DBSA
DEVELOPMENT BANK OF SOUTHERN AFRICA
Building Africa's Prosperity

DBSA INTEGRATED JUST TRANSITION INVESTMENT FRAMEWORK

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CONTENTS

ACRONYMS

AC	Africa Case
AfDB	African Development Bank
AFOLU	Agriculture, Forestry and Land Use
CFF	Climate Finance Facility
CO2	Carbon Dioxide
COP	Conference of the Parties
CSIR	Council for Scientific and Industrial Research
DBSA	Development Bank of Southern Africa
DEA	Department of Environmental Affairs, Forestry and Fisheries
DFI	Development finance institution
ESG	Environmental, Social and Governance
CO2	Carbon dioxide
EGIP	Embedded Generation Programme
GCF	Global Climate Facility
GHG	Greenhouse Gas
GJ	Gigajoule
Gw	Gigawatt
ICLEI	International Council for Local Environmental Initiatives
IPP	Independent Power Producer
INDC	Intended Nationally Determined Contribution
IRP	Integrated Resource Plan
JET	Just Energy Transition
LNG	Liquified Natural Gas
MPPG	Municipal Power Purchase and Generation
NCCRWP	National Climate Change Response White Paper
NEVA	National Employment Vulnerability Assessment
NPC	National Planning Commission
PA	Paris Accord Principles
PEAC	Presidential Economic Advisory Council
PPSEEP	Public and Private Sector Energy Efficiency Programme
P4C	Presidential Climate Change Coordinating Commission
REIPPP	Renewable Energy Independent Power Producer Programme

RMIPPP	Risk Mitigation Power Purchase Programme
Sasscal	Southern African Science Service Centre for Climate Change and Adaptive Land Management
SJRPs	Sector Job Resilience Plans
STEPS	Stated policy scenario
SDG's	Sustainable Development Goals
TCFD	Task Force on Climate-related Financial Disclosure
UKPACT	United Kingdom Partnering for Accelerated Climate Transitions
UNFCCC	United Nations Framework Convention on Climate Change

1. INTRODUCTION

The DBSA Board has guided the Bank to produce an Integrated Just Transition Investment Framework to pursue the Banks development and financing mandate within the energy sector. This paper outlines the Banks positioning within the energy sector to support a just transition[1].

2. THE POLICY AND BUSINESS CONTEXT

The outbreak of the COVID-19 pandemic unleashed an unprecedented global financial crisis which has impacted every fabric of our collective human, societal and economic systems. Development practitioners recognize that if the global response is to be successful, sustainable development solutions and interventions that were proposed prior to the pandemic must be placed at the forefront of stimulus packages underpinning global economic and social recovery measures. In South Africa, the government has issued the South African Economic Reconstruction and Recovery Plan to guide the national development recovery response. This plan positions recovery efforts on building a sustainable, resilient and inclusive economy to stimulate equitable and inclusive growth to tackle South Africa's historical structural inequalities of unemployment and poverty. The Plan identifies nine priority interventions to drive the economic recovery and transformations necessary to support inclusive and sustainable growth. Key to South Africa's recovery measures is implementing efforts to secure energy security and stimulate green recovery in support of a just low carbon transition.

As an infrastructure development finance institution owned by the government of South Africa, with a mandate in South Africa and the rest of the African continent, DBSA has a key role to play in supporting national development efforts through advancing development impact in the region, expanding access to development finance and effectively integrating and implementing sustainable development solutions. DBSA's role in supporting the national recovery, and transformation within the energy sector, is grounded on national, continental, and global policy responses as well as the operational and business context in which DBSA development and financing activities take place.

2.1 The policy context

Enhancing sustainable development of the social, economic, and ecological environment is one of the foundation principles of the DBSA. The DBSA's Development Position outlines the DBSA approach to development and articulates DBSA's support for local national and continental development frameworks. The DBSA role as a responsible investor supporting national and continental efforts to transform the energy sector to address energy stability in support of inclusive growth, is guided by the following policy frameworks:

[1] To be read with the DBSA's net zero statement. See https://www.dbsa.org/press-releases/dbsa-statement-net-zero

- *Chapter 5 of the National Development Plan of South Africa* which outlines South Africa's vision for a low carbon transition and identifies investment pathways to achieve this transition. The National Planning Commission (NPC) is developing potential Just Transition pathways for the country. The partnership approach outlined for DBSA's Just Transition interventions aligns with the NPC approach.
- *The Conference of the Parties to the United Nations Framework on Climate Change* (Paris Agreement) endorsed by fifty-two countries in Africa. All African signatories have submitted supporting Intended Nationally Determined Contribution (INDC) on adaptation, mitigation and finance and investment.
- *The Africa Union Agenda 2063* outlines the continent's vision to achieve a sustainable future over the next forty years.
- The respective *national and regional energy plans* that the Bank operates within. These plans outline the regions commitment to drive energy access, ensure security of supply, benefit from regional resource endowments and support industrialization by ensuring the provision of the cheapest source of energy. Across Africa energy planning aligns with support for NDC commitments.
- *The United Nations Sustainable Development Goals* (SDGs). Goals, particularly the goals[22] which provide guidance to supporting the energy sector.
- *South Africa's National Climate Change Response White Paper* (NCCRWP DEA 2011) outlines national climate mitigation and adaptation approaches to address climate change including public and private sector investment in low carbon infrastructure.
- *The Department of Mineral Resources and Energy Integrated Resource Plan (IRP)* of 2019 contains 2050 targets for all technologies. Installed capacity is expected to be much higher than current levels. The plan outlines recommendations to realise a Just Transition through a phased approach to mitigate the potential adverse job and local economic impacts arising from the decommissioning, retirement and replacement of approximately 24,100 MW of coal power plants from 2030 to 2050.
- *The South African Low Emission Development* (SA-LEDS) Strategy 2050 submitted to the United Nations Framework Convention on Climate Change (UNFCC), sets out national interventions to address mitigation in the energy, industry, Agriculture, Forestry and Land Use (AFOLU) and waste sectors. Within the energy sector, decarbonisation of energy supply will largely be driven through the Integrated Energy Plan, the IRP, and the uptake of biofuels opportunities. Measures to reduce, or limit growth in energy demand include implementation of the National Energy

[2] SDG 4 (quality education);
SDG 7 (affordable and clean energy);
SDG 8 (decent work and economic growth);
SDG 9 (industry, innovation, and infrastructure);
SDG 10 (reduced inequality);
SDG 11 (sustainable cities and communities);
SDG 13 (climate action);
SDG 15 (life on land);
SDG 16 (peace, justice, and strong institutions); and
SDG 17 (partnerships for the goals).

Efficiency Strategy, support for increased uptake of solar water heaters, promotion of cleaner mobility and the National Building Regulations and Buildings Standards Act.

- *The National Treasury and Department of Environmental Affairs Technical Paper 2020 Financing a Sustainable Economy* proposes that the financial institutions adopt the Task Force on Climate-related Financial Disclosure (TCFD)[3]3 recommendations to address transition risk including scenario-based risk mitigation and credible disclosure.
- The *carbon tax* effective from June 2019 covers fossil fuel combustion emissions, product use emissions, fugitive emissions, and high emitting industrial processes. The tax impact is likely to result in an increased cost of higher emitting energy sources thereby enhancing the business case for lower emitting energy sources.
- The *Climate Change Bill* will establish sectoral emission reduction targets, to reduce demand for energy sources that contribute to corporate emissions.
- The *DBSA Climate Change Policy Framework* details the Bank's organisational approach to giving effect to South Africa's Nationally Determined Commitments (NDC) to the Paris Agreement. The Policy Framework details the Banks climate finance approach and targets which include a minimum allocation of 30% of annual lending by 2022 to support climate financing targets (70% for mitigation projects and 30% for adaptation projects).

- The *South African Economic and Recovery Plan* outlines the national social and economic recovery response to the Covid 19 pandemic. The plan includes interventions to enhance infrastructure investment, encourage employment orientated strategic localization, reindustrialization and export promotion; promote energy security, encourage green growth and promote gender equality and economic inclusion of women and youth. In the energy sector, identified energy security measures include the creation of a Transmission Company from a restructured Eskom, procurement of additional energy through to 2022, and support for the nuclear, LNG, Petroleum, and Bioenergy sectors. Green economy interventions propose efforts to promote increased investment in localised renewables and hydrogen, promote investment in energy efficiency, retrofit aging Mpumalanga coal fired power stations with renewables, and increase uptake of international climate funds and green bonds.

- The Presidential Economic Advisory Council (PEAC) published *Briefing Notes* in October 2020, which outline priority national policy interventions to support a sustainable and inclusive economic recovery in the context of the Covid Pandemic. These address macroeconomy policy interventions, a mandatory energy sector transition, the promotion of competitive markets and agricultural development support. Proposals to develop state capacity, unlock the district development model, and the impact of COVID- 19 grants are addressed. To respond to the negative impacts of power shortages and load shedding on the economy, it proposes a

[3] The TCFD provides a framework for the reallocation of capital, and the mobilisation of new public and private sector financial flows to support a just energy transition

private and public sector collaboration to unlock private and public investment and innovation to promote green growth. This includes unlocking approximately R500 billion investment in a large-scale green industrialisation programme over the next ten years to deploy between 5000 and 6000 MW renewables plant per year which could create approximately 50 000 direct jobs. It proposes that an additional R100 billion be invested in grid infrastructure to support new generation capacity come online. Policy proposals to support the identified green industrialisation proposals include:

- Independent licensing reform,
- Eskom to update agreements with existing wind and solar power projects to access any available excess supply for installation.
- Modification of the Risk Mitigation Power Purchase Programme (RMIPPP) technical requirements to facilitate participation a broad range of technology options,
- Restructuring and improving Eskom's performance and support Eskom to source concessionary climate finance
- Implementation of renewable energy development zones
- Finalisation of the renewable energy masterplan
- Conducting an annual review of the IRP.

- The Presidential Climate Change Coordinating Commission (P4C) established in December 2020 to provide independent advice, monitoring, and review of South Africa's climate responses (addressing both mitigation and adaptation). The Commission is tasked with developing a common understanding of the just transition and its implementation mechanisms. The P4C will additionally provide a platform engaging key stakeholders on the National Employment Vulnerability Assessment (NEVA) and Sector Job Resilient Plans (SJRPs) and ensure reporting of progress towards the implementation of the Sector Job Resilient Plans.

2.2 The business context

The global energy sector is undergoing unprecedented transformation resulting in technology shifts, changing cost and ownership structures. These are all factors that impact on positioning the DBSA as a responsible investor in Africa. In Africa, this transforming business environment has opened up the opportunity to provide effective developmental and market-based solutions to service previously unserved communities while also providing solutions for affordable, safe, and reliable energy to drive Africa's industrialization. The structural transformation within the energy sector impacts on the business case of energy solutions proposed for financing. Both consumer and business demand are relevant to these impacts. DBSA business decisions in the energy sector are influenced by:

- The role of national, regional and continental energy plans in informing energy planning, investment and regulation and thereby determining the pace and scale of

the energy transition. Energy planning in Africa addresses both use and relative cost of available coal and gas fossil fuel resources and the relative cost of abundant renewable hydro power, solar, wind and geothermal resources available to the continent.

- The increasing competitiveness of the cost of renewables. As the costs associated with renewable energy reduce, renewables will increasingly be provided as the most cost- effective business solution to meet growing energy demand.

- The need for flexibility and dispatchability in energy solutions. Energy modelling, undertaken by the Council for Scientific and Industrial Research (CSIR)[4], on the most appropriate energy solutions for South Africa, points to the need for flexible, dispatchable energy solutions which can be readily deployed to address consumer demand. The African Development Bank (AfDB) in 2019 outlined a similar need for the continent to ensure the delivery of localised and resource-efficient energy options, including utility-scale renewables and community-owned local solar and wind generators coupled with storage as well as biomass projects[5].

- Increased public and private sector investment in research and development to enhance the business case for new and evolving energy technologies, including evolving gas-to-power generation, green hydrogen, storage, bioenergy, renewable solar and wind power. The DBSA has a role to play in supporting high impact investments which unlock the continents' ability to leapfrog and adopt transformative energy sector technologies to support energy security, industrialisation, affordable access to energy and the transition to a green economy.

- Customer demand, and the ability to respond to variable and flexible energy needs, will increasingly drive the type of energy solutions provided, rather than energy use being determined by resource availability. As energy prices become cost reflective and start to reflect externalised costs, investments in flexible adaptable smart grids with distributed generation are increasingly replacing baseload investments due to the ability to provide energy at least cost to the end consumer.

- The importance of developing reliable upstream and downstream local industries to support the transition to a low carbon economy requires investment in localization and active Industrial Policy measures. Investment in renewables provides the basis to support industrialisation on the continent through local production and services of renewables components. Going forward, research[6] developed to determine the optimal investment and generation technology mix required to meet the electricity demand in South Africa from 2015 until 2050 found that that a 100% renewable

[4] CSIR

[5] https://www.afdb.org/en/news-and-events/can-africa-afford-strand-its-fossil-fuels-30276

[6] https://www.researchgate.net/profile/Ayobami_Oyewo2/publication/335881841_Pathway_towards_achieving_100_renewable_electrici ty_by_2050_for_South_Africa/links/5d8df11c458515202b6d6995/Pathway-towards-achieving-100-renewable-electricity-by-2050-for- South-Africa.pdf?origin=publication_detail

energy system is the least-cost, least-water intensive, and least-GHG-emitting option for the South African energy system. The DBSA has a role to play in working with other funders to unlock investment in industrialization opportunities arising from the energy transition.

- A fundamental principle of the just transition is that of "leaving no one behind[7]". Over 70% of South Africa's energy is produced by coal fired plants with at least 78, 000 South Africans dependent on the coal mines which produce the coal that feeds South Africa's coal fired power plants for their livelihoods[8]. Coal employment includes employment in mines producing coal for export and the approximately 46 000 workers employed in mines that depend on selling coal to Eskom for power generation with Eskom presently employing approximately 43 000 people.

  The South African National Employment Vulnerability Assessment (NEVA) and Sector Job Resilience Plans identify employment vulnerability levels of the communities in South Africa (eMalahleni, Steve Tshwete, Govan Mbeki and Msukaligwa) most impacted by the coal transition. Unless proactive measures are put in place to compensate for a coal phase out and mitigate for potential adverse job and local economic impacts, the energy transition has the potential to disrupt the livelihoods not only of those directly employed in these mines, but also those engaged in upstream and downstream activities. The need to prioritise job creation, eliminate poverty and address inequality remain the priority development imperatives for South Africa and the continent.

  The transition to a low carbon energy future provides the opportunity for investment in renewable energy which enables employment creation[9]. Research on the employment outcomes of the REIPP in South Africa showed that as of June 2017, the REIPPPP had created 32,532 direct full time equivalent (FTE) person-year jobs. It is anticipated that 109,444 direct full-time equivalent person-year jobs will result from bid windows 1 to 4 over their 20-year PPA lifespans (Eberhard and Naude, 2017). McDaid et al (2016) estimate that a further 50,000 FTE person-year indirect and induced jobs will result from REIPPPP Bids 1-4[10]. Energy modelling suggests that renewables require more skilled workers than are required by fossil fuel industries. The construction of every GW of renewables creates 10 000 jobs, including construction jobs and more permanent operational and maintenance jobs.

  The DBSA energy sector investment portfolio is heavily exposed to transition[11] and

[7] See South Africa's INDC to the Paris Agreement
[8] Burton et al (2018)
[9] Irena jobs database
[10] https://sawea.org.za/wp-content/uploads/2018/08/SAWEA-Employment-in-SA-Power-Sector-July-2018-EMAIL-VERSION.pdf
[11] Transition risk is the financial risk associated with the transition to a low carbon economy. The implications of transition risk to the South African economy are addressed in the DBSA sponsored report by the Climate Policy Initiative, Understanding the Impact of a low carbon transition on South Africa

stranded asset[12] risk due to the dominance of Eskom loans (primarily coal driven) on the DBSA energy sector investment portfolio. As a responsible investor, DBSA has a role to play in assisting state-owned companies to embark upon active decarbonisation and just transition initiatives to reduce the national exposure to transition risk.

- The DBSA shareholder and partners on the continent have identified gas and LNG options as a relatively small component of national and regional energy plans that aimed to deliver a net zero carbon outcome by 2050. While gas remains essential for the provision of reliable power supply to support Africa's industrialization and business demands, global demand will fall as economies move away from fossil fuel, and the oil and gas majors shift their investment portfolios to consider more sustainable options. Infrastructure investments are typically long-term investments, requiring that investments in "transition fuels" such as gas are assessed and priced for transition risk.
- Established incumbents maintain control of major segments of energy value chains blocking new entrants able to change ownership patterns. Financing institutions such as the DBSA have a role to play in supporting new entrants' access into those markets with the greatest long-term growth potential that deliver the most secure long-term returns.
- Access to concessional climate and green financing arising from global policy to address climate change provides the opportunity for DBSA to support our clients in the implementation of cost-effective energy solutions which enable local job creation and gender mainstreaming.
- The growing global requirement for increased transparency in investment allocation and reporting requires that financial institutions adopt transparent mechanisms to manage and report on the financial risks associated with stranded assets and the transition to a low carbon economy.
- Increased global attention to placing environmental, social and governance (ESG) considerations at the centre of investment decision making.

3. THE BARRIERS TO IMPLEMENTATION

The DBSA acknowledges that barriers and challenges inhibit its ability to rapidly deploy resources to support the realisation of a low carbon economy on the continent. Theidentified challenges to be overcome include:

- Differences in national development plans, carbon intensity of economies and resource endowments among countries in the Bank's coverage area.
- DBSA's funding model of raising capital in the market often creates a hurdle rate for funding projects that is often higher than competitor / collaborator funders, both commercial and DFIs.
- Policy incoherence arising from the real functioning of democratic government institutions acting with different timeframes, ongoing policy development, shifting

[12]Stranded asset risk is "assets that have suffered from unanticipated or premature write-downs, devaluations or conversion to liabilities".

priorities and unforeseen external shocks, for example COVID-19.

In unlocking the potential of the DBSA to support a just energy transition (JET) the Board and leadership must be empowered to:

- Provide clear, consistent messaging on action for a JET that respects national variations while advancing global solidarity for our planet and people.
- Allocate concessional finance along with management time to match the priority of JET actions.
- Prudently guide policy conformity by favouring actions that maximize attainment of nationally determined contributions to reduce global warming.

Adequate resources are required to enable the DBSA to fulfil the Bank's role as a responsible investor in support of a JET. These resources include:

- Full utilization of existing funding instruments and strategic partnerships established with multi-lateral and national development finance institutions.
- Engagement with development partners on the identification, design and testing of products required to assist firms and households' transition to low carbon energy products.

The Bank is identifying implementation strategies to give effect to its role as a responsible energy sector investor. This includes:

- Assessment of all energy projects' direct and indirect contribution to giving effect to a just transition. Such assessment will be guided by acceptable return on investment rates, as well as the development results assessment and the forthcoming development impact index.
- Adopting the goal of becoming an exemplary financier and a leading actor for the JET across the full project value chain. The Bank will adopt this goal by encouraging project sponsors and related parties to show an explicit energy transition path in the design and execution of their projects that leads directly to a net zero outcome by 2050.

4. JUST TRANSITION

4.1 The just transition

The demand for a 'just transition' arises from workers and communities' responses to the global social and economic transformations arising from climate change and measures to implement the 2015 Paris Agreement.

- The "just transition" is a framework that has been developed by among others the trade union movement to encompass a range of social interventions needed to secure workers' jobs and livelihoods when economies are shifting to sustainable production, including avoiding climate change, protecting biodiversity, and ending war, among other challenges.
- It has been broadened beyond a focus on protecting workers only, but also encompasses wider society, especially the resilience of the most vulnerable,

particularly poor and working-class communities.

4.2 Impact on the energy sector

South Africa is the 14th largest emitter of carbon dioxide, and on a per capita basis, the 10th largest emitter globally as well as the greatest carbon emitter in Africa. The energy sector is responsible for almost 80% of South Africa's total GHG emissions (of which 50% are from electricity generation and liquid fuel production)[13] and any large mitigation contributions will have to come through reduced emissions from energy generation and use. The primary environmental impacts are realised in Mpumalanga, where Eskom's coal fired power stations and Sasol's coal-to-liquid plant are located. The main opportunities for mitigation consist of energy efficiency, demand-side management and moving to a less emissions-intensive energy mix. Through the NDC, the renewable energy sector was identified as the largest contributor to climate change mitigation. South Africa has a high level of renewable energy potential. The 2019 IRP, SA- LEDS and the PEAC SA- LEDS and the PEAC collectively propose revised national targets for increasing installed renewable capacity to support green industrialisation. (The year 2029 has set revised national targets for installed renewable capacity to 31.2 GW by 2030 with the PEAC proposing investment of approximately 5000- 6 000 MW per year over a 10-year period)

5. ADRRESSING TRANSITION RISK AND ENHANCING TRANSPARENCY IN INVESTMENT PRACTICES

Guiding principles to achieve a just transition require managing two classes of risk that are concentrated in the energy value chain namely transition[14] and stranded asset[15] risk.

5.1 The TCFD

There is a global move towards diverse and cleaner energy sources as the business case for new forms of energy access increases. Development Banks have an important role to play as integrators between governments, and the commercial banking and investment sectors. In the assessment of risks, an opportunity is framed within the TCFD which was developed through a collaboration with global investors and issuers to protect the financial sector from climate-related investment risk. The Task Force aimed to develop climate related disclosures that could better inform investment, credit (lending), insurance underwriting decisions and, in turn, enable stakeholders to understand better the concentrations of carbon-related assets in the financial sector and the financial systems

[13]IRP 2019 and https://www.wits.ac.za/news/latest-news/opinion/2020/2020-01/south-africa-has-huge-green-fuels-potential-but-it- needs-to-act-now.html

[14] Transition risk is the financial risk associated with the transition to a low carbon economy. The implications of transition risk to the South African economy are addressed in the DBSA sponsored report by the Climate Policy Initiative, Understanding the Impact of a low carbon transition on South Africa

[15] Stranded asset risk is "assets that have suffered from unanticipated or premature write-downs, devaluations or conversion to liabilities".

exposure to climate-related risks.

The DBSA has taken a cross divisional approach and is playing an active role to implement the TCFD recommendations. The Bank participates at various platforms such as the SA Banking Association TCFD Forum, DBSA TCFD roadmap, DBSA Disclosures Framework, and active data gathering/monitoring for this exercise.

5.2 Financing a sustainable economy

The technical report published by the DEA and the National Treasury recommends that the finance sector in South Africa:

- Adopt technical guidance, standards and norms incorporating the TCFD recommendations to identify, monitor, report, and mitigate climate-related portfolio andtransaction level climate scenario risks; and,
- Develop benchmark scenarios to model and stress test sector-specific potential climaterisks to companies and economic systems.

A supporting National Treasury / SA Banking Association TCFD Forum has been established.

5.3 Implications for financial disclosure and risk management

To fulfil its remit, the TCFD developed a framework with four widely adopted recommendations on climate related financial disclosures, including governance, strategy, risk and metrics and targets.

To be aligned with the TCFD's recommendations, organisations must disclose the process by which climate-related risks are identified, assessed, managed and integrated into overall risk management. A description of how organisations have determined the relative significance and materiality of climate-related risks and how they are integrated into the business to affect overall business decisions should be provided.

6. DBSA INTEGRATED JUST TRANSITION INVESTMENT FRAMEWORK

The DBSA Integrated Just Transition Investment Framework provides a framework for the DBSA to support development and investment in the energy sector in Africa.

6.1 DBSA as a responsible investor

DBSA recognizes that a responsive, client driven approach to supporting a just transition in Africa is required. Recognising that access to energy is recognised as an essential human right (SDG 7), and that energy makes possible the investments, innovations and new industries that are the engines of jobs, inclusive growth and shared prosperity, the

DBSA seeks to provide financing and developmental support to enable a rapid and future oriented energy transition for Africa. The Bank will work with its financing and development partners to enable Africa to benefit from the technological, cost and societal shifts that the global energy transition is giving rise to. In supporting a just transition in Africa, the DBSA will unlock bankable and sustainable energy solutions that:

- Promote access to affordable energy to address the energy gap on the continent.
- Support inclusive energy ownership models to fast track social and economic transformations by encouraging new entrants and promoting gender equality.
- Stimulate investment in innovative solutions to enable Africa to "leapfrog" through the use of flexible and appropriate energy solutions including energy efficiency, renewable energy, and green hydrogen.
- Prioritise investment in technology solutions which promote maximum. return on investment and competitiveness including low-cost renewable energy technologies.
- Enable security of supply essential to industrialization that is also competitive and affordable. The Bank acknowledges that continued industrialisation premised on cheap and reliable energy is necessary for the provision of new and better human and economic development opportunities and access to global trade.
- Address transition and stranded asset risk by working with our shareholder and development partners on the continent to implement decarbonisation interventions to mitigate the extreme economic risk and vulnerability arising from fossil fuel dependency. This includes supporting countries to transition from coal, oil and gas by accelerating investment in cleaner energy solutions
- Support investment in transmission infrastructure to expand and strengthen the grid to cater for introduction of new generation capacity and to facilitate a just energy transition.
- Promote active interventions to support communities and workers negatively impacted by the transition.
- Promote environmental and social sustainability.

6.2 Investment principles underpinning DBSA Integrated Just Transition Investment Framework

- *Supporting implementation of Africa's energy plans*. The DBSA will continue to work with our investment partners and clients on the continent in respect of pursuing bankable investment opportunities aligned to national, regional and continental plans that are also, in turn, aligned with global commitments to decarbonisation and net zero outcomes.
- *Addressing least cost considerations in investment decision making*. The DBSA energy sector investment decision making will place the adoption of least cost energy solutions at the forefront of investment decisions.
- *Support for disruptive technologies.* The DBSA has a role to play in supporting high impact investments which unlock the continent's ability to leapfrog and adopt transformative energy sector technologies that deliver energy security at competitive prices to support industrialisation and the transition to a green economy.

- *Prioritising consumer demand for flexible, dispatchable energy solutions*. The DBSA commits to building the necessary programme financing capability to unlock programmatic distribution solutions.
- *Supporting localisation, industrialisation, and the transition to a green economy*. The DBSA will work with partners to fast-track investments in upstream and downstream manufacturing capability and industrialisation necessary to underpin the transition to a low carbon economy and create the "green jobs" the social contract for a just transition depends upon.
- *Implement an impactful JET programme to support the most vulnerable and "leave no one behind"*. The DBSA and the Banks' development partners have a role to play in supporting the phased decommissioning, retirement and replacement of coal power plants in Mpumalanga from 2021 to 2050, identifying interventions to promote job creation, local economic development and reskilling in vulnerable areas. The role out of the District Delivery Model and the Development Laboratories (DLabs) provide an effective vehicle to rebuild economies and create jobs.
- *Prioritise the involvement of broad based black economic empowerment entities, gender mainstreaming and communities* in energy sector investments to support new entrants' access to the market.
- In line with the DBSA's *Municipal Power Purchase and Generation (MPPG) paper*, prioritize support for local governments seeking to take advantage of regulatory changes that allow local governments to become procurers of renewable energy.
- *Working with clients to reduce transition and stranded asset risk* and seek opportunities for decarbonisation programmes.
- *Support for fossil fuel transition investments*. The Bank will continue to influence, engage and encourage our partners on the continent to adopt and develop industry best practice in investment management. The Bank will undertake meaningful engagement with partners and clients to address the investment opportunities and barriers related to a phased energy transition. Project sponsors and the Bank to ensure that measures are in place to compensate for social and environmental externalities (such as pollution and water management and biodiversity loss) arising from the investment, including regional and global impacts.
- *Access to concessional climate and green financing*. To play an active role in guiding the transition to a low carbon economy, the DBSA will continuously build an effective pipeline of clean and green energy investments which are supported by enhanced due diligence and reporting measures.

- *Increased transparency in investment allocation and reporting.* The DBSA is adopting proactive measures to work with the National Treasury and the financial services sector to implement the Task Force for Financial Disclosure (TCFD) Recommendations.

- *Placing responsible environmental, social and governance practices at the centre of investment decision making.* The DBSA will continue to work with our concessionary financing partners to ensure that our just transition policy framework aligns with best practice. DBSA commits to working with our partners and clients to use investments designed to achieve specific ESG objectives, particularly aiming to

provide capital for green and low-carbon infrastructure, for developmental support on the continent.

- *The DBSA Environmental and Social Safeguards* (DBSA ESSS)[16] outlines the DBSA approach to environmental and social management and places clear obligations on theBanks' clients to comply with relevant legislation and regulations and adopt responsible environmental and social practices. An enhanced due diligence and monitoring is undertaken for all high-risk projects. This includes a precautionary approach to projectscreening, an assessment of the ability of the client to implement the DBSA ESSS category 1 obligations, and to report on and adequately manage investment conditions.

- *Reporting on the carbon intensity of the investment portfolio.* The Bank will on an annualbasis report on how projects with potential significant adverse environmental and socialrisks and/or impacts fit within DBSA's approach to an integrated just transition investment portfolio.

6.3 Pillars of the Integrated Just Transition Investment Framework

An interdivisional team is refining short, medium, and long-term investment approaches to assist the Bank in defining its framework. A country-specific assessment is being undertaken and rolled up to a consolidated envisaged investment portfolio. This will provide the operational approach to investment. This will consider investment in all energy sector technologies based on the following assessment principles:

DBSA Integrated Just Transition Investment Framework: Energy Sub Sector considerations							
Technology	**Technology maturity**	**Cost / affordability**	**Competitiveness**	**Stranded asset potential**	**Carbon Intensity**	**Job creation potential**	**Upstream & downstream linkages**
Co-generation: an optimized combination of technologies	Existing, but potential to mature	Optimal if adapted to technology cost changes. Potentially most affordable	The practical application of cogeneration is always competitive, ultimately converging in renewable systems.	Low, as technology is phased in and out	Medium with current technology mix, but fast decreasing	Medium to high, with ability to incorporate technologies in accordance with job creation criteria	Opportunities for phasing in & out of technologies, skill transfer, repurposing, re-skilling, local manufacturing.
Coal Thermal	Mature	High for new generation capacity	Decreasingly competitive even for base load supply.	Very High for new systems	Very High	Medium, mainly in mining. Highly mechanized	Established upstream & downstream industries.

[16] https://www.dbsa.org/EN/About-Us/Publications/Documents/DBSA%20Environmental%20and%20Social%20Safeguard%20Standards%202020.pdf

DBSA Integrated Just Transition Investment Framework: Energy Sub Sector considerations							
Technology	**Technology maturity**	**Cost / affordability**	**Competitiveness**	**Stranded asset potential**	**Carbon Intensity**	**Job creation potential**	**Upstream & downstream linkages**
Oil & Gas	Mature	Medium, once if infrastructure in place	Competitive only if local resources exist. Gas can be a competitive cogeneration system.	Oil: High Gas: Medium to low	Very High	Medium and short term for asset creation Very low for fuel supply	Oil &Gas for power is minor employer. Commodity imports. Use of skills from thermal sector
Nuclear Thermal	Mature, new technology in long term development	Very high for generation capacity.	Competitive only if current technology risks (catastrophic environmental impact) are discounted.	Globally High due to erratic policy changes	Low	Medium and short term for asset creation. Very low for fuel supply	Predominantly foreign skills and imported equipment. Some use of skills from construction and heavy machinery sectors.
Hydropower	Mature	Medium (flow of river) to high impoundment)	Very competitive in cogeneration systems for peak power	Low. Climate change risks	Medium to low (potential high GHG released from impoundment)	Medium. Only significant for during asset creation	Limited linkages besides during construction phase, when use of existing skills.
Wind	Mature	Increasing unit capacity reduces costs, increase affordability	Highly competitive in a cogeneration system	Negligible	Low, with reuse.	High, estimated at potential 600 000 for 2020 to 2030. The technology is modular, and most of the system can be locally manufactured. Labour intensive maintenance.	Linkages in project development, component manufacture, construction, operations & maintenance.
Photo-voltaic (solar)	Mature	Ever decreasing capital costs increase affordability	The most competitive technology	None	Low, when recycling materials.	Medium high, estimated at 250 000 jobs in SA from 2020 to 2030. Modular technology with capacity to manufacture key system components locally. Limited labourin maintenance.	Direct, indirect,and induced linkages, from raw material production up to operations and maintenance

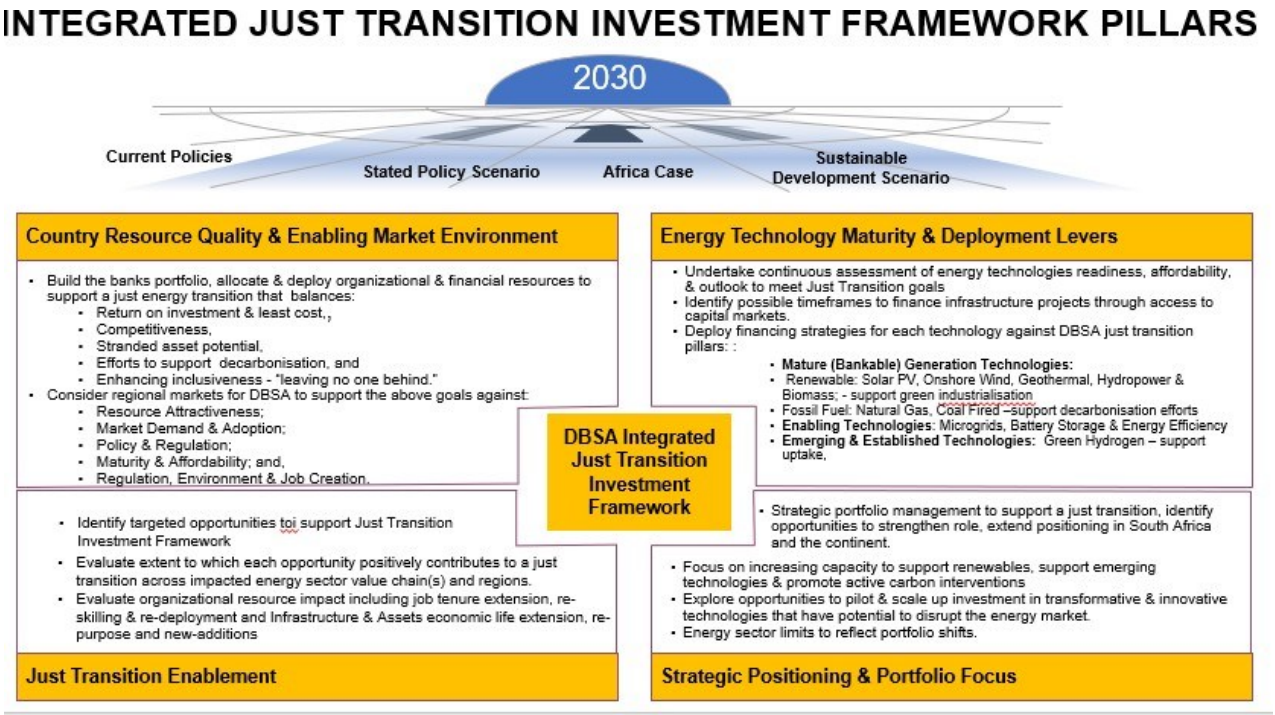
Technology	Technology maturity	Cost / affordability	Competitiveness	Stranded asset potential	Carbon Intensity	Job creation potential	Upstream & downstream linkages
Concentrated Solar Power	Emerging concentration tech. Mature existing thermal.	High capital costs	Requires heat storage to increase viability	Low	Medium low since infrastructure intensive	Short term: infrastructure construction	Strong Linkages to thermal power industries.
Embedded (PV) generation	Mature, since mostly PV generation	Affordable.	Most competitive, no distribution losses	None.	Negligible	High job creation capacity Modular technology with capacity to manufacture key system components locally. Limited labour in maintenance	As for PV above, but direct participation by local installers and operators
Biomass (including biogas)	Mature	Potentially medium cost if utilizing "waste" products	Replaces fossil fuel in conventional technology systems. Very limited supply.	None	None, can be net positive if methane emission is prevented	Potentially medium, depending on renewable fuel source	Linkages into agroindustry.
Green Hydrogen	Emerging / established	Like Wind and PV, but hydrogen storage/ distribution systems expensive.	Can in theory replace liquid fossil fuels	None, vast range of application	None	Medium. Significant during ongoing asset creation.	Potential strong linkages through the existing liquid fuel sector.
Storage	Gravity (e.g., pumped storage) mature. battery Chemical (battery) storage emerging	Capital Intensive. Battery storage US$300kwhr but decreasing	Fast developing battery technology has potential to further improve competitiveness of intermittent renewables (PV and Wind)	Very low	Operational negligible. Asset manufacture: Medium	Gravity systems: Medium. Chemical systems supplied from a few global producers (economy of scale): Very Low	Gravity storage as per Hydro above. Battery storage fully imported; minimal local linkages foreseen

Recognising that the scale and pace of the transition in Africa will impact on the nature of DBSA service offerings, a scenario-based assessment has been utilised to consider the optimal proactive positioning of the Bank in supporting a just transition in Africa. The scenarios considered include:

- *Current policies*: Addresses a business as usual or baseline assessment of the energy markets if governments make no changes to their existing policies and measures.
- *Stated policy scenario (STEPS)*: Maps national climate-related commitments & policies to meet Paris Agreement objectives for the energy system by 2040.
- *Africa Case (AC)*: Outlines the Africa Union Agenda 2063 vision to achieve a sustainable future for next 50 years.

- *Sustainable development scenario*: Designs a development pathway to maintain global temperature risk rise to below 2°C by 2050 and the changes to the global energy system required to achieve this goal.

The four pillars of the framework are summarised as shown below.



6.4 Proposed Just Transition Investment Framework Positioning

The 2019 DBSA Board Strategy Session resolved that the DBSA should at least maintain its market share of the renewable energy sector within the overall portfolio. The DBSA commits to pursuing investments which align with the investment principles outlined in sections 6.2 and 6.3 above. Understanding the extent to which the DBSA is required to pivot the positioning of the energy sector loan book is dependent on an analysis of the current loan book. A preliminary assessment of the loan book indicates the positioning as outlined in the graphs below. Further work is being undertaken to unpack granular detail to inform the baseline required to support TCFD scenario analysis and reporting. The Bank commits to quarterly reporting on achieving jus transition goals against the energy portfolio baseline.

CURRENT DBSA ENERGY SECTOR INVESTMENT PORTFOLIO POSITIONING

CCGT: Combined cycle gas terminal; HFO: Heavy fuel oil; OCGT Diesel: Open cycle gas turbine; Solar CSP: Concentrating solar power; Solar PV: Solar Photovolta

Given the fundamental shifts occurring within the energy sector, and the national proposals to promote green industrialization, DBSA will need to continuously refine the Banks energy sector portfolio limits and capacity to support a just transition. The Bank will continue to prioritise energy sector investments supporting a just transition on the basis of the optimal outcomes achieved in respect of return on investment, competitiveness, development impact and decarbonisation.

6.5 Proposed Just Transition projects

To give effect to the DBSA integrated just transition investment framework, the DBSA will continuously be working with clients to support the unlocking of just energy projects. Just energy projects within the DBSA portfolio include at least:

- Eskom Plant Repurposing Programme which involves the pilot projects for repurposing and decarbonisation alternatives including the design and development of innovative financing instruments for the just transition and identification / development of bankable projects.
- The Climate Finance Facility (CFF) that is a debt facility to catalyse private capital to support private sector projects that are low emissions and climate resilient.
- The Embedded Generation Investment Programme (EGIP) that is a credit support mechanism to support non-sovereign backed power purchase agreements (PPAs) for renewable energy projects in South Africa.
- The International Council for Local Environmental Initiatives (ICLEI) partnership to access funding from the United Kingdom Partnering for Accelerated Climate Transitions (UKPACT) provides pre-feasibility support for municipalities to access EGIP.
- The Public and Private Sector Energy Efficiency Programme (PPSEEP) that provides services to the public and private sector to accelerate services and financial assistance to increase the implementation of Energy Efficiency capital projects.
- The DBSA has and will continue to provide development support and financing for each round of the South African REIPP.

- Providing support for the role out and implementation of South Africa's Green Hydrogen Programme through initiatives such as the Southern African Science Service Centre for Climate Change and Adaptive Land Management (Sasscal) Green Hydrogen Atlas- Africa project which is identifying Southern African's renewable energy data and validating priority green hydrogen "sweet spots".
- Supporting the Department of Trade and Industry Renewable Energy Masterplan.
- The Energy Storage programme emulates pumped storage schemes which are more cost-effective and guarantee significant added environmental benefits. This solution can convert waste material into energy storage assets.
- Development support within targeted municipalities including eMalahleni, Steve Tshwete, Govan Mbeki and Msukaligwa.
- Roll out of D-Labs within Mpumalanga.
- Product development support for innovation solutioning for supporting sub sectors such as Green Hydrogen.
- Support for upstream and downstream activities which support the development of low carbon industries in South Africa

These interventions jointly:

- Promote active just transition projects to support workers by improving job security / creation and communities impacted by the transition.
- Support the creation of semi and highly skilled opportunities across the renewable energy sector.
- Ensure some level of economic activity is retained even as power stations are being de-commissioned.
- Promote energy security and cost effective and renewable energy generation for municipality.
- Enable the development of innovative technology that delivers lowest cost clean energy storage solutions and supply chain integration.

6.6 Implementation priorities

The Integrated Just Transition Investment Framework guides the DBSA's approach to providing a developmental and financing role in the areas identified below. A comprehensive Sustainable Development Finance Approach will be developed. The DBSA will continue tounlock programme activities in each of the areas identified:

i. Pursuing financial and non-financial development partnerships
ii. Undertaking policy and research to support development and financing outcomes
iii. Accessing and managing funds to support a just transition and the building of a green economy

iv. Delivering effective advisory services to unlock and catalyse competitive energy sector investment to support industrialization programmes that can access the cheapest possible energy
v. Allocating project preparation funding to bring projects to bankability
vi. Support economic transformation and participation in the energy sector
vii. Implementing effective ESG and risk practices to support sustainable infrastructure financing.

Once finalised, the DBSA will engage its shareholder on the implications of the Sustainable Development Finance Approach for its financing and development activities and partnerships.

7. CONCLUSION

The DBSA, through the application of its development and financing mandate, is well positioned to play an active role in supporting the realisation of a just transition in Africa. The substantial energy gaps across the continent leave no doubt about what needs to be done. Proactive and purposeful deployment of the Banks offerings, including project preparation, financing, trusted advice, partnerships, innovation, risk and treasury management services, are an effective platform for the Bank, together with its clients, partners and stakeholders to contribute to sustainability and maximise development impacts.