RABIA

TRANSITIONS INITIATIVE

Insights for South Africa's Just Transition Finance Roadmap

Nexus of project needs and financing response

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The paper draws on the initial work by TIPS titled "Towards a contribution to a just transition finance roadmap in South Africa", which began framing the conceptual demands of a sustainable transition on the South African financial system.

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All project information is anonymised.

1. INTRODUCTION

Lowering global temperatures and building resilience to the effects of climate change, for developing and developed countries hinges upon finance, and actions framed through nationally defined development priorities. Several imperatives are enshrined in the Paris Climate Agreement, in particular making finance flows consistent with climate responses, and ensuring that such response measures account for just transitions of workforces, and the creation of decent work and quality jobs. The just transition concept also links to 14 of the 17 Sustainable Development Goals (SDGs), in terms of climate action, reduced inequalities, decent work and economic growth, and affordable and clean energy.

South Africa is the only country (to authors knowledge) that prioritises an inclusive and just transition in its Nationally Determined Contributions (NDCs). The just transition linkage with climate action in South Africa dates to 2009, where the concept was first introduced by the Congress of South African Trade Unions (COSATU) as an imperative to "*protect the most vulnerable from climate change*" (Patel, 2021). Since that time, the concept was advanced by the extensive work of the National Planning Commission and for the Climate Change Bill to emphasise social justice and achieve significant lowering of carbon emissions (Patel, 2021). Such work is being advanced primarily through the Presidential Climate Commission, which aims to offer practical guidance for a managed, just and equitable transition through their pending Just Transition Framework.

The Trade Policy Industrial Strategies NPC (TIPS) collaboration on the Just Transition Finance Roadmaps will complement existing initiatives by the Commission and others in South Africa by developing a financing roadmap for South Africa[1]. TIPS initial work (Lowitt, 2021) proposes a useful perspective on the financing of just transitions in South Africa, as it recognises and circumvents the obstacles of definitional and mandate differences among South African stakeholders. The perspective hinges on the interplay of the monetary value of the projects (ticket size), and the level of contribution towards social justice (ambition). The underlying hypothesis developed by TIPS suggests that funding for just transitions may become increasingly difficult as the ticket size and ambition increase. The hypothesis offers a useful framework in that it focuses on the contribution of projects across a spectrum of just transition-related ambitions.

[1] See: https://www.cdcgroup.com/en/news-insight/insight/articles/developing-a-finance-roadmap-for-the-just-transition-in-south-africa-and-india/

This paper builds on TIPS initial finance work (Lowitt, 2021), which focuses on the project needs and how financing suits the demands of such projects. This paper aims to answer the following questions:

- What are the financing needs of projects focused on just transitions?
- What financial instruments are available in South Africa to meet these needs?
- What do the findings imply for developing a Just Transition Finance Roadmap for SA?

The analysis draws on desktop reviews of project information, limited engagements with project developers, the work of fellow contractors supporting TIPS and their engagement with various stakeholders, and scoping a review of financial instruments in South Africa that could be deployed towards just transition-related projects.

The paper is structured as follows: Section 2 offers a desktop analysis of a portfolio of nine projects and engagement with their project developers aligned with aspiration to transition away from fossil fuels, complemented by interactions with Eskom's Just Energy Transition office on their project origination approach. A desktop analysis of the spectrum of financing instruments (focused on sustainability) available in South Africa follows in Section 3. The paper concludes in Section 4 with reflections for advancing the development of a just transition financing roadmap.

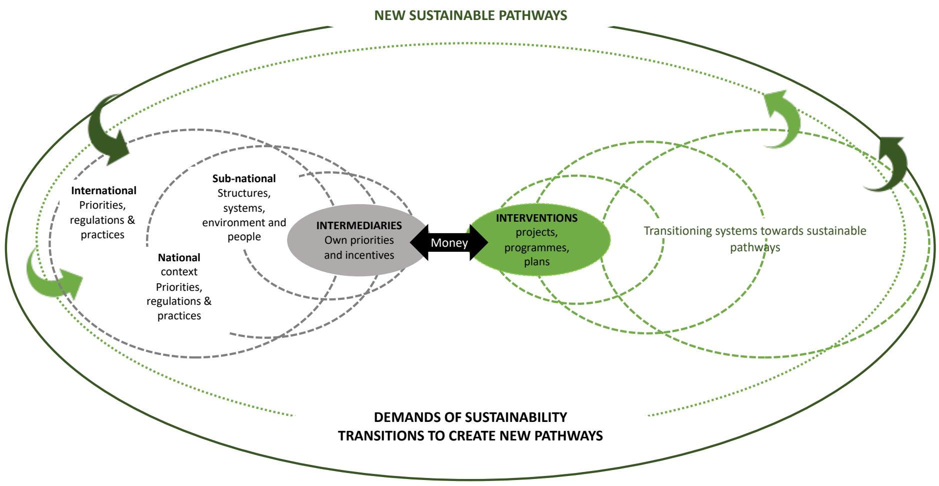
2. FEATURES OF JUST TRANSITION-RELATED PROJECTS

The distinguishing features of just transition projects are their focus on regenerative and transformative outcomes to people and planet due to deliberate shifts in systemic conditions, and factors outside of the control of vulnerable stakeholders. Regeneration goes beyond sustainability and restoring livelihoods, it seeks to improve the livelihoods of those affected. The projects are essential and time sensitive, because of the ecological, social and economic realities linked to climate responses.

Just transition-related projects are interdependent, where one is the pre-requisite for the next. This requires a portfolio approach to just transition-related investment, where projects are not viewed in isolation or “cherry picked” by investors. Rather, their overall contribution to systemic and regenerative transformation is their potential to create independent livelihoods and reduce the risk of an unjust transition. Breaking up the projects may result in economic losses, social strife and continued environmental degradation which requires significant social protections.

South Africa’s just transition will be determined on the basis of various interventions, and how they manifest in practice. Such interventions also reveal the heterogenous understanding and tensions among stakeholders, their incentives, and perceived role in the just transition process. The main intervention tools for achieving the just transition are plans, policies, projects and programmes. Projects, in particular, are the primary channel where finance is exchanged in pursuit of the just transition vision (Figure 1).

Figure 1 – Point of exchange between finance intermediaries and interventions



Source: Naidoo, 2020.

The process of how projects are constructed, and their aims and objectives to support sustainable and just outcomes for the transition are therefore important units of analysis to better understand their financing needs. The way funding is passed on by finance intermediaries (such as development finance institutions, private banks and international financiers) is driven by their priorities and incentives, investment mandates, and perceived contributions in achieving a sustainable and just transition. Finance intermediaries are powerful socio-economic and environmental change agents through their investment decisions. Finance that fully supports the projects' vision and needs, and does not scale back artificially is essential to achieving a sustainable just transition.

This section aims to derive insights from analysing the financing needs of a series of just transition-focused projects, as expressed by their sponsors and project developers. Most projects share commonalities, such as shared purpose to introduce systemic change at the environment, social and economic level; uncertainty and risks related to outcomes; being unique to the context; involving different partners and skill sets. The analysis derives from the hypothesis that the design of financial mechanisms should be informed by characteristics of project needs (Perez, 2002; O'Sullivan, 2005; Naidoo, 2020).

This section is based on the review of nine projects presently under development across South Africa, that either directly or indirectly relate to enabling just transitions in the context of climate change and the transition to low carbon economy. The sample of projects have large variances in terms of their investment amount (ticket size per Lowitt, 2021), and intended impacts and vision. The sponsors of these projects also vary from utility-level (Eskom), large corporate-supported projects and small to micro-projects led by community and SMMEs (small to medium sized enterprises).

Champions and sponsors are innovative, and influential with shared purpose

The project champions are diverse, but mainly non-profit enterprises working with large companies, local and provincial government, and new entrepreneurial and technologically innovative firms. This community of drivers (champions) have established track records, having invested in their own research and development, tested their innovations either through "proof-of-concept" pilots, or operated for some years in non-South African locations. Critical to these champions is the support and strategic advice from specialist sustainability strategists and project developers, that work with community leaders and engage them in co-creating and conceptualising the ultimate project designs. Project champions have broad circles of influence relative to the proposed projects, and have extensive engagements with affected constituencies and typically have vested commercial and social interests and influence over whether the project proceeds or not.

Innovative arrangements are explored that enable financial and non-financial value exchanges, which allows all parties to mutually respond to needs of the affected communities based on their respective contributions.

Project drivers and champions share a common purpose in enabling thriving and sustainable livelihoods. Projects appear focused on *regenerative and transformative outcomes* – regenerative in their ability to revive the natural environment that is essential for creating livelihoods; and transformative in their ability to shift economic and social dependencies for present and future generations towards more long term sustainable options. For example, regenerating contaminated or fallow soil to support agricultural industry and ensure sustainable food security; and investing in precipitation technologies to rejuvenate raw water and enable supply for residential, commercial especially agricultural use).

Projects in response to involuntary, systemic risks needing timely action

Projects presenting as "transition-focused" are generally in response to sudden or progressive shifts in their operating environment. The shifts observed in the project review relate to the termination or pending winding down of an established and longstanding arrangement, which created dependencies between the local and provincial government, the communities (including its workforce), local businesses, and intergenerational work dependencies and expectations. Examples of such shifts include the retiring of coal assets by Eskom (scheduled and accelerated), winding down mining operations after several years of engagement (not only coal mines), and shift in product base due to changing international trade conditions.

The longstanding arrangements created a singular focus that has, in turn, limited the horizon of alternate livelihoods, entrepreneurial ventures or job possibilities. Such arrangements resulted in limited economic diversity in the affected locations, which is a general phenomenon of so-called company towns that arose around extractive industries. The lack of economic diversity in such places exacerbates the social and environmental vulnerabilities and escalates the cost and severity of the transition.

In responding to a negatively impacting climate action, the projects explore economic diversification options that also climate change and biodiversity system collapse (i.e. energy, water and food systems). While terminating the longstanding arrangements is largely inevitable, the development alternatives (such as small scale corporate social responsibility projects) do not improve or enable thriving livelihoods, or contribute building resilience to systemic shocks. A long term investment contribution of the projects is essential, as shorter term options (though implementable) may inevitably distract from the required transition process. The distraction may, in turn, raise the likelihood of social strife, environmental degradation, and economic losses which leads to increased need for social safety nets.

Systemic and regenerative focus influence on design

Just transition projects are primarily linked to the normative goal of achieving emission, climate-resilient development that is socially just and inclusive, taking account of "just transitions" per the Paris Agreement.

The Eskom projects mainly draw on the Paris Agreement framing, relying on existing government regulations around future energy mix, climate change and energy demand projections to inform their portfolio.

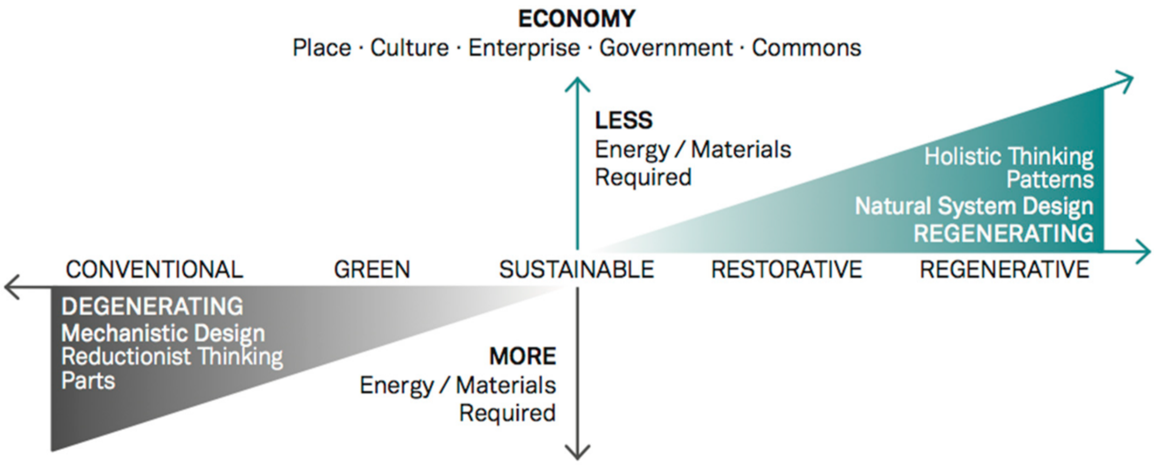
The Sustainability Truthing projects also draw on the climate resilient framing, but appear to more deeply engage with science and natured based evidence in context of the SDGs, and biodiversity. The SDGs offer a wider just transition focus by incorporating biodiversity risks (species loss, collapse of water and land systems). The South African National Biodiversity Institute (SANBI) 2018 National Biodiversity Assessment[2] highlights the urgency of addressing biodiversity, in that almost half of the 1 021 ecosystem types assessed are categorised as threatened.

The Sustainability Truthing project portfolio, in particular, emphasises regenerating the economic, social and environmental systems where such projects are located. Regeneration goes further than the conceptions of sustainability in the 1987 Brundtland Commission, which sought to do no doing harm in the present, that would compromise

[2] South African National Biodiversity Institute (SANBI). 2019. National Biodiversity Assessment 2018: The status of South Africa's ecosystems and biodiversity. Synthesis Report. South African National Biodiversity Institute, an entity of the Department of Environment, Forestry and Fisheries, Pretoria. pp. 1–214.

the livelihood of future generations. Sustainability seeks to maintain an existing system, whereas regeneration calls for renewal of systems (Sikand, 2020).

Figure 2 – Stages of development from conventional to regenerative economy



Source: Fullerton, 2015.

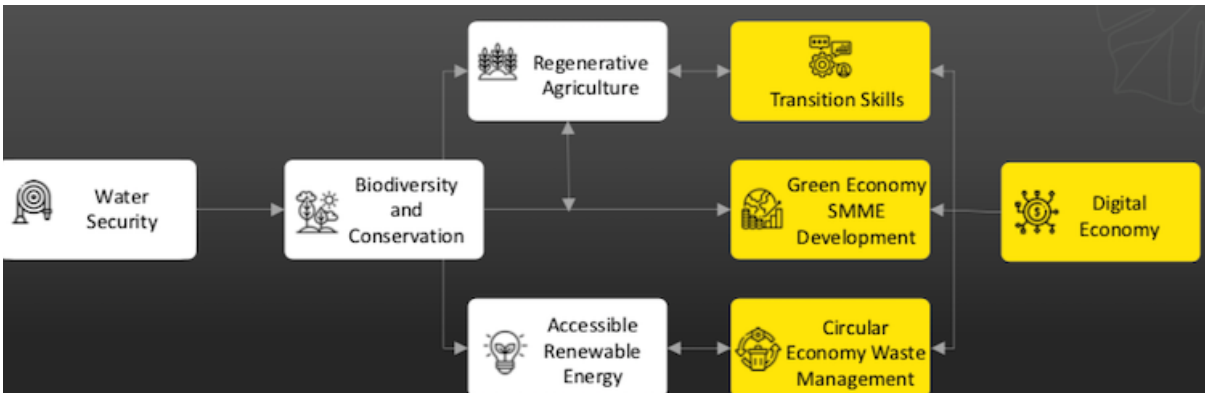
Regenerative development seeks to restore environments and communities, and enable conditions for regenerative growth so that ecosystems (human, nature) can thrive (Fullerton, 2015). As Fullerton shows in Figure 2, development ranges from conventional, sustainable to regenerative, which bears the highest ambition to revitalise ecosystems. Making the quality of livelihoods central to achieving just transition objectives means offering communities by the low emission development shifts, a higher quality of life than what they had before – rather than protecting or restoring current livelihoods which may not have been fair, equitable or just.

The third set of sampled projects involves smaller scale interventions, also with a strong regenerative and restorative focus in terms of socio-economic contribution.

Investment portfolio with interconnected projects

Designing interventions to enable just transition outcomes in the case of Sustainability Truthing's portfolio meant creating a series of interconnectedness projects, whose strength and effectiveness lies in its ability to support and lay the groundwork for future projects. For example, in Figure 3 below, the water security projects supports biodiversity and conservation, both are essential investments to facilitate the income-generating agricultural and renewable energy investment outcomes. On the other hand, these systemic outcomes are not possible, without the complementary investment in skills, SMME development and digitisation. Additional projects observed among those reviewed relate to community wellbeing and welfare, such as health, early childhood development, and recreational sporting facilities.

Figure 3 – Interdependencies of projects



Source: Sustainability Truthing, 2021.

The scope of these projects aim to reduce dependency and increase economic diversity of the affected livelihoods of businesses, workforce and surrounding communities where vulnerabilities exist. They are distinguishable in the systemic scale at which they offer alternative and sustainable industries, by creating thriving, independent businesses and communities primarily dependent on local and nearby markets for sustainability, with the potential for export of excess.

Eskom's just energy strategy derives from South Africa's Integrated Resource Plan (IRP2019), and the company's energy demand forecasts. The project portfolio under development reflects Eskom's just transition strategy, solely focused on the energy sector through decommissioning and repurposing of retired coal plants, and investing in new clean energy infrastructure (generation, distribution and transmission). The just component focuses on creating new industries, jobs and local manufacturing capabilities. Eskom's financing needs are substantial for the energy component with aggregate scale of projects estimated at $10 billion to meet energy and just objectives.

Financiers may require new ways of conducting due diligence and credit risk assessmets, to evaluate an indivisible and interdependent *investment portfolio*. Such processes require a step change in how projects are evaluated, i.e. not "cherry picking" specific projects based on investor preferences, but rather retaining the whole portfolio as this represents the stronger contribution to enabling just transitions.

Design process with distinct project screening criteria

The sponsors of the projects sampled in this paper appear to have screening criteria or design features that inform the projects' just transition design process. Table 1 summarises the approaches taken by two of the project sponsors, showing that both economic, social and ecological factors. The design process for development projects (such as infrastructure) take into account similar factors, with the primary goal of contributing to socioeconomic development, improved livelihoods and economic growth.

Transition-focused projects are distinguishable in that they especially time-sensitive, driven by deliberate economic and social changes in response to volatile ecological, and nature based factors (climate change change biodiversity collapses). For example, the sample of projects considered in this paper draw on scenario-, policy-, science- and nature-based evidence to inform the scope, ambition and contribution towards just outcomes.

Table 1 – Different screening design criteria for just transition projects

Just energy projects	**Just transition (broader scope)**
Scenario- and policy-based evidence	Science and nature-based evidence
Future energy demand, technology options	Economic (energy security, waste management, food security, technology)
Job trade-offs, localisation requirements	Social (secure livelihoods, SMME, skills development)
Reduce greenhouse gas emissions, improves air quality, water, biodiversity	Ecological (biodiversity, conservation, water security)
Access to green finance (for innovation, technological development, guarantees)	Access to appropriate funding for just transition specific to meet project needs (layered and blended finance)
Ability to measure impacts, scale and replicate (single geographic focus)	Governance (transparency impact measurements)

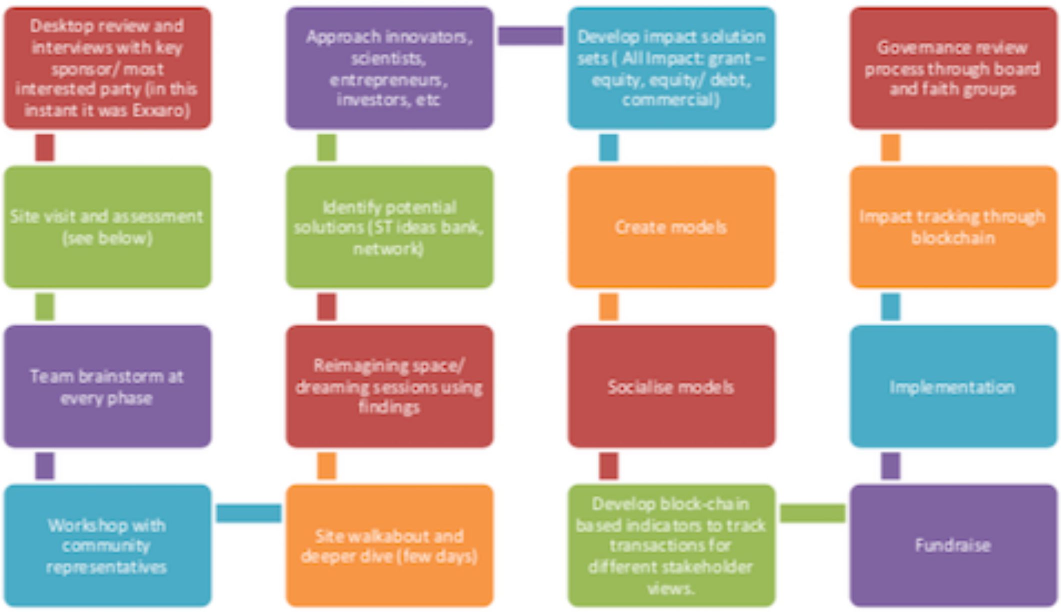
Source: Based on information from Eskom (adjusted), Sustainability Truthing and Investment Catalyst.

Interestingly, the screening criteria applied in designing the just energy transition projects includes access to green and appropriate finance to support just transition. Access to finance was equally important in the majority of the projects with broader just transition scope, however it was notably absent as a screening criteria in Sustainability Truthing sample. This observation suggests that project developers in developing their portfolio of transition-focused projects follow different approaches and more nuanced approaches in their design and co-creation and prioritise access to appropriate finance at different stages based on the different transition contexts being responded. Certain transformative projects are driven by the needs and systemic solutions without setting access to appropriate funding as a precondition to design.

Creating just transition investment portfolios

A distinct process for evaluating and creating the just transition portfolio is evident in some of the sampled projects. This includes i) scan of system factors and impacts (climate, livelihoods, biodiversity; ii) design based on iterative engagement with broad stakeholders, primarily the most vulnerable and affected communities, which often results in multiple and interconnected projects; iii) focus on regenerative processes and practices that restores and uplfits both social and spatial contexts; and iv) emphasis on reflexivity and experimentation as transitions are processes of change.

Figure 4 – Project development process



Source: Sustainability Truthing.

The origination process (Figure 4) involves a sequence of non-linear engagements, allowing for iteration as the process matures. The origination process ensures that all stakeholders become investment partners with a shared a vision in the interventions that will unfold. The shared vision and graduation from stakeholder to investment partner creates a process for transition towards social cohesion, and economic prosperity.

The sampled projects also suggest different management and governance approaches. For example, the problem structuring, envisioning and building of the transition context demarcates a *strategic phase* where system, sub-system or utility scale project purposes are determined. Engaging and developing coalitions and new partnerships beyond regular stakeholder engagement suggest a *tactical phase* to ensure alignment of partners, co-creation of outcomes and shared purpose. As the projects take form they enter into a more familiar solutions-driven, *operational* phase, that is associated with development, entrrepreneurial and innovation projects, e.g. proof of concept, early stage investment and maturation. Finally, a *reflexive phase* is evident, where outcomes have to be evaluated, monitored and learnings fed back into future policy and financial mechanism designs.

Role of finance in project design

The evidence from the sampled projects suggest that access to finance for transition focused projects as a screening criteria should not be in the strategic or tactical phase of the design cycle. This may prematurely negate the creation of critical projects, scale back their transformative and regenerative ambitions and pre-judge what financiers may or may not be willing to engage on.

There are shifts among global finance that suggest a growing interest in investing in sustainability, climate and just transitions. For example, UNFCCC's 2020 Biennial Assessment on Climate Finance report suggests that significant efforts by public and private finance institutions are underway to align their mandates with achieving the Paris Agreement goal (which includes just transition outcomes). South Africa is part of these shifts through the National Treasury's Sustainable Finance Working Groups, and the existing sustainability-focused aspects of our finance sector.

Since the finance sector nationally and globally is within itself in a state of transition, it is essential that the ambitions of just transition-related projects' remain transformative and regenerative. Importantly, project design should be unconstrained by the short term willingness to invest, but rather cognisant that a range of standard and new funding tools exist that can ensure local and international resources support South Africa's project aspirations.

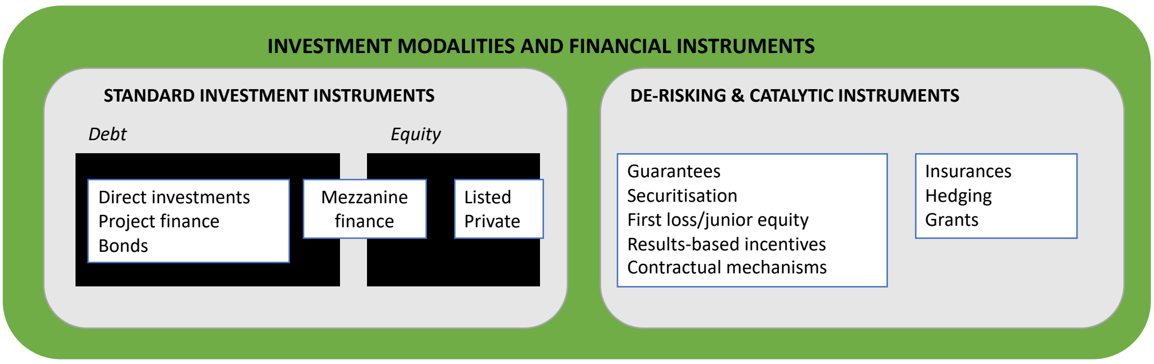
Finally, higher ambition projects are essential for raising the ambition, risk absorption and investment levels of the finance sector. For, the finance sector to be an enabler and respondent to the just transition, the way projects are evaluated and engaged on also needs to transition. The counterfactual would be that the finance sector defines specific classes of finance for which a project can be eligible, whereas what is required for financing the just transition is combining financing instruments and innovation (if necessary) to ensure that critical projects are implemented.

Financing needs within the range of available instruments

The sampled projects indicated a preference for financing instruments that are standard investment instruments (Figure 5), including the need for grants and guarantees. These instruments are the same range largely applied to development and climate related projects, with the basic debt to equity offerings and variations of enhancement and structuring for specific risks (e.g. guarantees and first loss provisions) or encouraging incentives (e.g. results based). For large infrastructure projects led by Eskom and linked to the just transition, programme and project development support (such as grant and technical assistance) are essential.

These instruments are largely available through public and private finance institutions, including multilateral and bilateral development agencies.

Figure 5 – Instruments to support development, and climate



Source: Adapted from United Nations Development Programme, 2020.

The portfolio of just transition projects emphasise structural and behavioural changes, which also require reskilling of existing workers, and investing in early career and intergenerational workers. This requires development and philanthropic support, that is available in the early stages of the project development process.

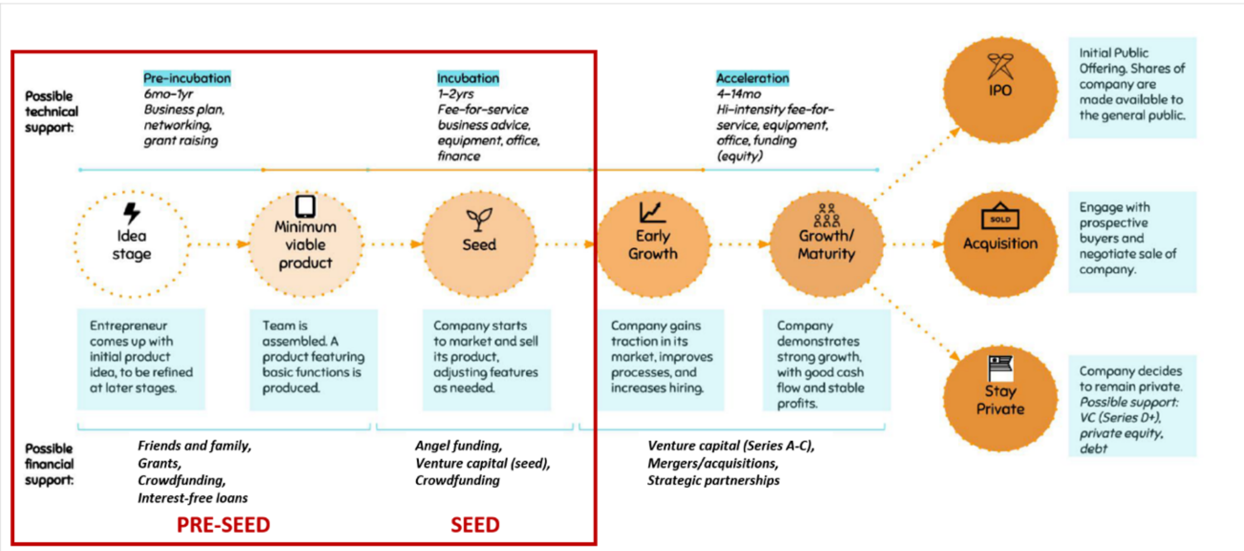
Innovation is essential to just transition projects through new business and societal models that achieve the desired transition effects in terms of ecological, economic and social factors, as well as governance and stakeholder engagements. For example, innovations that are incremental or architectural in nature may be familiar such as renewable energy. The balance of projects are based on technologies that have been proven in other geographies for regeneration of ecosystems as a focus, such as using technology to enhance production of rain, and regenerate soil health.

Some projects have self-funded their "proof of concept", secured long-term contracts and are already in full production mode. Just transition focused projects may need significant access to "proof of concept" funding, this is especially true for less established project developers (such as entrepreneurs, youth, and women). For just transitions to be a shared purpose and objective in South Africa, broader access to finance is essential to develop a portfolio of interventions. The needs of the portfolio should define what type of financing instruments and incentives may be necessary.

Financial standing of project champions define access to finance

Project champions also play an important role in financing process, especially for those projects supported by large company or non-profit company with strong sector linkages and networks to mobilise private and philanthropic capital. Private-led just transition project champions of a particular financial standing can contribute through either seed capital for feasibilities (or "proof of concept").

Figure 6 – Example of early stage funding for entrepreneur & early stage businesses



Source: Laure and Duchatelet, 2018.

The finance required along the sequenced project flow is influenced by the maturity and commitment of the project champions, and their financial standing. For example, among the sampled projects, certain project champions are established, large corporations working with non-profit organisations, community trusts and entrepreneurs. Whereas, other project champions are less established businesses or entrepreneurs, in which case early stage finance (see Figure 6) is essential.

On the other hand, public-led just transition processes (as in the case of Eskom) regardless of their financial standing primarily rely on the de-risking and catalytic instruments in Figure 5. Public-led transition processes also have potentially higher requirements for guarantees, grants and result based incentives -especially where a reliance on international climate and development finance may exist.

Summary

The above project features provide rich and novel insight into the type of finance and financing arrangements that portfolios of just transition projects require from the finance sector. The features beg the question whether the broader financial ecosystem can meet these requirements through their existing processes and efforts around sustainability, or are deeper levels of innovation, redesign and restructure necessary to meet the requirements. The options and challenges of such an ecosystem shift are considered in the following two chapters and will hopefully inform the deliberations in drafting an initial iteration of a contribution to a Just Transition Roadmap for South Africa.

3. INSIGHTS FROM FINANCIAL INSTRUMENTS IN SOUTH AFRICA

The financial sector in South Africa actively engages on sustainable development, and ciimate change. Its four major banks have long been signatories to, for example, the UN Principles of Responsible Investment, and the Equator Principles. More recently, the banks released policies limiting future investment in fossi fuels, and voluntarily aligned their disclosures with the recommendations of the Taskforce for Climate-related Financial Disclosures (TCFD).

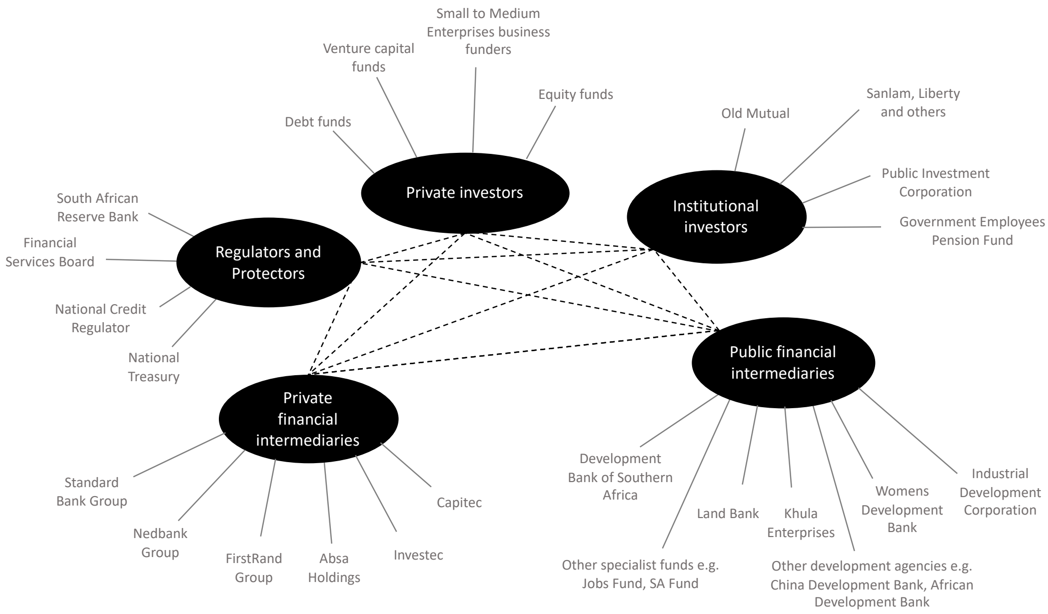
A wide range of debt, equity, derisking and catalytic financing instruments are already available in South Africa. Banks are mobilising and deploying finance focused on sustainability, climate and transition outcomes. These instruments can be deployed towards just transition-related projects, but requires the financial sector begin reflecting the risk of an unjust, and slow transition into their investment portfolios. Financial innovations directly supporting small and medium term businesses, women and youth are nascent, and requires attention by regulators and the National Treasury. The structural bias of the South African financial sector towards large business, at the expense of enabling equitable and timely access to finance for the most vulnerable is one of the greatest risks of catalysing a just transition in South Africa.

South Africa's financial sector is regarded as mature, and well-regulated with strong capital markets, prudent and conservation regulation based on international best practices (Figure 7). Six banks control around 90% of banking assets and four large companies dominating its insurance industry (OECD, 2017), which is largely unchanged since 1910 when only a few banks dominated (Mohamed, 2014).

South Africa has a well-developed finance sector, and a substantial finance asset base of ca. ZAR6 200 billion (Winkler et al., 2021), with immense capabilities. For example, South African national banks and pension funds invested 76% of the ZAR200 billion renewable energy procurement programme, with the balance of 24% funded by international institutions.

Standard financial instruments available in South Africa are classified into debt and equity, and match those in Figure 5 in the prior section. In summary, debt and equity are standard instruments; and through selected institutions certain derisking and catalytic mechanisms are also available, such as guarantees, first loss provisions, grants and result based loans.

Figure 7 - Illustration of South Africa financial sector



Source: Naidoo, 2020.

This section offers selected examples to demonstrate the sophisticated capabilities of South Africa's finance sector to innovate and adopt instruments from other financial centres linked to sustainability, climate change and transitions. The section also highlights certain limitations.

Recent sustainability-linked issuances

The financial sector in South Africa is already issuing green-, transition- and climate-related financing instruments to support investment. South African banks have mobilised and deployed debt instruments such as sustainability linked loans and bonds, green loans, green bonds, social bonds and forms of blended finance in support of sustainability outcomes.

Examples of recent issuances by the four major banks demonstrates the range of issuances in Table 3.

Table 3 Examples of sustainability-linked securities issued by South African banks

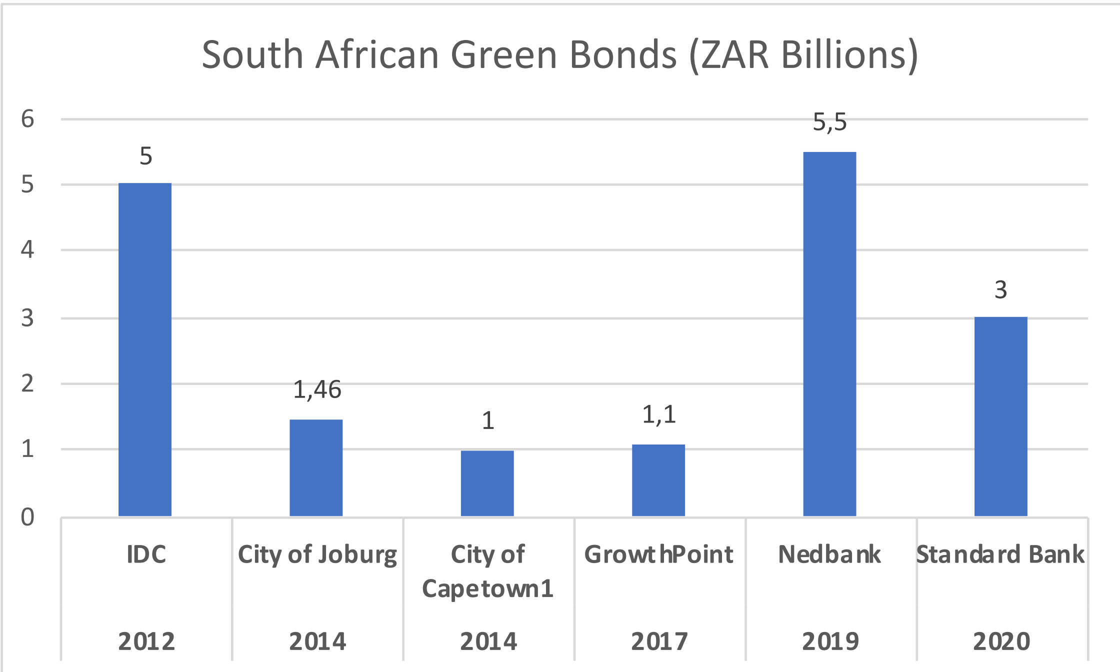
Nedbank	Standard Bank	Investec	ABSA	RMB
Structuring and arrangement of R2bn of tier-2 green subordinated capital instruments	R1.6 billion sustainability-linked facility agreement comprising of two	US$600,000,000 Syndicated Term Loan Facility for Investec Bank	IFC USD150million certified loan for on lending	Sustainability linked bond for Redefine properties, for renewable

Nedbank	Standard Bank	Investec	ABSA	RMB
(SDG-linked bonds) listed on the green segment of the JSE (June 2020)	R800 million tranches. Interest rate linked to achieving of pre-agreed ESG performance targets.	Limited linked to sustainability outcomes (March 2021)	to green projects. (May 2021)	energy, and water efficiency performance targets

Green and social bonds

Green and social bonds refer to listed or privately placed debt securities where the proceeds are exclusively applied to finance or refinance projects focused on green or social objectives. Green bonds are associated mostly with mitigating climate change, while social bonds are linked to socio-economic outcomes. The first green bonds issued in South Africa were for clean energy infrastructure, and local government initiatives.

Figure 8 – Issuance of green bonds in South Africa (ZAR)



Source: JSE, 2021.

A few highlights describe how the instruments were used:

- In 2012 the Industrial Development Corporation (IDC) issued a R5bn bond for investment in clean energy infrastructure. The City of Johannesburg followed as the first local municipality to list a green bond on the JSE in 2014 – a R1,46bn issuance to finance initiatives such as biogas to energy and the Solar Geyser Initiative (City of Johannesburg, 2014). The City of Cape Town's R1bn Green Bond will fund projects aligned with the city's Climate Change Strategy, including measures to secure long-term water availability.

- In 2017, the JSE opened a Green Bond segment on the exchange. The first bond issuance, by Growthpoint, was a R1,1bn bond for 5, 7 or 10 years. In 2019, Nedbank became the first bank to list a green bond on the JSE, with proceeds ring fenced for renewable energy. It attracted R5,5bn in bids and increased the size of the issue from R1bn to R1,7bn. In 2020, Standard Bank sold a 10-year USD 200m green bond to the International Finance Corporation (IFC) via the London Stock Exchange.
- In June 2020, the IFC and Standard Bank secured a USD185 milion COVID-19 loan to be used for immediate relief and ongoing support to small to medium businesses, and corporations in South Africa.

Social impact bonds

In 2018, the first two social impact bonds were initiated in South Africa and are based on a results-based model where funding is provided to non-profit organisations to meet certain social contribution targets. The first social bond was Bonds4Jobs, led by Harambee Youth Employment Accelerator ad defined by one performance target; to place economically excluded youths into more complex and higher paying jobs. The second was the Impact Bond Innovation Fund with a three-year investment term, to support home-based early learning services to preschool-aged children. Khan (2021) notes several learnings from these two examples:

i) focus on results and provision of upfront working capital allowed the non-profit organisations to experiment to ensure targets were met;

ii) investing in monitoring and evaluation built the evidence base for the results being targeted, but requires rigorous approach not simplistic outcomes focus;

iii) targets need to grow in ambition relative to the scale of the problems being addressed (e.g. youth unemployment); and

iv) adoption by government of results-based models proven due to social bond investment.

These learnings are important for the financing just transitions, because they offer access to finance for different role players in the portfolio of projects. Social bonds may be especially useful for ensuring finance for the non-profit organisations to demonstrate the proof of concept around social components; and for the reflexive and experimental approach that financing just transitions entail.

Khan (2021) sees a high growth in social impact bonds in South Africa, but cautions that models which allow governments and philanthropists to take any first losses would lower the risks of commercial funders engaging on

Sustainability linked loans and bonds

Sustainability bonds are commonly associated with the SDGs, combining green and social benefits as the basis for issuance. The Johannesburg Stock Exchange (JSE) launched its Green Bond Segment in 2017, in line with International Capital Market Association (ICMA) principles. Options exist for a company to issue either a JSE-listed sustainability linked bonds, and unlisted bonds as private transactions. Africa's first sustainability linked bond was issued in late March 2021, raising ZAR1billion. Clindeb Investments was the issuer and healthcare provider Netcare was guarantor in partnership with The Standard Bank of South Africa as dealer.

Retirement funds engagement on sustainable finance

An IFC study finds that only a minority of retirement funds currently invest in officially labelled green, social and sustainability-themed bonds. Though none of the funds have targets for investing in sustainability-themed instruments, many are willing to increase their investment allocations to this segment, and reducing their exposure to coal-related investments (IFC, 2020). The lack of impact investing products and project pipelines are also cited as barriers to increasing green (sustainable) investment allocations. Most large retirement funds also have internal policy statements to guide their engagement on ESG.

Impact investing

Impact investment in South Africa is a cross sectoral initiative aimed at accelerating investment that optimises financial and environmental returns. The intention is Impact investors in South Africa are mainly funding social impact areas such as affordable housing, health, employment, education, criminal justice, access to financial inclusion, environment, energy, agriculture, and skills development. The main sources of funds used by impact investors are grants, equity, non-traditional debt and equity structures, unsecured loans, and secured loans. The main investors regarded as "impact investors" are the development finance institutions such as the Development Bank of Southern Africa, the Land Bank, certain commercial banks and philanthropists.

Vulnerability to climate change increases with inadequate access to safe, clean water, access to land for sustainable agriculture and food sovereignty, access to clean, sustainable and affordable energy, access to public transport and decent housing are the core issues that impact investors are focused on. Some commercial banks are beginning to develop targeted private equity programmes that target small to medium enterprises, women and youth.

Awareness levels of financial sector

Surveys conducted in 2007, 2011 and 2016 by various parties on the level of awareness of South Africa's financial sector to climate and sustainability issues show a progression in the understanding of investors. The shift is from being marginally aware of the importance of ESG factors (2007) to appreciated that existing investment practices are insufficient to promote a new more sustainable development pathway (2016). In October 2021, the Prudential Authority published results of its survey on climate risk which highlights further progression and the time sensitivity related to the climate response. These results show that 71-74% of banks and pension funds believe that climate-related risks will materially impact their business, and that 67% believe efforts to reduce climate change (i.e. transition process) will hurt the South African economy (PA, 2021). The majority of those surveyed expect the risks of climate change to manifest within the next five years (PA, 2021). for when climate change is deemed to affect These statistics suggest a depth of awareness by the financial sector in South Africa. Strategies and business plans to support a just, equitable climate response is integral to the vision of a just transition in South Africa, and the challenge we facing is one mainly of "how" and "what".

Reflections on instruments

Section 2 describes the project features emergent from a sampled portfolio on just transitions. Financing the short-, medium- and long-term funding needs of these projects requires access to finance based on the maturity and development stage of the underlying portfolio. The selected instruments mentioned in this section link to sustainability, ESG and climate change are applied primarily at single project level, and appear focused on large transactions, established businesses. Limited evidence of support for small to medium enterprise business for climate and social justice related actions exist. Greater scrutiny and consideration of how these instruments are applied relative to the national financing needs and vulnerabilities, and their contribution to real economy effects is essential e.g. the limited use of social impact bonds, or the refinancing of existing green or sustainable investments.

An evolution in how these instruments are used in the local context may be necessary as the interdependency of projects suggest that a sequence of finance is needed. This is especially critical because certain projects establish the foundations for the financing needs of other projects e.g. restoration of soil and training is essential to enable viable agricultural base. The sequence of funding needs for a just transition portfolio suggests that every financial actor in South Africa should have access to different types of funding facilities so that projects are not broken up, but the entire portfolio is fundable.

Such a mechanism could be a Just Transition Facility – this could be a private facility which blends public and private finance. It needs to be independently located to provide support to all funders, thus a facility either at the National Treasury for public entities and one at the South African Reserve Bank for banks and pension funds may be useful. The role of such a facility is to preserve the just transition portfolio, reduce governance and transaction costs and ensure public and private finance institutions can better absorb the investment needs of just transition projects, while managing the transition risk and pace in South Africa.

The time for innovation, deep engagement and integrating the vision of just transition is therefore timely. The just transition is a chance to ensure rebuild the past injustices, restore and regenerate the South African economy, and a risk mitigation strategy in itself.

In the next chapter consideration is given to possible innovations, research, engagaments and consultations which will start improving the alignment between the current eco system's abitlity to supply just transition financing and the actual demands of the real economy and transformative just transition portfolios. Issues of socio economic and environmental risk and opportunity in South Africa need to be honestly framed and collectively the multiple financing actors in the global and domestic eco-system need to begin to experiment at scale regarding both the mobilisation and deployment of just transition finance.

4. ISSUES TO ADDRESS IN JUST TRANSITION FINANCING ROADMAP

The Just Transition Finance Roadmap for South Africa has the potential to be a critical policy tool that guides public and private financial actors how to support the just transition process. Realising the potential of such actors depends heavily on how the finance sector interprets their mandate, their willingness to contribute, the incentives motivating their actions, and the risk thresholds they willing to absorb.

The financial sector is not neutral, they have discretion over their investment choices, and the extent to which they contribute to economic shifts depends on the benefits and incentives they able to identify. Bankers can effect radical changes throughout the economy, through the critical decisions they make on how to allocate capital and other investment behaviours (Schumpeter, 194). Equally, bankers are also responsible for significant economic losses over recurrent financial crises are directly attributed to such behaviours (Reinhardt and Rogoff, 2009; Griffith-Jones et al., 2010). Understanding the discretionary role the financial sector plays in the economy is essential for developing South Africa's Just Transiiton Finance Roadmap.

The following section presents questions that the roadmap should respond to:

Evaluation of incentives, behaviours and systems among investors

The roadmap needs to offer insights on two key questions, i.e. under what conditions is finance being made available? What informs the conditions of such finance? The findings in this paper suggest that financial institutions in South Africa are intensely engaged in financial product innovation and new business model development for sustainability- and climate-related investments. Thus, board members, investment appraisal and risk committees, in theory are familiar with the plurality of sustainability linked investments – requiring ecological, social and economic returns.

Most South African banks have long been signatories to the Equator Principles and other ESG related initiatives, which implies a basis for assessing sustainability related investments. The extent to which such principles and practices over the last 20 years have influenced behavioural changes at the institutional context, in terms of incentives for originating ("making") deals is unclear, how have such principles and practices influenced how credit risk committee decisions, and whether the cost of environmental and social factors have influenced the pricing of investments.

A just transition finance roadmap should include checks and balances, whether the finance sector is aligning their internal processes with response to climate change and the necessity of a just transition. Guidance is urgently needed to build the internal capabilities of the investment community, and the institutional incentives that drive individual bankers' behaviours when sourcing and investing in transactions.

Structural bias to large transactions

Lowitt (2021) proposes that financing the just transition depends on the spectrum of social ambitions and its interplay with capital investment (ticket size) of the projects. Stakeholders in the finance sector affirm this view that higher ticket sizes more easily attract finance, whereas lower ticket sizes are harder to finance because of limited venture capital, angel investors and private equity for smaller projects (Lowitt, 2021). The finance sector is structurally biased in this way, favouring large transactional volumes, and large businesses.

New business models necessary to engage on just transition process

Eskom is considering sustainability linked loans, underpinned by government guarantees to initiate its decarbonisation. However, Eskom's ability to develop and implement more ambitious and transformative programmes over the medium to long term may be constrained by their capital structure, and existing indebtedness. Mechanisms for debt relief, and credit enhancement may be necessary for Eskom to further scale its just energy transition programmes. Projects focused on broader economy-wide and societal transformations requires substantial restructuring of financial incentives to ensure such projecs are on the radar of bankers. Further, that investment and credit committees appropriately evaluate transition risk and assess the contribution (impact/ returns) of the project relative to how they reduce transition risk. Additional finance may require new financial institutions or channels, and mainstreaming environmental and social risks into the fabric of lenders' risk spectrum.

Meeting just transition investment portfolio demands

Financing a just transition investment portfolio should not be optional, or at the behest of financial actors, nor exclusively the domain of development finance institutions. Creating a just transition portfolio should be an incentive to attract investment at scale, as it gives investors the chance to mitigate the transition and climate risk which we all face. Chronic inequalities and strife will unfold in South Africa if these risks are not addressed.

Therefore, a place-based approach (Lowitt, 2021) which promotes developing a just transition investment portfolio allows for impact across whole regions in a systemic manner, where affected businesses and communities are located.

Summary of demands on finance inferred from project analysis

Table 2 summarises the key demands on finance inferred from the projects reviewed to inform the response required from financial sector.

Table 2 – Summary of financing demands to inform financial innovation

Just transition project features	Response required from financial sector	Contribution of the roadmap to responses
Purpose-driven and time sensitive projects directed towards climate and justice	Accept the investment logic that a just transition portfolio is a desirable portfolio for reducing climate, biodiversity and social risks. It is a mitigation strategy against risk of stranded assets, higher social protection costs and further environmental degradation and social strife. Access to finance must be timely, and due diligence processes to be suited to the project context Return expectations of the portfolio to focus on the long-term systemic contributions (i.e. patient capital not seeking immediate short term returns, though some projects on individual basis can offer these) Accept the experimental *and* critical aspects of the portfolio which may have proven and exploratory technologies and innovations – these are all directed at the systemic and regenerative purpose, which is necessary to mitigate climate and transition risk.	Regulation 28 limitations Green finance incentives from regulatory authoirities ASISA and FSCA
Interdependent portfolio which cannot be deconstructed, and has	Develop financial innovations that pool investment and spread risk across several investors that allows	New institutions, or pooled facilities located at individual banks – similar concept to the

Just transition project features	Response required from financial sector	Contribution of the roadmap to responses
preferred sequence in which to occur	for a "waterfall" effect, where essential and foundational projects are funded first, and each follows as the foundations become established. Shift away from individual project due diligence and risk assessment and create criteria that focuses on the purpose (in addition to the standard clearances required) Evaluate the portfolio based on the systemic and regenerative contributions.	Climate Investment Funds led by the multilateral banks
Investment partners come from large, small businesses, communities, sector associations, public and private	Foster collaborative and sincere engagement with partners who are more than stakeholders or counterparts, as they both respond to and benefit from a well constructed investment portfolio. Offer entrepreneurs, youth, women timely access to finance	Structural adjustments to institutions in SA for finance flows towards all partners
Development and commercial components to portfolio	Public and private funders should work together in complementary ways, not compete or deconstruct the portfolio (to cherry-pick). Create funding models that pool investors, contain first loss provisions and result based components.	Pooled funding mechanisms, new arrangements that attract new sources of finance, aimed at preserving the portfolio

The Way Forward

A Just Transition Finance Roadmap for South Africa should consider the following adjustments, refinements and additions to the existing pillars of policy and regulation, instruments and institutions through which finance flows in South Africa. These pillars represent the primary intervention points where a Just Transition Roadmap may be impactful in ensuring that the finance sector substantively contributes to a just transition.

A: POLICY AND REGULATION

- Substantive fiscal incentives (tax or otherwise) are needed to better ESG and other non-financial factors (such as the climate change, biodiversity and just transition) at scale into the investment portfolios of banks and pensions in South Africa. Presently, none such fiscal incentives exist at the level of investors (only marginally at individual taxpayer levels)

- Amendments to Regulation 28 need to go further in encouraging investment portfolios to allocate resources towards climate, biodiversity and just transition related programmes. At present, voluntary actions and guidance notes encourage the "consideration" of certain ESG factors. These actions are insufficient to effect deep and urgent changes in finance flows. More prescriptive guidance to address for example the socioeconomic effects of meeting the country's NDCs by 2025 and 2030; taking account of extreme inequality and poor quality of life for those most affected. Such guidance could be that banks and pensions have to set a base year when disclosing their investment portfolios (differentiated by how much of it is exposed to industries that will be impacted by the transition and the associated societal effects).

- The Code for Responsible Investing is presently a voluntary code which encourages pension funds to adopt certain sustainability principles and incorporate ESG into their investment decision processes. Mandatory adoption of pension funds to engaging on the just transition, in context of the risk environment the country faces (e.g. development, climate and biodiversity collapse).

- Policy and regulation around the stability of the financial system should pay greater attention to need for "social stability" and incorporate precise reference to a fair and equitable "just transition". At present, the narrative largely focuses on managing the transition to ensure financial stability – which though valid, does not recognise social strife in some geographic regions in the country is already unfolding as result of the economic and environmental risks.

- Policy positions, regulations and guidance from the Prudential Authority of the South African Reserve Bank, National Treasury, Financial Sector Conduct Authority and

Johannesburg Stock Exchange should precisely define their mandates for how they will encourage behavioural shifts relative to the financing needs of achieving a just transition

- The Financial Sector Conduct Authority needs to introduce specific regulations and disclosures that further "just transition washing" is kept at bay, and the financial ecosystem through its products and services contributes to real-economy just outcomes and systemic shifts.

- Government (through the respective ministries, and the Presidency) should clearly signal and articulate through policy and ongoing communications that it expects the entire spectrum of actors in the financial ecosystem to begin a process of contributing towards the just transition.

- Linked to these signals is the need for framing the depth and breadth of the challenges of achieving a just transition (given South Africa's development history and trajectory since 1994) – such framing may then trigger the design of contributions and innovations commensurate with the scale of South Africa's just transition challenge. At present, the framings insufficiently address the urgency and immediacy of investment needed for restorative and regenerative outcomes within the next five years.

B: INSTRUMENTS

- Standard and sustainability-focused finance instruments are widely used in South Africa mainly at the level of larger corporates and in the listed securities market. These are supported by existing regulation and policies. The standard instruments can take the form of issuances through Domestic Medium Term Note (DMTN) Programmes (securities with maturity profiles of between one to five years) and Commercial Paper (securities with maturity in less than one year) can be adapted and utilised for purpose-driven capital raisings – this requires defining the use of proceeds, a practice which is already happening for clean technology and infrastructure investments, but should be equally applied to the social focus of just transitions.

- For private finance actors, eligibility to qualify for certain financial instruments must recognise that new investment partners are engaged in developing the just transition portfolio, especially non-profit organisations, and small, micro and medium sized enterprises that are closely connected to the affected communities where outcomes are targeted.

- For public finance actors, greater use of sustainability focused instruments is essential despite the broad development mandate. Actors such as the Development Bank of Southern Africa and Industrial Development Corporation could utilise their access to the capital markets to raise investment for purpose-driven investment (e.g. social, sustainability and transition related outcomes).

- Enhancing the capital structure of South Africa's development finance institutions is also essential, where new equity investors or greater public finance allocations can allow them to offer more innovative and concessional finance and portfolio development domestically. Engaging the DFIs at this level also negates the need for explicit government guarantees which are generally required by international climate and development funders.

- The use of social impact bonds as a sustainable finance instrument is still nascent, and should be scaled up to open up the options for new investment partners in the just transition. All financial actors can utilise this instrument to finance the capability development aspects of the just transition portfolio (e.g. reskilling in regenerative agriculture techniques, or soil rehabilitation).

- Banks, pension funds and development finance institutions could consider listing social impact bonds, or privately placing these to attract investment from philanthropists, crowdfunding and individual investors could buy these bonds which widens the finance flows for investing in the just transition.

- The JSE's sustainability and transition-related securities' listing guidance should be reviewed to ensure an inclusive approach to social impact bonds, with specific reference to the just transition. The JSE in its engagement with the TCFD and Sustainable Exchange should also ensure that it guides the market to disclose how they engaging with the just transition.

- Pooled risk mechanisms should also be explored so that different financial actors collaborate around just transition investment portfolios and structure their investment such that any residual risks are shared across actors – it also allows for smaller investors who do to scale or mandate are not able to invest, to contribute as the funding is aggregated around the investment opportunity.

- Unutilised sources of finance in the fiscal and private sector space should also be leveraged to increase finance flows towards just transition. For example, consolidating the mining rehabilitation bonds which are disbursed across different institutions, utilising the LED and SED contributions of investors in the Renewable Energy independent power producers procurement programme.

- A "solidarity tax" or transition tax as a fiscal measure would be helpful to support a just transition could also be considered, following the logic that the cost of the just transition should be borne by society at large.

- The public finance budget (at national, provincial and local government levels) should also contain precise transition, and just transition focused budget line items – at present, the cost of a just transition is "uncosted" and "unbudgeted". Specific tags for just transition related budget items should be included in the budget. The Public Finance Management Act for example, should refer to ESG and just transitions, in the same way that Regulation 28 and CRISA engage on ESG factors and encourage investment decisions to take these factors into account.

- Government should play an important role in standardising and defining the terms and conditions of the funding provided by international climate and development agencies, such that it does not restrict fiscal space, significantly leverages private and public finance actors' capabilities and reduces any residual risks of support a just transition that local institutions cannot absorb.

C: INSTITUTIONS

- Constructing just transition investment portfolios requires enhanced institutional capabilities so that deals are made, rather than bought. This means investment origination teams at public and private finance institutions should more actively co-create developmental, place-based and with clear systemic and regenerative portfolios. This requires particular skills around co-creating outcomes with range of stakeholders, valuing and understanding the risk of the interconnectivity of projects, arranging appropriate investment and risk pooling arrangements. A key capability will be monitoring and evaluating the impacts and outcomes of the portfolio.

- Project developers exist in different forms both within and external to finance institutions, some acting as "angel investors" for essential upfront funding to catalyse projects. Developing multiple just transition portfolios would require expanding the capabilities of such organisations, especially as the design process for JT outcomes is iterative, co-creative and systemic.

- Any portfolio or project development organisation should also arrange finance around the themes and challenges presented by the just transition. The overall effect of originating portfolios and mobilising funding should be that portfolios are not unnecessarily deconstructed into individual projects, but rather funders are aggregated around specific themes, challenges and outcomes according to precise timelines for delivery and impacts.

- Media references suggest a single Just Transition Fund for South Africa is being considered, which aggregates different funding sources and from which national government then disburses accordingly. This is one option with potentially bottlenecks that can trap the flow of finance to where it is urgently needed. Examples exist in developed and developing countries of how just transition (and climate) facilitates are located closest to where the financing need exists. For example, Kenya's provincial climate change funds, India's mining restoration fund in directly affected geographic areas, and the EU and US's just transition funds offer access directly to affected communities, with limited use of intermediaries. Those most affected by the transition, should be leading and co-creating shared control and responsibility over the allocation of finance for just transition outcomes in their regions.

- Many purpose-driven funds exist in South Africa (Jobs Fund, Infrastructure Fund, Solidarity Fund, Green Fund, Youth Fund). A single primary just transition fund for South Africa may add to the fragmentation of how the just transition is presently engaged with – which delays its integration into mainstream investment decision making and consideration at the level of credit risk committees and reflected in pricing decisions.

- The Climate Investment Funds developed by the multilateral development banks to accelerate climate action is an important example of how finance facilities located at different institutions collectively deploys finance for shared outcomes. South Africa should locate financing facilities within every financial institution, which aggregates domestic and national resources - this means each bank, pension fund and development finance institution would have access to a special pool of funding to support any residual risks of financing a just transition that such particular institution cannot absorb

- Socially focused institutions (public and private) that incubate the just transition portfolio as "venture" or "angel" investors would be useful, as this gives the just transition immediate traction. Such institutions could create investment portfolios through the design process described in this paper, which involves co-creation and systemic focus where interconnected projects are developed. Any finance arranged could be located in discrete special purpose vehicles, with built-in first loss provisions and once established could attract other investors through the secondary market. A sufficient scale of investment and portfolio could imply such a vehicle is listed or evolves into private equity fund over time. Given that transitions are processes of change, any such investor would be tasked with developing multiple just transition investment portfolios.

D: DISCLOSURES, MONITORING AND EVALUATION

- The JSE, National Treasury and Prudential Authority are reflecting on climate and transition risk, evidenced by their existing work. The disclosures required of private finance actors should be expanded to public finance actors such as the development finance institutions and specialist funds, to facilitate greater transparency and consistency of actions across the finance sector to support the just transition.

- While individual actions of public and private sector are reported through various disclosure frameworks (e.g. TCFD, King IV), government (through National Treasury and FSCA) should more closely monitor the relative actions among financial actors – how do they complement each other in promoting a just transition? Are the actions of any financial actor creating and upholding barriers to financing the just transition?

- Using mandatory and voluntary disclosure tools, the actions of the financial ecosystem (public and private) should be monitored and evaluated to track South Africa's progress towards a just transition. This may require creating just transition indicators that is temporally based and aligned with climate, biodiversity and development plans so actors can assess their relative contribution – given that the time sensitivity of the just transition.

- The integrated reporting that financial actors and broader corporate South Africa currently adhere to should also contain precise markers (transition, regenerative and system indicators) for assessing individual and collective progress towards achieving a just transition (e.g. pace at which portfolios are incorporating just transition objectives).

- An independent review (not only self-assessment) of the disclosures by financial ecosystem which includes public and private finance actors, and the efficacy of their actions should be commissioned on regular basis – this requires and carves out a particular role for civil society and transparency focused organisation in South Africa's just transition finance roadmap.

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