



Financing South Africa's energy transition:

Overcoming barriers to unlock
private sources of funding

December 2024





Contents

1. South Africa’s context – the need for a just transition amid rising socio-economic disparities	2
2. Meeting South Africa’s climate commitments requires mobilising funding at scale	4
3. Barriers and risks blocking greater private funding	8
4. Instruments to de-risk projects and unlock private funding	14
5. Key shifts for unlocking greater private funding in South Africa	25
Acronyms	32
Acknowledgements	32
Endnotes	33
Contacts and authors	36

1. South Africa's context – the need for a just transition amid rising socio-economic disparities

Attributable to its heavy reliance on fossil fuels, South Africa has become one of the top 15 emitters globally, although it only contributes 1.07% towards global emissions.¹ Despite its relatively small share in global emissions, the country has an important role to play in the global green energy transition. It has faced increasingly severe impacts of climate change, with estimates that the country could suffer GDP losses of up to R651 billion (US\$35.8 billion) by 2050 owing to climate change.² This spotlights the need for an increased focus on climate adaptation.

Despite being the most industrialised and diversified economy in Africa, with relatively well-developed infrastructure and significant economic potential, South Africa faces persistent socio-economic challenges. The country has struggled with lacklustre growth for over a decade, compounded by structural constraints and a lack of investment in growth-supporting sectors, particularly infrastructure and network industries. Economic growth averaged only 0.8% per annum since 2012³ – a rate well below the National Development Plan (NDP) 2030 target of an average of 5.4% through 2030.⁴

The economy's sub-1% growth rate falls short of addressing the socio-economic challenges of high unemployment, poverty and inequality with which the country continues to struggle. The narrow definition of unemployment – excluding those that are discouraged job seekers – stood at 32.1% in the third quarter of 2024, with broader unemployment – including those that are discouraged and no longer seeking work – at 41.9%.⁵ This is one of the highest unemployment rates globally. Similarly, youth unemployment – those aged 15-34 years and not in employment, education or training (NEET) – stands at 43.2%,⁶ contributing to income inequality reflected by a Gini coefficient of 0.63,⁷ making South Africa one of the most unequal countries worldwide.

Furthermore, unchecked climate change globally could see Africa and South Africa experience some of the worst effects and far-reaching socio-economic impacts, including the increased costs of climate disasters as well as reduced global competitiveness to name a few. Without adequate response measures, the country will be subject to increased physical impacts from climate change, which will be felt across industries and could have far-reaching negative socio-economic impacts.⁸

In line with the Paris Agreement, South Africa has committed in its Nationally Determined Contribution (NDC) to achieve a 31% reduction of emissions and a fixed target for greenhouse gas emissions levels of 398-510 MtCO₂e by 2025 and 350-420 MtCO₂e by 2030.⁹ Additional commitments exist to achieving a net-zero target by 2050.¹⁰

These targets, together with plans such as the NDP 2030 and the country's Just Energy Transition (JET) strategy are focused on both transitioning the economy to greener sources of energy, but also emphasise that the transition is *just* and does not negatively impact jobs and livelihoods of those involved, particularly in sectors reliant on fossil fuels.¹¹ Given South Africa's current triple challenge of high unemployment, inequality and poverty, failing to transition in a timely and Just manner could see greater economic, social and environment costs, and even outweigh the actual financial costs thereof.

Addressing these challenges and meeting the outlined targets will require sustained efforts and cooperation to promote inclusive growth, social stability and a sustainable future while investing in building climate resilience and in the transition to a low-carbon economy.



“Public finance isn't enough to fund the energy transition. We will have to augment it with private finance.”

– Development finance institution

2. Meeting South Africa's climate commitments requires mobilising funding at scale

To transition to a low-carbon economy in line with the above-specified goals, South Africa will need to scale up its current annual funding of projects in identified sectors such as clean energy generation. Studies trying to size the funding required, on average, estimate the funding needs at R334 billion (US\$19 billion) per annum by 2050 to achieve the country's net-zero goals, and R535 billion (US\$30.5 billion) per annum to 2030, in line with the NDC targets.¹²

Recent attempts to track climate projects in two studies have showed that climate finance has almost doubled to R131 billion (US\$7.4 billion) per year between 2019 and 2021,¹³ from about R61 billion per annum in 2017 and 2018.¹⁴

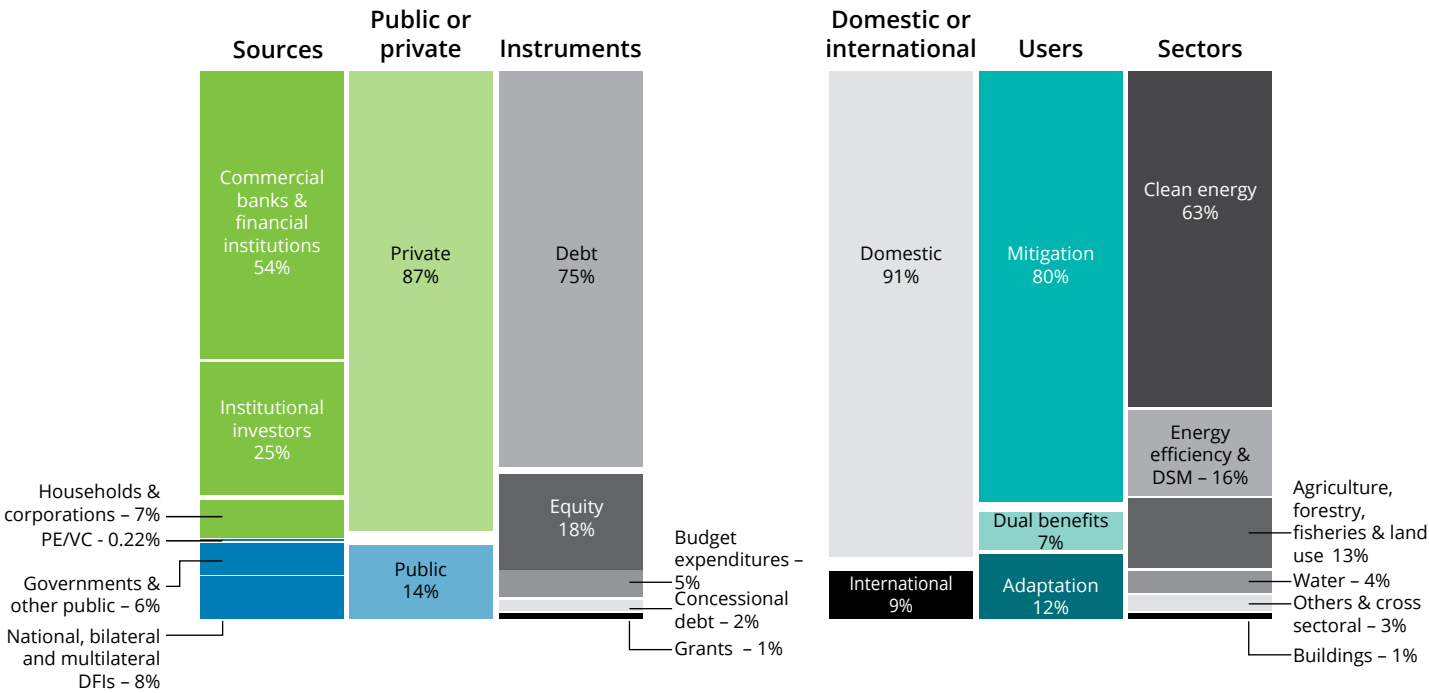
While challenges such as tagging climate projects and comparative methodologies between different studies are acknowledged, the message from this research is that South Africa needs to mobilise and deploy

funding at scale, at about at least **three to five times more than current spending** to achieve the annual levels needed to transition to a low-carbon economy.¹⁵

This is in line with, and even greater than, estimates from Deloitte's global research for the world to transition: annual spending on driving the transition at a global scale to 2050 will need to increase by at least three times, with emerging markets (such as South Africa) playing an important role.¹⁶

Although the recent COP29 Summit was heavily focused on achieving greater certainty on substantive commitments for climate finance globally, the agreement to mobilise US\$300bn of climate finance falls well short of the US\$1trn requirement expressed by developing countries. This outcome emphasises the importance to achieve more bankable finance structures that unlock private sector funding for energy transition projects.¹⁷

Figure 1. SA's climate finance landscape (2019-2021)



Source: Deloitte Africa analysis based on Presidential Climate Commission, 2023

On a positive note, however, the agreement of design elements for the standardisation of carbon markets does present an opportunity for South Africa and other African countries to better monetise carbon credits through the abundance of natural resources across the continent, which have the potential to support overall pricing for sustainable finance projects.

Currently, the key sectors attracting existing climate finance and green investment in South Africa include clean energy (about 63%), energy efficiency and demand-side management (DSM) (16.4%), agriculture, forestry, fisheries and land use (12.8%), water (3.7%), other and cross-sectoral including low-carbon transport as well as circular economy (3.2%) and buildings (1.3%).¹⁸

South Africa's Just Energy Transition Investment Plan (JET IP) – a strategic framework to guide the country's energy transition from coal-based energy to renewable sources, and that outlines the necessary funding and investment for this transition – plays an integral role in meeting the country's NDC targets. The plan estimates that an initial R1.48 trillion (US\$98.7 billion) will be required over the period 2023 and 2027, with a focus on electricity, New Energy Vehicles (NEVs), and Green Hydrogen (GH2), as well as skills development and municipalities to achieve medium-term targets.¹⁹

The JET IP notes that funding would be required from various international and domestic, public and private sources with the largest funding requirement to 2027 being in South Africa's electricity sector estimated at R711.4 billion (US\$47.2 billion), followed by municipal capacity of R319.1 billion (US\$21.3 billion) and GH2 of R319 billion (US\$21.2 billion).²⁰

Figure 2. Projected JET IP funding requirements

JET IP funding requirements 2023-2027	ZARbn	US\$bn
Electricity sector	R711.4	US\$47.2
NEV sector	R128.1	US\$8.5
GH2 sector	R319.0	US\$21.2
Skills development	R2.7	US\$0.2
Municipal capacity	R319.1	US\$21.3
TOTAL	R1 480.0	US\$98.7

Source: The Presidency, Republic of South Africa, 2022

At COP26 in 2021, South Africa received its first funding pledges towards this plan from the International Partners Group (IPG). These partners, consisting of the United Kingdom (UK), France, Germany, the United States (US) and the European Union (EU), signed the Just Energy Transition Partnership (JETP) with South Africa to support it on its pathway towards low-emissions and climate-resilient development, and its economic diversification efforts, thereby assisting it to meet its targets towards a low-carbon economy. The IPG pledged an initial R149 billion (US\$8.5 billion) for the JET IP over the period 2023 to 2027.²¹

Box 1. Sustainable, green, climate and impact finance definitions

While sustainable finance, green finance, climate finance and impact investing are unique terms although with somewhat overlapping definitions, as provided below, these all form part of the funding ecosystem towards achieving economies' green energy transition. While these terms are not synonyms, they are frequently used interchangeably. Definitions of the terms used in this report, are provided.

Climate finance is an umbrella term referring to local, national, or transnational financing, which may be drawn from public, private, and alternative sources of financing.²² It seeks to support mitigation and adaptation actions that will address climate change.²³

Sustainable finance aims to align financial systems and investments with sustainable development goals or environmental, social and governance (ESG) considerations in all investment decisions.²⁴

Green investment is an investment associated with the production of low carbon and climate-resilient financial activities by companies operating mainly around clean technology, renewable energy, sustainability-based markets, and environmental technology investing on specifics of climate change.²⁵ It includes the practice of allocating capital to companies, projects, or funds that positively impact on the natural environment.²⁶

Impact investing is defined as the deployment of funds into investments that generate a measurable and beneficial social or environmental impact.²⁷

By September 2023, pledges from international partners increased to R203 billion (US\$11.6 billion) with new IPG commitments by Denmark and the Netherlands, as well as non-IPG additional funding pledges by Spain, Switzerland and Canada. These commitments – mostly grant-based and concessional funding support – are intended to be catalytic in nature and help unlock a more diverse combination of funding sources in South Africa.²⁸

While not all pledged grant funding is allocated to projects, the grant register had R12.2 billion (US\$697 million) worth of projects as at 30 June 2024 (2% of grants pledged were for completed projects; 12% for planned, 34% pledged and 51% in the implementation phase) versus a R14.4 billion (US\$821 million) grant commitment of partners.²⁹

Concessional funds and public sources in particular are intended to unlock private funding for activities and projects that will assist the country fund renewable energy projects, infrastructure upgrades, social initiatives and technical programmes, while addressing the risks of climate change, creating energy security, boosting economic growth, and importantly transitioning and creating jobs.³⁰

With the additional commitments, to 2027, this assumes that a public-private leverage ratio – i.e., the ratio of investment needed from private investors for every US\$1 (R17.53) of investment by the public sector – at least US\$7.50 (R131.50) in private investment is required for every US dollar of public funding.

Governments across the world are not able to afford the energy transition alone. Mobilising and scaling private finance is key, especially in emerging markets like South Africa. This, however, requires reducing various risks while rethinking how to finance the transition, especially in countries where risk premiums are elevated. This requires to be done while at the same time minimising adverse socio-economic impacts of the transition.³¹



“Currently the focus is on grant financing to get projects to a level that is viable for more equity, debt and concessional funding”.

- Private firm

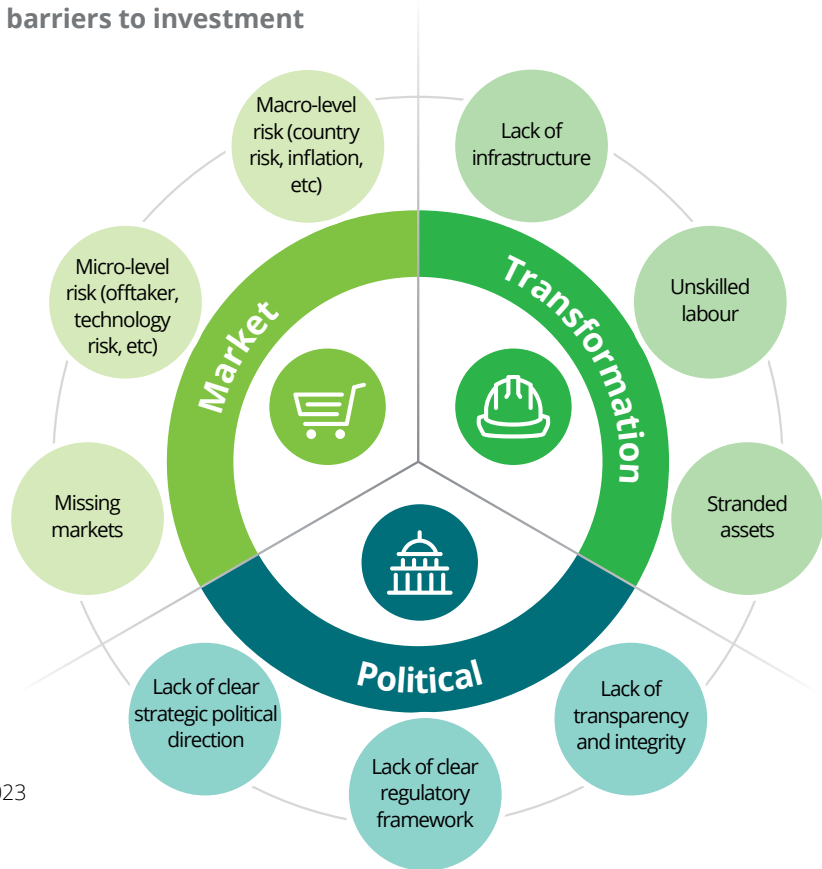
3. Barriers and risks blocking greater private funding

There are various risks to unlocking greater private funding for projects in the energy and broader climate sector. Despite South Africa's mature financial ecosystem and deep capital markets, many risks mimic those of other emerging markets, and contribute to a higher cost of capital.

High-risk, early-stage projects, a limited pipeline of bankable projects, low public infrastructure investment and rising fiscal deficits, lacklustre decade-long economic growth, low investor confidence, and limited progress on structural economic reforms have been some of these challenges.

Deloitte global research has identified various structural hurdles to investment, categorised into political, market and transformation barriers.³² This section assesses these barriers for South Africa.

Figure 3. Main barriers to investment



Source: Deloitte, 2023

Box 2. South Africa's climate policy environment

South Africa's climate related policy development dates back two decades with the National Climate Change Response Strategy (2004). It has evolved through various acts, frameworks, policies, and white papers. Recent policy developments have included South Africa's updated NDCs (2021), the formation of the JETP (2021), the approval of South Africa's Just Transition Framework by Cabinet (2022), the SA Green Finance Taxonomy (2022), the Draft SA Renewable Energy Masterplan (SAREM) (2023) as well as the Climate Change Act (2024).³⁴

Despite the country's various policies and commitments towards tackling climate change and facilitating a just transition, policy incoherence and weak governance structures persist, with the country often described as "policy rich but implementation poor".³⁵ A lack of political will is often referenced. Overall, energy policy, regulation and planning has been reactive, slow but also affected by uncertainty and contradiction.³⁶

However, a significant milestone for the country was reached with the Climate Change Act (2024), now not just providing policy direction for climate change and net-zero actions of the country, but also holding organisations accountable in the goal of lowering South Africa's emissions and energy transition, enhancing the country's ambitions towards meeting its Paris Agreement and net-zero commitments in a risk conscious manner. The CCA further ensures a coordinated approach with clear roles and responsibilities for provincial and municipal governments, supporting a multi-level governance approach.³⁷

A firm political commitment to transitioning the economy from coal to cleaner energy sources is key to building certainty about the long-term viability of investment in green technologies and energy transition projects. In contrast, a lack of political will including a lack of consensus on the pace of phasing out coal-fired power plants, technical capacity constraints in the public sector, and a regulatory framework that is subject to slow approval processes (e.g., complex licensing and permitting, grid access challenges, wheeling, outstanding land approvals, etc.), create uncertainty and signal inconsistency to investors.³⁸

Unfortunately for South Africa, the risks of corruption, the current financial, operational and technical capacity of various arms of government, including municipalities (which are expected to play a key role in the transition), and the remnants of the 'state capture' years remain key barriers. Scandals and mismanagement at state-owned enterprises such as power utility Eskom and issues of non-transparency, wasteful expenditure and misallocation of funds have also raised concerns in the ability of the government to manage the energy transition; including its ability to manage it in a just way.³⁹

Policy and regulatory uncertainty can erode public trust, delay critical reforms, signal incoherence, and discourage domestic and international funding for large-scale infrastructure and energy transition projects.

That said, the recent formation of a 10-party Government of National Unity (GNU) following the May 2024 general elections, provides South Africa with a unique window of opportunity to progress its decarbonisation and climate-related commitments, on the back of the coalition government's political will, as well as rising investor sentiment and renewed confidence about South Africa.⁴⁰ This could help to unlock greater private funding and reduce private sector hesitancy.

3.2 Market barriers

There are various macroeconomic and microeconomic barriers, as well as barriers such as missing green markets (e.g., green projects such as GH2 are not able to secure reliable offtakers due to missing demand) that add a risk premium to energy transition projects, increase the cost of capital, hinder the bankability of projects or divert funding to less riskier markets.⁴¹

At the macroeconomic level, some challenges have made South Africa less attractive as an investment destination in recent years. For example, in 2017, South Africa was downgraded by Standard & Poor's (and later by Moody's and Fitch in 2020) to sub-investment grade, which saw foreign investment flows to the country dry up. At the same time, public debt-to-GDP exceeded 70% and concerns around debt sustainability mounted, ultimately making borrowing more expensive for both South African government and corporates.⁴²

The energy crisis, which culminated in economically disruptive 'loadshedding', and structural constraints to growth in sectors such as transport, logistics and freight, structural unemployment with below 1% real GDP growth for more than a decade, and the unfortunate 2023 grey-listing of the country, also reduced South Africa's attractiveness as an investment destination. These issues increased currency volatility as investor concerns mounted about the government's ability to manage its finances, and channel funds into growth-enhancing sectors including infrastructure, given high debt servicing costs.⁴³

Adding insult to injury has been the backdrop of high inflation over the past few years, and resultant higher lending rates in line with the central bank's inflation targeting mandate and a cost-of-living crisis.⁴⁴ While there are green shoots of the macroeconomic environment improving (including improved international sentiment and domestic business confidence, as well as slowing inflation and lower interest rates),⁴⁵ these macro risks have pushed up South Africa's risk premium in recent years,

constrained foreign and private sector investments, and made it difficult for investors to assess long-term risks and returns.

The macroeconomic uncertainty also translated to the micro level. For example, low growth and an uncertain economic environment saw offtake risks (ultimately revenue risks) arise when project developers such as renewable energy developers, or independent power producers (IPPs) are unsure whether potential offtakers, including state electricity company Eskom, municipalities or even private companies will honour offtake contracts; or, in the case of GH2, if there will be a market for green products at all. This sees investors demanding higher risk premiums to compensate for uncertainty, which in turns makes the cost of financing projects higher, resulting in an increased hurdle rate for bankable projects.

Amid a challenging economic environment, demand for renewable energy has often been linked to larger players and industries, with offtakers that are willing to commit to longer-term contracts harder to come by. Linked to infrastructure challenges (see next section), grid access for renewable energy projects and transmission bottlenecks can prevent power from being transmitted to high demand areas, thus making it harder for developers to secure favourable offtake agreements.

Similarly, uncertainty linked to the policy environment, delays in bidding rounds under the Renewable Energy Independent Power Producer Procurement Programme (REIPPPP) and systemic risks in the electricity sector have made it harder for developers to plan for longer-term projects.

This is further convoluted by technology risks (asset specifications), including the maturity of technology and green solutions. Although renewable technologies such as solar and wind (both onshore and offshore) are more mature and have become fairly standard solutions in South Africa, issues such as underperformance, permitting, operational maintenance or incompatibly with the existing grid infrastructure can deter investments.

Project costs and schedules may also be impacted by the effectiveness of national renewable energy IPP programmes as well as currency fluctuations given South Africa's import dependence for the above-noted technologies and components. Supply chain risks remain central.

Ultimately, decarbonisation efforts globally will hinge on capital-intensive technologies – some of which are considered less mature, riskier, and require longer investment horizons or have large upfront costs.⁴⁶ Key risk drivers include their lack of proven scalability, unclear commitment by offtakers and uncertainty because of the rapidly evolving technology. Some of these lack markets, such as GH2. Absent of an established global and local market, there is limited visibility and predictability as to demand, supply partners, prices or international benchmarks.

Although GH2 is seen as a game changer for South Africa's decarbonisation and economic diversification given the country's endowment of solar abundance and land primed for industrial use, the viability and financing of GH2 projects requires that long-term commitments from buyers (offtakers) are in place for a certain quantity and at a pre-determined price. Currently, the cost differential is simply too high at around US\$5-US\$6/kg versus fossil fuel at <US\$1/kg.⁴⁷ If the offtaker is not government, this requires that key sectors that could benefit from GH2 adoption such as fertiliser manufacturers, long haul transport and aviation fuel need to express demand (e.g., via an ecosystem-based approach of these actors) and move away from fossil fuels.

Given the increasing pressure for corporates to decarbonise, there is a clear demand for green energy solutions, but these potential offtakers are subject to domestic economic uncertainties, volatility and global shifts, making it harder for prospective suppliers and project developers to secure financing, absent a risk-sharing role of government to match the demand and supply side – compounded by asymmetric development timelines.

3.3 Transformation barriers

Given the role of fossil fuels in South Africa's energy mix – about 80% of South Africa's electricity and 73% of its installed capacity is produced by coal-fired power stations⁴⁸ – the substitution of fossil fuels in the energy mix will impact jobs, industries and the financial system.

The rapid closing of coal-fired power stations could see roughly 400 000 jobs at risk. These are direct or indirect jobs in coal plants, mining operations, the transport sector, and other parts of the value chain.⁴⁹ Not transitioning these jobs to replacement jobs in renewable and diversified sectors could set in motion an even greater unemployment crisis with related risks, and missed opportunities for economic diversification.

Yet, identified technologies under the JET IP require skilled labour – technical skills to prepare clean energy and capital-intensive projects that are bankable, and then to install, maintain and replace equipment at these projects. Given a scarcity of domestic skilled labour, this could increase the need for importing these skills, posing operational and maintenance risks to projects.

At the same time, clean energy projects are expected to create jobs either directly, or indirectly in adjacent industries, if not at least during the construction phase of infrastructure-based energy projects. The clean energy sector has the potential to be a key source of new jobs in South Africa, with global data showing it employs more people worldwide than the fossil fuel industry.⁵⁰ Naturally, this requires large investments in reskilling and upskilling. It also requires understanding where which skillset or type of job is required and what reskilling would help to bridge identified gaps.⁵¹

Box 3. A reference initiative that wasn't – lessons from Komati

The decommissioning of the 1 000MW coal-fired power plant at Komati Power Station in Mpumalanga province – planned to be repowered and repurposed with renewable energy – was supposed to be a reference initiative for the just energy transition in South Africa.

After officially being shut down in October 2022, a three-phase project to repurpose the power station was planned, with funding approved in November 2022.⁵² The project was expected to include 150MW of solar, 70MW of wind and 150MW of battery storage as part of the repowering and repurposing – thus using clean energy to replace coal production, while creating relevant and related jobs in an impoverished community; yet in one that has a skillset in electricity generation.⁵³

The shutdown of the last boiler in 2022 resulted in the loss of almost 800 jobs on site (and further 4 100 jobs at risk).⁵⁴ Plans post decommissioning included the creation of 363 permanent jobs and 2 733 temporary ones.⁵⁵ Two years after the closure of the plant, only a handful of jobs have been created at a green project (non-generation) that is underway which includes an aquaponics scheme.⁵⁶

The Komati experience shows the importance of matching future decommissioning schedules with inclusive planning, and early stakeholder engagement before plant decommissioning, together with the importance of planning local economic diversification initiatives as well as reskilling and training pre-decommissioning, while having in place both clear policy frameworks and committed financial support for such new initiatives prior to plant closure.

Particularly, engaging surrounding communities in the plans and activities in the run up to the decommissioning of the final unit should have occurred earlier, with findings from a Presidential Climate Commission report on the lessons from this project indicating that key components of the JET framework were not adhered to.⁵⁷

Ultimately, a long-term vision for transition projects at other sites and surrounding communities is required and needs to be communicated – one that is not removed from the realities on the ground; one that includes clear roles, responsibilities and timelines of such transition projects; and one that provides a well-structured and transparent path for a successful outcome.


However, challenges are plentiful in actioning this. For example, jobs that will be created are unlikely to be in regions that are traditional coal and energy generating regions, such as in provinces such as Mpumalanga.⁵⁸ And as shown in Box 3, early engagement with communities to manage expectations and co-develop integrated plans for a just transition will need to be essential.

Alongside skills, perhaps one of the largest and most substantial transformation barriers is the country's grid capacity and infrastructure. By design, the grid is better suited for centralised coal-based power generation, rather than decentralised, variable renewable energy sources. Upgrades are required ranging from grid management, storage as well as transmission capacity.

Decades-long poor maintenance and ageing infrastructure requires general modernisation. This is compounded by the geographical mismatch between where the best renewable resources are located (e.g., solar and wind), versus where existing grid infrastructure is housed, with large investments in transmission lines (an estimated 14 000km of transmission lines expected to cost around R390 billion are expected to be built over the next decade, an increase of 600% in the country's transmission infrastructure) required to connect projects to the national grid.⁵⁹

To this end, the 'unbundling' of Eskom into three entities – generation, transmission and distribution – is expected to contribute to creating clearer financial and operational structures to facilitate grid investments, including attracting private investment for grid modernisation.⁶⁰ This is expected to be supported by the Electricity Regulation Amendment (ERA) bill – a key legislative effort in support of a more competitive, open market, decentralised, and low-carbon energy system. However, uncertainty over the timing and possible delays in the process, among other things, have been key concerns.⁶¹

As acknowledged by the JET IP, South Africa's anticipated transformation requires complex co-creation and collaboration between government, business, labour, civil society and international players and organisations to overcome the identified political, market and transformation barriers in the years to 2027, and beyond.⁶²



“As the market deregulates, regulatory constraints are now less relevant, which makes it easier for capital to flow. However, transmission infrastructure has now become an increasing bottleneck.”

- Fund manager

4. Instruments to de-risk projects and unlock private funding

There are many barriers to private funding. There are also barriers to deploying pledges made under the JETP – pledges that could help de-risk projects and unlock private funding.

Barriers translate into risks that impact the cost of capital and appetite of investors to channel funds to energy transition projects. Deloitte global research categorises these risk premium components associated with energy transition projects into **macro, technical, market and financial risks**:⁶³

- **Political, regulatory** (including permitting) and administrative issues, as well as currency risks can be key **macro risks** that disincentivise clean energy project developments. These may also have the biggest impact on the pricing of risk premiums.
- **Market risks**, such as liquidity risks, the risk of default of borrowers, and offtake risks which include the lack of a limited pipeline of bankable projects and missing markets, add to the risk premium.
- **Technical risks** linked to construction and other operational risks, and missing infrastructure also impact the risk premium depending on the technology at hand.
- Finally, **financial risks** may include information asymmetry and general challenges in accessing capital.

Ultimately, two key layers of risk must be reduced – **systemic** risks and **residual** risks. The former can be addressed by effective policy making and policy certainty, and in turn can assist in lowering macro, market and technical risks.

4.1 Information and regulatory instruments

De-risking tools that can assist to mitigate or partially mitigate the identified systemic risks may be **information instruments**, such as climate and energy strategies, and green finance taxonomies that assist with reducing macro and financial risks; and **regulatory and control instruments** such as streamlining licensing processes, and network planning that can assist with reducing macro, some market and technical risks.⁶⁴

In the South African context, systemic risks are multi-fold ranging from poor policy implementation, uncertainty regarding the timing of the electricity market restructuring, electricity tariff structure evolution, and so forth. As noted, a window of opportunity exists with the formation of the GNU: the opportunity to set **clear and coherent climate policies and energy strategies**, create policy certainty and consistency. The recently released Climate Change Act is a signal for more things to come. These will contribute to reducing financial risks.

Green taxonomies may play an important role. Together with climate strategies, green taxonomies contribute to creating a lower-risk project environment, by, inter alia, establishing a common definition of green projects for investors, and common reporting methods. Green taxonomies may be less effective if not harmonised across countries, resulting in contrasting definitions of what projects are considered to be 'green'.⁶⁵ While more stakeholders are aligning their climate projects and reporting to South Africa's 2022 released Green Finance Taxonomy, definitions relating to what projects also may be considered as 'just', while also harmonising definitions with leading international green taxonomy frameworks, will be required and beneficial.⁶⁶

Figure 4. Instruments and tools to de-risk investments in green and sustainable energy projects

		Macro Risks		Market Risks		Technical Risks			Financial Risks	
		Political visibility	Regulatory	Missing markets	Revenue	Cost competitiveness	Under performance	Construction delays and cost overruns	Missing infrastructure	Access to capital
Information instruments	Set climate and energy strategies	●	●							●
	Taxonomies	●								●
Regulatory and control instruments	Streamlining licensing process	○	●	○				○		
	Network planning	○	○	○	○	○			●	
Economic and market instruments	Demand aggregation			●	●	○				
	Offtake contracts			●	●	●				
	Tax incentives				●	●				
	Consistent subsidy policies			○	●	●				○
Financial instruments	Guarantees and insurance	●	●		●		●	●		●
	Subordinated debt and junior equity			○	●		●	●		●
	Securitisation									●
	Concessional loans	○			●		●			●
	Grants	○			●		●			●

Source: Deloitte, 2024

4.2 Financial and economic instruments

Mitigating residual risks, however, requires targeted **economic and financial instruments**. As shown by Deloitte's global research, economic and market instruments, including offtake contracts, tax incentives and subsidy policies that are consistent largely help mitigate market risks. Financial instruments, such as guarantees and insurances, mezzanine instruments, securitisation, concessional loans and grants can provide mitigation against financial risks, but also across the other risks identified.⁶⁷

Some financial and economic instruments that can help offset risk, and increase private funding are discussed in the South African context.

4.2.1 Financial instruments

Grants

Grants provide direct economic and financial support without requiring pay back. This means they assist with physical project cost reductions, reducing financing costs by lowering capital and related risks. They may also assist with increasing the internal rate of return of projects, thereby facilitating greater private capital flows from prospective commercial lenders and investors.⁶⁸

This is particularly important for high-risk mega projects in South Africa's energy transition. For example, grant funding will play an important role to overcome risks linked to technology, offtake and missing markets, and general project risks in sectors such as GH2. Together with concessional funding, grants may assist with crowding in private sources of funding, at multiples of at least three times.⁶⁹

Grants also have an important role to play in supporting social and community-based projects that will facilitate a just and inclusive energy transition, as these projects often are less commercially viable. Grant funding in the JET IP is earmarked to support technical and capacity building initiatives such as economic diversification planning, reskilling and

upskilling initiatives but also start-up capital for new enterprises transitioning out of fossil fuel-based sectors.⁷⁰

Less than 1% of tracked climate finance (2019-2021) is reported to have been grant-based funding, largely funding projects in clean energy (~36%), general ecosystem support (~17%) and agriculture, forestry, fisheries and land use (~9%).⁷¹ At just under R1 billion (US\$57million) per annum, grants will likely increase at least two to three times per annum in the years to 2027, given the R13.3 billion (US\$756 million) in grant funding pledged by the IPG and other donor partners as at September 2023, and allocations made for the JET IP between 2023 and 2027.⁷²

However, the JET IP has identified a grant funding shortage, specifically for large GH2 projects, with estimates of three times more grant funding required than the initial R438 million (US\$25 million) committed to that sector.⁷³ Securing early-stage project development grant funding is critical to provide a foundation to help unlock private capital flows for these projects.

Concessional finance

Concessional loans, which accounted for a reported 2% of climate finance, have focused on clean energy (~60%) and cross-sectoral activities (~33%), and have played an important role in reducing risk in South Africa's clean energy market.⁷⁴ Generally, concessional loans are at below market interest rates, include repayment grace periods, and are extended by development banks, both local or international, or multilateral ones. Drawing on these loans reduces the required share of commercial loans, and lowers the cost of capital for projects, de-risking projects for private capital providers.⁷⁵

Concessional loans, including highly concessional climate loans, form a key part of the JET IP financial pledges and are expected to exceed R106 billion (US\$6.1 billion), making up almost half of the R203 billion (US\$11.6 billion) pledged by the IPG and additional partners as at September 2023.⁷⁶

While these pledges have been made, they also need to be allocated, and ultimately need to translate into project support and financing agreements in sectors including grid infrastructure, power station decommissioning, NEVs and public transport, and early development and execution of GH2 projects, as well as municipal infrastructure.

Given its de-risking nature, this funding should see a shift in focus from previous years, moving to prioritise less mature technologies as well as hard-to-abate sectors, taking on more risk where commercial and private capital players are more risk averse (e.g., grid infrastructure, GH2), and taking on less risk where technologies and the clean energy industry have matured (e.g., solar and wind technologies).⁷⁷

However, project preparation delays and a lack of execution capabilities, limited absorptive capacity for concessional loans, together with a lack of visibility of the projects to be funded are some of the issues hindering deployment and use of pledged concessional funding for priority projects. Other challenges, which have previously also hindered this, include concessional financing flowing directly to National Treasury in the form of policy loans, a moratorium on lending as part of Eskom's debt-relief package and National Treasury's fiscal position.⁷⁸

Debt and equity subordination

Mezzanine instruments, such as subordinated debt and junior equity, are important instruments to absorb first tranche losses, and can serve as a guarantee on return from an investor's perspective, by lowering the risk for senior debt and improving the return profile, while reducing micro risks and the country risk premium.⁷⁹ Providers of these instruments in South Africa are private equity firms, venture capital firms or mezzanine funds, institutional investors such as insurance companies and pension funds, corporate investors and family offices.

While the venture capital (VC) sector is still small in South Africa, there has been involvement from the private equity (PE) sector in renewable energy projects in South Africa, specifically via the REIPPPP

programme (see Box 4 below). Interest in innovative technologies by PE and VC firms is increasing, with a key focus on largely proven technologies; however, PE and VC as a source of funding, contributed less than 0.3% of tracked climate finance in the period 2019-2021.⁸⁰

Box 4. REIPPPP – a successful funding mechanism incorporating financial and economic de-risking instruments

The REIPPPP has been an important mechanism to attract private investment into the renewable energy sector in South Africa. Launched in 2011, the programme was established to have IPPs contribute to the country's energy procurement goals through periodic bidding windows, bridging the gap in the supply of electricity, while meeting socio-economic objectives. The programme has attracted about R240 billion (US\$13.7 billion) of private capital across six Bid Windows (BWs).⁸¹

By the end of October 2024, the programme had procured a total amount of 13 422MW across nine bid windows (which includes battery storage).⁸² REIPPPP across BWs1-4 has 90 projects operational with a capacity of 6 200MW; and BWs5-6 has around 1 500MW under construction across 13 projects. The procurement process for each bid window has on average taken 24 months, with construction again taking up to 24 months.⁸³


Its competitive bidding process, risk mitigation via long-term power purchase agreements (PPAs), involvement of local and international development banks providing commercial loan facilities, flexible financing structures and pooling of capital including blended finance support with concessional funding; together with its focus on socio-economic development and support from government policy, incentives and regulatory framework could see REIPPPP as an important mechanism to JET IP projects. For example, it could lend itself as a template or playbook for financing other large-scale energy transition projects.

At least 6GW of new renewable capacity will need

to be added to the grid per annum by 2027, to the value of R500 billion (US\$28.5 billion) in investment across solar, wind and storage technologies. And given the current pipeline of projects under development, the REIPPPP is likely to contribute to the success of meeting the renewable energy generation capacity requirements per annum. Based on the current pipeline, an estimated 60% of the investment to 2027 is expected to come from the private sector. However, this is likely to be constrained by limited grid connectivity as has been the case with projects in Bid Window 6.⁸⁴

Indeed, a 2023 conducted energy grid survey pinpointed 66GW of renewable energy projects including solar, wind and battery in various stages of development, with 18GW at an advanced stage and, for example, 27GW at very early stage.⁸⁵

The JET IP has received over R29.8 billion (US\$1.7 billion) in funding pledges from DFIs suitable for renewable energies that can assist to unlock further private capital mobilisation. The opportunity exists to draw on the REIPPPP mechanism for transmission infrastructure investments, given the financing gap and challenges to deploying JET IP funding for grid investments, including Eskom's debt moratorium, and the increasing willingness of private sector players to look at the sector.⁸⁶ This would need to be supported by policy to enable private sector investment in transmission infrastructure. The Energy Storage Independent Power Producer Procurement Programme (ESIPPPP) also looks to draw on the REIPPPP mechanism to mobilise private capital.⁸⁷



“There is a lot of concessional capital that is looking for a home”.

– Investment manager

South Africa is home to large institutional investors: the pension funds industry alone is estimated to have R4 trillion in assets under management.⁸⁸ Institutional investors are allocating capital to energy transition projects and are estimated to have contributed about 25% of climate finance per annum (68% of which was debt-based finance).⁸⁹ Regulatory changes such as the amendments to Regulation 28 of the Pension Funds Acts,⁹⁰ which increased the allocation limit to private equity (which also includes mezzanine funds) for pension funds and institutional investors, could see a boost in this instrument in future, with a growing

awareness also to shift portfolios to more sustainable investments, and to infrastructure as an asset class.

Mounting pressure on institutional investors and banks to demonstrate their pivot towards sustainable energy and critical infrastructure is increasing the appetite for investment in green energy, water infrastructure and broader infrastructure investments – away from carbon-intensive investments, with the most significant barriers being achieving an appropriate return on investment and certainty over revenue collection.

Box 5. Blended finance mechanisms to crowd in institutional investors

Blended finance, which combines concessional finance with private capital, can mitigate risks for investors, including institutional investors, unlocking greater private capital. It is a tool for funding large-scale infrastructure projects, with concessional loans, grants, mezzanine and securitisation instruments some of the key instruments of blended finance.⁹¹ A blended finance arrangement usually involves DFIs or public entities that can assume higher risk. They then cooperate with often private and more risk-adverse capital providers. Blended finance is an important mechanism to address residual risks.

Guarantees and insurance may be among the most catalytic blended finance tools, largely addressing political risks. Mezzanine instruments may absorb first tranche losses, and a credit enhancement by a DFI that guarantees a portion of the debt can reduce default risk.

Blended finance mechanisms can thus also facilitate large-scale refinancing by making debt for institutional investors more attractive. In South Africa, some banks have already teamed up with DFIs providing concessional funding to reduce risks and related costs with financing arrangements. If

debt (or bonds) can be traded in the secondary market this further increases the attractiveness to particularly institutional investors who need to also consider the exit environment.

Some DFIs use blended concessional finance capital as a mechanism to rebalance the risk-reward equation, making first-mover projects commercially viable and thus crowding-in private capital. Importantly, blended finance also helps to reduce the cost of early installations of new technology for consumers and achieves a demonstration effect, enabling subsequent projects to take off without such support.⁹²

In October 2024, South Africa's National Treasury confirmed the creation of a blended finance risk-sharing platform in the form of a credit guarantee vehicle. The vehicle is proposed to focus on de-risking independent transmission projects, building on the experience and learnings of REIPPPP for longer-term assets (concessions of 20 to 40 years). The vehicle is expected to be operational by the end of 2025, with a focus on the energy sector as a start that bridge the energy transmission deficit. The mechanism could serve as a template for other infrastructure sectors in future.⁹³

4.2.2 Economic and market instruments

Guarantees and insurances

Various risks and uncertainties can be reduced with guarantees and insurance, making these some of the most common instruments able to address macro risks, as well as market, technical and financial risks. These range from revenue guarantees (such as feed-in tariffs, or PPAs) to performance guarantees and political risk guarantees.

Deloitte research has shown that in GH2 projects in Namibia, the application of these three guarantees could reduce the weighted average cost of capital (WACC) of a project from 14.4% before de-risking, to 6.4% with de-risking instruments. This may be just as efficient as grants.⁹⁴

These guarantees may be provided by multilateral institutions, DFIs and export credit agencies (political risk), governments, SOEs, DFIs and multilateral banks (revenues), as well as contractors, insurance companies and export credit agencies (performance). Guarantees and insurance furthermore also illustrate the important role that insurance companies play in mobilising private capital funding for energy transition projects (see Box 6).

South Africa's fiscal position has precluded it from entering into new guarantee agreements. However, National Treasury in October 2024 announced the creation of a new credit guarantee vehicle with blended finance as a risk-sharing platform for independent transmission projects, drawing on the experiences of its renewables IPP programme (see Box 5).⁹⁵

Offtake agreements

Market risks such as missing markets, revenue risk and cost competitiveness can be reduced through offtake agreements. These agreements can be among the most effective levers for risk reduction as they bring certainty for elements such as sale price and revenue generation.⁹⁶

These agreements may come in various forms such as PPAs, Contracts for Difference (CfD)s, feed-in-tariffs, and by various issuers including government, or

business. Often, investments in green energy are only in place given the certainty of offtake – with PPAs key to the success of the REIPPPP programme as noted.

Globally, innovative CfD mechanisms to assist bridging the offtake gap (local/international) for GH2, are being evaluated and could help bridge the stalemate in the industry in South Africa – a stalemate where developers of projects are looking for large offtake agreements to justify and de-risk the project, whereas offtakers are hesitant to invest and are taking a 'wait and see approach', given rapidly evolving technology, and uncertainty on adoption rates.

CfDs have been designed to incentivise investments in renewable energy projects, where government and a GH2 producer enter into an agreement which includes a guaranteed price often higher than the market price, for the GH2 produced. These may be effective instruments in reducing the cost of GH2 production.

Box 6. Insurance innovation to de-risk projects

Insurance plays a crucial role in de-risking projects, providing coverage and facilitating access to capital for green technologies and hard-to-abate sectors. The role of insurance in the climate transition should be considered simultaneously with project finance to manage risks early and attract and mobilise private capital, particularly for technologies like GH2.⁹⁷ Insurers will play an increasingly important role in climate finance and there is a need to improve coordination with the private sector.⁹⁸ Specific product development such as comprehensive coverage for GH2 projects, technology performance guarantees, products for insuring CO2 transportation leakage, as well as parametric insurance to mitigate risks from natural disasters are some examples of innovations already underway in the global insurance industry. This will help address higher risks linked to unproven commercial track records or missing markets.⁹⁹

Tax incentives

Tax incentives in South Africa have contributed to the decentralisation of energy production and reliance on national grid infrastructure, largely during the years of loadshedding. Determined at the policymaking level, tax incentives (and carbon taxes) may be an effective carrot (or stick) approach to facilitating climate or green investments.¹⁰⁰

By addressing financial, as well as other operational risks, these incentives can reduce upfront costs, improve returns and encourage investment into both renewable or more energy efficient technologies. Those lowering upfront capital costs have included incentives such as accelerated depreciation for renewable energy investments like commercial rooftop solar installations (Section 12B). Carbon reductions or energy savings have been incentivised by energy efficiency incentives (Section 12L); and innovation and technology development incentives have allowed for tax deductions on research and development (R&D) expenditure (Section 11D).¹⁰¹

In 2023, National Treasury also offered a tax rebate of up to R15 000 (US\$855) for individuals installing solar panels on residential properties for the period 1 March 2023 to 29 February 2024. Individuals and businesses have also benefitted from VAT exemptions or refunds on solar PV panels.¹⁰²

Levies in third markets, such as the European Union's Carbon Border Adjustment Mechanism (CBAM) can impact South Africa's energy transition and green investments. The EU CBAM, which forms part of the EU Green Deal and Paris Agreement, places a levy on carbon-intensive goods, such as iron and steel, aluminium and cement, imported into the EU from non-EU countries (such as South Africa), to combat carbon leakage and to encourage decarbonisation in third markets. Already, South African producers of goods impacted by CBAM need to calculate and report their embedded emissions, with mandatory purchase of CBAM certificates from 2026. CBAM thus serves as an incentive to accelerate South Africa's decarbonisation efforts, reducing manufacturing emissions in sectors such as steel, aluminium and cement, by leveraging the country's renewable energy potential.¹⁰³



"Having blended finance and first loss tranches can make risks more palatable for senior lenders."

- Investment manager

5. Key shifts for unlocking greater private funding in South Africa

"Some DFIs may use blended concessional finance as a mechanism to rebalance the risk-reward equation, making first-mover projects commercially viable and thus crowding-in private capital."

– Development finance institution

There are numerous barriers for South Africa to meet its NDC and net-zero targets by 2030 and 2050 respectively, while also implementing a transition that is just. These barriers serve as challenges to unlocking greater private funding towards South Africa's climate and energy commitments.

While many systemic risks will likely only be addressed and truly mitigated with strong and stable policy making and implementation, which will need to be a priority under the GNU, various economic and financial instruments exist (as shown). These can be combined and leveraged to reduce the above-noted risks.

However, despite existing tools, instruments and mechanisms, there is a general lack of and resultant need for finance mechanism innovation. This is particularly the case for funding projects linked to the JET IP.

Innovation is required to overcome the various barriers, risks and realities the country faces. It is required to frame and leverage financial structures including mechanisms such as blended finance, to make projects investment ready, shifting capital from more mature to less mature sectors, from shorter to longer-term investors, as well as an ecosystem approach and working public-private partnership (PPP) environment towards scaling climate finance and JET projects.

For South Africa to unlock greater private finance, it will require several key shifts and building blocks to be in place, including:

- Developing a pipeline of green, bankable and investment-ready projects
- More early-stage funding to de-risk projects
- A shift of capital from more mature to less mature sectors
- New, long-term investors through innovative approaches
- An ecosystem approach through greater partnership mechanisms.

5.1 Developing a pipeline of green, bankable and investment-ready projects

South Africa's struggle with developing a pipeline of bankable (infrastructure) projects is not new. Various project preparation funds have been set up over the years, including funds for project preparation in the renewable energy sector. This has been done via the centralisation of public funds under implementing agencies. More recently, funds and fund managers such as the Green Climate Fund, the Green Outcomes Fund as well as Climate Fund Managers focus on project preparation for climate-resilient infrastructure, clean energy and to ensure bankability, with relevant engineering and finance expertise, supporting project pipelines.

Funds draw on inter alia domestic budgetary, domestic and international DFI and/or international funding support and blended finance mechanisms for project preparation and packaging. However, while these early-stage funds exist, they do not always fund feasibility studies and pre-development activities that are needed to de-risk projects and make them investment ready. Developers often have to self-fund these.

Streamlining slow and complex approval processes, and scaling existing project preparation facilities, and building technical and managerial capacity and skills in the energy sector will help towards creating a greater pipeline of bankable projects. So too will the creation of a national project pipeline database or platform as proposed in the JET IP to help match financiers to projects. The proposed JET IP project preparation template in sectors such as GH2,¹⁰⁴ as well as the imminent simplification of PPP regulation to mobilise greater private sector funding and expertise, including capacity to plan, prepare and design programmes for developing project pipelines across various infrastructure sectors will also contribute towards this.¹⁰⁵

5.2 More early-stage funding for de-risking projects

To help bridge the deficit in early-stage funding, greater angel and VC investment is needed, as there is no shortage of capital for de-risked, mature projects, but a lack of early-stage risk capital. Yet, the current funding needs of large-scale, early-stage projects and funding abilities of VCs or angel investors do not match. Equity investors generally are not willing to take feasibility risks of projects, and feasibility risks need to be addressed. The latter includes having a credible offtaker.

A shift is thus required to address the structural gaps in the country's financial services sector. Projects that are early stage and high risk are not the focus of senior debt extended by banks. Channeling funding to early developments via, for example, the private equity industry, coupled with state guarantees, could help unlock scale, and a greater pipeline of projects that banks and private commercial funders would be interested in, post bankable feasibility.

5.3 Shifting capital from more mature to less mature sectors

A shift is also required in what type of projects are being funded. This requires a reallocation of investment from relatively stable and developed clean energy projects, such as solar and wind power, to more emerging and innovative sectors, including GH2, electric mobility, grid infrastructure and storage. This will be essential to gain the breakthrough and momentum for sectors that are identified for decarbonising South Africa's economy beyond clean energy generation. The challenge is that this shift to less mature sectors comes with risks, including technology and market risks.

This is where working co-investment mechanisms such as PPPs, blended finance mechanisms together with guarantees should be focused to de-risk projects in emerging sectors, and address greater private funding, including commercial funding from the banking sector.

Box 7. The SDG Namibia One Fund could become an important reference case for funding GH2

Launched in 2022, the SDG Namibia One Fund aims to acquire an equity stake in domestic GH2 projects, and attract blended concessionary and commercial capital from global and local institutional investors to develop Namibian GH2 projects and related infrastructure, with plans to receive more than US\$1 billion in investments. The first US\$43 million grant funding towards the fund has been received from Invest International.

While still in its infancy stage, SDG Namibia One aims to attract future capital by collaborating with development partners to implement innovative financial de-risking instruments, such as export credit guarantees, first-loss equity, low-cost loans and political risk insurance. The fund plans to have a changing risk-return profile through donor and DFI capital, to attract commercial investors.¹⁰⁶ Blended finance is critical for Namibia's budding GH2 industry given its potential to reduce transaction costs by subsidising operating costs of the fund, thereby accelerating high-quality project development.¹⁰⁷

SDG Namibia One Fund's approach on export credit guarantees has the potential to reduce risks associated with large investments and financial risks for investors and lenders by providing guarantees against non-payment or project failure. This instrument provides a financial safety net, encouraging lenders and investors to fund GH2 infrastructure projects, thereby encouraging more investment into GH2 projects. Low-cost equity and first-loss equity are powerful de-risking financial instruments, particularly addressing the high capital requirements, long development timelines, and uncertainties involved in GH2 production.

The intent is to allow mature sectors to continue generating returns while new sectors build scale, supported by growing market confidence and regulatory support. The recently announced risk sharing credit guarantee facility by National Treasury for independent transmission projects is a move in the right direction for this sector.

A challenge, however, is that some of the initial funding, including concessional funding needed, is larger than funds available at individual institutions such as a single DFI. A central pooling of funds of, inter alia, DFIs, outside of the JET IP process, with a focus on key strategic projects, which would require cross-stakeholder collaboration between industry, DFIs, financial institutions and government, could be explored.

These projects (as well as projects in the JET IP process) should be anchored by 'lighthouse projects' in less mature sectors – i.e., flagship projects that set a precedent or serve as a model for future initiatives, that exemplify innovative, scalable solutions with a high potential for impact and replication. The high visibility, focus on innovation and new sectors, as well as high impact and scalability of these projects would set them up as key examples, guiding the way for similar developments or projects by illustrating what works. This could catalyse broader financial support for similar initiatives.

5.4 Bringing in new, long-term investors through innovative approaches

Asset and fund managers can play an important role in facilitating innovative investment approaches, that make use of catalytic capital and blended solutions, and that go beyond existing ESG mandates and SDG criteria of institutional investors, to unlock longer-term funding. This will however require a relook of investment strategies of institutional investors. For example, asset managers could work with DFIs to create structures that create first-loss protection or guarantees, which de-risk investments.

Fund managers also have a role to play in mobilising capital from a wider funding pool via third parties, building efficiencies especially related to the infrastructure specialist skills required, and matching these with developers. This is particularly as the market evolves from solely government as an offtaker, to larger-scale industrial offtakers, to energy integrators as is already being seen in the South African renewable energy sector. Sophisticated fund managers can aggregate a large pool of funding, have a specialist focus that can manage unique risks of climate-finance based projects, look after a diversified portfolio which will be able to assist with creating a better outcome for these projects as well as the long-term savings pools in South Africa.

One of these avenues could be via asset sales or refinancing. Refinancing has already been demonstrated with some operational REIPPPP projects. Still there is room for innovation in this part of the capital stack, as well as coupling this with simple instruments like forex risk hedging to de-risk projects for international institutional investors.

Another avenue is via securitisations. National Treasury has indicated that it is working on making infrastructure an asset class via new Securities Regulations of the Banks Act. This would help unlock new investment vehicles such as asset-backed securities that could be traded based on pooling infrastructure loans, or the accreditation of infrastructure investment trusts.¹⁰⁸ However, developing a securitisation vehicle for the bond market is currently seen as an onerous exercise by market players.

The development of securitisation funding structures at a national, regional or even municipal level will allow varying funders access to invest in energy transition infrastructure, providing the scale required to fund these large capital projects, while also providing greater transparency of the various classes of investors, including first loss / risk reduction investors seeking to help make these projects bankable. The diversification of a securitisation structure also helps to diversify risk amongst investors and open up the potential for direct retail investors.

A third avenue may be via scaling the issuance of green bonds – debt instruments that are backed by revenue from operational, cash-flow generating sustainable projects. These bonds provide longer-term, fixed-income investors such as pension funds with opportunities to support climate initiatives. They also appeal to impact investors and socially responsible investors. Scaling green bonds can be an effective risk-sharing instrument.

However, various already mentioned barriers (such as developing a pipeline of large-scale green projects), but also high issuance costs, and a need for guarantees, incentives or tax breaks that could help lower the high costs of certification and compliance, as well as greater standardisation of definitions and ratings would be required to help unlock this market.¹⁰⁹

Furthermore, debt-based funding makes up the bulk of tracked climate finance in South Africa (as previously shown in Figure 1). To make capital-intensive, long-term projects that are deemed to be riskier more attractive, a greater share of equity relative to debt in the project capital structure will be

required. Greater equity will help to absorb risks and enable other long-term investment. Attracting this equity is challenging, but with instruments such as state guarantees and government support through PPPs, blended finance tools, mezzanine capital and even green bonds as discussed above, may reduce technology and regulatory risks. Here too, developing ‘lighthouse projects’ may assist, by showcasing a first wave of successful projects, lowering the risk perception of such projects, and assisting with repricing of risk for future projects.¹¹⁰

While the importance of state guarantees to help de-risk projects is important, this is viewed in the context of the impact these have on the fiscus in South Africa.¹¹¹ While REIPPPP (signed) project based guarantees are above R200 billion (US\$11.4 billion) (about one third of government’s total guarantees, and expected to reduce with time) they are seen as lower risk than those to SOEs for the public purse.¹¹² The recent announcement of a credit guarantee vehicle confirms the focus of National Treasury to reduce contingent liabilities, and not directly taking on further guarantees, but collaborating with DFIs on such risk-sharing vehicles.¹¹³

Box 8. Considering a special Energy Transition Fund to crowd-in long-term investors – a proposal in Germany¹¹⁴

Deloitte Germany together with the Federal Association of Energy and Water Industries in Germany, as well as the Association of Municipal Enterprises in a 2024-released concept paper propose an umbrella fund, which utilises hybrid capital to provide private equity capital for energy companies. The fund proposes to raise funds, and curate projects to be financed depending on requirements related to business model viability, risk, profitability, bankability and if energy companies are EU taxonomy-compliant.

The ETF financing instrument is meant to complement existing financial instruments and mobilise all existing debt and equity where previous funding solutions have been depleted. The ETF is proposed to be an alternative financing

solution addressing the high equity requirements of public and private energy companies in the country and is mainly intended to attract private investors by providing investors with profitable returns over the project life cycle.

The risk-return profile needs to be supported by government measures. The fund proposes government measures such as guarantees, raising the risk-return profile of its portfolio to competitive levels. Still to be considered is the duration of the guarantees, the proportionate amount per project and the amount of the state guarantees for the necessary budgeting needs to be determined based on the initial volume, considering state aid aspects.

5.5 Creating an ecosystem approach through greater partnership mechanisms

The urgency to transition to green energy sources, based on local and global net-zero commitments in line with the Paris Agreement, is translating into a significant increase in activity by corporates and governments alike. In recent months, the reality of the challenge in meeting near-term commitments in 2025 and 2026 has resulted in the realisation that more needs to be done at an individual entity, municipal and country level.

Given the scale and complexity of the transition, the consistent message from key stakeholders is that greater collaboration is needed if the country has any hope of achieving NDC targets. Also, the lack of alignment across key value chains negatively impacts on the confidence of investors and financiers to fund key projects in, as previously indicated, less mature sectors – a good example being the lack of a clear trajectory of the potential for GH2 in South Africa.

While several pilot projects are currently underway in that sector, and while the level of industry

engagement on the GH2 agenda has increased, there is limited alignment across key players in the value chain, compounded by a lack of clarity on policy and government commitment to GH2 as a potential future energy source.

This example and broader opportunities (including biofuels, renewable energy and waste to energy) confirm the critical need to proactively establish common platforms for collaboration to enable the true scaling of key green energy projects and investments, to not only increase the speed of innovation, design and implementation, but also increase the attractiveness of investments to funders. An ecosystem approach will also significantly reduce the risk of failure and reduce the overall risk profile of potential investments, while attracting a broader set of potential investors.

An ecosystem approach will allow the closer alignment of demand and supply-side opportunities, and create more bankable business cases and projects; and the role of orchestrators or integrators is critical to ensure this success.

Box 9. Open access to carbon markets and broader collaboration mechanisms

The increasing formalisation of carbon market frameworks across the African continent is opening up opportunities to monetise carbon offsets as a key enabler in reducing the cost of energy transition, and ultimately increasing the return of investment.

While many organisations have begun to consider the opportunities to create certified carbon offsets, leveraging nature-based solutions and capturing carbon credits from renewable energy investments, to date investment in projects at scale have been limited.

With its diversity and rich extent of natural resources, South Africa has a significant opportunity to leverage nature-based solutions

to help fund the cost of the energy transition, while also making a significant social impact as part of the JET IP, as offset projects present the opportunity to involve local communities in managing natural assets and also to create new jobs.

The recent development of carbon trading platforms and aggregation solutions have the potential to increase access to the carbon marketplace, but more needs to be done to significantly scale the marketplace and create a deep, traded market for carbon offsets that not only support near-term local offset demand but can also feed global demand by developed nations with limited natural assets.

Deloitte's experience shows that the lack of integration and collaboration is one of the most significant detractors at a sector and regional level, with more integrated value chain solutions having the potential to deliver more cost effective, fit-for-purpose solutions, that can be executed faster than more traditional market development approaches. This allows the market to test, fail and ultimately succeed. Traditional market development approaches are characterised by a higher cost of failure and a pace that will not achieve net-zero commitments in a timely manner.

The role of industry, sector and regional players, including industry associations as well as national, provincial and local government is key to this success, but needs to be further enabled with key policy enablers (e.g., relevant policy certainty and a workable PPP framework), independent orchestrators to help create value chain transparency and inform strategic choices, and more wide-scale development of funding and investment platforms (including a combination of public, private and multi-lateral stakeholders). These will be key to this success and the potential for a securitised funding model that allows even wider participation and crowd sourcing of funds may help to diversify investment risk profiles while also allowing greater participation by investors.

An ecosystem approach has the potential to move beyond the current 'piloting' approach to investment and innovation. The latter approach runs the real risk of limiting the rapid scaling of successful projects. An ecosystem approach will also help to better capture innovation in the start-up and smaller enterprise sector that often relies on global grant and innovation funding or private equity investment once proven.

Lastly, enabling systems, tools and services are critical to support the sustainable success of the investment pipeline to leverage lessons learned and limit risks of failure. For instance, the widespread implementation of renewable projects at a municipal level would benefit from the development of a standardised playbook that leverages the experience of more advanced metros like the Western Cape to replicate the successful design, procurement, contracting, execution and revenue collection that are required for investment.



“As the climate and green industry matures, opportunities are becoming more viable for traditional equity”.

- Private equity firm

Acronyms

CBAM	Carbon Border Adjustment Mechanism	NDC	Nationally Determined Contribution
CCA	Climate Change Act	NDP	National Development Plan
CfD	Contracts for Difference	NEET	Not in employment, education or training
COP	Conference of the Parties	NEV	New Energy Vehicle
DFI	Development Finance Institution	PE	Private equity
ERA	Electricity Regulation Amendment	PPA	Power Purchase Agreement
ESG	Environmental, social and governance	PPP	Public-private partnership
ESIPPPP	Energy Storage Independent Power Producer Procurement Programme	REIPPPP	Renewable Energy Independent Power Producer Procurement Programme
EU	European Union	R&D	Research and development
GDP	Gross Domestic Product	SAREM	South African Renewable Energy Masterplan
GH2	Green Hydrogen	SDG	Sustainable Development Goal
GNU	Government of National Unity	SME	Small and medium-sized enterprise
GW	Gigawatts	SOE	State-Owned Enterprise
IPG	International Partners Group	UK	United Kingdom
IPP	Independent power producer	US	United States
JET	Just Energy Transition	VAT	Value Added Tax
JETP	Just Energy Transition Partnership	VC	Venture Capital
MTBPS	Medium-Term Budget Policy Statement	WACC	Weighted average cost of capital

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