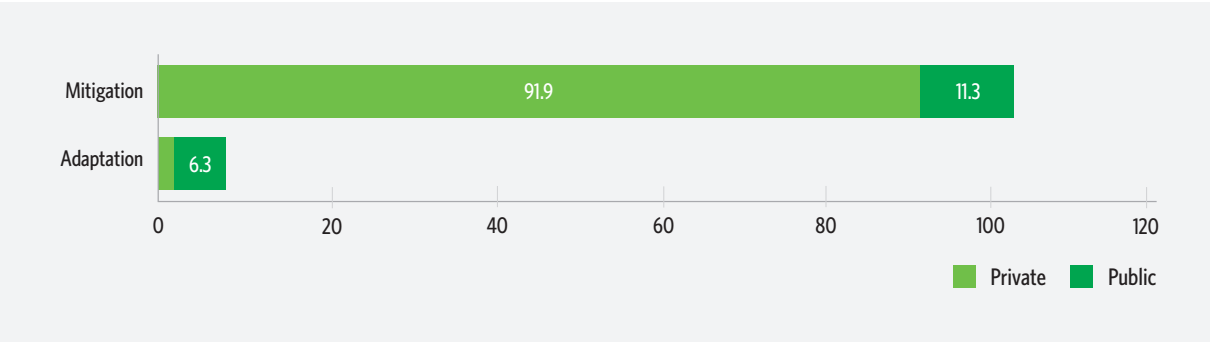


FIGURE 15 Domestic public and private flows by climate use, ZAR bn

While adaptation finance contained a higher proportion of concessional instruments than mitigation finance, there is still a pressing need for greater concessionality. Adaptation instruments are more balanced than in mitigation, using budget expenditure (29.7%), debt (24.3%), grants (23.5%), and concessional debt (17.3%). However, volumes remain modest. The instrument mix also varies across actors. The South African government relied entirely on budget expenditure; international public actors were almost exclusively concessional; while domestic private actors relied on market-rate debt. Among international public actors, 65.4% of finance was concessional in the form of concessional debt or grants. Expanding concessional finance will be critical to close the gap between adaptation needs and available resources.

One such initiative developing innovative blended finance solutions for infrastructure is the SIDAFF programme, launched by the Western Cape government in 2025, as mentioned in Section 3; whereby international DFI's finance secondary municipalities' project preparation costs to get the projects into bankable readiness, with the intention of pooling multiple projects that can attract blended finance solutions.

A notable caveat to the adaptation data exists in that national and provincial spend is captured in the Landscape methodology; however municipality spend is not a subset of the full data set. This is due to negligible climate finance tagging within municipalities, at a project level.

5.4 Climate finance by instruments

Debt dominates South Africa's climate finance, with flows concentrated in energy. Market-rate debt averaged ZAR 84.7 billion (45.0%), while concessional debt contributed an annual average of ZAR 15.6 billion (8.3%). Much of market-rate debt flows were directed to energy, which alone absorbed an annual average of ZAR 71.7 billion (84.7% of market-rate debt). This reflects investor confidence in renewable energy; however high borrowing costs, with the repo rate reaching at a 14-year high at 8.25% in 2023, create barriers for municipalities and small, medium and micro enterprises.

Equity was the second-largest financing instrument with an annual average of ZAR 62.4 billion (33.2%), led mainly by corporations with an annual average of ZAR 28.4 billion (45.4% of total equity) and households/ individuals at an annual average of ZAR 15.2 billion (24.3% of total equity). SOEs and Public funds invested exclusively through equity (99,9% and 100%, respectively), reflecting their roles as direct investors. Equity was also highly concentrated, with energy projects absorbing an annual average of ZAR 58.4 billion (93.5%). Very limited equity allocations went to other sectors. This profile reflects the commercial attractiveness of renewable energy investments, which continue to draw significant equity, while adaptation-related sectors remain unable to access equity at scale.

Grant finance had an annual average of ZAR 11.8 billion (6.3%), spread more widely across objectives and sectors than either debt or equity, though still small relative to need. Grants were concentrated in cross-sectoral projects (39.9% of grant financing), followed by energy (20.0%), AFF (12.2%), water (10.5%) and buildings (9.7%). Bilateral DFIs and international governments were responsible for 84.1% of all grants. Concessional finance and grants collectively make up less than 15% of climate finance flows, leaving gaps in sectors that need long-term or lower-cost capital, such as grid expansion, just transition support, or ecosystem restoration.

National budgetary expenditure provided an annual average of ZAR 7.0 billion (3.7%), which is modest in the context of national commitments. Most allocations appear under ecosystem support, with smaller amounts in energy, AFF, and water. Fiscal constraints is largely responsible for the low investment. With debt-to-GDP sitting at ~74% in 2024, and debt service consuming over 20% of expenditure, the government has limited room to scale finance despite growing climate risks. There is also a possibility that climate data tagging in the public budget lacks depth and potential climate finance flows are not being adequately captured.

Multilateral and bilateral DFIs remain the largest providers of public climate finance to South Africa, contributing an annual average of ZAR 48.6 billion (63.2% of public flows). Multilateral and national DFI financing is heavily debt-based, while bilateral DFIs deploy a more balanced mix, as shown in Figure 16.

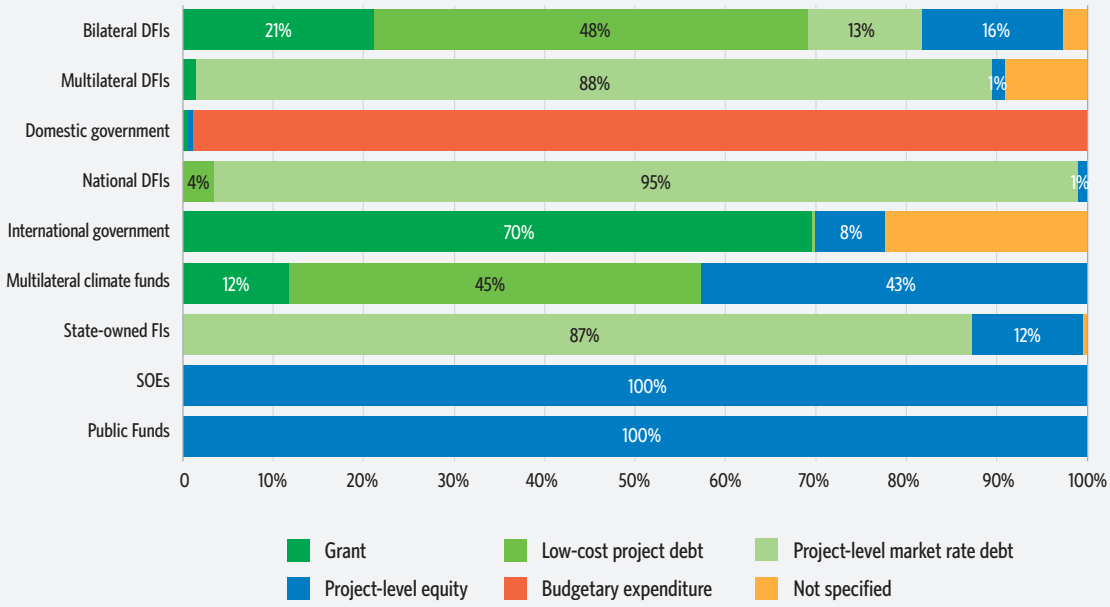


FIGURE 16 Public climate finance sources and instrument used

5.5 Climate finance by sector

Transitioning away from carbon-intensive energy systems and expanding access to clean energy are priorities for South Africa, reflected in energy's dominance in the country's climate finance. While this reflects success in mobilising capital for bankable projects, it also underscores persistent underinvestment in adaptation, resilience, and socially inclusive sectors.

Energy overwhelmingly dominates South Africa's climate finance landscape, with an annual average of ZAR 139.5 billion (74.1%) of all tracked flows and 89.7% of mitigation finance.

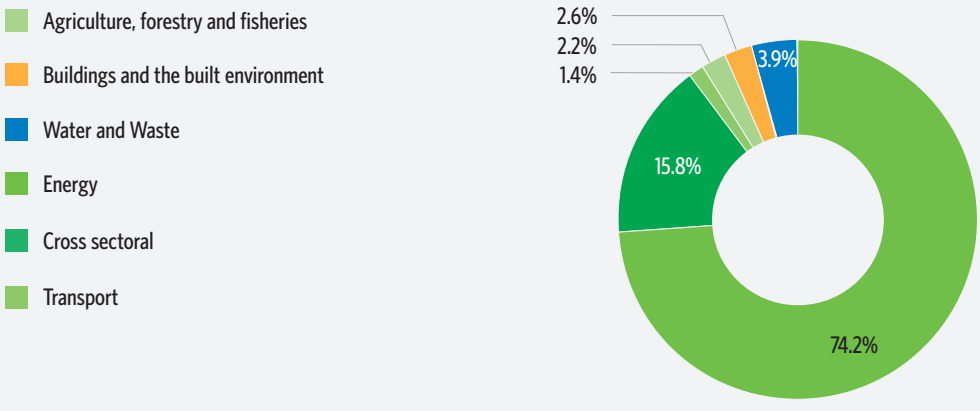
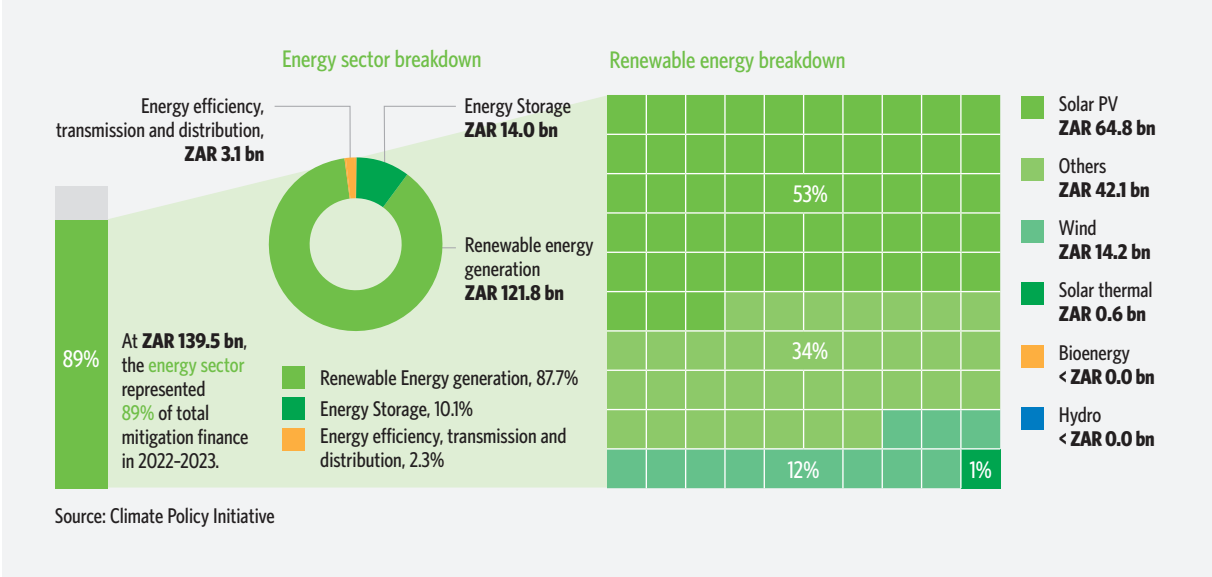


FIGURE 17 Climate finance flows by sector, ZAR bn

Figure 18 shows that most energy-sector finance went into generation. Of total mitigation investment flows for the tracked period, the following energy related investments were of significance: solar PV accounted for an annual average of ZAR 64.8 billion (47% of mitigation flows), wind at an annual average of ZAR 14.2 billion (10.2% of mitigation flows), energy storage with an annual average of ZAR 14.0 billion (10.1% of mitigation flows), renewable energy off grid investments at an annual average of ZAR 3.8 billion (2.7% of mitigation flows) and retrofits on the power grid investment at an annual average of ZAR 2.3 billion (1.7% of mitigation flows). An annual average of ZAR 35.6 billion (25.7% of mitigation flows) is categorized as unspecified renewables; highlighting the need for further climate data tagging for meaningful interpretation.



Source: Climate Policy Initiative

FIGURE 18 Mitigation finance to the energy sector, by subsector

Although the energy sector draws the lion's share of climate finance, Figure 19 reveals a stark imbalance. Transmission & distribution (T&D) remains severely underfunded despite substantial infrastructure needs as highlighted in Section 4. This gap is particularly consequential as future growth in renewable generation will require proportional expansion in grid capacity. The absence of sufficient T&D investment can result in; underutilization of new generation lines, an increase in curtailments, and project developers facing additional constraints on connection and dispatch. The asymmetry with T&D partly reflects policy sequencing. While licensing and market reforms rapidly de-risk generation, T&D investment lagged due to Eskom's historic funding constraints, grid capacity bottlenecks in renewables corridors, and slower-moving regulatory frameworks for transmission expansion. Recent steps, including the Electricity Regulation Amendment bill supporting open-access market; a large transmission build-out plan; and a formal curtailment framework, aim to relieve these constraints; but the pipeline-effect suggests finance will continue to cluster in generation until T&D delivery accelerates.

According to the NTCSA's Transmission Development Plan (2025–2034), South Africa aims to build ~14,500 km of new transmission lines, install numerous new transformers, and integrate ~56 GW of new generation capacity (NTCSA, 2024). Yet, despite the scale of this infrastructure ambition, financing and regulatory arrangements have lagged behind the more mature generation space. Generation sectors have benefited from de-risking, streamlined procurement, and greater clarity on PPAs; whereas T&D investment faces weaker revenue models, regulatory uncertainty over tariffs and cost recovery, and limited mechanisms for private participation. The DBSA is now evaluating independent transmission project (ITP) models designed to enable off-balance sheet financing for transmission infrastructure and ultimately mobilise private capital towards bridging the investment gap.

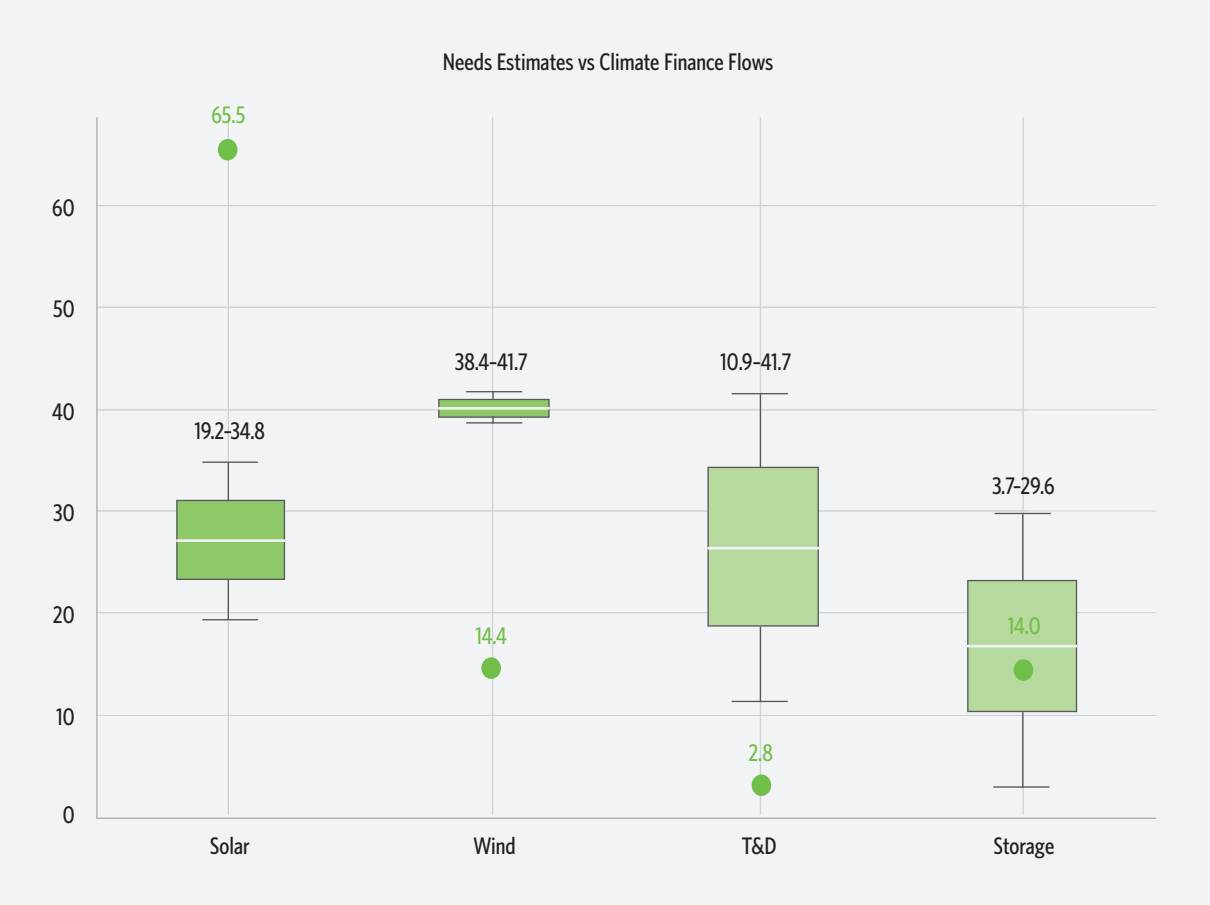


FIGURE 19 **Climate finance flows in the energy sector, mapped to finance needs, ZAR bn**

Public actors comprise 22.8% of overall renewable energy finance, primarily through multilateral DFIs (7.5%), bilateral DFIs (5.7%), and national DFI (3.9%). Private finance provides the majority of the share at 75%, primarily through commercial banks (24.8%), corporations (20.3%), and households/individuals (10.8%), with the latter two playing a significant role in small-scale solar PV investments.

As previously discussed, energy security became a major concern for households/individuals and corporations at the peak of load shedding in 2022 and 2023, driving rooftop PV installations and behind-the-metre energy storage. In parallel to energy security concerns, changing regulations further enabled private renewable energy generation, stimulating procurement led by independent power producers (IPP). The amendments to Schedule 2 of South Africa's Electricity Regulation Act of 2006 initiated the lifting of the 100 MW licensing cap for private embedded generation in 2022. These changes, first gazetted in 2021, aimed to stimulate private investment in electricity generation, improve energy security, and alleviate load shedding by encouraging more IPPs to enter the market. Figure 20 illustrates the notable increase in registered renewable energy projects, specifically solar PV larger than 1MW and wind power, resulting from this regulatory intervention.

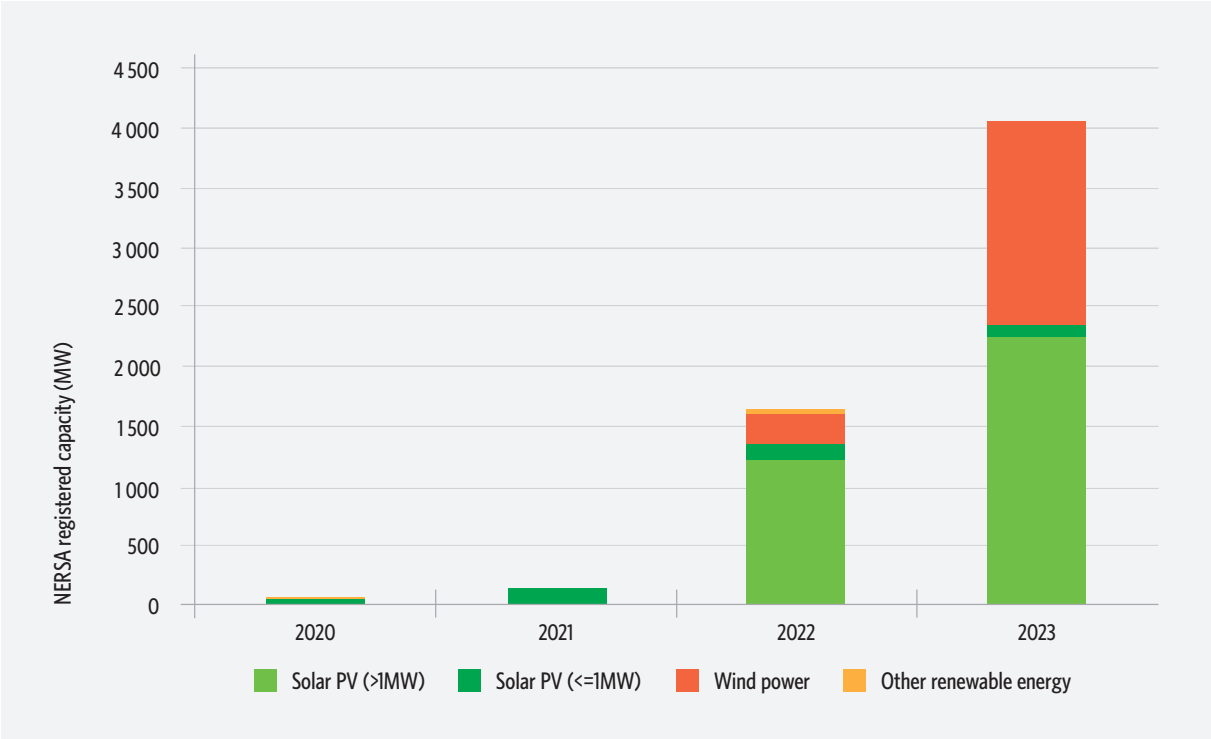


FIGURE 20 **Registered renewable energy projects**

Source: NERSA

General ecosystem support received only ZAR 7.1 billion (3.8%) of climate finance flows, despite the importance of the sector in reducing community and agricultural vulnerability to climate risk. Within this allocation, ZAR 3.1 billion was directed to pre-disaster risk management, ZAR 0.9 billion to post-disaster management, and ZAR 2.8 billion to natural resources conservation and management, including projects related to reforestation and biodiversity conservation.The disproportionately small amounts for both pre- and post-disaster interventions highlight the structural challenge of mobilising finance for risk reduction beyond budgetary allocations (South Africa Treasury, 2025).

These low levels reflect multiple barriers. Firstly, ecosystem-based interventions often yield public goods and ecosystem services (flood absorption, soil stability, biodiversity), which do not readily generate immediate commercial revenue streams, making them unattractive to private investors. That leaves them heavily reliant on public budgets, donor funds or individual/household investments. Indeed, 85% of general ecosystem support came from Treasury funding, with international actors, specifically DFIs (10%) and foreign governments (5%) accounting for the balance.

Secondly, lack of integration and institutional capacity constrains pipeline development. In South Africa, local governments frequently fail to embed ecosystem-based disaster risk reduction (Eco-DRR) in planning instruments. Studies in rural municipalities show that IDPs rarely include Eco-DRR explicitly or allocate budget for it (Mugari and Nethengwe, 2022). Without that institutional anchoring, budget lines and projects do not emerge. At the same time, incentive bias toward reactive disaster spending works against proactive ecosystem solutions when government systems are geared toward post-disaster relief rather than prevention. Institutional incentives, including short political cycles, budgetary pressures, also favour reactive allocations.

Finally, the small scale, dispersed nature, and fragmented design of many ecosystem or adaptation projects make aggregation for institutional investment challenging. Scaling projects which yield co-benefits of resilience, carbon, and biodiversity, to attract significant climate finance requires stronger aggregation, standardized project structures, and de-risking mechanisms.

Because of these constraints, the tracked figure of ZAR 7.1 billion likely underestimates the true demand for ecosystem support. Incomplete climate-tagging in national, provincial, and municipal budgets further suggests that domestic finance for ecosystem-based interventions may be undercounted. But the low current allocation nonetheless signals that ecosystem-based disaster preparedness and conservation remain under-prioritised. Shifting incentives, strengthening institutional capacity, creating blended instruments tailored to ecosystem interventions, and aligning policies across climate, biodiversity, and DRR are all essential to scale support meaningfully in the face of escalating climate risk.

Water: Mainstreaming climate resilience in water infrastructure is a key opportunity to elevate investment. Water conservation, supply and demand accounted for an annual average of ZAR 6.9 billion (3.7%), making it the single largest adaptation-relevant sector, with finance directed to conservation, supply and demand management, and wastewater systems. Public actors were responsible for 71.9% of all investments in the sectors, with multilateral climate funds (31.4%), bilateral DFIs (19.4%), and multilateral DFIs (16%).

Allocations to **buildings and the built environment** amounted to an annual average of ZAR 4.8 billion (2.6%). These specifically went to energy efficiency in construction work with an annual average of ZAR 4.7 billion (97%). Adaptation flows in the sector represented less than 4.7%, possibly because adaptation components are often part of larger infrastructure projects, making them difficult to track. The key providers were bilateral DFIs (84%), and multilateral DFIs (13.1%).

The relatively modest scale of investments in water and built-environment resilience reflects several structural constraints in South Africa's institutional and financial architecture. Water infrastructure is fragmented across national, provincial, and municipal jurisdictions, complicating coordination, cost-sharing, and accountability. Many municipalities struggle with limited revenue, aging assets, and poor technical capacity to integrate climate resilience into water systems. Further, resilient water and built infrastructure demand large upfront capital but yield returns slowly, or through avoided damage, making them less attractive than established mitigation projects, such as those in energy. The absence of regulatory mandates, incentive structures, or clear cost-recovery frameworks further exacerbates investor risk perception.

Another layer of challenge lies in measurement, attribution, and prioritization. Adaptation and resilience components are often embedded within broader infrastructure projects and are rarely disaggregated, making them hard to isolate, value, or present to financiers. The lack of standardized metrics, monitoring protocols, and data on resilience outcomes could undermine investor confidence.

To shift the balance, scaling investments in these domains will require stronger institutional coordination, bolstered municipal capacity, development of clear resilience project pipelines, regulatory clarifications for cost recovery, and tailored de-risking mechanisms.

Agriculture, forestry, and fisheries (AFF), with annual average climate flows of ZAR 4.2 billion (2.2%), remains relatively underfunded. Agriculture has seen emerging investment in sustainable production and land use, though flows pale in comparison to the sector's strategic importance for food security, exports, and rural livelihoods. Reflecting the high climate vulnerability of the sector, a substantial portion (56.8%, or ZAR 2.4 billion) of AFF climate investments were for adaptation. The remaining investments were allocated to projects for mitigation (33.8%) and with dual benefits (9.5%). International public actors dominate AFF climate finance in South Africa, accounting for 84.5% of investment. The key providers were multilateral DFIs (17.5%) and bilateral DFIs (49.5%). Commercial lending plays a limited role, though third sector organizations, such as philanthropies, were responsible for 12.7% of AFF's climate finance, providing grants mainly on sustainable crops, agroforestry, and livestock production.

Transport received an annual average of ZAR 2.6 billion (1.4%) of total climate flows, a strikingly small share given the sector's importance for decarbonisation and the just transition. While some activity is visible in transport, specifically in electric micro-mobility for last-mile delivery vehicles; investment remains far below that required to shift the country's carbon-intensive mobility system to new energy vehicles (NEV), electrification of freight and logistics, and public transport infrastructure. The adoption of passenger EVs remains muted given the ad valorem tax hiking purchasing prices of imported vehicles, with most EVs at time of writing costing in excess of ZAR 800,000. Policy signals, such as the 150% tax deduction for clean transport manufacturing discussed in Section 3, is a promising signal for the transport sector. The incentive targets new plants, equipment, and tooling for NEV manufacturing, but only comes into effect from March 2026.

The sectors of waste and energy efficiency and demand-side management (DSM) each had climate investment of less than ZAR 1 billion, or less than 1%, of total climate finance flows for the tracked period.

Cross-sectoral projects include investments that cannot be attributed to a single sector. These include multi-sector programmes, cross-cutting technical assistance, policy and regulatory support, capacity building, and enabling environment activities, and can also cut across mitigation and adaptation objectives. Cross-sectoral projects represented the second-largest category after energy systems in 2022-2023, capturing an annual average of ZAR 22.6 billion (12.0% of total flows), of which 33.2% went to cross-cutting policy and capacity building efforts. Given the interdependencies between sectors and actors, adapting effectively to climate change will require cross-sectoral strategies and a systems-wide approach. Cross-sectoral investments not only link climate goals to the UN Sustainable Development Goals, including gender equality; but also provide critical economy-wide development, break the institutional, sectoral, and national disconnect; and facilitate better sectoral information structures. Approximately 25.0% of cross-sectoral flows went to adaptation, 30.5% to mitigation, and 38.9% with dual benefits.

BOX 4: South Africa's Climate Finance Landscape in Context

South Africa's climate finance landscape can be benchmarked against both continental and global trends by using data from CPI's Global Landscape of Climate Finance 2025 and the Landscape of Climate Finance in Africa 2024. While direct comparisons are hindered by differences in tracking periods, sectoral classification, and coverage, several clear patterns show that South Africa's climate finance aligns more closely with emerging markets and developing economies (EMDEs) rather than continental trends in terms of domestic-international split, public-private split, financial instrument split and mitigation-adaptation split.

Domestic-international split: South Africa's 59.4% share of tracked climate finance from domestic sources is closer to EMDEs trends where 55.1% of tracked flows were domestic, in comparison to Africa (ex. South Africa), where only 7.0% of flows were domestic. South Africa's volume of domestic finance reflects both the relative depth of its financial sector and its greater ability to mobilise domestic capital.

Public-private split: Private institutions provided 57.5% of South Africa's flows, aligning more closely with global trends where 56.2% came from private institutions compared to Africa (ex. South Africa), where 85.2% of finance came from public institutions.

Mitigation-adaptation split: At 11.3%, the share of adaptation finance in South Africa is higher than the EMDE average (7.6%) but lags behind the continental average of 33.7% (ex. South Africa). While the rest of the continent has a more even split between mitigation, adaptation, and dual benefit finance; South Africa's profile more closely mirrors EMDE patterns, where mitigation finance dominates. Given that South Africa has the highest per capita emissions on the continent and is responsible for around one-third of Africa's total emissions (IEA, 2022), the emphasis on mitigation, particularly in the energy sector, is unsurprising. However, the country is also highly vulnerable to climate impacts (e.g., droughts, floods, and water insecurity), making adaptation finance equally critical.

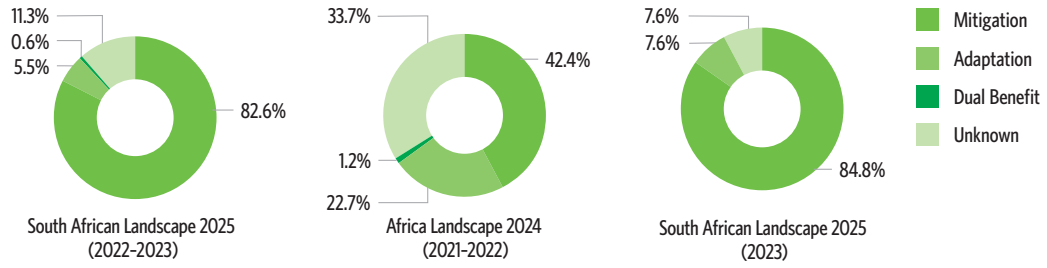


FIGURE 21 The South African, Africa and EMDE finance landscapes, per climate objective %

Instrument split: Market-rate debt was the dominant instrument for climate finance in South Africa (45.0%) and EMDEs (54.4%), while it represented 24.3% of tracked flows in the Africa Landscape (ex. South Africa). Grants played a much larger role in Africa's landscape, making up 34.3% of tracked flows, well above the EMDE average (4.5%) and in South Africa (6.3%). As a middle-income country, South Africa still lacks the fiscal space that allows high-income countries to provide substantial domestic concessional finance (CPI, 2024), yet it does not qualify for much of the concessional support available to other African nations, which is often allocated based on income criteria (Bloomberg, 2021). This paradox helps explain the importance of concessional finance in South Africa's G20 climate advocacy, as the country seeks mechanisms to increase affordable finance for all.

Taken together, these patterns show that South Africa's climate finance landscape is more similar to EMDE trends than to the rest of Africa. Its ability to mobilise private and domestic finance sets it apart from the rest of the continent, but its relatively low allocation to adaptation suggests a gap in addressing climate vulnerabilities compared to regional peers.

The table below presents the average annual percentage breakdown of climate finance by source, end use, and instrument.

TABLE 10 South African Landscape 2025, Africa Landscape 2024 and Global Landscape 2025 comparison

	South African Landscape 2025	Africa Landscape 2024 (excluding South Africa)	Emerging Markets and Developing Economies (Global Landscape 2025)
Years Tracked	2022–2023	2021–2022	2023
Average Annual	ZAR 188.3 billion (USD 10.2 billion)	USD 40.2 billion	USD 332.0 billion
Domestic/International			
Domestic	59.4%	7.0%	55.1%
International	39.1%	90.8%	44.9%
Unknown	0.0%	2.2%	0.0%
Public/Private			
Private	57.5%	14.8%	56.2%
Public	40.8%	85.2%	43.4%
Unknown	1.7%	0.0%	0.4%
Climate Uses			
Adaptation	11.3%	33.7%	7.6%
Mitigation	82.6%	42.4%	84.8%
Dual Benefit	5.5%	22.7%	7.6%
Unknown	0.6%	1.2%	0.0%
Instruments			
Budget Expenditure	3.7%	N/A	N/A
Concessional Debt	8.3%	27.2%	10.5%
Debt	45.0%	24.3%	54.4%
Equity	33.2%	10.3%	29.7%
Grant	6.3%	34.3%	4.5%
Unknown	3.6%	3.2%	0.9%

06 Emerging Themes: Just Transtion, Guarantees and Urban Climate Finance

This section provides analysis on emerging themes identified across various previous editions of the South African Landscape, namely just transition, guarantees, and urban climate finance. Due to limitations in data coverage and methodological consistency, these could not be incorporated into the Landscape figures presented above. They are addressed here for reference and as priorities for inclusion in subsequent Landscapes as data availability and methodological approaches improve over time.

6.1 Just transition

Indicative findings show that approximately ZAR 16.0 billion of climate finance tracked for 2022–2023 was directed to projects with explicit just transition objectives; however, data is limited, fragmented, and largely self-reported.

Although the integration of just transition mechanisms into South Africa's climate finance landscape remains at an early stage, the national strategy for a low-carbon, climate-resilient economy is anchored in a robust framework of policies, plans, and institutional mechanisms designed to ensure that climate investments are not only Paris-aligned but also people-centered. A central priority is the protection of vulnerable workers and communities through reskilling initiatives, social protection measures, and regional economic diversification as coal-dependent regions and carbon-intensive sectors undergo structural change.

The policy signals are clear: climate action in South Africa is expected to deliver emissions reductions alongside social progress. This expectation is embedded across multiple instruments including legal obligations (e.g.,the Climate Change Act's embedding of just transition principles into national and sectoral planning), strategic investment plans (e.g., the JET-IP's funding for social components), and classification tools (e.g., the Just Transition Framework and the SA GFT). Collectively, these policy and governance rails provide a strong enabling environment that not only helps to mobilise climate finance but also channels it towards areas with the greatest socioeconomic impact, thereby laying the foundations for a just transition."

This report captures just transition finance, as a subset of the larger climate finance flows. Data is sourced from CPI's existing international data sets, in combination with the captured domestic surveys, which allowed for self-reported data. This methodology is experimental in nature, and provides an initial preview of how just transition finance could be integrated into future Landscape reports. The aim is to equip policymakers, financiers, and stakeholders with insights into current just transition-aligned financial flows, while laying the groundwork for more definitive and comprehensive tracking of just transition finance in South Africa. The methodology is further explored in the Annexure to this report.

The approach utilises the PCC's Just Transition Framework (2022) to evaluate whether tracked investments had a just transition component. A transaction was tagged as just if one of the following criteria was met:

- **Just transition by design:** The project was explicitly designed to further just transition objectives.
- **Just transition by outcome:** The outcomes deliver just transition-aligned benefits. For instance, a solar farm may not have a formal just transition plan but still creates substantial employment in a coal-dependent region or funds community development through benefit-sharing.

Only transactions meeting the definition of climate finance were assessed for just transition relevance. Accordingly, all transactions counted in the just transition total are also included within the overall climate finance total.

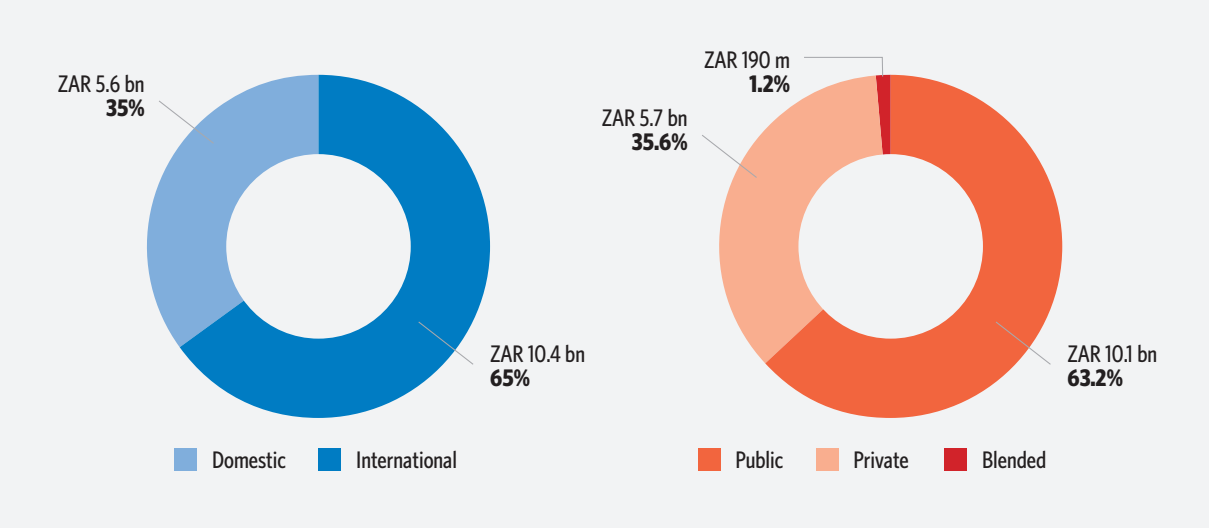


FIGURE 22 Just transition finance as a subset of tracked climate finance, ZAR bn

Climate and just transition-aligned investment flows reached an annual average of ZAR 16.0 billion, of which international sources accounted for an annual average of ZAR 10.4 billion (65.0%), and domestic with an annual average of ZAR 5.6 billion (35.0%). The public sector accounted for an annual average of ZAR 10.1 billion (63.2%), with the private sector at an annual average of ZAR 5.7 billion (35.6%), and blended finance making up the balance with a minimal annual average of ZAR 190 million (1.2%). This implies that just transition in the climate arena is contingent on international funding from predominantly public sources.

A regional source analysis indicates that Sub-Saharan Africa recorded the highest annual average at ZAR 5.7 billion (35.7%), followed by Western Europe with an annual average of ZAR 4.9 billion (30.9%), East Asia and Pacific had an annual average of ZAR 3.4 billion (21.0%), and US & Canada with an annual average of ZAR 871 million (5.4%). The balance was fairly spread across Central Asia and Eastern Europe; Latin American and the Caribbean and Middle East and North Africa with a collective annual average of ZAR 1.1 billion (6.9%).

The bulk of these flows went into the energy sector with an annual average of ZAR 13.1 billion (82.0%), consistent with South Africa's commitments under the Just Transition Framework and ensuring communities reliant on coal are not left behind. Water received an annual average of ZAR 2.1 billion (13.1%), and the energy efficiency sector received an annual average spend of ZAR 510 million (3.2%).

Tracked just transition finance has a diversified instrument mix, with market-rate debt accounting for an annual average of ZAR 6.9 billion (42.8%), equity with an annual average of ZAR 4.4 billion (27.5%), concessional debt at an annual average of ZAR 2.7 billion (16.9%), grantfunding had an annual average of ZAR 1.5 billion (9.5%), and a nominal average amount of ZAR 500 million (3.1%) for undisclosed instruments.

6.2 Climate finance guarantees

Guarantees are effective tools for mobilising private capital, consistently outperforming concessional loans and grants in terms of leverage. Globally, guarantees mobilise significantly more private capital per dollar of public investment. In Africa, this accounted for 31.7% of all mobilised private finance between 2014 and 2021 (CPI, 2023). In South Africa, and Africa in general, guarantees remain underused and inconsistently deployed within the country's blended finance architecture. To understand the current landscape of guarantees, 63 cross-border guarantee mechanisms in Africa were analysed, as offered by four key entities including MDBs, DFIs, export credit agencies, and specialised institutions. Guarantees were assessed based on their climate alignment, recipient sector, instrument type, and risk coverage. In-depth analysis revealed structural, institutional, and market-level barriers that are constraining the tools' full potential.

Between 2019 and 2023, guarantees played a limited role in mobilising climate finance in South Africa, accounting for 24% of non-climate flows but only 12.3% of climate-aligned flows. Between 2019 and 2023, guarantees mobilised accounted for USD 381 million (~ZAR 4.4 billion) in climate-aligned private finance in South Africa. This activity is aligned to South Africa's response to its energy crises, culminating in 2023 with the the country experiencing more than 6,800 hours of load shedding, the highest on record. In 2019 the country increased its renewable energy deployment, using credit guarantee facilities to de-risk private loans for energy projects (WEF, 2024). As a crisis response, the government backed guarantees to unlock more private capital. In latter years guarantee usage dropped sharply, particularly in 2022, which could mark an end to the *ad-hoc* deployment of guarantees in a shift from emergency capital to more structured funding (World Bank, 2022).

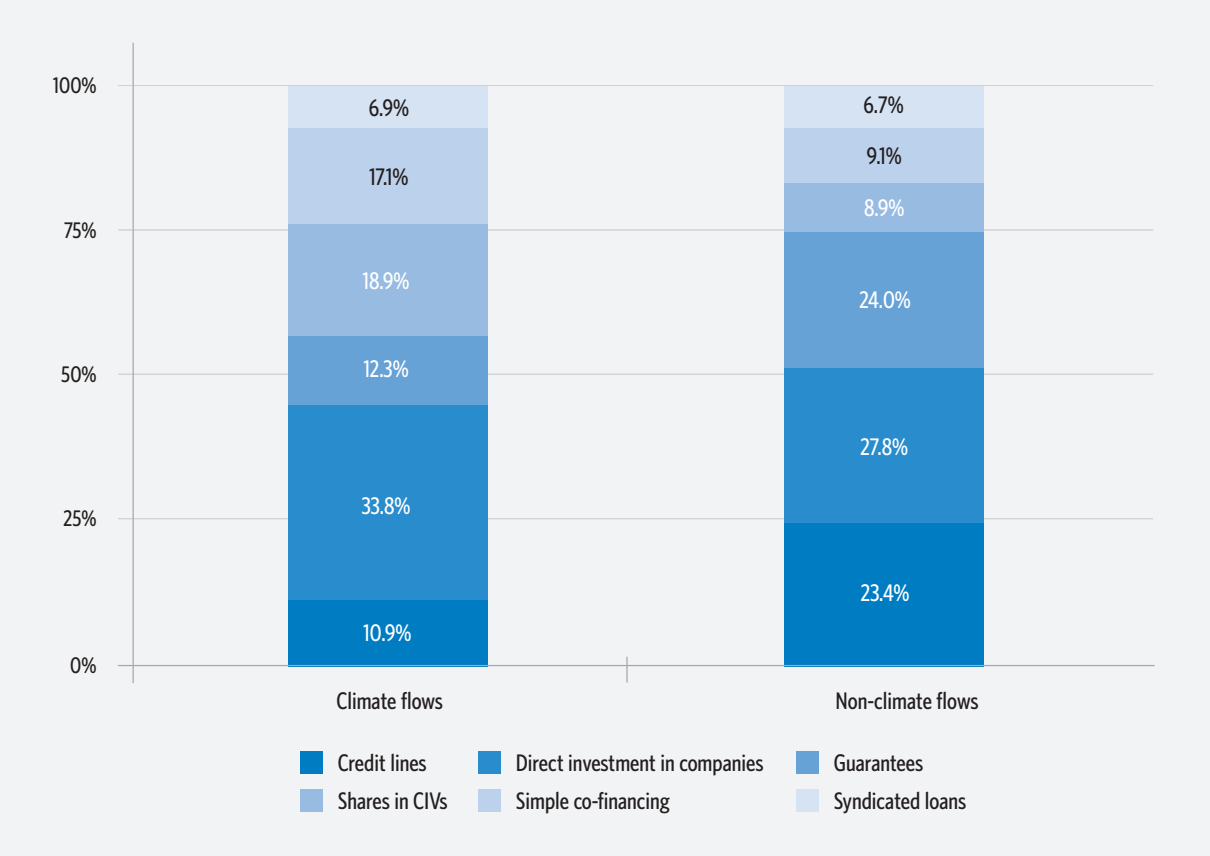


FIGURE 23 Percentage of private finance mobilised in South Africa by instrument, 2019-2023

Though South Africa receives more mobilised guarantee flows than other African countries, it underperforms on guarantee deployment for climate-aligned projects. Countries such as Mexico, Kenya, Egypt and India have much higher ratios of guarantees deployed for climate-aligned projects specifically. This is a missed opportunity, especially given the country's immense climate finance needs. Comparison with other countries, particularly Kenya, underscore this issue. While South Africa mobilised greater total volumes, Kenya has used guarantees more consistently and with clearer climate targeting, showing strong performance in recent years. In 2022 and 2023, countries like Egypt and Angola recorded robust climate-related guarantee activity while South Africa's climate flows were negligible or entirely absent.

6.2.1. Barriers to climate guarantee uptake in South Africa

Over-reliance on debt-focused guarantees: In South Africa, most guarantees are structured to support debt instruments, with few covering equity and none focused on equity alone. This narrow use of guarantees mirrors broader trends across the continent. CPI's 2024 analysis of guarantees in EMDEs found that over 75% of guarantees support debt exclusively, with only a small share covering both debt and equity, and virtually none designed for equity alone. This debt-heavy portfolio can limit the country's ability to mobilise private equity capital, which is important for financing climate solutions that require patient, long-term investment. Equity guarantees can also help mitigate early-stage risks in emerging sectors like energy storage, distributed renewables, and green hydrogen. In an environment where concessional finance is constrained and equity risk perceptions remain high, expanding equity-focused guarantees could unlock more resilient and scalable capital without adding to sovereign debt.

Limited targeting of the private sector: Despite its relatively advanced financial sector, South Africa's guarantees remain disproportionately focused on the public sector, which benefitted from almost twice (in volume) as many guarantees as those in the private sector. This represents a missed opportunity to use guarantees to attract domestic and international private capital, particularly for green infrastructure and clean energy. South Africa requires a stronger pipeline of de-risking instruments designed for blended finance and the needs of the private sector. Two key constraints exacerbate this barrier:

- **High transaction costs:** Upfront fees, annual premiums, and commitment charges often make guarantees unaffordable for small- and medium-sized renewable energy projects operating on thin margins.
- **Weak project pipeline:** Limited access to technical assistance and project preparation support means that many climate-aligned initiatives are unable to qualify for guarantee support.

Together, these barriers hinder the use of guarantees, even when capital is technically available.

Climate-specific guarantees are rare and inconsistent: Although South Africa is one of the top 15 global CO_2 emitters and faces urgent climate transition needs, climate-exclusive guarantees remain a small share of the overall portfolio. Most guarantees are climate-agnostic, without strategic use to catalyse private capital into high-impact areas such as renewable energy, water security, and low-carbon transport. Two structural issues further compound this challenge:

- **Duration mismatch:** Climate investments often require long financing horizons of 10–20 years, yet most guarantees only cover 5–7 years, creating a gap between risk period and investment timeline.
- **Volatile and ad-hoc use:** Climate targeted guarantees have been sporadic, peaking in 2017 and 2018 before falling sharply, reflecting the lack of sustained prioritisation of guarantees as part of South Africa's climate finance strategy.

Mismatch between risk coverage and market needs: South Africa faces significant macroeconomic and currency risks, yet most available guarantee instruments focus exclusively on commercial risk. Commercial risk is addressed by nearly three times as many guarantees as currency risk, and more than five times as many as political risk. This creates a critical misalignment between the country's risk environment and the types of coverage on offer. This coverage gap is particularly problematic given South Africa's current high interest rates relative to those in developed markets. For example, a solar project in Germany may require an 8.3% return to attract private equity, whereas the same project in South Africa would require 25.8%. For example, a solar project in Germany may require an 8.3% return to attract private equity, whereas the same project in South Africa would require 25.8% (CPI, 2023). CPI showcases the difference in terms of cost of capital, which is mostly driven by macroeconomic factors rather than project risks (CPI, 2024).

Institutional and operational barriers: The ability of South Africa's public finance institutions, such as the DBSA and the IDC, to scale up guarantee issuance is limited by structural constraints. These include:

- Insufficient balance sheet capacity.
- Mandate limitations.
- Lack of in-house expertise to originate, structure and manage guarantee-backed transactions.

Beyond domestic public financial institutions, the broader guarantee landscape is fragmented. Borrowers must navigate various international and regional providers, each with different application processes, timelines, and requirements. The absence of a central platform or standard procedures makes the system difficult to navigate, especially for smaller developers without specialised financial capacity. International guarantee providers (including bilateral DFIs and MDBs) are also widely considered to be slow and administratively complex. Approval processes often exceed 12–18 months, which is incompatible with the fast-paced implementation timelines of climate projects, particularly in infrastructure or adaptation, where time-sensitive delivery is essential.

6.3 Improving urban climate finance in South Africa

Cities are at the forefront of South Africa's growth and its climate crisis. With over 69% of South Africa's population already living in cities and this figure expected to rise, urban areas are key to reducing national GHG emissions (World Bank, 2024). Urban areas are already experiencing climate-related impacts including extreme heat, floods, and water insecurity, affecting millions of residents, particularly those in marginalised groups, living in informal settlements or low-income neighbourhoods. Currently, urban climate finance in sub-Saharan Africa is largely reliant on international sources (69%), and total climate funding to African cities remains insufficient, with only USD 5 billion (~ZAR 86.4 billion) reaching sub-Saharan urban areas in 2021/22 (CCFLA 2024). Several major metros in African countries (including Johannesburg, Cape Town, Durban, and Tshwane) have developed climate strategies to mitigate and adapt to climate change, and have joined global initiatives like the Cities Race to Zero, and launched innovative programmes, from green bonds to community-run waste centres.

Despite this climate ambition and responsibility for implementation, cities face barriers in accessing finance for sustainable urban infrastructure including limited fiscal autonomy, weak creditworthiness, insufficient technical capacity, and fragmented governance and institutional mandates. Strengthening the enabling environment through better policy, fiscal reforms, and institutional support can unlock cities' ability to drive climate action and contribute to national development priorities.

National and regional levers to enhance the cities' agenda: South Africa's Climate Change Act (2024) is a milestone in embedding climate governance across all legislative spheres, requiring metropolitan and district municipalities to assess and publish climate change needs, and to prepare and implement local response plans. Implementation of the Act will require coordination between national, provincial, and local authorities. National DFIs, such as the IDC or DBSA, can play a pivotal role in translating these mandates into bankable projects by providing concessional lending, project preparation support, and leveraging blended finance. As a country with a long-standing voice in global climate diplomacy, including leadership roles in the UNFCCC negotiations, the G20, and African Union, South Africa has the opportunity to demonstrate that robust domestic climate governance, aligned with urban priorities, can enhance resilience while advancing inclusive economic growth. Strengthening the enabling environment for subnational climate finance under national frameworks can position South African cities as innovation hubs within the broader African and global climate agenda.

South Africa's JETP is a key platform for mobilising such resources. While primarily focused on decarbonising the power sector and managing the socioeconomic impacts of coal phase-down, the JETP has incorporated some municipal perspectives through consultations and the inclusion of local projects in investment plans. Opportunities remain more systematically integrated to urban and subnational climate priorities, such as low-carbon transport, green buildings, and climate-resilient infrastructure, into future JETP investment pipelines. Embedding these urban dimensions could accelerate emissions reductions and resilience at the city level and also make the JETP a model for urban-inclusive country platforms that bridge national commitments with local action (CCFLA 2025).

Strengthen access to urban climate finance: C40 Cities' 2025 Sustainable Finance Action and Advocacy Roadmap for Global South Cities identify five thematic areas that can enhance urban climate finance:

1. Make climate a strategic priority within the city.
2. Strengthen city capacity to leverage climate finance and improve project bankability.
3. Increase private sector participation in urban climate projects.
4. Enhance national and local policy frameworks for climate finance.
5. Promote and call for increased climate finance and improved access for cities.

South Africa's cities, including Cape Town and Ekurhuleni, are already taking the lead. Cape Town's Climate Change Policy, for example, formally recognises climate threats and drives a comprehensive strategy for carbon neutrality and resilience (Shared Pathways, 2025). Cape Town also published in 2022 a ten-year infrastructure project pipeline, valued at ZAR 120 billion, which led to successful coalitions and investments of ~ZAR 8.3 billion in 2024. Ekurhuleni has also developed a Climate Action Plan, which identified various green investment opportunities and strategically bundled them into thematic portfolios. By aggregating investments across sectors, the city worked with banks to create a significant pipeline for financing climate-smart initiatives (Shared Pathways, 2025).

To build on this momentum, cities can leverage practical tools to strengthen access to finance. For example, CCFLA's Enabling Frameworks Condition (EFC) Assessment tool[1] can help conduct an overview of the national enabling environment for cities and subnational climate finance and identify gaps that could be improved through targeted technical assistance. Online courses such as the UrbanShift City Academy[2] can support cities in strengthening internal capacity, increasing their ability to develop investment-ready climate projects and secure financing for those projects. In parallel, support mechanisms like **project preparation facilities** provide funding and technical assistance to support municipalities with the development of infrastructure projects from identification through prefeasibility, feasibility, structuring, and transactions. There are 33 project preparation facilities that support cities in South Africa; as well as 8 capacity development programmes that support cities with the capacity to prepare projects and 4 project advisory programmes that provide guidance and education to cities on the project preparation process (CCFLA, 2025).

07 Barriers and Challenges to Scale Climate Finance

Despite progress on climate policy, South Africa faces a persistent finance gap driven by regulatory uncertainty, infrastructure constraints, market limitations, and capacity gaps.

While South Africa has made important progress in building a sophisticated climate policy framework, a persistent gap remains between the volume of finance mobilised and investment needs. This gap is shaped by a complex set of systemic and sector-specific barriers that cut across the investment ecosystem. For the purposes of this Landscape, these barriers can be grouped into four overarching themes:

- Policy and regulatory uncertainty
- Infrastructure constraints
- Financial market limitations
- Institutional capacity gaps

Together, these challenges affect both the supply of capital and the bankability of projects. Addressing this requires a coordinated response that goes beyond project-level financing to tackle the underlying structural weaknesses in South Africa's investment environment. The following subsections provide a high-level analysis of the cross-cutting and sector-specific bottlenecks under each theme.[8]

7.1 Policy and regulatory uncertainty

Lack of policy certainty, frequent policy changes, delays, or lack of enforcement create a riskier environment for project developers and financiers that undermine investor confidence and stall climate investments.

TABLE 11 Key policy and regulatory challenges impacting climate finance

Sector	Key policy and regulatory challenges impacting climate finance
Energy	• Delayed and/or irregular Integrated Resource Plan updates • Uncertain Renewable Energy Independent Power Producer Procurement Programme rollout • No clear rules for private power sales through municipal grids, limiting renewable energy investment
Industry	• Uncertain decarbonisation policy signals (e.g., on hydrogen, CCUS, process heat electrification) • The carbon tax is evolving, but allowances remain a moving target for capex decisions • Strategy to achieve SETs remains ambiguous and uncertain, further undermined by a lack of resources to achieve SETs targets

8 This compilation of barriers and challenges is based on inputs gathered through engagement with key stakeholders in the ecosystem.

Sector	Key policy and regulatory challenges impacting climate finance
Transport	• Historically high EV import duties with ad valorem tax • Incentive roadmap not fully settled • Lack of binding fuel-economy or emission standards • No timeline for ICE phase-out • Fragmented governance across national, provincial, and metro bodies for rail and bus rapid transit electrification
AFF	• Inconsistent and/or slow implementation of climate-smart agriculture strategies and support instruments • Uncertainty in water-use licensing, allocations, land tenure and land reform affecting long-term investments • Limited policy clarity on carbon farming credits and MRV requirements
Water	• Lengthy PPP procurement approvals and overlapping mandates (national–municipal) • Weak enforcement of discharge quality standards reduces demand signals for upgrades • Tariff and regulatory uncertainty affecting cost-recovery and bankability
Waste	• Inconsistent enforcement of landfill bans, by-laws, and extended producer responsibility • Complex and onerous licensing, associated with the Environmental Impact Assessment EIA's and norms and standards for certain waste-to-value and hazardous streams • Lack of predictable landfill levy trajectories to shift economics toward circularity

7.2 Infrastructure constraints

South Africa's ageing infrastructure, from the electricity grid to railways, water systems and waste facilities, increases costs and risks that directly limit project development.

TABLE 12 Key infrastructure constraints impacting the scaling of climate finance

Sector	Key infrastructure constraints impacting the scaling of climate finance
Energy	• Constrained transmission capacity in renewable resource-rich regions • Curtailment risk for IPP projects • Distribution networks not ready for high penetration of rooftop PV and storage
Industry	• Insufficient clean power availability and/or transmission to mining and heavy-industry nodes • Absence of CO_2 transport and/or storage (for CCUS) and hydrogen infrastructure backbone • Rail and port bottlenecks raising input/output costs and delivery risk
Transport	• Deteriorated freight and commuter rail infrastructure, limiting the potential of a modal shift • Sparse public charging corridors with local distribution upgrades needed for depots • Inadequate bus rapid transit and metro rail capacity and integration to support electrified fleets
AFF	• Insufficient irrigation and storage for climate-resilient water schemes for drought buffering • Weak rural logistics (roads, cold chain) drives higher losses and lower viability of resilient crops • Limited rural electrification/grid reliability for on-farm processing
Water	• Ageing bulk reticulation assets (high non-revenue water, frequent failures) impede efficiency and renewable retrofits • Under-capacity wastewater plants • Limited reuse and desalination infrastructure • Inadequate stormwater systems for intensified flood risk
Waste	• Limited separation-at-source systems and collection networks • Insufficient material aggregation recovery facilities • Insufficient recycling infrastructure, composting, biogas and plastics recycling plants outside metros • Insufficient offtake for secondary materials

7.3 Financial and market limitations

Shortage of accessible, affordable finance especially for small and/or innovative projects high perceived risks; and underdeveloped instruments, create a gap between needs and delivery. Shallow VC and limited green lending track records compound the challenge.

TABLE 13 Key financial and market limitations to scaling climate finance

Sector	Analysis of major financial and market limitations to scaling climate finance
Energy	• Small, embedded projects face high transaction costs and limited aggregation vehicles • Storage and/or new tech perceived as higher risk • Offtake risk because of municipal credit concerns
Industry	• Very large capex with long and uncertain payback (hydrogen, process change, CCUS) need concessional and/or guaranteed tranches • Limited domestic VC or private equity appetite for industrial deep-tech • Export policy and tariff risks reduce willingness to finance plant retrofits
Transport	• High upfront costs for EVs with limited consumer finance or leasing products • Municipal balance sheets constrain electric bus and rail procurements • Scarcity of long-tenor debt • Charging networks require patient capital • Unclear revenue models outside metros
AFF	• Smallholders lack collateral and/or credit histories • Limited availability and penetration of climate insurance and tailored agri-finance • Carbon and/or agri-environmental revenues not yet reliable for project finance
Water	• Weak municipal creditworthiness, leading to limited access to long-tenor capital • Tariff affordability caps • Adaptation and resilience assets are often non-revenue-generating and depend on grants or government budget
Waste	• Competing commodity price volatility undermines recycling revenues • Lenders require feedstock surety, as well as offtake and price floor certainty

7.4 Institutional capacity gaps

Capacity gaps in public and private institutions slow project development and finance absorption through lengthy permitting, weak project preparation, and skills shortages in emerging fields.

TABLE 14 Analysis of leading institutional gaps and capacity challenges

Sector	Analysis of leading institutional gaps and capacity challenges
Energy	• Licensing, permitting, and grid-connection processing backlogs • Shortage of skilled installers, engineers and utility grid-integration expertise • Limited municipal capacity for clean energy solutions
Industry	• Limited in-house decarbonisation planning and project-preparation capacity (especially mid-caps) • Nascent local expertise for hydrogen, CCUS, and process electrification • Need for structured public–private coordination platforms with delivery authority
Transport	• Governance and operations deficits at SOEs, both rail and ports, affecting project execution • Limited municipal transport planning, fleet procurement, and contract management capacity • Skills gaps for electric vehicle maintenance, charging operations and maintenance and battery safety
Agriculture	• Under-resourced extension services for climate-smart practices • Weak farmer organisation capacity • Limited MRV and data systems for resilience and/or soil carbon outcomes • Low digital literacy and skills
Water	• Shortage of engineers and/or project managers • Reliance on consultants raises costs • Weak asset management and preventative maintenance culture • Limited capacity to structure bankable public-private partnerships and manage performance
Waste	• Progressive waste landfill diversion/avoidance is underfunded • Municipal waste departments are under-capacitated • Basic collection and disposal is prioritised over diversion • Enforcement capacity relating to compliance and illegal dumping is inadequate • Skills shortages across repair, recycling and remanufacturing value chains

08 Recommendations

South Africa has laid significant groundwork for a climate-resilient, low-carbon economy. The Climate Change Act of 2024, the establishment of sectoral emissions targets, and the launch of pioneering industrial strategies such as the South African Renewable Energy Masterplan and the Green Hydrogen Commercialisation Strategy signal an accelerating shift from policy intent to delivery. Climate finance flows are increasing, supported by expanding private participation and blended public-private financing partnerships.

Current flow still remain well below the levels needed to align with South Africa's 2030 NDC and net-zero 2050 target. Estimates suggest that climate investment must increase by up to threefold over the coming decade. Persistent structural barriers continue to impede progress, including fragmented climate finance data and tracking systems, policy and infrastructure bottlenecks, and capacity gaps in public institutions. In addition, a mitigation-heavy that leaves adaptation and just transition priorities underfunded.

Addressing these shortfalls require a dual-track approach. South Africa's climate finance leadership, together with policymakers, regulators, DFIs, institutional investors, municipalities, and the private sector must pursue **immediate actions** that unlock near-term investment; while also advancing **deeper structural reforms** to embed climate priorities into the country's financial architecture and economic planning. Collectively, these measures aim to mobilise significantly greater volumes of climate-aligned investment and direct them efficiently and equitably toward national priorities. These immediate actions and structural reforms are discussed in the following sections.

8.1 Immediate actions

Unlocking near-term investment by enhancing data transparency, policy certainty, and financing mechanisms. South Africa must first focus on interventions that build investor confidence, reduce transaction risks, further strengthen domestic resource mobilization, and accelerate finance to bankable projects. These actions should leverage existing policy frameworks and institutional mechanisms, including the Just Transition Framework, the SA GFT, and the JETP country platform.

Enhancing climate finance data transparency and tracking is an urgent priority. Fragmented and inconsistent data undermine coordination and effective decision-making. While the National Treasury is addressing climate budget tagging across all spheres of government, this framework could be extended to provincial and municipal budgets with support from cooperative governance institutions. DFIs, SOEs, and private financial institutions could also disclose climate-related flows aligned with the SA GFT, supported by regulatory guidance from the Prudential Authority and the Financial Sector Conduct Authority (FSCA). Over time, harmonising public and private reporting systems under the SA GFT, including clarifying criteria such as "Do No Significant Harm", will reduce risks of under- and over-reporting. This effort could be anchored by a central open-access climate finance data portal. In parallel, the National Treasury could lead a comprehensive sectoral investment needs assessment that quantifies required financing across all major sectors (energy, transport, industry, AFF, water, and nature) for the short term (2030), medium term (2040), and long term (2050). This would create a national investment blueprint to guide resource allocation and project preparation.

Providing clear and stable policy signals is equally critical. Policy and regulatory uncertainty is a cross-cutting barrier to investment. The DFFE and DEE could prioritise finalising the updated Integrated Resource Plan (IRP 2023), currently in draft form, to provide a clear renewable capacity trajectory, and accelerate the rollout of the EV roadmap. This should include demand-side incentives, such as rebates or tax credits for EVs, as well as timelines for phasing in efficiency standards or phasing out internal combustion engines. Additionally, coordination across government spheres is necessary to avoid fragmented public transport electrification efforts. The National Treasury could also publish a long-term carbon tax schedule, setting out rate increases and declining allowance thresholds to 2035, along with guidance on integrating the carbon offset programme with international carbon markets. For trade-exposed industries, the Department of Trade, Industry and Competition (DTIC) and the National Treasury could develop a CBAM response strategy, providing technical support and finance for emissions reduction in steel, cement, aluminium, and mining, establishing systems to measure embedded carbon in exports, and negotiating for South Africa's carbon tax to be credited in partner schemes. Regulators should also strengthen enforcement of existing climate-related regulations, including renewable energy procurement targets, waste recycling mandates, and water efficiency standards. This should be achieved by issuing clear compliance directives and offering technical support to help entities meet these requirements. Clear, consistent signals will reduce policy risk premiums and catalyse immediate investment.

Expanding concessional and blended finance is vital to rebalancing South Africa's mitigation-heavy climate finance portfolio. The government could build on existing efforts from DFIs to set targets for the share of their portfolios allocated to adaptation and just transition, using concessional capital, guarantees, and patient debt to attract private finance. The DBSA could expand its Climate Finance Facility to de-risk municipal adaptation projects, while the IDC could create concessional loan programmes for just transition investments. In parallel, the PCC's work on a Just Transition Financing Mechanism could be leveraged to channel finance for worker reskilling in coal regions, community renewable projects, MSME green enterprises, and social infrastructure. In short, initiatives that have high social returns but require public finance leadership to be viable.

Deploying risk mitigation and management instruments will be key to mobilising South Africa's large pools of domestic private capital. The National Treasury, DFIs, and MDB partners could expand and coordinate on existing guarantee facilities to cover political, regulatory, off-taker, and currency risks. Complementary credit enhancement tools, such as public-backed reserves or dedicated guarantee companies, could enhance the credit ratings of green bonds and loans, making them more attractive to conservative investors, including pension funds. DFIs can also structure blended climate funds where public or donor capital takes a first-loss tranche to de-risk high-potential but high-perceived-risk technologies, including battery storage, carbon capture, green hydrogen, and electric mobility. The Treasury could coordinate debt-for-climate swaps or subsidised foreign exchange hedging instruments, supported by global climate funds, to reduce currency risk for critical projects.

Strengthening project preparation and institutional capacity is essential to convert available finance into investable projects. South Africa now hosts over 35 project preparation facilities, up from just 8 in 2021; yet they remain fragmented and often support projects only through the early feasibility stages. The JET PMU and DFIs could coordinate these facilities to provide end-to-end support through to financial close, and establish sector-specific public–private working groups to continuously generate and troubleshoot project pipelines. Fast-tracking permitting through "green lanes", such as building on the Energy One Stop Shop and expanding the mandates of Operation Vulindlela or the Presidential Infrastructure Coordinating Commission, can help cut approval times. Simultaneously, the National Treasury could expand capacity-building programmes such as the City Support Programme and the Energy & Water Sector Education and Training Authority (SETA) to upskill municipal officials and young professionals in climate project design, while DFIs offer technical assistance alongside financing. A knowledge exchange platform could pair experienced private developers with public-sector teams to accelerate skills transfer.

8.2 Long-term structural reforms

Embedding climate priorities into South Africa's financial architecture and economic planning can ensure sustained and increased climate finance over time. While immediate actions can accelerate near-term flows, deeper structural reforms can address the root causes of the financing gap. These reforms must rewire public investment planning, institutional capacity, financial markets, and infrastructure systems to align with South Africa's long-term climate and development agenda.

Institutionalising climate finance governance is foundational. Climate finance responsibilities are currently dispersed across multiple entities, which can lead to coordination gaps. The recommendation is for National Treasury to establish its own dedicated climate finance unit to drive strategy implementation, monitor flows, and liaise with international partners. Create a cross-ministerial climate finance steering committee convened by National Treasury, that could function similarly to the Sustainable Finance Working Group but within the ministries. Climate priorities should be embedded in core fiscal policy, for example, using green budget tagging not just to identify spending, but to inform budget allocations over time.

Empowering municipalities and cities as climate finance actors is also essential. Cities are at the forefront of implementing distributed renewables, public transportation, waste management, and local resilience projects, yet they currently face limited access to finance and weak technical capacity. The National Treasury could expand the City Support Programme to include a Green City Finance window, which would help metros issue green bonds (with credit enhancements or partial guarantees) and establish pooled financing facilities for smaller municipalities. Municipalities should also be supported in tagging climate-related projects in their budgets and in accessing international climate funds directly. Investments in dedicated climate units within metros, technical advisers embedded in municipalities, and city-to-city learning networks coordinated by SALGA would strengthen local capacity to design and deliver bankable projects. Cities could also be enabled to generate revenue through carbon credit projects (such as landfill gas-to-energy or urban forestry), supported by standardised MRV protocols from national government.

Deepening domestic financial markets for climate investment will be critical to mobilising large-scale private capital. The National Treasury, Prudential Authority, FSCA, South African Reserve Bank, and the JSE could develop a SA GFT-aligned green bond standard to guide institutional investors, while revising pension fund regulations to enable infrastructure and green investments as a separate asset class. Building and supporting a domestic carbon credit market linked to the carbon tax regime would create new revenue streams and price signals for low-carbon projects.

Rewiring infrastructure systems to enable transition technologies will require long-term planning and coordination. Fast-tracking the establishment of the Transmission System Operator and competitive electricity market under the Electricity Regulation Amendment Act, accelerating grid build-out, and upgrading ports and freight rail will be essential to unlock investment in renewables, green hydrogen, and EVs. Operationalising the NWRIA will be crucial to attracting private capital for bulk water infrastructure and building climate resilience in critical systems.

Finally, South Africa should leverage international finance and partnerships as a structural strategy. Advocate and provide continued support towards the G20 Roadmap for MDB reform, which aims to increase lending capacity; enhanced private sector mobilisation through initiatives like the co-financing portal and Mission 300; strengthened country-level collaboration; and boost joint action on climate change. South Africa can deepen South–South climate cooperation by co-developing regional infrastructure projects and using platforms such as BRICS and the African Union to aggregate demand for climate finance. It could also use its role in the UNFCCC, G20, and IMF/World Bank forums to champion developing country needs in global climate finance policy, from pushing for expanded developed country commitments to advocating for climate debt-relief and sustainability-linked debt instruments. This would align international finance more closely with South Africa's just transition priorities and reduce the cost of capital for green investments.

In conclusion, by pursuing this dual-track agenda of immediate actions and deeper structural reforms, South Africa can move from incremental progress to transformative scale. Immediate actions will build market confidence, accelerate investment flows, and demonstrate early wins; while structural reforms will embed climate priorities into the country's financial systems and economic planning. Collectively, these measures aim to mobilise significantly greater volumes of climate-aligned investment and direct them efficiently and equitably toward national priorities ensuring that South Africa's climate transition is not only rapid and robust, but also just and inclusive.

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10 Annexure

10.1 Methodology

The South African Climate Finance Landscape 2025 tracks annual climate finance flows during the years 2022 and 2023. It builds on the previous work of Cassim, Radmore, Dinham, & McCallum (2021), which covered flows for the years 2019, 2020, and 2021. The methodology draws on the Climate Policy Initiative's climate finance tracking framework (CPI 2022a, CPI 2022). The research team follows the following working definition of climate finance, outlined in National Treasury's Financing a Sustainable Economy report:

"Local, national, or transnational financing, which may be drawn from public, private, and alternative sources of financing. These financial resources are intended to cover the costs of transitioning to a low-carbon global economy and to adapt to, or build resilience against, current and future climate change impacts."

This working definition of climate finance consists of three elements:

Mitigation finance: An economic activity that contributes to the reduction or stabilisation of GHG concentrations in the atmosphere at a level that prevents dangerous anthropogenic interference with the climate system by avoiding or reducing GHG emissions or enhancing removals.

Adaptation finance: An economic activity that either substantially reduces the risk of adverse impact or substantially reduces the adverse impact of the current and expected future climate on that economic activity itself without increasing the risk of an adverse impact on other people, nature and assets; or where an economic activity that prevents or reduces the risk of adverse impact or substantially reduces the adverse impact of the current and expected future climate on other people, nature or assets, without increasing the risk of an adverse impact on other people, nature and assets.

Dual-benefit finance: Economic activity supporting both climate change mitigation and adaptation, meeting the respective criteria for each category.

This study's approach, in line with previous reports, consisted of five key stages that involved in-depth market research, expert interviews, and data collection, which was further supplemented by qualitative interviews with a selection of key market players. The collection of the data culminated in a Sankey diagram, as shown in the Executive Summary of this report, with supplementary descriptions of trends, challenges, and recommendations for furthering climate finance in South Africa.

The South African Climate Finance Landscape Report framework for tracking and classifying climate finance relies on the SA GFTR to identify and classify climate mitigation and adaptation activities. Financial flows characteristics are assessed and categorised across the following dimensions: origin, sources and intermediaries, financial instrument, climate change objective, and sectors. Figure A1 summarises this framework.

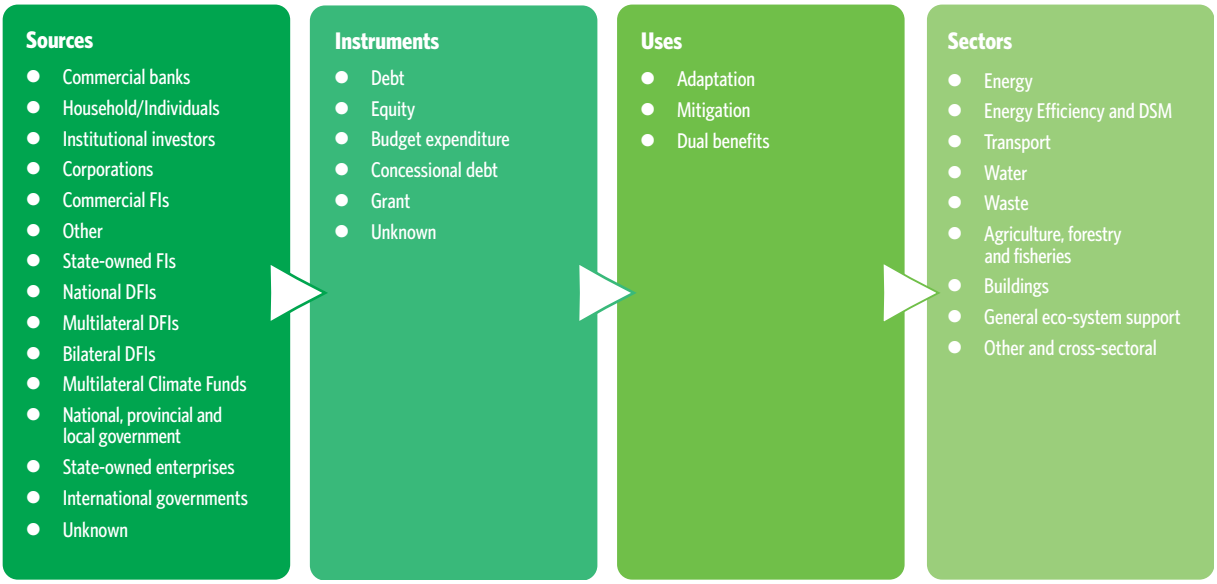

FIGURE A1 South African climate finance landscape tagging framework

10.2 Sources of climate finance

Private and public finance. The mapping of the climate finance landscape begins at the broadest definition of climate finance sources, being are the funds of private or public origin. Table A1 provides a definition for both.

TABLE A1 Sources of climate finance

Source	Description
Private Finance	Resources implemented by individuals and companies that are not state controlled.
Public Finance	Resources in the form of public expenditure towards national and local objectives.

10.3 Types of sources and intermediaries

This report identifies five subcategories of private and public financing sources, which are then further broken down into 18 different intermediaries. These are detailed in the table below.

TABLE A2 Sources and intermediaries

Source	Definition
1. International government	International political bodies, or the aggregate of the citizens of a state, nation, or municipality.
2. Government	
National government	The whole body politic, or the aggregate of the citizens of the nation.
Provincial government	The whole body politic, or the aggregate of the citizens of a province (there are nine provinces in South Africa).
Local government	The whole body politic, or the aggregate of the citizens of a local municipality.

Source	Definition
Public agencies	Any city, city and county, town, county, municipal corporation, public district, or public authority located in whole or in part within the Government.
State-owned enterprises (SOEs)	A legal entity created by a government in order to partake in commercial activities on the government's behalf.
State-owned financial institutions (SOFIs)	A legal entity created by a government in order to partake in commercial activities on the government's behalf.
3. Development Finance Institutions (DFIs)	
National DFIs	National DFIs are specialised development banks or subsidiaries set up to support private sector development in developing countries.
Bilateral DFIs	Bilateral DFIs are either independent institutions, or part of larger bilateral development banks where a single country owns the institution and finance is directed domestically.
Multilateral DFIs	Multilateral DFIs act as private sector arms of international finance institutions where the institution has multiple shareholder countries and directs finance flows internationally.
Multilateral climate funds	Multilateral climate funds support countries to adopt low-emission, climate-resilient development trajectories. They support capacity building, research, piloting and demonstrating new approaches and technologies, and removing barriers to other climate finance flows.
4. Commercial	
Commercial bank	A bank that offers services to the general public and to companies.
Institutional investor	An institutional investor is a company or organisation that invests money on behalf of others. This includes mutual funds, pensions, and insurance companies.
Venture capital	A form of private equity financing provided by venture capital firms or funds to startups, early-stage, and emerging companies deemed to have high growth potential, or which have demonstrated high growth.
Infrastructure fund	Infrastructure funds invest in public assets and services that are essential for a functioning society, such as energy, transport, water, and waste.
Private Equity fund	Pooled investment vehicle where the adviser pools together the money invested in the fund by all the investors and uses that money to make investments on behalf of the fund.
Households/Individuals Family-level economic entities	Including high-net-worth individuals and their intermediaries (e.g., family offices investing on their behalf).
5. Other	
Other public	This includes the Export Credit Agency which is a private or quasi-governmental institution that acts as an intermediary between national governments and exporters to issue export insurance solutions and guarantees for financing.
Other private	Corporations or private companies, philanthropists and donors who provide donations to social good causes, and non-profit or non-governmental organisations.

10.4 Type of instrument of climate finance

Instruments used to structure the provision of climate finance from one actor to another are divided into six categories, as shown in Table 16.

TABLE A3 Instrument types

Source	Definition
Debt	Debt evidenced by a note which specifies, in particular, the principal amount, interest rate, and date of repayment. This debt is extended at regular market conditions.
Equity	A stock or any other security representing an ownership interest.
Grants	Subsidies or transfers made in cash, goods, or services for which no repayment is required. We also track grants specifically for technical readiness.
Concessional debt	Debt evidenced by a note which specifies, in particular, the principal amount, interest rate, and date of repayment, at below-market rates. Concessional debt is extended at terms preferable to those prevailing on the market, either through lower interest rates, longer maturity, grace periods, or a combination of those.
Concessional equity	A stock or any other security representing an ownership interest, at below-market rates.
Government budgets spend	The capital disbursements of various South African ministries and government departments.

10.5 Sector classification of climate finance

The end-use sectors are defined in line with the SA GFT. They are aligned with national priorities and policies; as well as having the highest market impact on South Africa's climate emissions. The following sectors were selected: energy; energy efficiency and demand-side management (DSM); transport; water; agriculture, forestry and fisheries; waste; buildings and the built environment; material substitution; and general ecosystem support. The table below details the activities of each of these sector.

TABLE A4 Sector classification

Sector	Activity	Description
Energy	Generation facilities and stationary combustion of cleaner fuels	Electricity generation facilities (Solar PV, wind, biogas, hydropower)
	Supply chain	Manufacturing facilities wholly dedicated to relevant sector
	Transmission and distribution	Dedicated transmission infrastructure for clean energy
	Storage	Energy storage, distribution, installation, and retail (including hydrogen)
Energy efficiency and DSM	Infrastructure/projects	Energy efficiency and DSM projects and facilities
	Supply chain	Manufacturing facilities wholly dedicated to relevant sector
	Transmission and distribution	Dedicated supporting infrastructure (including Smart Metering/smart grid)

Sector	Activity	Description
Transport	Modal shift (passenger and freight)	Improved integration of transport modes/system – Electric, hydrogen, gas, hybrid and non-motorised
	Supply chain (passenger and freight)	Manufacturing facilities wholly dedicated to relevant sector
	Infrastructure (passenger and freight)	Dedicated supporting infrastructure (charging, fuel etc.) – Smart logistics and efficient transport systems
Water	Water efficiency	Smart networks monitoring and leakage detection, water-efficient alien vegetation clearance
	Water storage	Dedicated storage (aquifer recharge, dam construction and refurbishment) and harvesting systems
	Water treatment	Water treatment facilities and systems (surface/ ground/desalination)
	Water/wastewater distribution	More efficient and less polluting distribution systems
	Supply chain	Manufacturing facilities wholly dedicated to water sector
AFF	Resilient agriculture (crop)	Improved energy, water, fertiliser, pesticide, and herbicide efficiency. Improved soil health (biochar etc.)
	Resilient agriculture (livestock)	Improved manure management, feeding (Grazing Land Management) and breeding (reduced impact per unit).
	Resilient forestry and other land use	Sustainable land use management practices (revegetation, afforestation, reforestation and existing forest management, rewet wetlands)
	Resilient fisheries and ocean management	Sustainable fisheries and ocean management (managing fisheries and conserving protected resources and vital habitats)
	Supply chain	Manufacturing facilities wholly dedicated to the smart agriculture sector

Sector	Activity	Description
Waste	Input material elimination and substitution	Facilities/methods/designs to eliminate the need for non-circular materials and/or produce new circular materials
	Product reuse	Reuse systems to recover and reuse products before they enter the secondary waste stream (packaging, composites)
	Waste collection, sorting and aggregation facilities	Facilities/methods for collection, sorting and material recovery
	E-waste refurbishment, dismantling and recycling	Facilities/methods facilitating the material storage and bulking of products/materials for beneficiation/ value retention
	Dry waste recycling	Facilities for the collection, aggregation, sorting, and material recover/recycling/beneficiation of dry recyclable materials (example: plastic, glass, paper, textile, metal, builders' rubble)
	Wet waste treatment	Facilities/methods facilitating beneficiating of wet/ organic materials (such as biochemical extraction [Bio-refinery], insect protein, composting, biomass palletisation, biodiesel, anaerobic digestion for heat, and anaerobic digestion for electricity). Biogas-CHP recovery, nutrient recovery, water reuse, non-sewered sanitation systems and water recycling
	Landfill Mitigation	Facilities/methods of extracting value from already landfilled waste products/materials (such as landfill material mining, and landfill gas extraction)
	Supply chain	Manufacturing facilities wholly dedicated to relevant sector
Buildings and the built environment	New build – Green buildings	New green construction methods and systems (construction focused)
	Supply chain	Manufacturing facilities wholly dedicated to relevant sector
Material substitution	Product uses as substitutes for ozone-depleting substances	Product used as substitutes for ozone-depleting substances (hydrogen as an input into green steel)
General ecosystem support	GHG reduction projects	Projects focused on reduction of GHGs – carbon capture, repurposing coal, carbon dioxide transport and storage stations
	Disaster risk management (pre-disaster)	Projects focus on the reduction of climate change linked risk (storm hardening, crop resilience, etc.)
	Disaster risk management (post disaster)	Projects focus on the response post climate change linked impact
	Natural resource conservation and management	Sustainable management, remediation and clean up (ocean and land)
Other and cross-sectoral	Other/Unspecified/Multiple	Undefined

10.6 Data: Collection and analysis

The report makes use of primary survey data from domestic financial institutions. These institutions share project and portfolio level information on the basis that it will be used only for aggregate analysis and reporting. Primary survey data is supplemented with numerous data sources collected and aggregated by CPI. Both datasets are combined and reviewed for potential overlaps. Identified instances of double-counting are removed.

The report aims to improve its approach to tracking with each new iteration by: (i) incorporating new data sources, and (ii) introducing methodological improvements, ensuring the robustness of the climate finance data. However, to ensure consistency and comparability across different iterations, the reports adhere to a set of general principles when collecting and analysing data.

1. Assess Data at the Project Level

Where possible, project-level data is used to analyse flows. Project-level information is more likely to provide verifiable details on project characteristics, instruments, financial sources, and intermediaries. Where project-level data is unavailable, institution-level data is used.

2. Track Financial Commitments

The figures reported in the South African Climate Finance Landscape represent financial commitments made during the tracking period. Depending on the context, commitments may refer to firm obligations to provide specified assistance or financing to a project or organisation. Financial resources committed record the expected transfer amount at the time the contract was closed, or the commitment was established, irrespective of the time required for the completion of disbursement (CPI, 2025).

3. Track Primary Investments

In line with CPI's methodological approach, the South African Climate Finance Landscape captures total primary financial flows into productive assets and projects that directly contribute to adaptation and/or mitigation. Secondary market transactions (e.g., the resale of stakes or public trading on financial markets) are not tracked, as they do not represent new investments targeting climate-specific outcomes but rather money exchanged for existing assets. Capacity-building funding was also excluded, such as the development of national climate strategies, to maintain consistency in reporting primary investments.

4. Conservative Approach

When data is unavailable or incomplete, we take a conservative approach and prefer to under-report rather than over-report on the tracked climate finance.

5. Avoid Double Counting

The report relies on data from numerous sources, often resulting in the same flows being recorded several times. Advanced data science methods are employed to identify and eliminate double entries. The principle of avoiding double-counting is directly related to certain exclusion criteria. For instance, private research and development of new technologies are excluded because related costs are capitalised in the investment amount at the deployment stage of new projects that implement these technologies, increasing the risk of double-counting if the initial investment were tracked separately. Similarly, revenue support mechanisms (e.g., feed-in tariffs) and public subsidies reimburse initial investment costs, so including them would constitute double-counting. However, since the South African government's plan for the low-carbon economy is built on industrialisation, local manufacturing, and enabling investments into mitigation and adaptation sectors are vital to the relevance of the sector. As such, climate-specific investments and manufacturing were also included in the scope of the research.

6. Comply with Data Confidentiality and Licensing Rules

We strictly adhere to data confidentiality and licensing rules to ensure responsible and ethical handling of information. Sensitive data is securely stored and shared in compliance with applicable data protection laws, with access restricted to authorised personnel. These licensing and confidentiality requirements may limit the level of detail that can disclosed, and these restrictions are transparently communicated. In cases where licensing limits disclosure, as much information as permitted is provided by anonymising and aggregating all information.

7. Timeframe under Investigation

As with previous studies, this project uses annual averages of data across multiple years (2022 and 2023) to flatten fluctuations and outliers in investment cycles that would otherwise skew overall trends. The aggregation was calculated using calendar years.

8. Exchange Rate

Those climate finance flows that were tracked in USD have been converted to ZAR. Official FX conversion rates for USD to ZAR come from the World Bank's World Development Indicators database, as shown below:

TABLE A5 Exchange Rate (ZAR/USD)

2017	13.32%
2018	13.23%
2019	14.45%
2020	16.46%
2021	14.78%
2022	16.36%
2023	18.45%

9. Inflation Rate

Figures in ZAR are normalised for inflation using South Africa's GDP deflator from the World Bank's World Development Indicators database, bringing climate finance flows to real values in 2023. These yearly inflation rates are shown below.

TABLE A6 South Africa inflation rate

2017–2018	5.47%
2018–2019	3.99%
2019–2020	4.61%
2020–2021	5.39%
2021–2022	6.54%
2022–2023	4.99%

10. Assurance

The authors endeavour to identify eligible and ineligible climate finance flows through a set of general principles. While every effort is made to ensure the consistency of the data reported in the report, an audit is not conducted on the data provider's application of the climate finance definition and figures presented, and a certain reliance is placed on the data as reported.

10.7 Data limitations and gaps

While this report presents a comprehensive overview of climate finance flows in South Africa, methodological and data limitations persist. Tracking climate finance faces multiple issues related to the availability, quality, and robustness of investment data on both public and private sectors.

1. Blended Finance

The tracking framework does not yet differentiate between mobilised and independently committed private flows due to a lack of transparently available private-financed mobilised data at the transaction level, data quality, and attribution challenges. The inability to differentiate prevents the accurate attribution to blended finance and private finance and thus inhibits comprehensive tracking.

2. Public Domestic Data Source

Domestic climate-relevant government expenditure is sourced from the National Treasury's Public Finance Departments, focusing on actual expenditure by national and provincial governments. The dataset does not include expenditure at the municipal level, which results in a conservative estimate of total public climate-relevant spending.

Expenditure is classified as climate-relevant according to the anticipated contribution of a programme or sub-programme to climate change adaptation or mitigation objectives. In South Africa, climate budget tagging is still in its pilot phase and as a result a nationally agreed framework for tagging public expenditure has yet to be established. For the purposes of this analysis, expenditure tagging was undertaken using the following steps:

1. A keyword search is developed, drawing on climate mitigation and adaptation activities outlined in the SA GFT. This enables the identification of potentially eligible climate budget line items
2. Identified items are then subject to manual review at the programme and sub-programme level to assess their alignment with climate objectives. Given that most programmes do not explicitly reference climate-related outcomes; the assessment often relies on inferred or implicit contributions to climate change adaptation or mitigation goals.

Reported figures exclude administrative, policy, and sectoral oversight expenditure.

3. Risk Management Instruments

We acknowledge the importance of guarantees and insurance in enabling increased private climate flows. However, following the principle of conservatism, we exclude these instruments from the total climate finance figure because actual disbursements from these instruments are contingent upon uncertain future events. Guarantees are only exercised in particular circumstances, and there is a chance of there never being any financial outflow from the guarantor. (See Section 6.2 for more details)

10.8 Just transition tagging

1. Methodology

The pilot methodology overlays just transition considerations onto the tracked climate finance mapping through a two-step screening and tagging process applied to each entry in the climate finance dataset:

- **Step 1 – climate finance filter:** Determines whether the investment qualifies as climate finance, i.e. whether it targets climate change mitigation or adaptation. If not, the investment is excluded from both climate and just transition counts (for example, a purely social project with no climate objective would not be counted). For more information, see Global Landscape of Climate Finance 2025: Tracking Methodology. If yes, proceed to Step 2.

- **Step 2 – just transition tagging:** Evaluates whether the investment has a just transition component, with two possible classifications:
  - **(a) Just transition by design:** The project was explicitly designed to further just transition objectives. This requires clear evidence in project documents or objectives, such as a renewable energy project incorporating a redeployment plan for former coal workers; or a climate-smart agriculture programme developed to create alternative livelihoods in vulnerable communities.
  - **(b) Just transition by outcome:** The project was not explicitly labelled as a just transition initiative, but its outcomes deliver just transition-aligned benefits. For instance, a solar farm may not have a formal just transition plan but still creates employment in a coal-dependent region or funds community development through benefit-sharing. Respondents were able to indicate this scenario in the survey.

Just transition data was captured through the existing project-level data collection process for the Landscape report, which included tagged international data sets, domestic data surveys and consultations with public and private financiers. A short just transition addendum was added to the domestic climate finance survey, containing three questions designed to tag whether a given investment had just transition intent or outcomes. To ensure alignment with national frameworks, the survey questions were structured around the PCC's core principles of the Just Transition Framework, which encompass distributive, restorative, and procedural justice. This definition was provided in the data survey. Respondents, including commercial banks, DFIs, project developers, and others, were invited to self-report voluntarily.

Broadly, the survey asked:

1. Was the project designed with an explicit just transition objective?
2. If not, do the outcomes align with just transition goals?
3. Which specific just transition elements were present (e.g., worker retraining, community investment, SME support, social protection)?

2. Limitations and Caveats

In aggregating results, the just transition finance figure presented here is a subset of the total climate finance tracked. This approach prevents double-counting and ensures compatibility with the CPI's methodology in capturing climate finance. However, it also means that some important just transition expenditures, such as standalone job training programmes in coal-dependent regions funded by government, do not appear in the numeric totals, and they fall outside the definition of climate finance.

It is important to acknowledge the limitations of this pilot approach.

- **Reliance on self-reporting:** The identification of just transition elements depended heavily on voluntary survey responses.
- **Limited granularity:** To minimise the reporting burden, survey questions were intentionally simple. As a result, data lacks detail. For example, projects with training components were identified, but the number of workers trained, or the proportion of budget allocated to training was not captured.
- **Coverage gaps:** Public-sector just transition spending was not comprehensively included, apart from instances overlapping with tracked climate projects. Expenditures such as municipal social programmes linked to transition, but outside climate projects, are absent.
- **Evolving definitions:** The absence of a universally accepted definition of just transition finance limits comparability.

TABLE A7 Just transition finance classification criteria

Subcategory	Description	Example activities
Climate and Environmental Restoration		
Emission reduction/ input to reduction	Projects that directly or indirectly reduce GHG emissions	Renewable energy plants, industrial process efficiency upgrades
Climate adaptation	Projects reducing climate risk for people, businesses, and supply chains	Flood barriers, drought-resistant crops, resilient infrastructure
Decommissioning and rehabilitation	Safe closure of obsolete infrastructure and site restoration	Coal plant closure with environmental remediation
Environmental restoration	Restoring ecosystems, preventing pollution, promoting circular economy	Wetland restoration, waste recycling plants
Capacity building in low-carbon sectors	Building human capital for green sectors	Renewable energy technician training, climate finance courses
Job Creation		
Job creation in sustainable infrastructure	Jobs in renewable energy, EVs, batteries, green buildings	Wind farm construction, EV assembly plants
Skills development and HR development	Education, reskilling, upskilling in low-carbon industries	Vocational renewable energy training
Job placement	Connecting jobseekers to green jobs	Job-matching platforms for solar technicians
Relocation support	Helping workers move for new jobs	Housing and transport subsidies
Supply chain development and strengthening	Local procurement, early-stage investment in just transition-aligned value chains, SME support	Local component manufacturing, SME financing

Subcategory	Description	Example activities
Community Transition Support		
Place-based impact	Support for communities in high-carbon transition regions	Economic development in coal towns
Social safety nets	Support for communities/workers losing jobs due to transition	Income support, unemployment insurance
Infrastructure investment	Community infrastructure for post-fossil-fuel livelihoods	Agro-processing facilities, tourism infrastructure
Improved access to basic needs	Access to food, water, energy, health, housing	Off-grid renewable electrification
Economic diversification and livelihoods	Creation of new clusters, SME support, economic diversity	Agro-processing hubs, green industrial parks
Inclusive Participation and Equity		
Community participation	Measures for meaningful local engagement in decision-making	Public consultations, participatory planning
Representation in ownership	Worker/community equity in enterprises	Cooperative renewable energy plants
Monitoring, evaluation and transparency	Clear, open processes for project evaluation and progress	Public dashboards, independent audits

Intermediary	Description
Public	
National government	National treasury or line ministries allocating budget to climate investments.
International government	Bilateral donors or aid agencies from other countries (e.g., GIZ, USAID, AFD).
Development finance institutions (DFIs)	National, bilateral or multilateral institutions providing concessional finance.
Government agencies	Public implementation entities (e.g., infrastructure agencies or SOEs).
Climate funds	Thematic funds, such as the Green Climate Fund, Adaptation Fund, Climate Investment Funds, etc.
Export Credit Agencies	Government-backed agencies offering trade and investment financing.
State-owned financial institutions	Financial institutions owned by the government (distinct from DFIs).
MDBs	Institutions such as the World Bank and the African Development Bank provide loans and grants.
Private	
Institutional investors	Pension funds, insurance companies, and asset managers invest long-term capital.
Philanthropic foundations	Non-profit organisations providing grants or concessional funding.
Corporations	Companies investing in their own mitigation and/or adaptation activities.
Households/Individuals	Small-scale investments in renewable energy or energy efficiency.
NGOs	Non-profit groups that may mobilise or disburse climate-related finance.
Commercial banks	Private financial institutions offering loans and investment capital.

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