A JUST TRANSITION FINANCE ROADMAP FOR SOUTH AFRICA: A FIRST ITERATION

Sandy Lowitt

Itumeleng Mokoena

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info @tips.org.za
+27 12 433 9340
www.tips.org.za

Authors
Sandy Lowitt
TIPS Research Fellow

Itumeleng Mokoena
TIPS Economist

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CONTENTS

ABBREVIATIONS

CIF	Climate Investment Fund
CSIR	Centre for Scientific and Industrial Research
DBSA	Development Bank of Southern Africa
DFIs	Development Finance Institutions
EOI	Expression of Interest
ESG	Environmental, Social, and Governance factors
EU	European Union
GDP	Gross Domestic Product
GHG	Greenhouse Gas
GVA	Gross Value Added
IFC	International Finance Corporation
IFIs	International Finance Institutions
JTF	Just Transition Fund
JTM	Just Transition Mechanism
MDBs	Multilateral Development Banks
NDC	Nationally Determined Contribution
PCC	Presidential Climate Commission
PSA	Power Station Area
R&D	Research and Development
SARB	South African Reserve Bank
SDGs	Sustainable Development Goals
SIB	Social Impact Bond
SMEs	Small and Medium Enterprises
SMMEs	Small, Medium and Micro Enterprises
SPVs	Special Purpose Vehicles
UK	United Kingdom
UNFCCC	United Nations Framework Convention on Climate Change

INTRODUCTION

South Africa's Nationally Determined Contribution (NDC) is its commitment to the United Nations Framework Convention on Climate Change (UNFCCC) and the Paris Agreement. It represents South Africa's fair contribution to contribute towards global climate change efforts. In 2021 South Africa steeped up its NDC commitments. The NDC focuses on mitigation, but also importantly includes adaptation goals and anticipates negative climate impacts (such as increased temperatures and increased incidence of drought). Some have suggested that the new NDC's ambitions place "South Africa ahead of the curve and make it an emerging market global leader" (Ngcuka 2021).

The ambitions of the NDC are laudable but mean little if they are not translated into action on the ground. Action on the ground requires climate action (mitigation, adaptation and increased resilience), but also as per the Paris Agreement, a means to implement climate action in a manner which is just. The recognition that decarbonisation pathways leading to net zero will negatively impact vulnerable workers and communities, which lack the flexibility to respond to system level changes, has given rise to the need for a just transition. A just transition therefore seeks to support workers and communities negatively impacted by climate action and climate change in a manner which promotes and sustains employment, livelihoods and economic and social inclusion. A just transition seeks to ensure that the vulnerable are at a minimum not left behind, and at best are better off than before climate action is undertaken.

In the South African context a just transition therefore offers not only the opportunity to safeguard workers and communities negatively impacted by climate action and climate change, but is an opportunity to address unemployment, inequality and poverty at a system level, and hence usher in an era of meaningful social and economic transformation. A careful balance needs to be struck between being ambitious for the possible outcomes of the just transition, and burdening it with unrealistic expectations that cannot be met.

Although the definition of a just transition remains contested, there is common understanding globally of a set of procedural principles and policy actions for implementing a just transition agenda. The first is that policymakers and stakeholders must take stock of the sectors, value chains, industries and place-based locations most likely to be impacted by climate action, and to anticipate, and understand the timing and impact of such climate action on workers and communities. Second, policymakers must ensure that communities and workers are given a seat at the table and a voice which is heard, so that they can meaningfully engage in conversations that will impact their futures. A third requirement is that stakeholders and policymakers put in place necessary social protection measures. These may include different measures, ranging from early retirement packages to retraining and reskilling, to social security payments. Finally, there is global consensus that appropriate funding is critical to the realisation of any climate action just transition ambition. At present the global focus is on just transition finance mobilisation and ensuring that a sufficient quantity of funds is timeously available, especially for developing nations with accelerated decarbonisation strategies such as South Africa. Current research shows that while securing a sufficient quantity of just transition finance is important, in the context of South Africa and its socio-demographic parameters, deploying the right quality of just transition finance, which meets on the ground funding demands, is likely to be a greater challenge than the initial mobilisation challenge.

Essentially just transition funding is required for three distinct sets of activities. The first is funding for location specific socio-economic development programming which has as its ultimate aim the diversification of local economic activity in support of: decent job creation; new livelihood opportunities; better access to more resilient services and infrastructure; and land and bio diversity

rehabilitation and restoration (Robins et al. 2019; Lowitt 2021). The second package of just transition funding required is financing for workers support programmes and greater equality in asset ownership. This could include retraining and reskilling programmes; employability support programmes; retrenchment and early retirement programmes; social protection allowances; and support for social enterprises and small, medium and micro enterprises (SMMEs) (Makgetla et al. 2019). Finally, funding to support the establishment and operation of just transition management structures and institutional arrangements is required. Such institutions and management will be responsible for co-ordinating policy responses, ensuring and facilitating stakeholder engagements, and the implementation of socio-economic development programming at a place-based level (Makgetla et al. 2019). These institutions and structures may be existing entities which require some degree of fixing and reorientation or they may be entirely new structures (Makgetla 2021).

Funding for these three just transition activities is well beyond the capacity of the state alone. This is especially true in the South African context where fiscal space is constrained. As such, all local financial ecosystem actors (especially commercial and investment banks, institutional investors, asset managers, development finance institutions, National Treasury, the South African Reserve Bank (SARB), and the prudential authorities) will have an important role to play in both the mobilisation and deployment of suitable just transition funding (National Treasury 2020). The South African private sector with its R1.2 trillion worth of assets will play a crucial role in any local financing scenarios, as will the international finance community. Importantly for South Africa, what differentiates the current just transition funding landscape from the typical development finance landscape is the role of, and access to, international financial flows at scale and on preferential terms.

Under the UNFCCC and its Paris Agreement, developed countries accepted their obligation to finance just transitions in developing countries, so as to prevent the climate transition worsening the growth prospects and debt burden of those countries. South Africa has always argued that developed countries must honour these pledges, especially in light of the Veritas Global report which shows that, in 2019, only US$32.6 billion of the promised US$100 billion per annum from the Global North was actually invested in developing countries (Veritas Global 2021). At COP26, President Cyril Ramaphosa emphasised that “a just transition requires finance and support from wealthier nations to enable low- and medium-income countries to protect employment and to promote development” (Creecy 2021). Minister Barbara Creecy (South African Minister of Department of Forestry, Fisheries and the Environment) made the link even more specific when stating that “the political declaration agreed to by SA and its partner countries makes it clear that the pace and extent of decarbonisation in SA will be determined by the scale and nature of financial support available.” (Creecy 2021). Further, Creecy emphasised that South Africa would only meet its ambitious new NDC contribution if the country receives the multilateral support needed to implement decarbonisation goals “in accordance with our foremost imperative of reducing poverty, unemployment and inequality”.

There is thus a well-founded expectation that South Africa should in its deliberations on how to fund a just transition count on substantial preferential offshore inflows. Attention does, however, need to be paid to the terms and conditions of such inflows; and the alignment between what funds are mobilised and what financing needs actually exist.

The centrality of funding mobilisation and deployment in support of a just transition brings into sharp focus local and international financial ecosystems. Mark Carney, Governor of the Bank of England, remarked that to successfully address climate goals will require, not just a new growth and

development trajectory in the real economy, but a completely new finance system which delivers sustainable investment flows in the normal course of business. System change is easily said but very hard to achieve, especially when it concerns a complex, dynamic and adaptable system such as finance. Lazarus describes the challenge of changing the finance system as a ''super wicked problem" (Lazarus 2008).

A just transition roadmap contributes to solving this super wicked problem. Essentially the roadmap is a tool to design and execute an ambitious process of change in the financial ecosystem which will explicitly link the actions of the financial ecosystem, with the realisation of broader national sustainability and socio-economic development goals. At its simplest, a roadmap seeks to piece together the just transition activities that will need to be funded. These activities include economic diversification and employment; livelihood opportunity development; social protection measures; and institutional requirements. All of which are within the broad array of financial ecosystem actors, and the appropriate mix of policy-led, market-led, and public-private initiatives.

Every country's roadmap will be a function of its national context and climate action ambitions; but all will have in common the aim to develop a long-term systemic plan to enhance the ability of the financial ecosystem to mainstream environmental, social, governance (ESG) factors; sustainable development goals (SDGs); and just transition goals into decision-making and capital allocation. In South Africa an additional focus of the roadmap will be the need to leverage the role of the domestic private sector and international finance sector, given the existing debt burden and constrained fiscal space of the state.

The majority of just transition finance roadmaps developed to date (Brazil, China, Morocco, Russia, United Kingdom) approach the just transition financing challenge from a top-down, macrosystem perspective. This results in an analysis which is predominantly theoretical, abstract and in the words of Robins "stratospheric" in nature (Robins et al, 2019). Examples of proposals in such roadmaps include the need to: focus on building coalitions, reinforcing private sector interest with enabling legislation, proposing increased use of public private partnerships, understanding different approaches to disclosure, or increasing awareness and understanding of the concept among ecosystem players. A fundamentally different approach has been adopted in this roadmap.

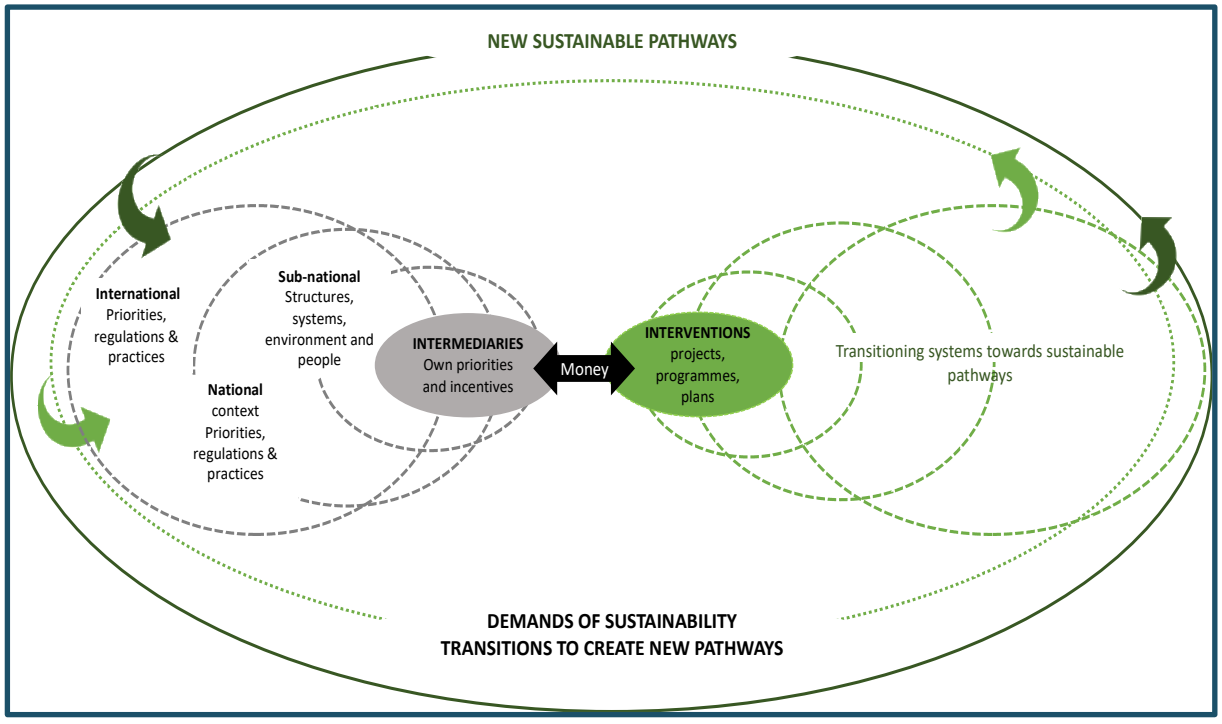
This first iteration of a just transition finance roadmap for South Africa has been driven by: urgency (imminent potential job losses in Mpumalanga), pragmatism (an understanding that system level change requires experimentation and adaptive approaches to address contextual needs), and acceptance (that the understanding of what a just transition is, is both complex and contested and unlikely to be resolved in the near term). Choosing the right level of analysis for a roadmap in the South African context is difficult.

Zadek (2018) cautions using blueprints and preconceived outcomes in relation to just transition finance as both are hard to envisage, and run the risk of becoming dogma and adding to the problem rather than the solution. He does, however, argue that cautious experimentation can lead to incrementalism and become an alternative to serious action. In Naidoo (2019), it is argued that sustainable transitions demand experiments and adaptive approaches; and that financial systems need to experiment and test different possible solutions in different contexts, supported by enabling policy interventions. Finally, the South African National Treasury (2020) view is that sustainable finance changes need to be developed through experimentation and learning by doing, as this is the only means to develop the necessary skills and capabilities to support the required new decision-making. Treasury argue that this knowledge should be accumulated: first at the transactional level, then at the project level, then at the portfolio level, and finally at a system level.

Based on this view, that learning by doing is crucial in delivering just transition finance, and to respond to the drivers of urgency, pragmatism and acceptance, the roadmap investigates the nature, characteristics, size and scale of actual just transition projects currently seeking funding in Mpumalanga. From this evidence base, an understanding of broader just transition funding challenges and opportunities is extrapolated. This allows for the design of just transition finance solutions and innovations, which are specifically fitted for purpose and function, rather than a more generalised presumption of such financing needs. Such an approach will support the implementation of just transition commitments to on-the-ground action and provide a dynamic space for experimentation at scale and learning by doing .

Naidoo (2021) argues that such an approach will reveal the heterogeneous understanding and tensions among stakeholders, their incentives and perceived role in the just transition process. Given that the main tools for achieving a just transition are plans, policies, projects and programmes – projects in particular are the primary channel through which finance is exchanged in pursuit of a just transition vision (Figure 1). 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. Naidoo supports the merits of a bottom-up analysis as an important input to develop a roadmap that is pragmatic and supports the learning process necessary for the financial ecosystem to change.

Figure 1: Point of exchange between finance intermediaries and interventions



Source: Naidoo 2020.

Understanding project driven finance demands on the ground can meaningfully (in an evidence-driven manner), inform the financial ecosystem i) product, process, and mechanism design and innovation; ii) institutional operations and frameworks, and iii) policy support frameworks to create an enabling environment. Some solutions will involve short-term changes within the existing operations of the financial ecosystem. Some outcomes will require medium- to long-term system level change. Ultimately the inputs from the roadmap, in conjunction with several top-down processes underway, will advance the discourse on how the financial ecosystem can perform, such

that sustainable development, which is just, is funded by mainstream financial institutions as part of a business as usual scenario.

The paper begins with a short chapter on two core points of departure upon which the bottom-up research and analysis relies. How do we think about a just transition? And how do we think about just transition financing? The first point of departure relates to an understanding of the level of analysis of the just transition, the objective of a just transition, and ultimately a working vision and definition of a just transition. The second point of departure relates to the view that just transition funding be seen as a separate pot of money to the climate finance pot of money, although by necessity the two must be linked.

Using these two points of departure, Chapter 2 presents the primary research completed on a sample of Mpumalanga-based just transition projects. A model of how to conceptualise and differentiate diverse clusters of just transition projects is proposed. This leads to an identification of which just transition projects are likely to be funded by the current ecosystem; and where funding gaps exist. The challenges associated with funding these gaps provide the rationale for the remainder of the roadmap.

Chapter 2 is limited to a consideration of how to fund economic diversification projects, which offer employment and alternative livelihood, for decarbonisation impacted workers and communities. The chapter (and the roadmap) *do not consider the financing needs for just transition institutions or social protection measures*. These issues will need to be taken up in future iterations of a roadmap.

Chapter 3 analyses the characteristics of the sample projects, allowing for a granular understanding of the scope and nature of the demand for just transition financing in South Africa. The analysis derives from the hypothesis that the design of financial mechanisms should be informed by the characteristics of project needs (Perez 2002; O'Sullivan 2005; Naidoo 2020; Naidoo 2021). Understanding this demand (and assuming that it is a fair representation of future just transition finance demand across sectors and locations) provides a destination for a South African roadmap. Once a destination is articulated, different maps and route to move the financial ecosystem closer to this destination can be formulated, and processes designed to support directional momentum and propulsion.

Chapter 4 deals with a four-year action plans to 2025. The plan considers the necessary actions of public, private and offshore finance ecosystem players to support just transition financing in South Africa. Actions and activities are considered across the areas of policy, regulation and public finance measures; instruments; institutions; disclosure; and the role of international finance institutions (IFIs).

Chapter 5 concludes with some thoughts about how to assess the contribution of this first iteration of a just transition finance roadmap for South Africa.

CHAPTER 1: CREATING A DEPARTURE POINT

The most basic question in just transition financing is also the most difficult question: what counts as a just transition investment? The global environmental and financial community have spent 30 years trying to answer the equivalent question in relation to climate investments. Only in the last 10 years has appreciable progress been made on green taxonomies, ESG principles, ESG best practice, green tagging of investments and flows, standards and labelling. This progress has been achieved through a complex global effort of national and multinational research, knowledge sharing, collaboration, learning from others, and experimentation supported by strong feedback loops for iterative learning. After three decades, the process remains ongoing and contestation and a lack of clarity remain pervasive characteristics of the still evolving discourse. If the ambition to secure the necessary funding for a just transition is to be realised, a similar collective global effort and journey will be required. This task may prove even more difficult than the green and climate investment questions given the highly subjective nature of justice and what will constitute transitional justice, who should be the beneficiaries of such justice, who should bear the costs, and how the impacts should be measured.

Given South Africa's NDC and the imminent impacts of decarbonisation on mono-economy towns, communities and workers in Mpumalanga, South Africa does not have the luxury of starting its roadmap journey at an entirely theoretical or stratospheric point of departure. To move the just transition finance discourse forward, in a pragmatic manner, three building blocks or points of departure are required: i) a working definition and vision for the just transition; ii) whether just transition finance should be viewed as part of climate finance or as a separate pot of money; and iii) how to distinguish a just transition project from a local economic development project.

These building blocks do not represent a consensus view. They support the articulation of *one* possible route by which to make progress down the just transition road. This is not the only route. However, by putting forward an evidence-based first iteration of a roadmap based on transparent building blocks, it may be possible to significantly move the needle on the just transition finance discourse, while simultaneously creating opportunities to learn by doing and experimenting at scale. Both of these outcomes are necessary for the country to deliver on the imminent impacts of its accelerated decarbonisation as per the 2021 NDC.

On issues of just transition levels of analysis, ambition, vision and definition

The basic objective of a just transition is to ensure that vulnerable groups, with limited resources to adapt, are supported and aided to weather the negative impacts of decarbonisation, climate action and climate change. This objective can be understood at an industry, regional (provincial) or national level. At each level, the problem being solved is different and can be achieved by different strategic approaches. Patel (2021) argues that the specifics of the just transition depend on the nature of the economic and energy transition. This in turn defines the impacts on citizens, communities and businesses, and effectively sets the timeframe for change. The problem he identifies is that these dimensions, strategies and timing of the transition are poorly defined and highly contested in South Africa, leading to lack of clarity on the articulation of the objective of a just transition.

Table 1: Dimensions of the Just transition at different levels

	INDUSTRY	REGIONAL	NATIONAL
IMMEDIATE PROBLEM	An industry must downsize if pollution and emissions costs are fully internalised, and workers bear the cost through job losses.	A community depends on an industry that is no longer sustainable.	Transition to new, sustainable economy, especially energy systems, will only be viable if ultimately it benefits the majority.
BROADER AIMS	Voice for working people in transition process; decent alternative livelihoods; greater equality for vulnerable groups.	More diversified and resilient economy; local people have voice in transition; more equitable incomes and wealth with continued growth.	Disruption of the transition ultimately lays the basis for a more equitable, inclusive and dynamic economy.
SOME DEBATES	What institutional structure can ensure a just transition. Extent of social protection for affected workers. Usefulness of retraining. How to fund programmes and at what level.	What institutional structure can drive economic diversification How to identify viable clusters and value chains for diversification Role of small/emerging vs large/established businesses Role of different spheres of the state How to resource	Should the focus be on the energy transition alone; on reducing emissions in other industries (such as agriculture, cement); on building resilience to impacts of climate change (such as droughts, flooding); or on measures that build a more inclusive economy even if they do not link to climate change (e.g. land reform, BIG). What governance systems can drive the transition more effectively while securing real participatory democracy.
POLITICAL ECONOMY	Organised workers can often block change if they will end up bearing the cost without support.	How to prioritise affected regions if they are not among the poorest in the country? Managing the risks of industrial policy.	Managing risks and costs of disruptive change. Maintaining a coalition for change.

Source: Patel 2021.

In developed countries, the understanding of the just transition objective has been shaped by the energy transition which began in the 1990s (especially in Europe with the deliberate movement out of coal into renewables). Before the terminology of "a just transition'" was added to the climate discourse, countries such as Germany, Spain, Poland, Ukraine, the Netherlands, and the United States (US) were already responding to coal mine, steel plant and chemical factory plant closures, and developing policies to deal with the impacts on workers and communities.

In these case studies (World Bank 2018; Patel 2021) it was noted that coal mining regions tended to be located far from major population and economic centres where alternative employment and livelihoods could be found. The loss of mining jobs in these mono-industry towns exposed the fragility of a narrow economic base and showed that impacts were felt beyond the mere loss of

wages for workers. Broader impacts were observed, including the loss of indirect and induced jobs, and access to services. This led to a strong regional level approach to what has now become known as the just transition. Indeed most just transition finance deliberations today (Robins et al. 2019; World Bank 2018; European Investment Bank 2021) consider the place-based level of analysis as the most relevant for the just transition discourse.

Geographic locations are where climate-driven industry action intersects with workers and communities. In terms of building blocks for a roadmap, the regional level is the appropriate accepted level. The South African roadmap thus focuses on mobilising and deploying just transition finance at a place based level rather than at a macroeconomic level.

In understanding a just transition, the ambition of the final objective is also an issue of contention. Some stakeholder groupings believe that a just transition should seek to ensure that "no one is left behind" and that workers and communities are left no worse off after climate action than before. An alternative view is that the aim of the just transition should be to leave workers and communities better off than they were before climate action. This latter view is particularly prevalent in South Africa where the just transition is seen not just as a necessity to protect vulnerable workers and communities, but as an opportunity to address legacy issues which have resulted in high levels of inequality, unemployment and poverty. These two differing views are normative and cannot be resolved by appealing to evidence. On this basis the roadmap adopts an approach of accepting a range of just transition ambitions rather than a unified view of the final object of the just transition.

This spectrum idea was first mooted in the South African context by the International Finance Corporation (IFC) in a case study on two renewable energy projects (IFC, 2016). In the research, it was noted that the projects under consideration would have been considered highly successful just transition projects anywhere in the developed world. In South Africa, however, civil society, community structures, unions and their members found the projects to be insufficient in their outcomes and impacts to be considered successful in terms of socio-economic justice. Additional thinking on a range of just transition ambition has subsequently been developed (Cahill and Allen 2020; Just Transition Research Collaborative 2018; McCauley and Heffron 2018; Montmasson-Clair 2021).

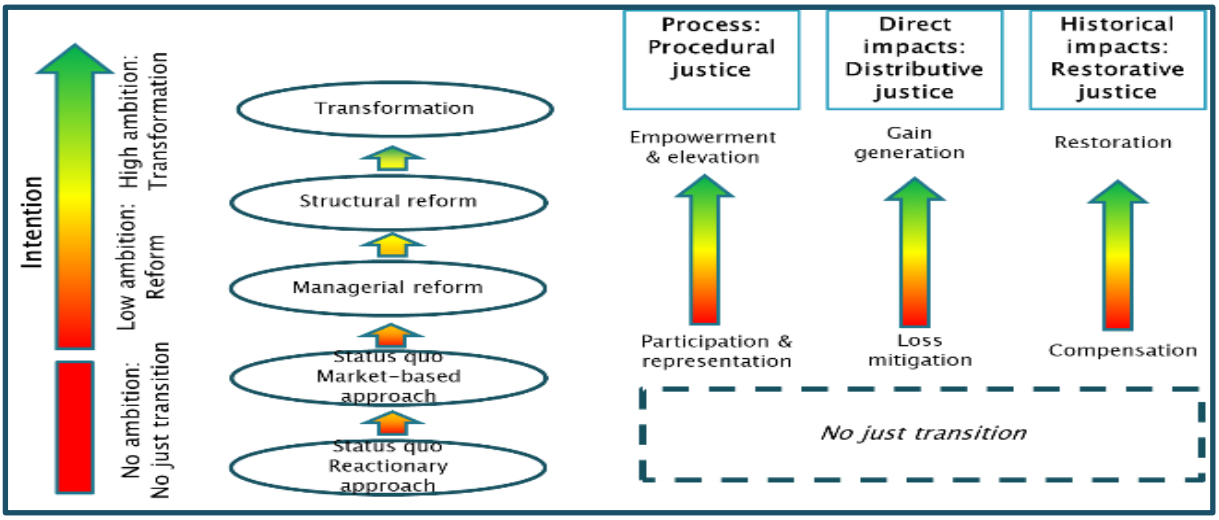
Work on unpacking the notion of a range of just transition ambition has led to the articulation of three dimensions of justice: procedural justice, distributive justice and restorative justice (McCauley and Heffron 2018; Just Transition Research Collaborative 2018; Cahill and Allen 2020).

Procedural justice focuses on form and aims to facilitate an inclusive process. It acknowledges and recognises vulnerable and/or marginalised groups by including them in decision-making processes as well as enabling/empowering all stakeholders to take part.

Distributive justice deals with the distribution of risks and responsibilities. Effectively, it focuses on addressing the direct impacts resulting from the transition process. It aims to address a "double inequality" around responsibilities (who should pay?) and impacts (who should benefit? and how?).

Finally **restorative justice** considers past, present and future damages that have occurred against individuals, communities and the environment and provides a framework to rectify or ameliorate the situations of harmed or disenfranchised communities. (Montmasson-Clair 2021).

Figure 2: Dimensions of a just transition and degrees of ambition



Approaches	Transformative nature	Distributive justice	Procedural justice	Restorative justice
Status quo: Reactionary approach	None: rejects 'just' and 'transition' aspects	No just transition		
Status quo: Market-based approach	None: Progressive greening of capitalism	No just transition		
Managerial reform	Limited: Only addresses some impacts	Focus on workers	Limited to firm level	Not considered
Structural reform	Intermediate: Addresses impacts and some of the root causes	Considers workers and communities	Promotes bottom-up approaches for workers and communities	Peripheral
Transformation	Strong: focuses on the root causes as well as impacts	Considers all vulnerable stakeholders	Rooted in bottom-up, democracy and solidarity.	Core aspect

Source: Montmasson-Clair, 2021.

Montmasson-Clair (2021) identifies two sets of intentions which have no just transition ambitions. (Figure 2) The most extreme version is the status quo reactionary approach in which stakeholders actively seek to hinder a transition by pushing a narrative which directly or indirectly seeks to protect incumbents and existing industries (such as fossil fuels). In a less extreme form, the status quo neo liberal approach is based on market dynamics as the sole driver of change (or not). Proponents of this view focus on the development of new economic opportunities in existing and new industries, and vulnerabilities of workers and communities are largely ignored (Montmasson-Clair 2021). In both these approaches employment, ownership, income, wealth and environmental externalities remain essentially unchanged.

At the other end of the spectrum three levels of just transition ambition are identified: the managerial reform approach, the structural reform approach and the transformative approach.

The least ambitious of the three is the managerial reform approach. This approach does not envision changes to the existing economic system and balance of power, but does seek to support greater equity and justice within the prevailing system. This is achieved predominantly at the firm level and focuses on vulnerability at the level of the labour market and the distributive justice dimension. The approach supports the planning and implementation of reforms, which include job retraining, pension schemes and other forms of compensation for affected workers. The approach is narrowly

worker centric and does not take into account broader impacted peoples such as communities and small businesses. The dimension of restorative justice is essentially ignored in this approach (Montmasson-Clair 2021).

The structural reform approach attempts to secure both distributive and procedural justice but mainly ignores restorative justice. The approach acknowledges the structural inequalities and injustices produced by the system, and solutions are sought over and above those produced by market forces or techno economic innovations (Montmasson-Clair 2021). The approach includes modified governance structures, democratic participation, decision-making and broader ownership as core to its ambition level. The structural reform approach departs from top-down processes and advocates for a bottom-up approach driven by the agency of affected groups, especially workers and communities. Structural reform promotes measures, such as worker- and citizen-owned energy cooperatives, strong social safety nets and new form of participatory governance.

The most ambitious approach to the just transition is the transformative approach. Montmasson-Clair argues that it is the only understanding of the just transition which aims to truly address all three dimensions of justice. The approach requires a complete overhaul of the existing economic, social and political system that is considered responsible for economic, social and environmental crises. The approach effectively involves the dismantling and reconfiguration of existing systems, a change in the rules and modes of governance, and the promotion of alternative development pathways. It aims for positive and progressive change to overcome systems and structures that generate environmental and social injustice, in line with the transformative nature of restorative justice.

In an input to the Presidential Climate Commission (PCC), Montmasson-Clair (2021a) argues that most ongoing debates and approaches to the just transition in South Africa fall within the managerial reform agenda with a few additional elements of structural reform. He challenges that debates are almost exclusively focused on addressing the direct impacts on affected workers and to a lesser extent communities, but importantly ignore the roots of the problem and historic damages. On the issue of participatory justice, he posits that procedural just is paid lip service and rarely enacted.

In developing the just transition finance roadmap the above spectrum of just transition ambitions is adopted as a building block and point of departure. This approach allows for projects of all different levels of ambition to be considered in the evidence base, and supports a temporal dimension of changing ambition over time (see Chapter 4 discussion of social indicators changing over time).

Moving on to how the just transition is considered in the policy space, the just transition discourse formally entered the South African policy domain in 2011 with the publication of the National Climate Change White Paper, which explicitly identified a just transition as a policy imperative in the country's approach to dealing with climate change. Since 2011, the just transition narrative and discourse has been deepened by private, public, academic, and civil society interaction but no formal institutional facility existing to drive progress and consensus building. The PCC was formed in 2021 as a unifying authority with the mandate to chart an approach towards the just transition for the country. The PCC is working on the development of a just transition framework that is intended to act as a living document which describes how impacted value chains will be approached and what support measures can be harnessed at the appropriate time to mitigate transition impacts on workers, communities, and small businesses (Patel 2021). The roadmap adopts the PCC's working definition and vision of the just transition (see Patel 2021 for a full description of how these were arrived at).

The PCC's working vision of a just transition is:

> *"through putting people, especially those living in poverty and the vulnerable at the forefront, South Africa will have completed a just transition to a net zero CO2 economy and society by 2050. In a just transition we emphasise urgent action on climate change and social justice. We have built the resilience of our economy and our people through affordable, decentralised, diversely owned renewable energy systems; conservation of our natural resources; equitable access to our water resources and sustainable, equitable and inclusive land use for all, especially the most vulnerable, including women. The high value we place on healthy ecosystems, land, water and air, underpins our future, and ensures a better and healthier life for all who live in South Africa, and contributes to the creation goals of decent work for all, social inclusion and the eradication of poverty." – Patel, 2021*

The PCC's working definition of the just transition is:

> "*Just Transition means a shift towards low-carbon, climate resilient and ecologically sustainable economies and societies which contributes to the creation goals of decent work for all, social inclusion, and the eradication of poverty." – Nedlac input to Climate Change Bill, cited in Patel, 2021.*

These definitional and vision building blocks are compatible with the earlier building blocks of a place based, regional approach and a spectrum of just transition ambition approaches.

On climate, green, sustainable and just transition finance

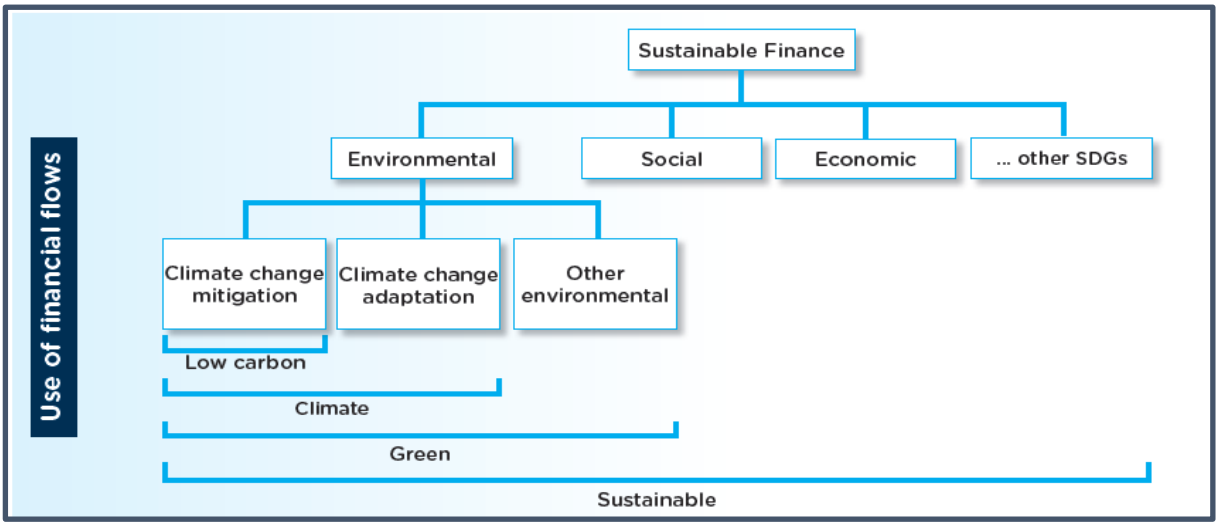
A long-term goal of the just transition finance roadmap is to navigate the challenges of determining an agreed definition of what will constitute a just transition investment, and hence what will be counted as just transition finance. Two broad suggestions are made as points of departure. The first is the idea that an additional use of funds needs to be described, which explicitly speaks to the desired outcomes of a just transition. The second is the need to have a separate pot of money for just transition financing; and whether such a pot of money is seen as part of the existing Global North financing commitments under the Paris Agreement, or additional to such commitments.

In thinking about describing an official, additional use of funds, the starting point is to consider existing definitions. Currently no South African definitions of green, climate or sustainable finance explicitly include reference to "just" transition activities.

The only reference to transition as part of green, climate or sustainable finance is found in the South African National Treasury's definition of climate finance (Figure 3). The definition explicitly includes the cost of "transitioning" to a low-carbon and climate resilient economy. This wording is seen as a demonstration of Treasury's recognition that climate actions aimed at mitigation or adaptation cannot be separated, or disengaged, from the broader national socio-economic development processes. The definition expresses the inclusion of costs to realise a transition as inherent to the costs of implementing adaptation and mitigation efforts. Some argue that National Treasury is thinking about just transition costs as part of these transition costs.

An alternate (and more common) view is that Treasury's definition covers progress from brown investments to "more green" investments, demonstrated by a decrease in greenhouse gas (GHG) emissions. In this view it is also argued that at the time of the publication of the climate finance definition, Treasury did not have an official view on the just transition or its funding, thus it is unlikely that the department was thinking of the use of funds for just transition purposes as understood by the building blocks in the previous section.

Figure 3: Definitions and use of funds



Use of Funds	South African National Treasury	United Nations Framework Convention on Climate Change	International Capital Markets Association
Climate Finance	Local, national or transnational financing which may be drawn from public, private and alternative sources of funding. These financial resources are intended to cover the costs of transitioning to a low-carbon global economy and to adapt to, or build resilience against, current and future climate change impacts.	Climate finance refers to local, national or transnational financing, drawn from public, private and alternative sources of financing, which seeks to support mitigation and adaptation actions that will address climate change.	Climate finance is financing that supports the transition to a climate resilient economy by enabling mitigation actions, especially the reduction of greenhouse gas emissions, and the adaptation initiatives promoting the climate resilience of infrastructure as well as generally of social and economic assets.
Green Finance	Financing investments that provide environmental benefits in the broader context of environmentally sustainable development. Involves efforts to internalise environmental externalities and adjust risk perceptions to boost environmentally friendly investments and reduce environmentally harmful ones. Covers a range of financial institutions and asset classes, and includes both public and private finance.		Green finance is broader than climate finance in that it also addresses other environmental objectives such as natural resource conservation, biodiversity conservation, and pollution prevention and control.
Sustainable Finance	Sustainable finance encompasses financial		

	models, products, markets and ethical practices to deliver resilience and long-term value in each of the economic, environmental and social aspects and thereby contribute to the delivery of the sustainable development goals and climate resilience.

Source: Top: UN Environment Inquiry 2016; Bottom: Author's own compilation.

If the formal definitions in place do not provide a building block for understanding how to think about the use of just transitional funding, then a bottom-up approach may be more useful. In the Climate Finance Landscape in South Africa in 2020 report (GreenCape, Bertha Centre and Climate Policy Initiative 2021) researchers adopted a typology of climate finance in South Africa (Figure 4) based on international best practice and local available information. The research captures all climate flows based on four established categories of use of funds: mitigation, adaptation, transition and dual benefit.

Figure 4: Climate flow typology

Source: GreenCape, Bertha Centre and Climate Policy Initiative 2021.

Mitigation finance use of funds is well-understood and covers finance aimed to reduce GHGs or to remove GHGs already in the atmosphere or ocean, to slow down warming and stabilise the climate in the long term. Adaptation finance aims to respond to climate change by supporting the preparation and reduction of climate-related risk and damage. Dual benefit use of funds aims to support projects that have both mitigation and adaptation outcomes. Finally, the more complex definition of transition finance is articulated as finance which ''aims to start a transition from carbon intensity towards climate mitigation and/or climate adaptation but does not necessarily reach the ultimate goal. This can be seen as a brown to green investment and should mean a significant reduction in GHG emissions relative to current practice and alignment with the Paris Agreement" (GreenCape, Bertha Centre and Climate Policy Initiative 2021).

None of these fund definitions cover any of the outcomes which a just transition seeks to achieve as per the points of departure definition and vision described above. As such, there is currently no articulation of a use of funds necessary to achieve a just transition contained in the existing definitions of climate finance. Figure 5 suggests some key differences between current use of funds included in climate finance and the use of funds required to finance a just transition.

Figure 5: Differentiating climate finance and just transition finance

Source: Author.

The differentiation between the use of funds for a climate finance agenda and a just transition finance agenda are substantial and fundamental in nature. They support a view that the two will be characterised by: different investment opportunities, different measurement metrics, different disclosure requirements, different funding challenges, different scales, and requiring different innovative innovations to realise just transition outcomes. As such, a new use of funds category needs to be explored, and critically, a different pot of money needs to be established to finance specifically just transition activities.

This idea of a separate pot of money for just transition activities is in evidence in the European Union (EU) where there is a distinction between Green Deal financing and a separate pot of money for the Just Transition Mechanism (see Chapter 4 for details).

A precedent thus exists to support a separate use of funds for just transition projects to be included in existing climate/green or sustainable finance definitions (or the deployment of such funding). Second, the alternate use of funds supports a view that just transition funding needs to be secured, in addition to funding required for mitigation, adaptation and climate change.

The argument of additionality versus carving out funds already pledged for climate action has been brought to the fore in differing views on the COP26 Political Declaration. In the declaration, the governments of South Africa, the UK, US, France, Germany and the EU agreed to a potential US$8.5 billion package "to support the implementation of SA's revised NDC through a just transition to a low-carbon and climate resilient economy" (The Presidency 2021). This funding is part of the Global North's *existing* 100 billion dollar per annum investment commitment under the Paris Agreement.

Detailing the way forward, the political declaration calls for the creation of a task force to enable … "South Africa's efforts to lead a just transition that protects vulnerable workers and communities, especially coal miners, women and youth, affected by the move away from coal; … local value chains (including Micro, Small and Medium Enterprises) to benefit from new areas of economic opportunity; and….opportunities for technological innovation and private investment to drive the creation of green and quality jobs as part of a prosperous low emission economy." (The Presidency 2021).

This statement re-enforces South Africa and the Global North's commitment that South Africa's energy transition must be just. It also suggests that the Global North is approaching just transition financing as being *included in, and part of existing climate action funding obligations* instead of a view of additionality.

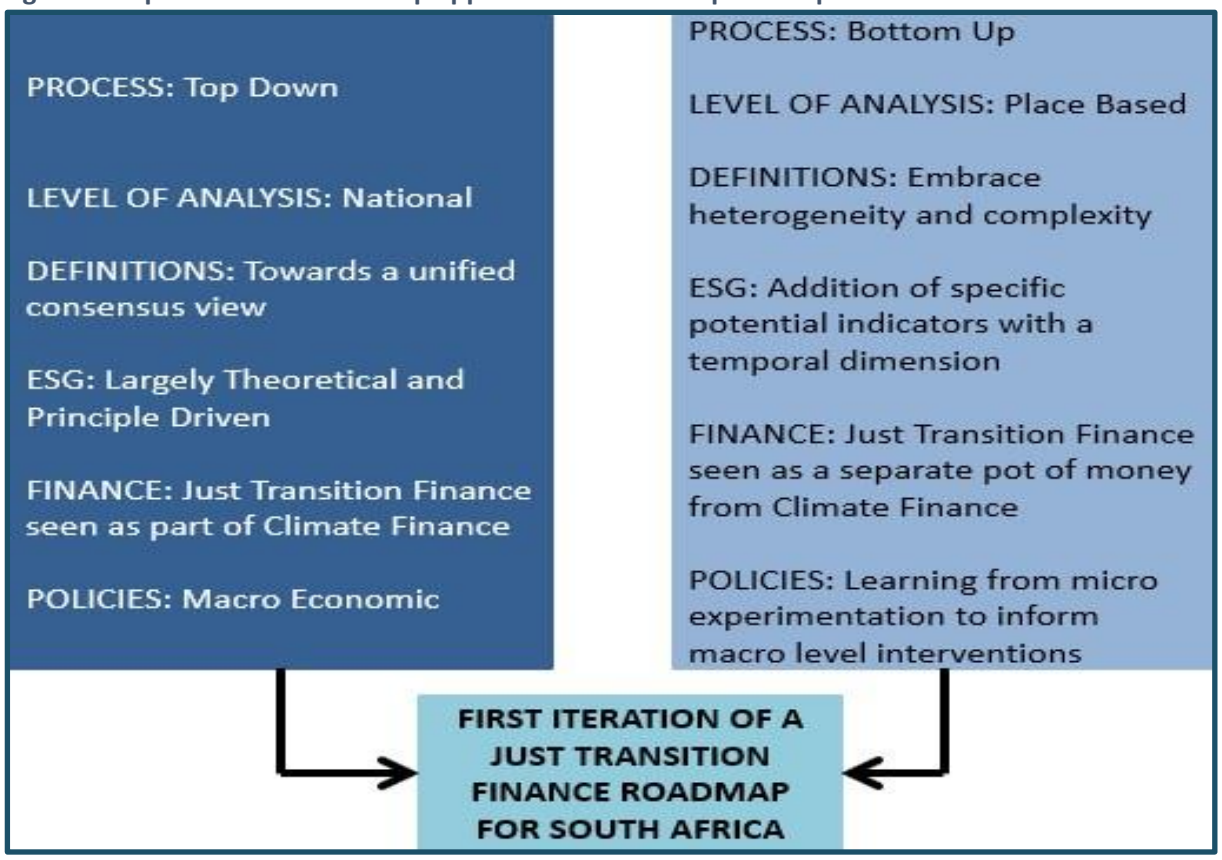
While such a difference may not be critical in the short run in South Africa, where the absorptive capacity of just transition programming is limited, in the long run just transition funding will need to be seen as additional to existing Global North climate finance commitments. The point of linked, but separate is an important distinction.

As a point of departure, the roadmap proposes that a just transition use of funds be added to the existing typology of climate finance. Further, the roadmap adopts the idea that although linked, a separate pot of money for just transition projects and programming is required over and above existing commitments for climate finance.

CHAPTER 2. AN EVIDENCE-BASED APPROACH TO UNDERSTANDING JUST TRANSITION FINANCING NEEDS IN SOUTH AFRICA

The adopted approach of the just transition finance roadmap is to work from the bottom up, using evidence to inform the challenges that the financial ecosystem will need to address and mainstream if the South African pathway to net zero is to be just. This is a novel approach, given that to date all just transition/sustainable finance roadmaps have been top down and based on a more abstract and theoretical exploration of key process requirements to mainstream just transition financing. Chapters 3 and 4 touch on some core top-down theoretical and process thinking. The roadmap attempts this top-down thinking with the understandings gained from the bottom-up approach (Figure 6). The intertwining of top-down theoretical thinking, with bottom-up evidence-based findings is a methodological approach to roadmap development, and is not a once off activity.

Figure 6: Top-down and bottom-up approaches to roadmap development



Source: Author.

In this chapter, the bottom-up research exercise is explained in detail. The chapter starts with the selection of a place-based location and how the sample of projects were sourced and data collected. This is followed by an explanation of a framework to think about just transition project ambition and funding requirements. The framework demonstrates which just transition projects are likely to be funded and where funding gaps exist. These findings frame the problems a South African just transition finance roadmap needs to solve.[1]

[1] This is true only to the extent that this iteration of the roadmap only deals with funding economic diversification projects. Future roadmaps will need to consider funding for social protection mechanisms and just transition co-ordination institutions.

A place-based analysis

Identifying an initial location for the research was relatively straightforward. The province of Mpumalanga accounts for 80% of South Africa's coal mining and electricity generation. It is viewed as the national "transitional hotspot" as the province is highly economically undiversified with substantial dependence on the state-owned power utility Eskom and its fleet of coal-powered electricity generating stations, and the coal mines which provide the fleet with its inputs. Eskom has announced the decommissioning of several of its coal-powered plants in Mpumalanga and this will have knock-on effects on the coal mining industry. As such, the workers and communities of Mpumalanga face imminent employment, livelihood and service delivery challenges due to short-term implementation of decarbonising actions by Eskom and the impact of such action along the value chain.

Mpumalanga accounts for 8% of South Africa's population at just over 4.3 million people. It produces 7% of the country's gross domestic product (GDP) with mining being the largest contributor at 22% of provincial GDP. In 2015 Mpumalanga had a 57% unemployment rate across all age cohorts, but this figure rises to 65% for youth unemployment. Only 32% of the population live in urban areas. The true exposure of Mpumalanga to the phase-out of coal, the decommissioning of coal-fired power plants, and the decreased demand for coal is best understood at a local authority level.

The four municipalities most vulnerable to the shift out of coal are: eMalahleni, Steve Tshwete, Msukialigwa and Govan Mbeki. eMalahleni derives 44% of its gross value added (GVA) and 26% of its employment from coal-related activities. In Steve Tshwete, coal-associated GVA is 34% and coal-related employment 17%. In Govan Mbeki, 22% of GVA and 11% of employment is derived from coal, while in Msukialigwa 34% of GVA and 14% of employment are at risk in the movement out of coal.

In absolute numbers, Eskom employs 12 000 workers while the key mines in Mpumalanga employ 87 000 miners (which accounts for 86% of all coal miners in South Africa.) The province also faces future job loss pressures from Sasol, a chemical producer based in the province that employs 26 000 workers and which has also signalled its intention to reduce its carbon footprint (Makgetla et al. 2019; Makgetla 2021). In addition to direct and indirect job losses, Mpumalanga's broader economy will also be impacted as most coal town small and medium-sized businesses rely on selling goods and services directly to Eskom, the coal mines and Sasol. Businesses based on selling goods and services to the townsfolk who earn their incomes from coal-based activities will also be negatively affected.

Sample and data collection

Requests to participate in the study were extended to the National Department of Trade, Industry and Competition; the Department of Fisheries, Forestry and the Environment; the Mpumalanga Department of Economic Development and Tourism; the Local Economic Development Units of the Msukialigwa, eMalahleni, Steve Tshwete and Govan Mbeki municipalities; private sector firms operating in the agricultural, mining and forestry sectors; project development special purpose vehicles (SPVs) set up by industrial players in the province mandated specifically to generate just transition programming; three town Chambers of Commerce; Eskom; and the Centre for Scientific and Industrial Research (CSIR).

Project developers, champions, stewards of projects were asked to self-identify whether they believed their projects qualified as transition projects or not. After this self-identification, projects were screened against additional eligibility requirements. In an attempt to maximise the sample size and breadth and scope of sample projects, eligibility requirements were kept to a minimum. Projects

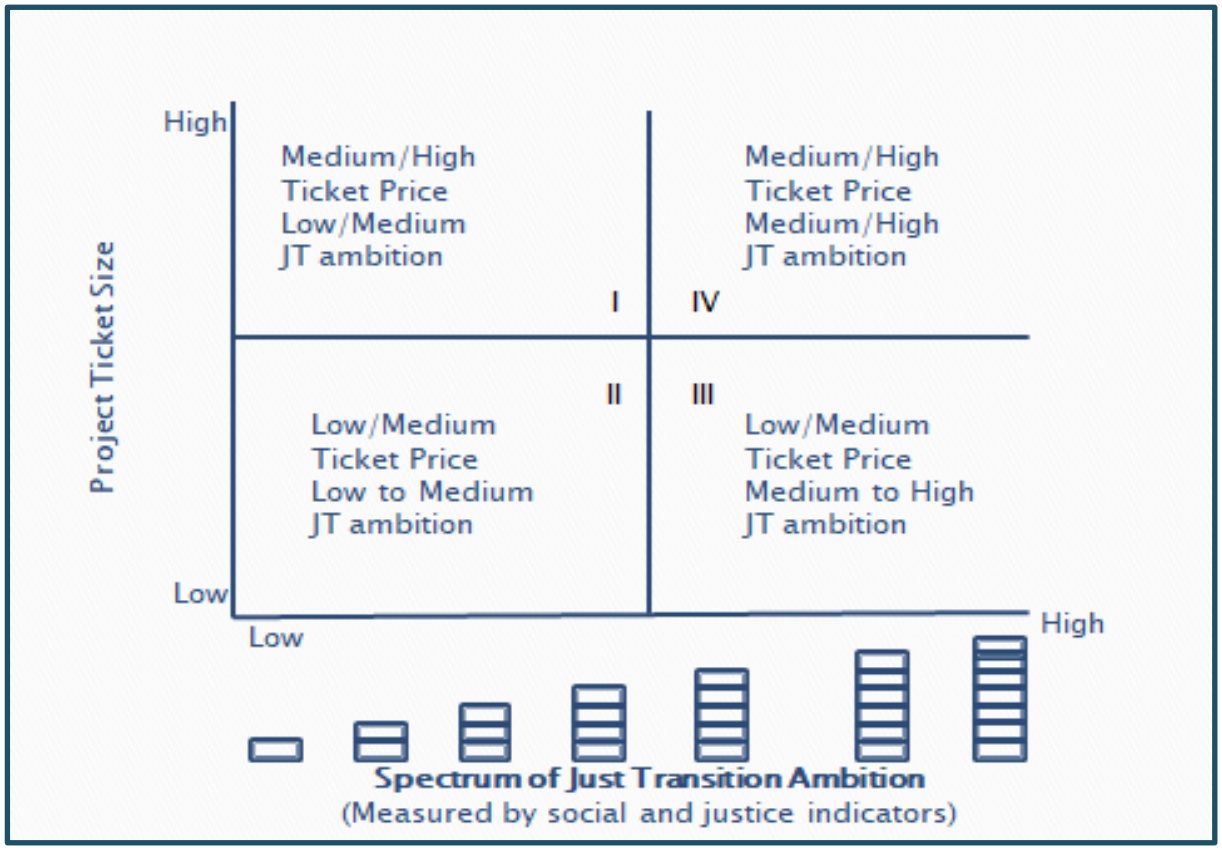
which had no commercial basis were excluded. Fossil fuel-based and brown projects were excluded. Economic diversification projects which were not necessarily green (but were not brown) were included. All green projects were included. Projects at all stages of development were considered as long as they met the basic requirements of having a dedicated project developer or champion which was resourced to develop the project further, and had access to at least some preliminary funding for initial development. Projects which were only conceptual and had no allocated resources (human or financial) were excluded. Projects needed to be designed and motivated as an *explicit response to an exogenous economic event related to climate action which would negatively impact workers or communities in a given location*. This screening allowed just transition projects to be distinguished from normal local economic development projects. All projects were anonymised (bar those in the public domain) to meet non-disclosure requirements of project originators and developers.

In total, 26 eligible projects were identified and project surveys sent, following face-to-face interviews. The survey comprised an investment section which identified the key project characteristics from a commercial, economic and financing perspective; and a social section which covered issues related to participative, distributive and restorative justice (see Annexure A).

The framework

Following the collection of survey data, a framework was devised to indicate if the existing financial ecosystem would be willing to mobilise finance for an array of projects with different just transition ambitions. The framework is a simple quadrant approach (Figure 7).

Figure 7: Quadrant framework



Source: Author.

Project ticket size was chosen as the vertical axis variable as it is the most basic measure by which to indicate whether a project is likely to attract the interest of financiers in South Africa or not. Interviews with stakeholders in the financial sector supported the view that low to medium ticket

size projects in South Africa will mainly fail to attract mainstream financial sector funding. This is due to a lack of venture capital, limited private equity interest in smaller projects, no angel funding, and high transaction costs. In addition, the continued existence of medium- to large-scale investment opportunities available in the current South African market means that mainstream funders are not actively seeking new investment spaces in which to participate.[2] Projects in the bottom half of quadrant's II and III are expected to find it difficult to attract funding from the current financial ecosystem. Projects in the top half of quadrants II and III are more likely to attract funding (especially if de-risking facilities are available).

Projects in quadrants I and IV have ticket sizes that will be of interest to the financial ecosystem. The dividing line of the quadrants on the vertical axis has been specifically chosen at the ticket size at which the majority of interviewed financial sector stakeholders said they would in principle be interested in looking at the transaction (R1 billion).

The horizontal axis seeks to measure just transition ambition as measured by social indicators. Initial thinking on these indicators has been completed as part of the roadmap and are discussed in Chapter 4. Due to the complexity of defining just transition indicators for the purposes of the roadmap, the horizontal axis is described at a conceptual level only.

Using the points of departure in Chapter 1, the horizontal axis moves from less ambitious just transition projects (on the left) to more ambitious just transition projects (on the right). Differing levels of ambition are illustrated by the number of boxes on the horizontal axis. Each box represents a single socio-economic outcome or impact. For example, the creation of decent work opportunities; new and sustainable livelihoods for the impacted community; new asset ownership by communities and workers; job retraining, reskilling and up-skilling; restoration of land and waterways to ameliorate environmental abuse of the past; empowered community participation in programme development; or increased access to services, especially energy, water, sanitation, health and education.

A project on the left of the horizontal axis will have fewer socio-economic outcomes and impacts than a project on the right. Movement from the left to the right conceptually indicates broader, more diverse and more numerous socio-economic outcomes. Importantly, it could also reflect incremental improvements in a single socio-economic outcome. For example, an alternative job opportunity at the same salary as a coal-based job would be reflected to the left of an alternative job opportunity at a higher salary in a new industry. Given the axes, projects in quadrants I and II are categorised as having lower just transition ambitions than projects in quadrants III and IV .

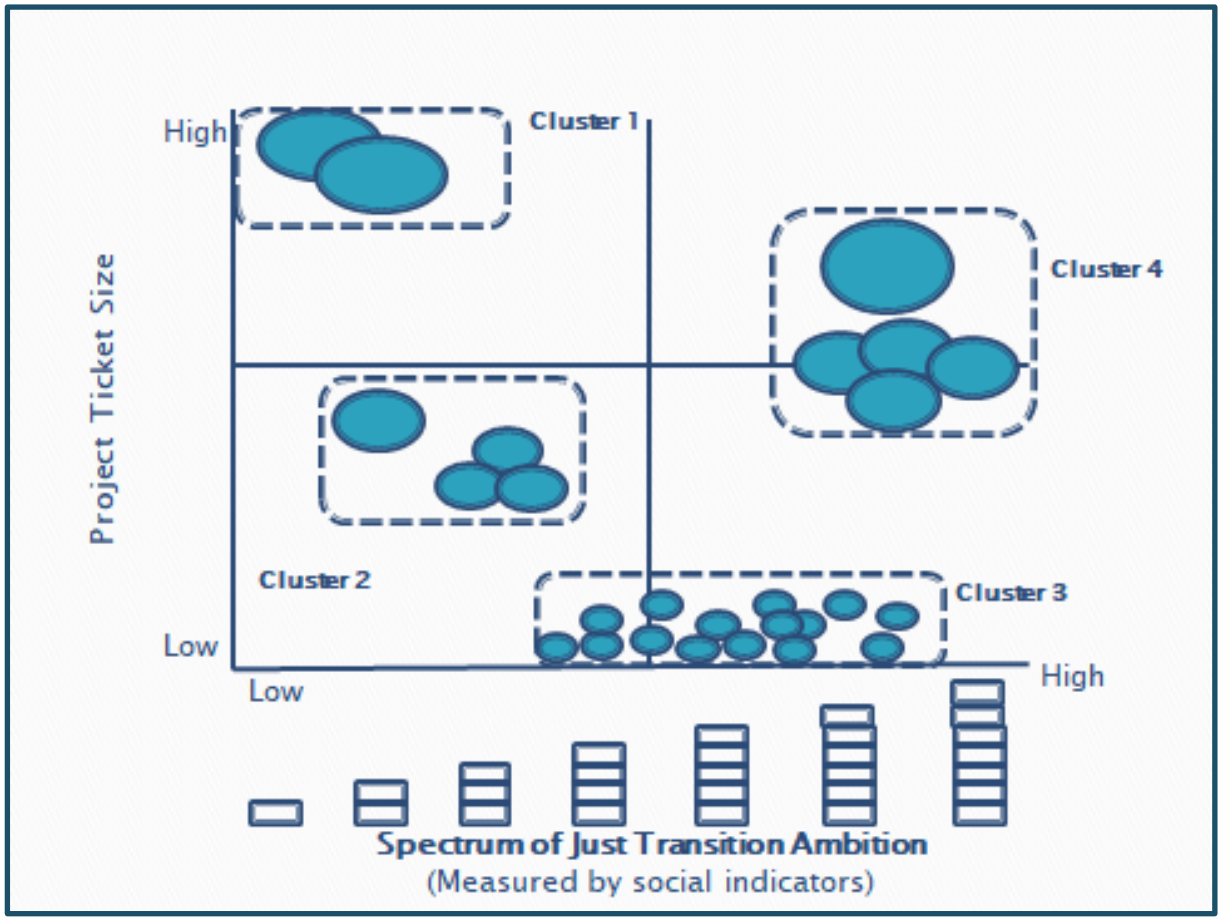
All projects are considered as important contributors to achieving the just transition vision for South Africa. This is due to each project having a positive socio-economic impact or outcome, as well as the potential for a project to catalyse downstream positive socio-economic outcomes and impacts. For example, repowering an Eskom power plant into a green hydrogen plant may only create a limited number of direct jobs for workers near the plant at the time of conversion. Over time, however, the investment will catalyse entirely new downstream industries and countless employment, commercial and livelihood opportunities which will meaningfully impact workers and communities.

[2] For a more detailed explanation of the structural and operational barriers of the South African financial system see NBI's 2013 study. Available at https://www.nbi.org.za/wp-content/uploads/2016/08/NBI-Report-Barriers-to-Private-Sector-Access-to-Climate-Finance-in-South-Africa-2013.pdf.

The evidence

When the above framework was populated with the qualifying 26 projects a clear clustering was observed (Figure 8).

Figure 8: Populated project framework and key clusters



Source: Author.

Cluster 1 projects are relatively low ambition in terms of the just transition but highly appealing to the financial ecosystem given their high ticket price. Cluster 1 projects are the only projects which are in the public domain. The projects represent a small portion of Eskom's planned just energy transition project portfolio.

Eskom has plans internally around two tiers of projects: on-site projects and power station area projects. On-site projects focus on repowering and repurposing decommissioned coal-fired power plants. They have as their primary driver the provision of electricity using renewables and clean energy technologies. Power Station Area (PSA) projects focus primarily on local economic development programming in the municipalities in which power stations are located. PSA projects are people driven. On-site projects are illustrated in Cluster 1; PSA projects are captured in Cluster 3.

The Cluster 1 projects represent potential investments tied to Eskom's call for expressions of interest for the decommissioning of Camden, Komati and Grootvlei in April 2021. The Expression of Interest (EOI) was for either repurposing or repowering the plants. Since the EOI was published no additional information has been made available in the public domain

The precise ticket price of Cluster 1's two projects is not in the public domain and sources vary with estimates from R35 billion to R100 billion. In terms of just transition ambitions, interviews with

Eskom and internal documents show that the repowering projects are likely to be designed to achieve mainly generation outcomes, and will be technology driven and probably have low just transition ambitions mainly in the form of modest direct job creation at the plant.

Repurposing projects in contrast would be driven by an economic diversification agenda and would likely have broader and more ambitious socio-economic impact goals. However, what is crucial about Cluster 1 projects is that while the initial project to be financed may result in relatively low just transition outcomes, the projects may be gateway projects which will create substantial socio-economic impacts over time, through upstream and downstream value chain activity.

Figure 9: Cluster 1 Projects

	Cluster 1
Ticket Size	R2-40billion
Just Transition Ambition	Low*
Project Description	• Repowering and repurposing Eskom's decommissioned coal power plants • 5 stations being decommissioned in s/r. EOI issued for Camden, Komati and Grootvlei • If focused on repurposing rather than repowering, business plans must ensure plant AND surrounding brownfield sites are rehabilitated
Expected Impact	• Climate Impact • Modest Job creation • High potential downstream impact (SME opportunities, substantial job creation, enterprise development) • Community consultation
Technology and Business Model	• Relatively well established technology and business models
Funding Required	• $10billion
Funding Mechanism	• Traditional instruments • Possibly an innovative transaction structuring • Possibly a JT Fund or ring fenced funds
Funding Source	• France, Germany, UK, US, EU in principle agreement to fund 8.5billion Euro's. • Terms to be negotiated

Source: Author. *Note:* *does not capture upstream or downstream opportunities.

Sourcing funding for these high ticket price investments is predicted to be relatively easy in principle (given the existence of government guarantees). Prior to COP26 the World Bank, African Development Bank and several development finance institutions (DFIs) had all indicated strong interest in funding Eskom's decarbonisation plans. On 2 November 2021 the South African Presidency announced that the governments of South Africa, France, Germany, the UK, the US and the EU had reached agreement on a partnership to potentially provide US$8.5 billion for South Africa's Just Energy Transition. This funding is foreseen to be used (in part) to fund decarbonising activities at Eskom. Although the details of the partnership and the terms of the funding have not yet been agreed, interest prior to COP, and the COP Political Declaration supports a view that Eskom's Cluster 1 projects (and potential future equivalent Cluster 1 projects) can be funded within the current financial ecosystem using traditional instruments and mechanisms.

Cluster 2 projects are characterised by moderate to medium just transition ambitions but high enough ticket prices to make them attractive (in principle) to the current financial ecosystem. Projects in this cluster range from R500 million to R1.5 billion (Figure 10).

Figure 10: Cluster 2 Projects

	Cluster 2
Ticket Size	R500m-1.5billion
Just Transition Ambition	Hard to assess but positioned as Medium Ambition
Project Description	• Projects developed by large listed South African companies operating in either mining or agricultural sector in Mpumalanga. Includes projects aimed at mitigation and some agricultural resilience projects
Expected Impact	• Climate Impact • New job creation/security of livelihoods • Local economic diversification • High levels of community and worker inclusion and decision making participation • Community asset ownership (only investments 3,4,5,6)
Technology and Business Model	• Novel technologies in local market (international track record) • Untested off take usage • **Identified problem:** Downstream activities related to core investment (1) are not part of project plan or developers mandate and funding requirements yet investment one identifies as a JT projects. **(JT washing?)**
Funding Required	• Mix of scale from : R100 million (1); R90 million (2); R1- • R5 million (3,4,5,6). Must be funded as a suite to ensure JT outcomes
Funding Mechanism	• Mix of traditional and new instruments and mechanisms
Funding Source	• Private sector subject to DFI derisking for capital for core project and complimentary investment for downstream smaller projects

Source: Author.

The Cluster 2 projects in the sample have all been developed by large listed South African companies. All four projects have strong green credentials and support the diversification of the Mpumalanga economy. Three are mitigation projects and one is focused on increased resilience in the agricultural sector. All the projects in the cluster have modest to medium just transition ambitions, mainly in terms of additional new jobs. All the projects have also undertaken substantial steps to include procedural justice elements in their project design process, and have empowered communities and workers to be able to meaningfully engage in conversations about their futures.

While the ticket price and corporate pedigree of the project originators make these projects attractive to the existing financial ecosystem , a shared characteristic of all the projects is their use of novel technology for which there is no risk return track record. Pricing technology risk is an accepted weakness of the current financial ecosystem (NBI 2013; Lowitt 2021; Martens 2021). Interviewed

financial ecosystem players indicated a positive disposition to funding such projects, but emphasised that de-risking capital would significantly increase their ability and willingness to do such deals.

As with Cluster 1's projects, there was financial ecosystem consensus that Cluster 2 project finance could be arranged within the existing system. De-risking, innovation and clever financial engineering would be required to increase the mobilisation of funding for Cluster 2 projects, but such mobilisation would not require a system level change.

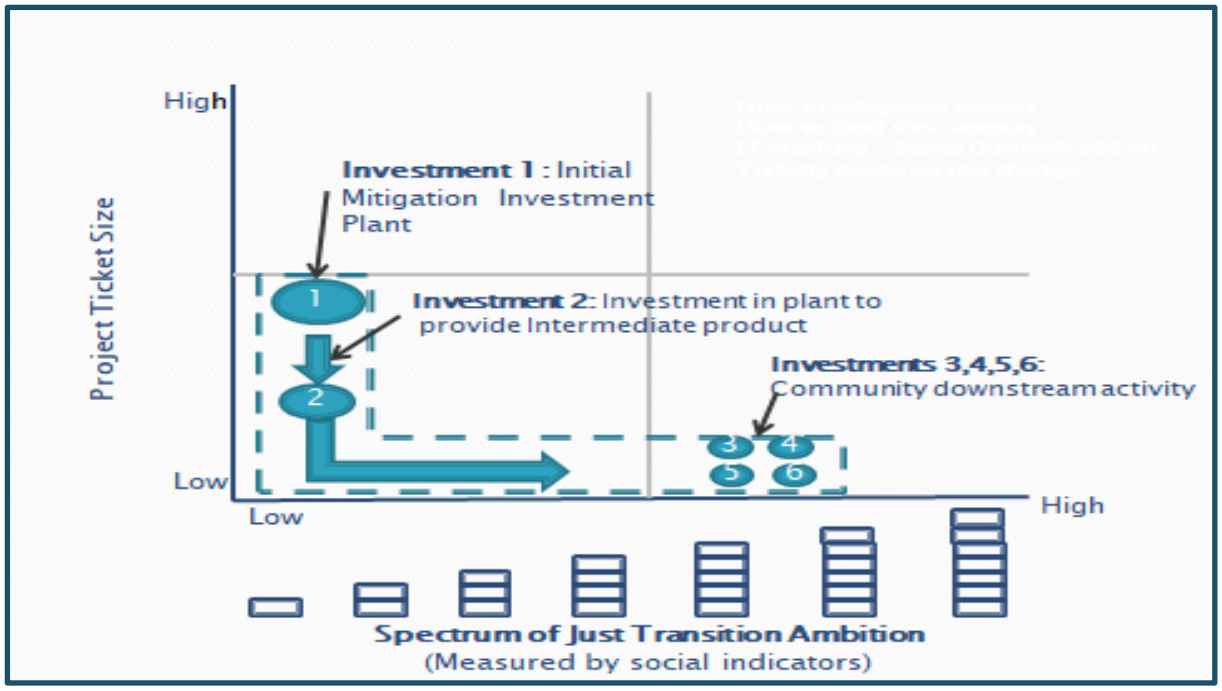
Two of the four projects surveyed in Cluster 2 raised issues of complementary investments and an associated difficulty in attributing a single level of just transition ambition to a suite of complementary investments.

In Cluster 1 projects, the original investments (repurposing or repowering an electricity plant) make clear upfront the modest socio-economic outcomes of the investment to be financed. Cluster 1 projects do not claim additional socio-economic impact, which will be generated over time or through downstream activities.

In two Cluster 2 projects a different dynamic is observed, which raises a concern of the potential risk of "just transition washing". This is best illustrated by an example. In one of the projects (Figure 11), a deep dive into the project revealed that at a disaggregated level the project actually consisted of six discreet new enterprises and required six financial transactions – even though the project was pitched as a single initiative.

On further investigation, it was understood that the first enterprise (investment 1) produced an output which became an input to the second enterprise (investment 2). The output from the second enterprise became the inputs for four small enterprises (investments 3, 4, 5 and 6). Investments 3, 4, 5 and 6 are therefore contingent on the funding, and successful implementation of investment 1 and investment 2.

Figure 11: Complementary investments in single project



Source: Author.

Investments 1 and 2 have medium ticket prices but relatively low just transition ambitions (nine full-time jobs for an investment of about R600 million). Enterprises 3, 4, 5 and 6 have considerably

more ambitious just transition ambitions (50 to 75 new jobs, new livelihood opportunities through four new small and medium enterprises (SMEs) being developed; and increased asset ownership by the community).

Based on the expected socio-economic impacts of investments 3, 4, 5 and 6, the project developers characterised investment 1 as a high just transition ambition project. Disturbingly, business plans and funding pitches were drafted only for investment 1, even though the pitch for concessionary funding was based on the high just transition ambitions of investments 3 to 6. Given that no business plan, funding pitch or implementation plan existed for investments 2 to 6, it appears as though the project is an example of how a project can be just transition washed based on, in principle, complementary investments which may not be pursued or realised. In this example, it became clear that the risk of just transition washing is likely to be as great and prevalent as the current challenge of green washing.

Cluster 3 projects account for the majority of projects in the sample. These are small-scale projects with ticket prices ranging from R1.5 million to R20 million but with high just transition ambitions. Many of the projects originate from mining house funded SPVs such as the Mine Water Co-ordinating Body and Impact Catalyst, and local municipalities, chambers of commerce, and the CSIR. The majority of projects have been developed around land and water rehabilitation and the opportunity such restorative investments create for expanded (and sometimes new) community-based agricultural opportunities. Waste reuse and repurposing projects are also prominent in the cluster (Figure 12).

Figure 12: Cluster 3 Projects

	Cluster 3
Ticket Size	R1.5-20million
Just Transition Ambition	Medium to High
Project Description	• Land and water rehabilitation, which create opportunities for community based livelihood projects • Waste re-use and re-purposing projects (circular economy)
Expected Impact	• Climate Impact • Small number of direct jobs (up to hundreds) • New livelihoods for communities proximate to mines and power plants • Strong Community consultation and co-creation • Community asset ownership
Technology and Business Model	• Novel technologies • New business models • Low bankability • Small ticket size relative to transaction cost • Pre commercial – requires technical assistance • Stakeholders with limited or no track record
Funding Required	• Unlikely to be funded by current financial eco system
Funding Mechanism	• New Just Transition financial instruments and mechanisms to be created. Could include increased use of fund of funds, impact investing, blended finance, increased use of grants, new deployment mechanisms
Funding Source	• Currently not available at a system level

Source: Author.

Cluster 3 projects have been purposefully designed specifically to achieve high just transition ambitions. All are strongly grounded in community participatory approaches and score highly on procedural justice dimensions. In terms of distributive justice, most projects offer a small number of direct jobs and increased and expanded livelihood opportunities for mine and power plant-adjacent communities. Because of the scale of the interventions, most projects create employment opportunities only in the 10s to 100s and not in the 1000s. The area in which most Cluster 3 project score highly in terms of distributive justice is in relation to community ownership of assets. This creates opportunities for communities to enjoy capital appreciation, sustainable revenue streams and access to an asset which can be used to leverage additional funding. This creates a potentially transformative opportunity for the communities involved. All the Cluster 3 projects also score highly in terms restorative justice. The vast majority of projects focus on ameliorating environmental harm, especially harm to arable land, and the pollution of waterways. The circular economy and use of waste also feature in many of the sample projects.

South African experts suggest that projects of this scale, with similar just transition ambitions, are likely to dominate the just transition project pipeline in the future (across sectors and geographic locations). Contrary to Clusters 1 and 2, interviews with players in the finance ecosystem stated that the current financial ecosystem in South Africa is not well structured, or positioned, to support such a pipeline.

From a financing perspective the projects are unattractive for two reasons.

First, almost all the sampled projects are based on new and novel technologies. These technologies and approaches have neither a proven technical nor commercial track record. Most only exist at a pilot phase of development. The current South African financial ecosystem is not structured in a manner which readily allows it to price new technology risk, and/or provide early life cycle funding such as angel or venture capital funding (NBI 2013; Lowitt 2021). When such funding can be sourced, it is usually on non-concessionary terms and little (if any) grant funding is available outside of that provided by philanthropic and donor communities. The novel and early stage technology characteristic of Cluster 3 projects, suggest that the existing finance ecosystem would be unable to mobilise and deploy appropriate funding for such projects. To mainstream the funding of such projects in the normal course of business will therefore require a system level shift of the financial ecosystem.

Second, most of the projects in Cluster 3 have low ticket prices ranging from R1.5 million to R20 million. Taking into account the costs associated with the current financial ecosystems due diligence and risk assessment processes and operations, projects in Cluster 3 have transaction costs which are greater than their ticket price. These high transaction costs are the reason most financial stakeholders interviewed gave for not funding these types of projects (Martens 2021). In addition, many of these projects surveyed are based on new business models which are designed specifically to achieve improved just transition outcomes. Models typically involve multiple partnerships involving parties with no or limited commercial track records; ownership models which seek to transfer assets to communities; democratic governance systems with bottom-up grassroots participation; and limited ability by owners to negotiate offtake agreements and expansion opportunities. To mainstream the funding of such projects in the normal course of business will thus also require a system level shift of the financial ecosystem.

Mobilisation and deployment of funding for Cluster 3 type projects can therefore not be met within the existing financial ecosystem and will require a system level change if such projects are to be funded in a future business as usual scenario.

Finally it was found that most Cluster 3 project developers are engineers or come from a strong research and development (R&D) background. This impacts the ability of the developers to move projects through to a point where they were bankable and can be pitched to the financing community. This suggests an additional characteristic of Cluster 3 projects is the need for system level provision of technical assistance and financial project preparation. This has always been a problem in small-scale projects in South Africa and a just transition finance roadmap will need to speak directly to the requirement to address technical assistance at scale.

Cluster 4 has been termed the "unicorn cluster" due to its high ticket price (a cumulative total of R6 billion) and very high just transition ambitions (bottom-up planning and buy-in, new assets transferred to communities, new livelihoods at scale [measured in hundreds of thousands], and restoration of the natural environment at scale). The sample project stands out due to its out of the box thinking about scale and ambition. As the CEO of the company originating the project commented "this is a project based on what we *should* do, not what we *can* do".

The cluster represents a single intervention with a suite of interrelated and inter-dependant projects (Figure 13). The project needs to be implemented as a whole, although substantial staggering of timing and ownership is required. It originates from a large mining house with substantial interests in Mpumalanga.

Figure 13: Cluster 4 Projects

	Cluster 4
Ticket Size	R6billion (for complete suite of projects)
Just Transition Ambition	Very High
Project Description	• Single intervention with suite of inter related and inter-dependant projects. Suite needs to be implemented as a whole • Originated from large mining house
Expected Impact	• Climate Impact at scale • New livelihoods at scale (i.e. over a million) • Community central to project • Community asset ownership including massive transfer of land • New and Diversified economic opportunities and new value chains
Technology and Business Model	• Novel technology with limited international track record • Non traditional governance model • Non traditional participants • Off take agreements in place • Some Bankable projects
Funding Required	• Full spectrum of funding requirements from grants to impact investing to commercial. • Staggered timeframes and ownership; lower returns initially; returns increase over time
Funding Mechanism	• New and innovative requirements
Funding Source	• Multiple sources simultaneously • Will need co-ordination and new co-operation

Source: Author.

The originators started to develop the cluster of projects based on four principles: i) to see their environmental liability (mine rehabilitation) as a potential asset; ii) to reassess their requirement to continue owning mine land when they were closing down mining operations; iii) to see the mine as part of the community and not outside of the community; and iv) to view the mine (and all mine land) as part of the broader natural ecosystem of Mpumalanga.

As a result, the project sees the transfer of ownership of substantial landholdings to the community, and the creation of project opportunity scales in terms of the natural ecosystem (5 000 square kilometres). The project aims to sustainably improve the livelihoods of 1.2 million community members. The responsible project development team is well-funded and appropriately capacitated. Feasibility studies have been completed for all elements of the project suite. Offtake agreements are in place when required and commercial viability has been determined. All the projects are at a bankable stage of development and all share similarly high just transition ambitions.[3]

The suite of projects is based on new and novel technology which has no local track record (and a limited international track record), and an ownership and governance model which is non-traditional in current operations of the financial ecosystem.

The project also includes: i) non-traditional parties in the development, implementation and on-going operations of the proposed sub-projects; ii) phasing which will require less high return projects to be funded in advance of higher return projects; iii) different funding requirements including impact investing, grant funding and commercial investing; iv) some smart subsidies to moderate real versus perceived risk; v) early on-boarding of the financial sector; vi) expanded expectation of financial parties in skills and capacity development; vii) utilisation of new technology implementation including block chain; and viii) non-traditional players approaching the financial sector and talking to capital.

The project's out of the box thinking, high just transition ambitions and core design characteristics have resulted in a suite of projects which local and international financial ecosystem players have stated they are very interested in participating in funding. Indeed one DFI stated that "we [the DFI] need the project more than you need the funding". However, all interested parties stated that currently they would be unable to mobilise and deploy funding that meets the projects requirements. As such, for projects such as Cluster 4 to be funded, system level changes in the existing financial ecosystem would be required.

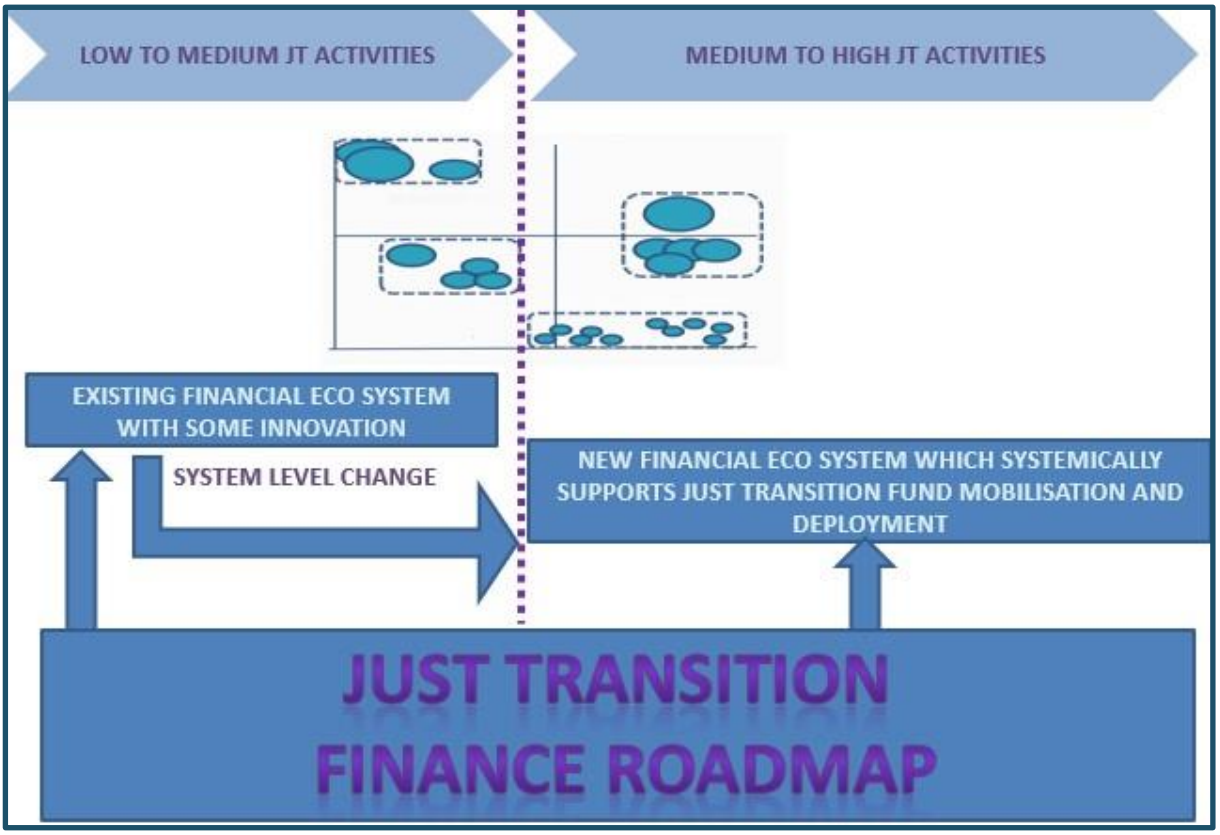
[3] In this way the Cluster 4 project of complementary investments differs from the just transition washing of the project analysed in Cluster 2.

CHAPTER 3. CHALLENGES FOR THE FINANCIAL ECOSYSTEM

Anyone consulting a road atlas to plan a journey has two key pieces of information at their disposal: the starting point and the final destination. In this roadmap an assumption has been made that the starting point for a just transition in South Africa is known. Essentially this starting point would include stylised facts related to inter alia: an understanding of the strengths and weaknesses of the existing financial ecosystem; an understanding of the structure and functioning of the macro economy and the sub-national economy relevant to a set of place-based investments; an understanding of the causes, nature and extent of unemployment, poverty and inequality at a highly localised level; and an appreciation of the historic and current political economy context against which a just transition will take place. By taking the starting point of the journey as known, the roadmap can focus on describing and understanding the destination of the journey being embarked on.

This chapter describes the characteristics of the four clusters of projects at a level of detail that informs an understanding of such projects' specific funding demands. These demands become the challenge that the financial ecosystem ultimately needs to respond to. Some responses are relatively quick and easy to address in the short to medium term. Other will require system level and step changes. This has led to thinking about the roadmap as a dual agenda which includes shorter-term changes to the existing system; and medium to longer-term changes which require system level change.

Figure 14 : Dual Agenda of a Just Transition Roadmap



Source: Author.

Figure 14 shows broadly that projects falling into Clusters 1 and 2 (projects on the left of the just transition ambition axis) will likely be funded within the current financial ecosystem. The roadmap will thus need to look at mechanisms to increase fund mobilisation, and improved quality of funding

to increase the volume of such projects successfully funded going forward. These issues are dealt with below.

The focus of the roadmap is on projects falling into Clusters and 4 (on the right of the just transition ambition axis), which are unlikely to source funding from the existing financial ecosystem, and hence require system level changes to unlock such funding.

Characteristics of lower just transition ambition projects and their implications for the financial ecosystem

As shown in Chapter 2, the sample projects in quadrants I and II (Clusters 1 and 2) self-identify as just transition projects predominantly because of the steps they have taken on participatory justice and the work they have done with workers and communities about future employment and livelihood opportunities. All of the sample projects have extensive and meaningful participatory processes in place. However, apart from strong inclusion elements, the projects are driven by technology change and new green economic market opportunities.

The projects are all mitigation or adaptation projects with strong climate credentials. They all rely on new and novel technology, none of which has been applied in South Africa to date. In two of the projects there is a short track record for the proposed technology in Europe, while in the remainder of the projects the proposed technology is still in the early development phase. All the projects share the characteristics of potentially creating downstream economic activities which could create new employment opportunities and potential new livelihoods.

In terms of project origination and capacity, all the projects in Clusters 1 and 2 are supported by large well-resourced companies (listed companies and a state-owned company) with high-skilled and capacitated champions driving the projects forward. All the project champions have strong access to the finance ecosystem and are influential players at a market level. Some of the projects are at the bankable stage of development and have in fact gone out to market.

The existing financial ecosystem is technically able to finance these projects and is in principle interested in financing such investments, given the projects attractive ticket prices. The challenge that appears is of securing finance with terms that are attractive enough for project developers to decide to implement their projects. To date the projects which have gone to market have been well received and offered term sheets (by both a private sector financial sector player and a DFI) but neither offering was deemed sufficiently attractive to trigger the project champion to proceed. This raises the crucial issue that in the case of projects in quadrants I and II, the funding challenge is less one of quantity mobilisation, but more a challenge of the quality of the finance which can be accessed.

Interviews and experts suggest that the offers received were insufficiently attractive because of three system level constraints. The first is that the South African financial system finds it difficult to price technology risk, especially risk which is emerging and has no track record. If projects such as those in Clusters 1 and 2 are to be effectively funded going forward, a South African roadmap will need to suggest actions and activities which will at a system level improve technology driven risk pricing in both the private and public sector.

A second requirement for the South African financial ecosystem to be able to support Cluster 1 and 2 projects is the need to provide increased levels of R&D, and early project development funding. This will require an expanded R&D grant system and increased angel and start-up funding for novel enterprises. Given the climate and social inclusion characteristics of such projects, the roadmap should consider the sourcing and application of offshore climate finance (and additional just

transition finance) to meet these needs. This could be achieved by negotiations with offshore DFIs and multilateral development banks (MDBs) to make grant and highly concessional loans available to such projects in line with the Global North Paris Agreement commitments. Key to such negotiations is that the supply of funding forthcoming from the Global North must address the specific demand requirements of South African just transition projects.

Finally, and most importantly, in order to finance more Cluster 1 and 2 projects going forward, the existing financial ecosystem in South Africa needs to offer a greater quantity and improved quality of de-risking mechanisms and credit enhancement tools, such that technology-driven projects with some just transition ambition can be funded at scale. Essentially the ecosystem needs to act to reduce the risk of Cluster 1 and 2 just transition projects to the funder. Options could include risk buy-down schemes, state-backed guarantees, first loss provision, political risk insurance, subordinated debt, patient capital, or the creation of risk pooling facilities. It is also crucial to leverage increased private sector funding using DFI or state grant and concessional flows to create blended products. This is an important area of future work.

Characteristics of higher ambition projects and their implications for the financial ecosystem

In Chapter 2, it was shown that Cluster 3 and 4 projects are unlikely to be funded given the existing financial ecosystem. This leads to a view (Figure 14) that a system level change is required for such funding to be mainstreamed. Six cross-cutting characteristics of quadrant III and IV projects have been identified. These provide an articulation of the challenge the financial ecosystem must address. By extension this becomes the challenge that the roadmap must address to support the system level element of the dual roadmap strategy.

High concentration of projects focused on green activities and implemented at a system level: The first characteristic that emerges from an analysis of higher just transition ambition projects is that most of the projects are concentrated on a very narrow range of economic diversification options, with high green credentials, and implemented at a system level. The system level referred to here is a natural or geographic system and not a manmade system. For example, a waterway complex that traverses multiple provinces or a biodiversity area which covers thousands of kilometres. The concentration of diversification options is unexpected given that international case studies of the diversification of the monoeconomies of European coal towns (World Bank 2018; Robins et al, 2019) delivered a broader mix of industrial, service (financial, outsourcing and hospitality), infrastructure and green activities.

The majority of projects identified in the South African sample focused on either: i) the restoration of waterways and improving the quality of water available for human consumption and new sustainable agricultural activity; or ii) the restoration of mining land to a level which supports new agricultural activity. Another shared characteristic of these projects was the scale at which they were conceptualised and need to be implemented. All the projects in these ambitious transition clusters are committed to restoring environmental harm and are thus science and nature based, resulting in project scales which are vast (in one case more than 600 square kilometres).

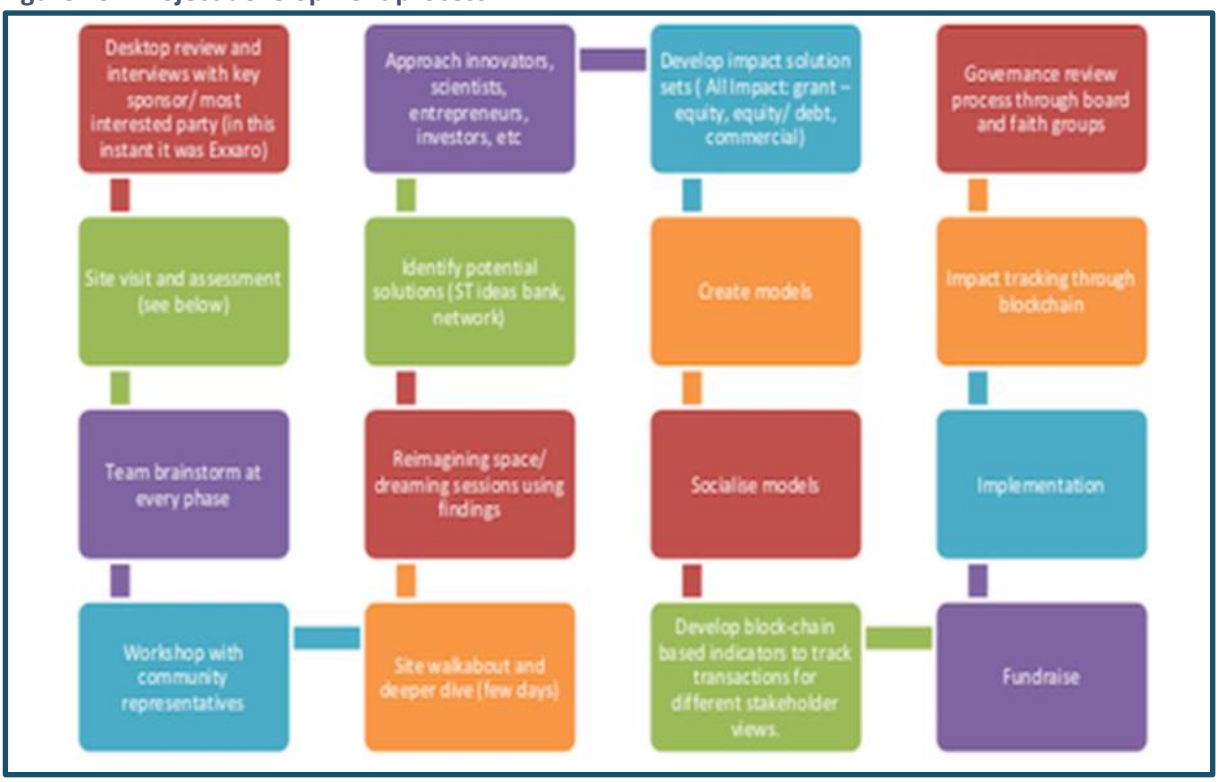
These characteristics provide both opportunities and challenges for the financial ecosystem. First, the concentration of projects in a narrow field creates an opportunity for scale and the movement away from funding individual projects to creating thematic funding options for a particular use of funds such as a land rehabilitation bond, or a facility to fund activities based on water and waterway restoration. The roadmap will need to consider how to support the creative funding of such initiatives at a project level so as to create a learning-by-doing experience which would inform future

innovation with respect to funding such programming. Various aspects could be considered including: looking at a similar process to that followed by the Climate Investment Fund (CIF) in the renewable energy proof of concept investments in South Africa in the early 2000s; or looking at ideas of how to leverage existing flows of funds in the National government, such as those provided by mining houses against future closure obligations.

A more challenging aspect of this noted characteristic is the scope and time period of such investments. Because these just transition projects are created at a system level they involve multiple locations, multiple partners and parties, and an extended implementation horizon. These will all be challenging to the existing financial ecosystem and the roadmap will need to suggest processes that will support problem-solving related to the provision of appropriate funding for such scaled projects.

The project planning process deviates from tradition project development: A second shared characteristic of high ambition just transition projects in the sample is their use of non-traditional project origination, project design processes and project screening criteria. A distinct process for evaluating and creating a just transition portfolio is evident in the majority of sampled projects. The process is extensive and novel. At a high level this process includes: i) a 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) a focus on regenerative processes and practices that restore and uplift both social and spatial contexts; and iv) emphasis on reflexivity and experimentation as transitions are processes of change (Naidoo 2021).

Figure 15 : Project development process



Source: Sustainability Truthing 2021, cited in Naidoo 2021.

The origination process (Figure 15) of one project shows a complex sequence of non-linear engagements which allow for multiple iteration of the project as the process matures.

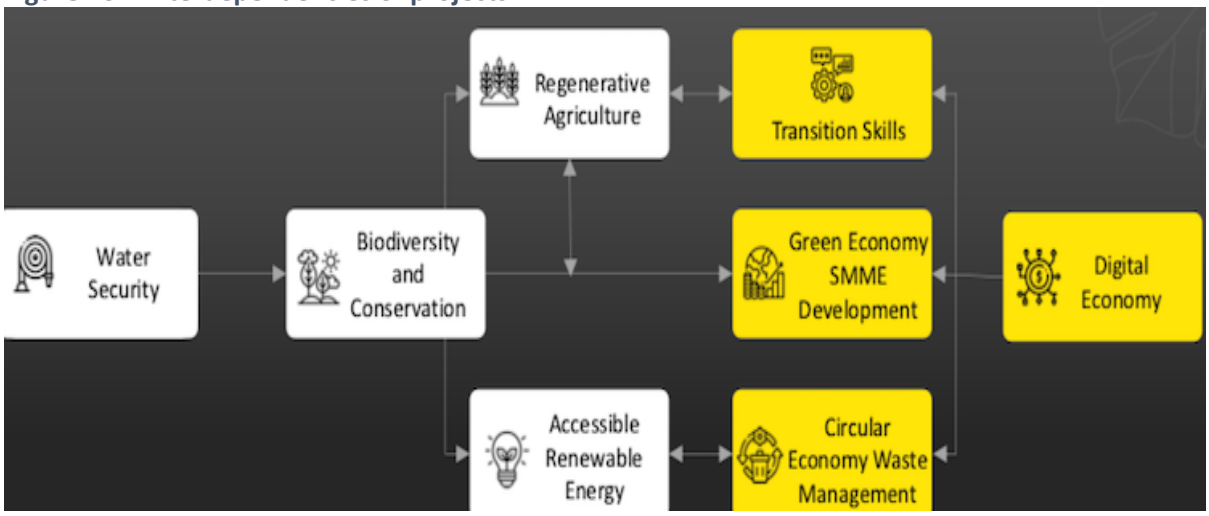
The origination process ensures that all stakeholders become investment partners with a shared a vision in the interventions that will unfold. The shared vision and graduation from stakeholder to investment partner creates a process for transition towards social cohesion and economic prosperity.

Importantly, in all projects following this expanded approach to project design, financing is not included as a screening criterion and is not considered in the project design phase. This shared characteristic appears to originate from a view that prematurely inserting the financing perspective into project design would have a limiting effect on the transformative and regenerative ambitions of the projects, as well as negatively impacting on thinking about scale, ownership and critical enabling projects within a broader portfolio of projects. A common view is that excluding financing as a screening criterion in project design allows project originators not to pre-empt what funders will and will not be willing to engage on.

This may appear naïve, but given that nationally and globally the financial sector is itself in a state of transition, and looking to be able to allocate increased capital flows to sustainable and just projects, the view of the sampled project developers is very much to question how the financial system can fit into meeting just transition project finance needs, rather than the constrained business as usual view of designing projects to meet the existing finance ecosystem's requirements. Indeed higher ambition projects will be crucial in raising the ambition, risk absorption and investment levels of the existing financial sector and help it move forward so that it becomes a meaningful enabler of, and respondent to, the country's just transition needs.

The just transition finance roadmap will need to consider how to engage on the issue of how and when the financial community, and the just transition project originator community, begin to interact so as to maximise the possibility that just transition projects are able to access the funding they require on terms that meet their needs at an appropriate time. Initial research and case studies suggest that just transition project outcomes improve the earlier financiers become involved in the project. This suggests that financiers need to change their approach from "buying deals" which are already bankable to "making deals" – a modus operandi already in place in the impact investing community.

Figure 16 – Interdependencies of projects



Source: Sustainability Truthing 2021, cited in Naidoo 2021.

Investment portfolios with interconnected projects: For most of the sample projects the focus is on a portfolio of projects rather than a single standalone project. In most of the sample, a series of

interconnected projects are observed whose strength and effectiveness lie in their ability to support and lay the groundwork for complementary projects. Looking at a Cluster 4 project (Figure 16), for example: the water security projects support biodiversity and conservation; and both are essential investments to facilitate the income-generating agricultural and renewable energy investment outcomes. These system wide outcomes are not possible without the complementary investment in skills, SMME development and digitisation.

This portfolio of projects will create substantial challenges for the financial ecosystem. Financiers will require new ways of conducting due diligence and credit risk assessments 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. The roadmap will need to suggest actions and processes which can be engaged in to work towards providing possible solutions to the challenges this portfolio approach of project development presents to the existing financial ecosystem. Currently this is viewed as the single largest challenge facing the existing financial ecosystem if it is to enable such project implementation.

Financing needs within the range of available instruments: Related to the portfolio characteristic above, an associated challenge arising from the just transition project sample in Clusters 3 and 4 is the need to access different types of funding from different financial sector stakeholders, simultaneously and in a co-ordinated manner. In several sample projects, the portfolio of projects required some grant funding, some impact investing and some commercial investing on concessionary terms. All the necessary institutions and instruments to meet these requirements currently exist in the financial ecosystem. The challenge moving forward is twofold. First, some activities in the existing financial ecosystem will need to expand, such as the role of philanthropic organisation, impact investors (local and foreign) and DFI de-risking, and blended finance offerings. Second, some form of inter ecosystem co-ordination is going to be required to ensure that portfolio funding from different entities can be negotiated, accessed and deployed in a manner which supports the timing, sequencing, and portfolio requirements of the project as a whole**.** This co-ordination function would be new to the financial ecosystem.

Capacity is an issue at multiple levels: In general, high just transition projects in the sample shared several capacity issues which would require step changes in the existing financial ecosystem. The first relates to the capacity of project partners and parties to the transaction. Such partners and parties are often new or existing community structures, faith-based organisations or traditional schemes and co-operative arrangements with little financial literacy. To be able to meaningfully participate in an inclusive manner in such projects, parties will need to be upskilled in financial literacy and dealing with issues such as share ownership and revenue streams related to ongoing activities.

A second capacity-related issue which will be challenging to the existing financial ecosystem will be evaluating project risk when multiple parties to a transaction exist – some with strong commercial track records (large initiating firms); some with no commercial track record (new community structures); and some with extremely poor commercial track records (some municipalities and local authorities). Given the portfolio design of projects and the extensive number of participants and parties across the portfolio, creating mechanisms and evaluation techniques to deal with such a range of capacity, will be an enormous challenge to the existing financial ecosystem.

A third capacity issue identified as a shared characteristic across Cluster 3 and 4 projects is the financial capacity of project originators and project developers. In the existing sample, the core

competency among project initiators and developers is either environmental and sustainability expertise or technology expertise. None of the surveyed sample had in-house finance capacity in their project development team. Better resourced projects were able to buy in transaction and financing skills, while less resourced teams find themselves unable to get project proposals up to bankable levels. This is not a new challenge for the South African financial ecosystem, but moving forward the challenge will be how the ecosystem can respond to these system level gaps and provide systemic solutions to support a dynamic and robust just transition project pipeline of investable projects. This need is likely to expand over time as non-traditional project developers are required to design and implement just transition projects in order to ameliorate sector decarbonisation plans.

The roadmap will need to consider how the financial ecosystem will be able to change to accommodate a broader and less-skilled potential client base, and a more system-wide requirement to provide technical assistance as part of the normal course of business.

A host of innovative and creative instruments, mechanisms, facilities and processes will be required to finance unitary portfolios of just transition projects: Research on the current South African finance ecosystem reveals a highly sophisticated sector with the ability to support all of the same green, climate, sustainability, impact and concessional products and facilities as Global North finance ecosystems (Carbon Trust 2021; Naidoo 2021). This ability is not always matched by appetite or application. The important point is that no major regulatory or capacity constraint exists in relation to the ability of the ecosystem to innovate if it wants to. The project sample shows that the demand for just transition financing will require a broad spectrum of financing instruments which may not be novel in and of themselves, but may be novel and innovative in where, when, and how they are employed and used within a multi-product offering for portfolios comprising multiple complementary projects. In some instances the challenge will be less the financial engineering of product solutions to meet a given portfolio of projects, but more a challenge of leveraging sufficient mobilisation of funding across different classes of investors simultaneously.

Products, tools, option, mechanisms and engineering solutions may include: increased use of, or different applications of, longer tenors; patient capital; blended finance; general de-risking and credit enhancements; new and extended solutions to pre-commercial and SMME-scale activities; working with the public sector to create smart subsidies and incentivising certain bond classes; approaches to deal with funding suites of projects with mixed ticket prices; utilising novel technologies including block chain; accommodating different and novel business and ownership models; and increased use of funding of funds. In particular the creation and support of speciality use of fund instruments such as social bonds and just transition bonds, or thematic bonds such as mine land rehabilitation bonds or indigenous agriculture bonds, can be considered.

Cross-cutting across all such potential innovations and solutions is the challenge of the financial ecosystem to meet the mobilisation and deployment of appropriate just transition finance to on-the-ground projects by bringing together the local private and public sector, with the international sector. An important challenge facing the collective domestic financial ecosystem is how to co-ordinate with, and work better with, foreign sources of capital (especially offshore DFIs, MDBs and state donor programmes). The challenge is to make sure these foreign sources of funding deliver not only the quantum of finance committed to developing countries through the Paris Agreement, but equally important is that such funding is of the quality required to meet the needs of the financing characteristics of South African just transition projects and programmes on the ground.

For some projects scale and low ticket price will be a challenge: Although the majority of the project value in Cluster 3 and 4 projects is represented by highly ambitious system level projects based on restoration of the environment, the vast majority of high ambition projects, in terms of absolute number of projects, are in fact very low-value projects. These low-value projects are a challenge to the existing financial ecosystem in that the transaction costs associated with completing due diligence is almost always higher than the ticket price of the investment. In addition. Most of these small projects have other challenging shared characteristics, including: being based on pilot scale new technology; producing new products to market; utilisation of new business models; and asset transfer and ownership to non-traditional contracting parties. Currently such projects are mainly funded through the creation of a fund of funds. The roadmap, discussed in the next chapter, considers processes and engagements which could result in either an increase of such activity, or new and novel approaches and instruments to deal with such projects.

This challenge is important as experts foresee that low ticket price, high just transition ambition projects will be the dominant form of just transition projects across sectors and geographic locations, especially in relation to non-energy transitions.

While several of the above challenges may be tackled in the short run as experiments at scale and opportunities to learn by doing, none of the above requirements will be met at a systemic level without progress on three core issues: i) clear, consistent and supportable signals from government concerning what is expected from the financial ecosystem with respect to just transition financing; ii) institutional change in the financial ecosystem at the level of policies, decision-making frameworks, systems, key performance indicators and incentive structures; and finally iii) the pivotal issue of measuring just transition activity and reporting on it (ESG).

CHAPTER 4. TOWARDS A JUST TRANSITION FINANCE ROADMAP FOR SOUTH AFRICA

The majority of international examples of Just Transition Finance Roadmaps are high-level, conceptual plans which describe the long road to be travelled before a system level change occurs, which will support the mainstreaming of just transition investment funding as part of a business as usual scenario. Given time horizon of many decades for achieving such system level change, many countries are focusing on shorter-term action plans which aim to achieve near-term results on discrete and smaller issues, which will pave the way for longer-term more systemic changes. The roadmap presented in this chapter is an attempt to marry the two approaches. First, a long-term vision of what a financial ecosystem perfectly aligned with government's climate and social development goals would look like is articulated. This articulation is an attempt to frame the destination for a long-term roadmap.

Following the long-term vision, the chapter consolidates the work of the previous three chapters and articulates what responses are sought from the South African financial ecosystem in order to meet the needs of just transition projects as they are currently understood. These projects create a base for the ecosystem to experiment with novel approaches and innovations, and by so doing lay important stepping stones for movement down the road to the long-term vision. Finally, an action plan for the next four years to 2025 is proposed. The action plan is reflective of the dual roadmap agenda described in Figure 14.

2050 Vision: The final destination

Table 2 describes the long-term characteristics of a sustainable finance ecosystem which is perfectly aligned to government's climate change response policy and socio-economic development goals.

This future system is able to mainstream decarbonisation, climate action and just transition fund mobilisation and deployment in the course of business as usual. The long-term characteristics of a future ecosystem are informed by top-down sustainable finance roadmap toolkits and case studies (such as UNEP-WB 2017; and IPSF 2020) and the bottom-up just transition financing demand characteristics of the previous section.

The future eco-system is the final destination of the just transition finance roadmap. At best such a destination could be reached in 30 years. This timeframe does not lesson the urgency of taking key steps immediately in South Africa to create an enabling environment for increased quantities of just transition finance to be mobilised and deployed; and for the existing financial ecosystem to begin experimenting at scale and learning by doing, such that some step changes may be forthcoming in the near future.

Table 2: Characteristics of a future ecosystem fully aligned to government's climate change response policy and socio-economic development goals

Characteristic	New ecosystem
Financial Stability	Short-term and long-term environmental, social, governance and developmental risks are measured, priced and managed at a system level and at the level of individual projects.
Public Finance Effectiveness	Government designs and implements an integrated set of consistent interventions that focus on creating and supporting an enabling environment for sustainable, and especially just transition finance, and that all legislative and regulatory barriers to such finance have been removed.
Culture and Beliefs	All stakeholders across the ecosystem have incorporated just transition and sustainable finance practices into their core operations and business as usual decision-making. Incentive structures are expanded beyond simple profit making and are also aligned with climate and developmental outcomes and impacts
Market Integrity	ESG disclosure measurement is standardised and effectively measures environmental, social, governance and developmental impacts and outcomes. ESG standards are adopted by all and applied with integrity and consistency. ESG standards are implemented and incorporated as standard financial market integrity practices.
Financial Access	Access to finance is universal and appropriate new sustainable and developmental instruments, mechanisms, support systems and institutional arrangements have been put in place to systemically support real economy financing needs at a sector, industry, project and transaction level.
Financial Institutional Mix	The ecosystem reflects a rich and diverse collection of financial institutions and financial support services which collectively provide the necessary scope and depth of sustainable finance mobilisation and deployment to meet the diverse nature of real economy financing needs; most especially those related to small enterprise funding, place=-based investment, early stage technology funding and impact investing.

Source: Author inspired by UNEP-WB 2017

Required financial ecosystem response to current understanding of just transition projects[4]

The place-based, bottom-up, evidence-driven approach on which the roadmap is drafted requires that the existing financial ecosystem accept the investment logic that a just transition portfolio in the South African context *is a necessary and desirable portfolio* for reducing climate, environmental, economic, governance, social, developmental and political risks. A just transition portfolio should be viewed as a mitigation strategy against the risk of stranded assets, higher social protection costs, erosion of markets, environmental degradation, increased social strife, and political instability. Just transition funding should be seen as a discrete use of funds equivalent to the use of funds for mitigation or adaptation. Just transition funding needs to be mobilised by the ecosystem as a separate pot of money to that mobilised for decarbonisation activity. This different use of funds will require different deployment mechanisms and different measurement metrics.

The financial ecosystem needs to accept that just transition risks will materialise in the short run and that just transition project financing will be time sensitive. In relation to timing, the finance system will need to fast track improvements in technology risk pricing, given that most just transition projects are based on novel technology. They will also need to respond in relation to experimenting in the short run with due diligence processes suited to transitional contexts, and long-term system level investments. Finally, the system level characteristic of many just transition projects require that the financial ecosystem respond to financing needs which focus on long-term investments (many of which will require multiple tranches of patient capital) rather than seeking short-term immediate returns. While ecosystem level change will take time, to meet just transition project demands in the short run the financial ecosystem needs to respond by engaging with current project portfolios, even in the absence of an enabling environment.

Most just transition projects comprise an interdependent portfolio of projects that cannot be deconstructed and which need to be implemented in a preferred sequence. The required response of the financial ecosystem will be to develop and pilot financial innovations that pool investment and spread risk across several investors. Innovations need to facilitate a cascading effect where essential and foundational projects are funded first; followed by subsequent projects building on these foundations. In addition, the interdependent nature of many just transition portfolios requires the financial ecosystem to move away from due diligence and risk assessment at a project level to expand assessments that deal with complex multi-project suites. Decision-making frameworks will similarly need to change, especially in relation to the functioning of traditional credit committees.

Just transition projects require a behavioural change in the financial ecosystem which fosters collaborative and sincere engagements with partners in, and parties to, just transition transactions. The financial ecosystem response will need to include becoming more involved with project counterparts and engaging with project design and development earlier than is undertaken at present. Just transition projects will require the financial ecosystem to respond to the demand for finance access by traditionally marginalised groups, especially the youth, women, SMEs, start-up entrepreneurs, and communities with no commercial track record. To enable and support these more collaborative engagements the system, as a whole, will need to offer a greater range of support services, capacity building and technical assistance as part of its business as usual offering.

[4] This section is based on the findings of an expert piece of analysis commissioned by TIPS to support the roadmap research effort. The complete expert paper written by Chantal Naidoo (2021) is available at: https://www.tips.org.za/images/Insights_for_South_Africas_Just_transition_Finance_Roadmap_Nexus_of_project_needs_and_financing_response_Chantal_Naidoo_Rabia_Transitions_Initiative.pdf

The capacity and capability demands of these required responses is substantial and support mechanisms to foster and develop such skills will need to be sought through the wider ecosystem (and especially with the support of global platforms and Global North partners as per their Paris Agreement pledges).

Over and above new relationships between financial institutions and their "clients", just transition financing will also necessitate institutions and enterprises within the financial ecosystem to learn to work together in new and innovative collaborative ways. This is due largely as a response to the portfolio nature of most just transition projects. Inter-financial institution relations along the investment value chain will need to become increasingly integrated, mutually re-enforcing and seamless. Increased explicit institutional co-ordination will be needed – a role which does not exist in the current system. Finally, the ecosystem will need to respond with increased partnerships between the public sector and the private sector, the offshore DFI and MDB sector, and the domestic finance sector. Partnering and pooling of investors will likely be a defining characteristic of a future just transition financing ecosystem.

A last requirement the financial ecosystem will need to respond to is the need for innovation. Innovation capacity has never been a constraint in the South African financial ecosystem. Private sector innovation needs to begin immediately at an experimental transaction level so as to begin to impact public sector finance policy and regulatory thinking, not only to provide supportive policy, but to provide appropriate incentivisation.

For the financial ecosystem to respond to any, or all, of these financing demands (in either the near term or the long term) will require a rich and dynamic mix of iterative thinking about an evolving enabling environment, new behaviours and cultures around climate and social risk and opportunities; and a plethora of innovations in incentive structures, instruments, institutions, frameworks and technology application.

The following section considers a list of activities and interventions which need to be taken forward in the next four years to begin to meaningfully move the needle on the just transition finance discourse in South Africa. In addition, the list of activities support the implementation of proof of concept just transition projects, such that a body of evidence emerges to better guide the broader discourse, the collaborative engagements of the public and private sector, and, to inform future iterations of the just transition finance roadmap.

The action list is broken down into five categories: i) policy, regulation and public finance measures; ii) instruments; iii) institutions; iv) disclosure, monitoring and evaluation; and iv) issues related to international finance institutions.)

Roadmap Short-Term Action Plan 2022-2025

Public finance measures, policy and regulation: Antoine de Saint Exupery's wrote in Citadelle (1948) that "as for the future your task is not to foresee it but to enable it". This is an appropriate statement of the expectations of the South African state in facilitating the country's financing of a just transition.

The South African state has multiple avenues it can travel which will signal, support and catalyse financial ecosystem movement down the road towards a business as usual scenario that mainstreams just transition transactions. As highlighted several times in the preceding chapters – the road towards a future aligned financial ecosystem needs to be travelled in unison with the public, private and international sector consistently engaging and providing evidence, information and experimentation learnings into a constantly evolving collective discourse. In South Africa, this

collaboration is seen across multiple existing working groups and processes and, as progress is made, interactions may benefit from becoming formalised and (in some instances) institutionalised. The creation of the Presidential Climate Commission is an important building block in the development of such arrangements and this will be augmented, by the soon to be published, Climate Bill.

The state plays a crucial role in creating an enabling environment through the policy positions and regulations of core public financial ecosystem players, most especially the National Treasury, South African Reserve Bank, the Prudential Authority and Financial Sector Conduct Authority. While many pundits are eager to see such institutions make progress on adopting global principles and standards, and to begin work on impactful regulations such as the King Code or Standards and Labels, more preliminary steps are required.

At present, the public sector policy and regulatory approach to sustainable finance has been based on ensuring the stability of the financial system (National Treasury 2020). This is obviously the first and most essential deliverable of public sector financial policy. The National Treasury technical paper looks at the inclusion of environmental risk, and the challenge it poses to the stability of the financial system. The paper does not reference, and the current discourse does not specifically raise, the challenge of social stability and the risk of widespread social degradation and strife to the financial system. This risk needs to be accepted as a real and imminent risk if the state finance machinery is to accept the central importance of a decarbonising transition which has as a central tenet – leave no one behind.

As such the roadmap envisages that, in the immediate short term, key state financial institutions and authorities frame, develop, consolidate and articulate their official view on a just transition; and the depth and breadth of the challenges of achieving its goals. The work of the Presidential Climate Commission, and the recently formed Inter-Ministerial Committee, will provide valuable direction and input. From these official views, the roadmap would foresee the next logical step being for these institutions to precisely define their *mandates* for how they will encourage and support behavioural shifts that will achieve the financing needs of the just transition in South Africa.

Mandate definition is crucial, but will not be easy to resolve given the overlap between a just transition agenda and the more generalised social development agenda of the country. Mandate clarity is also crucial in terms of the role of the state versus the role of the private sector; and how the issue of the provision of social protection measures are to be financed. Distilling this clarity and providing certainty regarding public finance institutions commitment, purpose and mandate will inform the public sector's parameters of engagement. These will in turn provide a higher degree of certainty and situational awareness for the private sector and offshore financial sector community. Such resolution is a starting requirement to begin the roadmap journey and should be prioritised in the next four years (and hopefully completed within two years).

Signalling is crucial to catalyse private sector activity. Simultaneously (but very importantly) clarity will positively impact the complicated development processes currently underway to think about social taxonomies, indicators, reporting frameworks, and disclosures which are foundational for any meaningful new allocation of capital towards just transition projects and programming

Unfortunately there is little research, few case studies, and limited guidance on the issue of just transition challenges, as either a subcategory of ESG, or, as additional to current ESG thinking. While resources are available for sustainable finance practice and learning in this field, the reality is that South Africa will be taking the lead in specifically recognising and articulating social risk at a level

where official positions on just transition financing are required by the collective national finance institutional structure.

While the state's financial architecture is dealing with the crucial issues of how to develop a stance on the just transition and establish appropriate mandates, there are short-term actions which can nevertheless be considered, researched and explored as possible avenues to support place-based just transition finance flows.

The first opportunity the state can leverage to catalyse and support change in just transition finance mobilisation and deployment is through direct public finance measures. Probably the most crucial of these relates to improving the capital position of the country's DFIs so that they are better positioned to play their traditional developmental role by being a source of grant and concessional funding for (in this case) just transition projects and programming. Currently the state is unable to underwrite the losses of its DFIs due to limited fiscal space. The result is that DFIs operate on a for-profit basis with less space to support their developmental mandate. If the state is able to inject capital into such institutions, increased space for developmental grants and concessional loans will be created, allowing such DFIs to be more impactful in their development mandate. Such capitalisation would also lay the basis for increased blended finance products and mechanisms and, critically, start to crowd in private sector funding. Given the current limitation of state fiscal space, the role of international DFIs and Global North governments which have made financial pledges under the Paris Agreement and COP26 becomes a crucial potential source of cheap (or free) capital.

Over and above increased direct financial support of DFIs, the government needs to consider the range of credit enhancement tools at its disposal, and identify if deploying such tools would be advantageous in the current context of just transition activity. Key credit enhancement tools the state should consider and evaluate are: risk buy-down schemes, state-backed guarantees, political risk insurance, and the creation of risk pooling facilities. Any assessment of the merit of the state providing such enhancements in support of the just transition will need to be balanced with the state's actual room to make such offerings given limited current fiscal space. In the IFI section below, it is suggested that the state enter discussions with IFIs about the role they can play in credit enhancement schemes.

A second route of direct public finance measures which the state should consider in the near term is the offering of incentives. Incentives could be designed to support just transition projects. Incentives could also be designed to support just transition project inclusion into the investment portfolios of banks and pension funds. For example, providing tax advantages to investors, such as tax free status for interest and other income received from just transition instruments, would de facto increase the return to an investor, and increase funds mobilised for such activities. There is a precedent for such incentives. In relation to sustainable finance, the government has provided: tax exemption for revenue earned from trading certified emissions; accelerated depreciation for machinery used for renewable electricity generation and bio fuel; and a R&D tax incentive for green technology.

Research should be undertaken to investigate the success, relevance and learnings from such programmes, and this should be shared with relevant parties able to consider the construction of just transition incentive options. A key incentive required in the short run, but which will require substantial out of the box thinking, is a means for the state to incentivise the private financial sector to experiment with novel just transition project funding frameworks, tools and mechanisms. Incentivisation for project experimentation (at a transactional level) needs to be seen as a separate activity from incentivisation at a portfolio level for different asset classes.

The state could also research and consider adopting policies which support line departments and local municipalities funding just transition demonstration projects. These projects would be designed to showcase novel funding solutions not novel technology. Funding could be provided directly, through DFIs, or as a blended finance option with the participation of the private sector. Such "flagship projects" could provide a demonstration effect of what is possible in innovative funding of just transition projects. Such demonstration projects could be considered by the Department of Trade, Industry and Competition, Department of Forestry, Fisheries and the Environment, and the Department of Science and Innovation, as they are core contributors to the just transition agenda requirement of place-based economic diversification. It is not clear whether this is an appropriate course of action. Previous flagship projects in the climate finance space have proven unsuccessful.

Finally and most topical in the current just transition finance discourse is the issue of the state establishing a Just Transition Fund equivalent to (for example) the EU Just Transition Fund, which is separate from the EU's Green Deal funding mechanism. This option is considered under institutions below.

Instruments: In interviews with local financial ecosystem players, it became clear that, given the dynamism and sophistication of the local market, little guidance should be required from the roadmap in terms of innovative instrument development per se. In response to a mandatory policy requirement or an attractive risk-related return opportunity, the current financial ecosystem can efficiently and effectively create the necessary instruments if it wants to. To enable such instrument development, clear signalling from government will be required and regulatory pressure (as per ESG in relation to climate finance) will need to ramp up. An enabling regulatory and legislative environment will need to back up these signals. On the support side, de-risking and credit enhancements will need to be provided. It is also likely that sweeteners will be required to move the ecosystem over time. The roadmap research agenda will consider options such as cost sharing on due diligence and transaction costs; incentives to experiment; and possible tax breaks on instrument returns. As these will be complex and time consuming to deliver, the action plan suggests an initial focus on a few key instrument innovations. This will allow markets and authorities to gain substantive, process and collaborative learnings, which will be crucial to support a longer-term and more extensive range of instrument innovations in the future.

The first area of instrument innovation and experimentation to be prioritised in the four-year action plan relates to standard and sustainability focused finance instruments. These are already widely used in South Africa, mainly at the level of larger corporates and in the listed securities market. The standard instruments used are issuances through Domestic Medium Term Note Programmes (securities with maturity profiles between one and five years) and Commercial Paper (securities with maturity profiles of less than one year). These two instruments can be adapted and utilised for purpose-driven capital raisings to support the mobilisation of funds for the just transition. The innovation that would be required is to define an appropriate use of proceeds that focus on the social, environmental and economic impacts that just transition projects seek to achieve. In the absence of progress on ESG, a lack of clarity on what a just transition is, and what indicators need to be measured, progress on developing consistent and rigorous parameters for a just transition use of proceeds becomes a highly complex, risky and experimental task.

Initial frameworks, and use of funds, have been developed and piloted (for example the Development Bank of South Africa's (DBSA) Green Bonds and current work on a Just Transition Bond). In the next four years, the just transition finance action plan calls for such initiatives to be tracked and studied, and results interpreted and socialised, such that there is ecosystem wide

learning by doing, and increased experimentation at scale. Importantly, formalising such learnings will allow for easier engagement between the public sector and private sector on the creation of an enabling environment. Such learning will also positively impact thinking about access to (and the role of) Global North capital pledges in the expansion of such instruments. Creating (possibly formalised) mechanisms or facilities which allow for iterative learning, and the free flow of evidence between the public and the private sector, will be crucial in the collaborative effort required to support system level change in the long run.

A second instrument which should be prioritised for further consideration and experimentation in the next four years is the social impact bond (SIB). This bond market is nascent, but scaling up such a market creates the opportunity for new investment partners in the just transition. SIBs are technically not seen as a bond per se since repayment and return on investment are contingent on the achievement of desired social outcomes. If social outcomes are not met, the investor gets no repayment of the principle and no return. If social outcomes are achieved, the investor receives a return, but case studies show that the rate of return is below the market rate. SIBs currently exist because there are investors which place value on social impacts and not only financial returns. SIBs are notoriously difficult to structure because it is hard to determine the success of a SIB, given that social impact is hard to measure. To date, globally, the SIBs market is dominated by issuance from the public sector; however given the vision of a future financial ecosystem as described in Table 2, expanded private sector issuance would be anticipated as part of a business as usual scenario.

As such, in the next four years it would be important to see public sector DFIs (especially DBSA) make meaningful progress on testing the market and providing experimental evidence of the challenges and potential of SIBs as an instrument to fund a just transition. Over time, the roadmap would envisage that the Johannesburg Stock Exchange (JSE) would expand its work on sustainability and transition-related securities listing guidance to explicitly include the just transition. Similarly, in time, even banks and pension funds could consider listing social impact bonds, or privately placing such bonds to attract investment from philanthropic investors or high-net-worth individuals. This would widen and diversify the source of funds being tapped to invest in the just transition.

A third instrument of interest for investigation and experimentation in the next four years relates to risk pooling mechanisms. Risk pooling is the collection and management of financial resources so that large, unpredictable individual financial risks become predictable, and are distributed among all members of the pool. The findings of the place-based research sample showed clearly that most just transition projects are not single standalone investments but portfolios of interrelated and interdependent projects, which have a diverse range of capital requirements and return profiles. The point raised in the previous chapter is very much about the challenge of the financial ecosystem to fund such portfolios as a unit without cherry picking. Facilitating such funding solutions will require a myriad of different types of investors to come to the table. These different financial actors will need to collaborate and structure their investments, such that residual risks are shared across actors. In principle the state or offshore DFIs could support such risk pooling as part of their credit enhancement approach.

Although this topic has not received much attention in South Africa to date, the understanding of the nature of just transition projects identified through the research, shows that risk pooling mechanisms are likely to be pivotal along the road to financing a just transition. As such, the four-year action plan suggests that research and discussion on such mechanisms be prioritised and fast tracked. This could initially occur through the existing National Treasury Sustainable Finance work stream on instruments (if the scope of the work stream is/or could be expanded to include the just transition).

A final issue, which requires immediate action in relation to instruments for the just transition, is for the public and private sector to immediately undertake an inventory of unutilised sources of finance that can potentially be leveraged to increase financial flows towards a just transition. For example, regulations published under the National Environmental Management Act No. 107 of 1998 requires that during the life of a mine, or premature closure, or at final closure, all mining operations in South Africa need a financial provision to be in place. This provision guarantees that sufficient funds are available to undertake the rehabilitation of environmental damage caused by mining activities. Such monies are disbursed across different institutions. Similarly, Renewable Energy Independent Power Producers Procurement Programme requirements have resulted in considerable enterprise development and socio-economic development contributions which have not been deployed. Once an audit of such funds has been made, a collaborative effort between the public and private sector can be considered to think through options of how such funds can best be leveraged to increase financial flows towards the just transition. Other sources of unutilised sources of finance should also be considered.

A final word on instruments is that, although the roadmap is driven by evidence collected from a sample of projects, it is important that the scale at which instruments for a just transition are considered in the medium to long term is not at a project level. Rather, it is necessary that instruments be considered at the level of themes, challenges and/or outcomes. Attaining scale is crucial, given the magnitude of transitioning, which will be required if the country's NDC commitments are to be achieved. Scale is also crucial for mobilising offshore funding, and especially Paris Agreement pledges.

For example, one of the Cluster 4 projects in the sample provides a new and novel approach to mine closure and the amelioration of such a closure on workers and the proximate community. The just transition ambitions of the project have been extremely well-received and interest has been shown across the mining sector at the possibilities of the approach. This project can, and should, be an experimentation case for the financial ecosystem. If the project is successful, it essentially creates a potential framework for all just transition mine closures in South Africa. This would allow for a thematic, and very large scale, financing mechanism to be established which would be of interest to Global North investors with Paris Agreement obligations. It is through project experimentation and learning that more scalable and systemic innovations, and step changes, will be achieved. Project financing is thus a stepping stone to the development of larger just transition facilities.

Institutions: Given that the long-term vision of the financial ecosystem requires system level change, it is unsurprising that a just transition finance roadmap would contain an extensive list of possible actions and activities that the public and private sector should consider in relation to institutions. This long-term list would include inter alia: i) ecosystem composition issues such as the need to increase the number and depth of institutions operating in the impact investor, angel investor, venture capital and fund of funds market in South Africa; ii) the need for financial institutions to change key performance indicators and incentive structures so as to support the allocation of capital to just transition programming and instruments as part of the core business of the institution, and not just a niche activity; and iii) a substantial list of institutional capacity development requirements including but not limited to technology risk pricing, engaging with ESG and just transition information and indicators, new skills and capacities related to co-creating projects by getting involved in deal making rather than deal buying , collaborating and co-ordinating with other financial institutions to provide comprehensive and co-ordinated access to appropriately structured and priced finance for portfolios of projects, capacity and capabilities to design and implement new project evaluation, and assessment instruments and frameworks.

Given that the roadmap is limiting itself initially to a four-year action plan, and given the lack of clarity concerning public sector finance institution mandates on the just transition, the short-term action list, in the institution category, is limited to three issues: i) starting the conversation about financial institutions changing their investment strategies to directly include just transition goals and investments; ii) supporting institutions willing to experiment and create proof of concept transactions; and iii) of course the high-profile topic of considering the institutional options related to the establishment of a Just Transition Fund for South Africa.

The first proposed activity relates to increasing awareness across the South African financial ecosystem of the just transition (as opposed to the more broadly socialised and understood concepts of climate finance and or sustainable finance). In research done to support the roadmap, a survey of local financial sector players (Martens 2021) showed that financial institutions which had formal ties with, and exposure to Global North markets, had a deeper and more confident view of what the just transition is, and the risks, opportunities and expectations related to the concept for a financial institution. Local institutions without such exposure did not have as strong an understanding. There is thus an immediate short-term need to sensitise the financial ecosystem to the challenges, opportunities and risks related to specifically the just transition (as opposed to the more generalised challenges, opportunities and risks of sustainable finance).

As the private sector is waiting for clarity from the public sector, and while the public sector is deliberating and attempting to co-ordinate its just transition view and specific mandates, pragmatically it falls to the academic, research and activist community to forefront such issues in the immediate short run. Narrative and discourse articulation; contributions towards shared language; setting up straw man examples to move the needle on discussion and understanding; and access and dissemination of global shared views, practices, case studies, standards, labelling and disclosures will all assist in creating a more fertile ground for future movement down a just transition financing road. Such research can also crucially identify agendas of engagement for public and private financial sector collaboration, as was seen in the process to create a South African specific Green Finance Taxonomy.

The second institutional issue the roadmap seeks to make progress on in the next four years is the fast tracking of actions to support and incentivise the funding of proof of concept and experimentation just transition project funding (such as some of the projects identified in the research sample, or some of the just transition projects currently being designed by Eskom). Very interestingly, in the Global North there are case studies of financial institutions actively seeking first mover advantage into just transition project financing (Robins et al. 2019). In South Africa, a study by Martens (2021), shows exactly the opposite behaviour, with local financial institutions saying that they are interested in funding such projects, but would never do so publically, due to the perceived reputational risk of being accused of just transition washing or lacking ambition in relation to the just transition. In addition, institutions raised the issue of the challenge of potentially having underperforming investments in a market which is so small.

With the uncertainty, lack of clarity, nascent nature of the just transition finance space, and a South African concern regarding reputational risk, it is very difficult to imagine that the local private sector will unilaterally take the first step in such proof of concept experimentation. Similarly, given the process of establishing a just transition process and mandate across the public sector, it is unlikely that direct public finance measures, line item departmental budgets, or even DFI investments, will be forthcoming without substantial risk sharing from global investors, IFIs or MDBs.

The role of foreign DFIs and MDBs in supporting experimentation, proof of concept and market making was well-documented in the renewable energy space in South Africa in the early 2000s

(IFC, 2016). This approach will need to be replicated for just transition project finance, and proof of concept of innovative financial structuring, instrument design, project assessment, risk pooling and implementation. Such a proof of concept could form part of the COP26 Political Declaration task team's deliberations. A preferred option would be to use existing global climate financing platforms and mechanisms mandated to support developing countries to implement their climate obligations. Various on-the-ground programmes already operating in the climate finance space in South Africa could be approached and progress made in 18 to 24 months to finance at least two proof of concept projects.

The third and most talked about institutional issue in the just transition discourse is the idea of a single, purpose built Just Transition Fund (JTF). The most well-resolved thinking related to a JTF globally is that of the EU. As shown briefly below, the EU example shows the complexity of public sector led just transition financing, and the fact that a JTF is an insufficient intervention on its own. In the EU, the JTF is part of a three pillar Just Transition Mechanism (JTM) and not a standalone silver bullet.

The JTF is the first pillar of the JTM in the EU. It is a key tool to support the most affected locations negatively impacted by undertaking climate neutrality activities. The fund is capitalised with fresh money (i.e. money over and above the €100 billion funding available to implement the Green Deal across the EU) to the value of €19.2 billion. The fund is designed specifically to alleviate the socio-economic costs triggered by climate transition. The fund supports the economic diversification and reconversion of locations negatively impacted. This means backing productive investments in SMEs, the creation of new firms, research and innovation, environmental rehabilitation, clean energy, upskilling and reskilling of workers, job search assistance, and active inclusion of job seeker programmes. The fund is anticipated to mobilise (crowd in) close to €30 billion follow-on investments.

The second pillar of the EU's JTM is a dedicated scheme under InvestEU. InvestEU is a strategic investment plan to broadly support a green and competitive European economy. Under this plan, there is a dedicated facility to support a broader range of strategic investments in locations negatively impacted by transitioning activities. The locations for the JTF and the InvestEU scheme are the same locations, but the scope of projects financed differs. InvestEU funds can be applied to energy, transport and social infrastructure but also decarbonisation projects and large-scale strategic investments in economic diversification investments. Crucially, this dedicated scheme differs from the broader scheme in that the European Commission provides budgetary guarantees to implementing partners. In addition, there is an InvestEU Advisory Hub established to assist the development and implementation of projects in such locations. The hub provides tailor-made technical assistance and capacity building for project promoters. Thereafter the hub offers advisory support for the identification, preparation, development, structuring, procuring and implementation of projects in impacted locations.

The third and final pillar of the EU JTM is the Public Sector Loan Facility. The facility will combine €1.5 billion of grant financed from the EU budget, with €10 billion of loans from the European Investment Bank, to mobilise between €25 billion and €30 billion of public investment that will meet the needs of just transition locations. The instrument is exclusively targeted to public entities to provide support to projects that do not generate a sufficient stream of own resources to be financed commercially. Projects are expected to include public infrastructure investments in areas such as energy and transport, energy efficient building renovation, and social infrastructure.

The EU approach suggests some signals that are relevant to thinking about just transition funding in South Africa. First, it underscores the notion of fresh money for just transition investments over and

above financing for decarbonisation activities. This supports the point raised at the outset of the roadmap that a separate pot of money for the just transition is required; and that climate finance predominately driven by seeking GHG emission reductions, will not be an appropriate avenue for achieving people-driven outcomes as envisaged in the just transition. Second, the EU approach reinforces the point of departure that just transition projects must be considered at a place-based level. Finally, the EU approach shows the multiple levels at which funding is required to support locations negatively impacted by decarbonisation activities. This suggests that while a JTF may be part of the solution to mobilising and deploying funds in areas of South Africa negatively impacted by decarbonising action, it will not be a complete answer and should not be viewed as a silver bullet.

South Africa has an extensive track record of purpose-driven funds such as the Jobs Fund, Infrastructure Fund, Green Fund and Youth Fund. An analysis of the effectiveness and efficiency of such single, centralised, national approaches needs to be considered in the context of a just transition, especially given the place-based nature of such funding requirements.

Some suggest that a single, primary, just transition fund in South Africa will entrench the fragmentation of how the just transition is engaged with at present. These proponents suggest placing access to funds closer to the beneficiaries of such funds, and with limited use of intermediaries (Naidoo 2021). Examples of such approaches can be found in Kenya's provincial climate change funds, India's mining restoration fund, and some regionally based US funds. Similarly, it would be useful to consider the structure and operationalisation of climate investment funds developed by multilateral development banks to accelerate climate action. These examples provide rich learnings about how finance facilities located at different institutions can collectively deploy finance for shared outcomes. Ideas in the South African just transition finance discourse have raised the idea of locating just transition financing facilities within every financial institution, such that each bank, pension fund and DFI would have access to a special pool of funding to support any residual risks of financing a just transition that an institution is unable to absorb.

As an immediate action requirement, research must be commissioned to consider different possible institutional and operational structures for a South African just transition fund, or funds, or facility. An understanding of the different structures' pro and cons need to be articulated, so as to fast track and catalyse, collaborative discussions between the private, public and offshore funding sectors on piloting or designing such a key institution/institutions/facility utilising existing institutions.

Disclosure, monitoring and evaluation: The disclosure issue is central to any forward momentum at a system level regarding the mainstreaming of just transition finance. As the existing sustainable finance ESG disclosure discourse has vividly illustrated over the past decade – meaningful disclosure is a hard nut to crack and one which has remained elusive to date. In the general literature there are three broad areas of concern related to disclosure: i) the need for appropriate disclosure across *all* layers of the real and financial economy (including public finance actors); ii) the lack of a common approach to what should be measured and how it is to be measured; and finally iii) whether disclosures should be voluntary or mandatory.

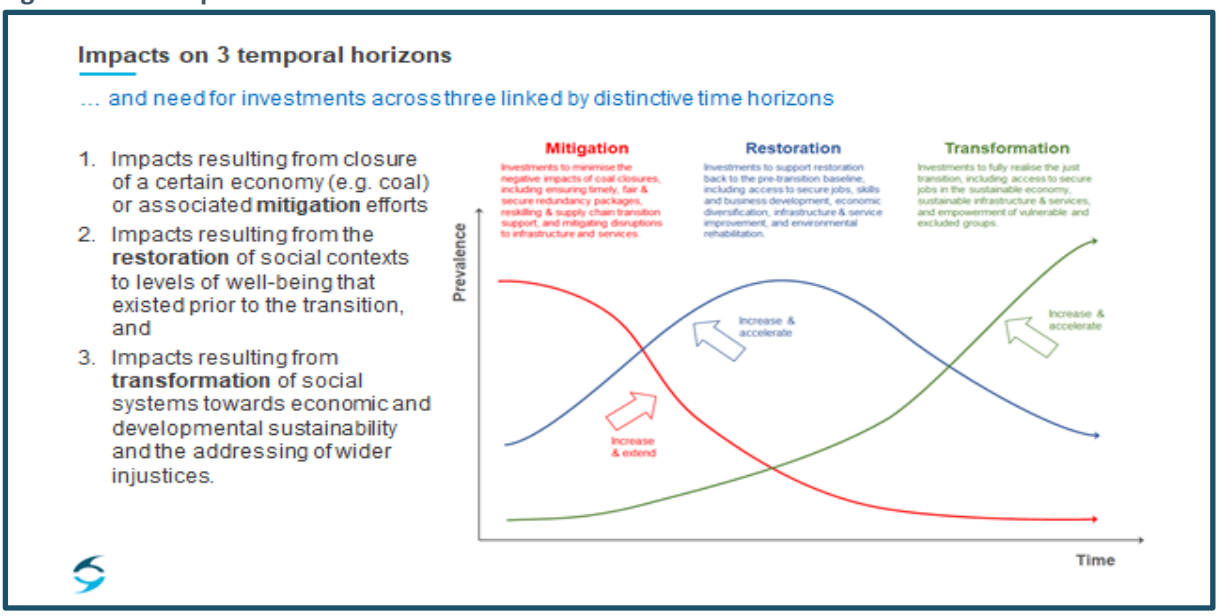
Further work on the roadmap will need to identify actions over time that will contribute to collaborative activities, which will see ESG (or a future description of ESG which covers additional areas of just transition ambition) as a universally applied disclosure system; and which will provide consistent, transparent, comparable and reliable indicators as a basis for the allocation of capital towards projects such as just transition projects. This action list is (and will continue to be) substantial in the near, medium and long term. For the next four years, the South African roadmap suggests that action be focused on research, discussion and collaboration aimed at providing an experimental, working matrix of "what needs to be measured" to identify and differentiate just

transition investments from other types of investments. This thinking will play an important role in supporting project financing experimentation and the proof of concept detailed above. It will also provide important lessons and learnings, which could be applied more generally across the wider ESG discourse.

In research completed to support the roadmap, some interesting initial work on just transition social indicators was completed. This work aimed to provide more granular thinking of how the horizontal axis of the framework described in Figure 7 could be conceptualised and ultimately measured. The social indicator research (Synergy Global 2021) is derived from a mapping of social indicators representing a just transition, and the social indicators which would represent an unjust transition (see Annexure B). To move from an unjust outcome to a just outcome relies on a series of activities and these activities are linked to indicators, creating a first cut at what could be a list of potential just transition indicators.

The research then looks at such indicators from a temporal perspective understanding that closing down a power station or a mine will have immediate impacts, which require immediate mitigating activity, such as alternative job creation for retrenched workers. Such immediate activities are aligned to lower just transition ambitions as per the quadrant framework in Chapter 2. The Synergy research suggests that over time additional activities can be undertaken (Figure 17) in response to negative impacts of decarbonisation actions which may have more ambitious just transition impacts (which they term restorative actions); or very high ambitious just transition impacts (which they term transformative).

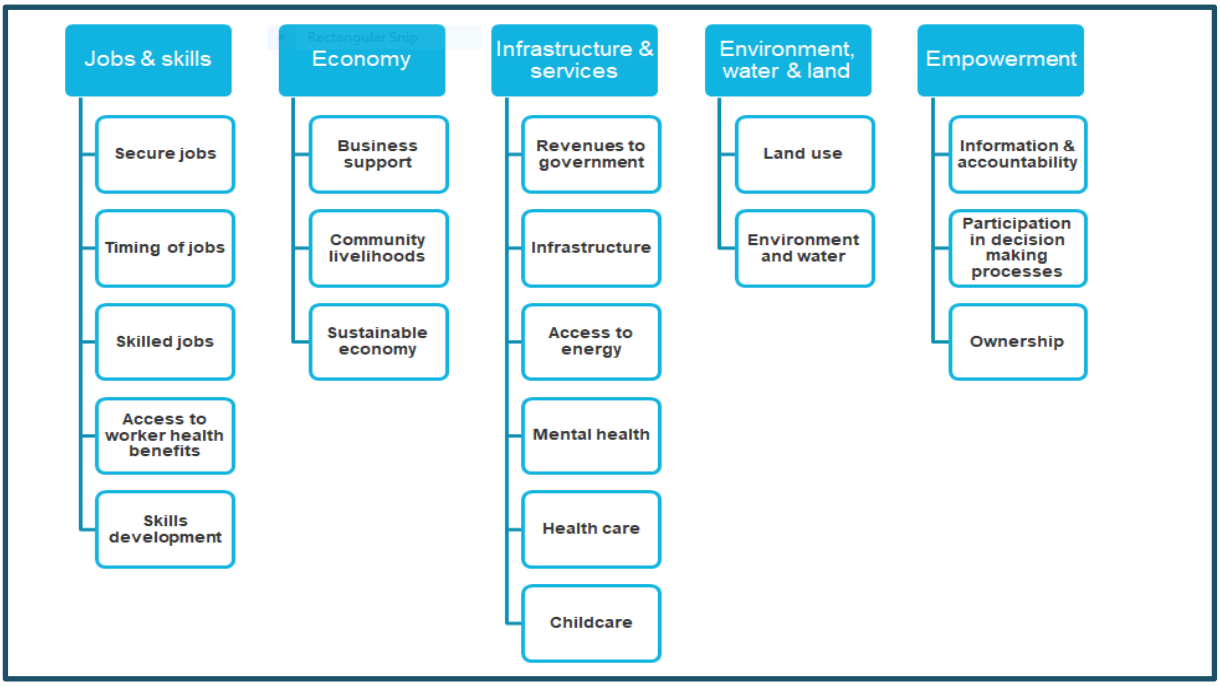
Figure 17: A temporal consideration of social indicators



Source: Synergy Global 2021.

Language is obviously a challenge in this first iteration of just transition indicators. However, the broad spectrum of indicators considered (Figure 18 shows an aggregated list of buckets of indicators which are disaggregated in the document); and the temporal nature of the indicators allows for an appreciation of the complexity of the task of moving the needle regarding what will, and what will not, qualify as a just transition investment.

Figure 18: High-level just transition indicators



Source: Synergy Global 2021.

Although this iteration of the roadmap limits disclosure actions over the next four years to better understanding potential just transition indicators, it would be remiss not to mention a range of associated issues which will need to be dealt with further down the road in relation to just transition finance. The first is the issue that ESG disclosure be expanded to cover all public finance actors. The second relates to monitoring the relative disclosure behaviours among financial ecosystem players to understand how such disclosures can complement each other in promoting a just transition, or whether such actions are creating barriers to such financing flows. A third topic of discussion relates to mandatory versus voluntary disclosure tools; the need for internal consistency across individual firms and financial institutions in South Africa; and the need for convergence with international disclosure norms.

The role of international DFIs, MDBs and Global North Paris Agreement pledges: Diverse views exist on the role of IFIs in the funding of South Africa's just transition. Some believe international funding should be seen as an enhancement to local financing actions but not a substitute for it. Others believe that the Global North should pick up the bill entirely for all of South Africa's decarbonisation, climate change impact and transition costs. The government will play an important role in negotiating the terms, conditions and extent of financial and non-financial support received from IFIs. This will be an ongoing task that will evolve over time; however, the research and analysis underpinning the roadmap suggests a few core issues that should be considered in any activities over the next four years.

The first is that the analysis and place-based, bottom-up research evidence strongly points to a view that just transition finance in South Africa needs to be considered as a separate pot of money from climate finance. The distinction between investments that will chase GHG emission reductions (climate finance) and investments that will chase socio-economic impacts (just transition finance) is real. This distinction is accepted in the EU where "fresh" money was made available (over and above the financing of the Green Deal) to specifically fund just transition projects. As such, the Global North pledges of US$100 billion a year or developing countries, made prior to the acceptance of the need for a just transition, need to be increased to cover transitional costs through additional commitments.

The second issue related to the South African just transition and the role of IFIs concerns the terms and conditions of funding and their impact on the fiscal space. At its most basic, substantial inflows in the form of loans (even if at 0% interest), or deals which require government guarantees, will decrease domestic fiscal space. However, substantial grants received from IFIs can provide expanded fiscal space for the government. Increased fiscal space could be created if IFI grant funding catalyses higher GDP growth, resulting in increased taxation revenue. Increased fiscal space could also be created if, for example, social infrastructure projects or economic diversification projects, currently financed by the government in locations that qualify for just transition funding, could be funded from a new and separate pot of IFI grant monies. As decarbonisation activities are accelerated across sectors and locations these "localised socio-economic development savings" could be substantial and allow the state to consider expanded social protection measures such as a basic income grant.

The third issue that local ecosystem stakeholders need to address with IFIs is what type of just transition funding is required in the short term while the country is experimenting and learning about just transition finance. The roadmap urges that the discourse with IFIs on the quantum of just transition finance required in South Africa urgently be expanded to consider the quality of funding. Specifically, a conversation needs to begin about whether the financial flows being offered by the Global North match the demand for funds as characterised by place-based just transition projects.

The roadmap also suggests that the government prioritise work on accessing offshore funding to inject capital into the country's DFIs to support a specific just transition mandate and use of funds. Negotiations with IFIs (most likely MDBs) should also look at how such institutions can assist the South African finance ecosystem to experiment with new and novel financial approaches, instruments and mechanisms. MDBs could support the funding of proof of concept projects and hence assist in making a market for just transition finance. Detailed conversations are also required with IFIs on the specific types of de-risking, credit enhancement and blended finance support required in these early days of moving towards a system level change for the ecosystem as a whole.

Finally and far less contentious, the role IFIs and partner governments can play in supporting research, knowledge transfer and capacity building needs to be considered.

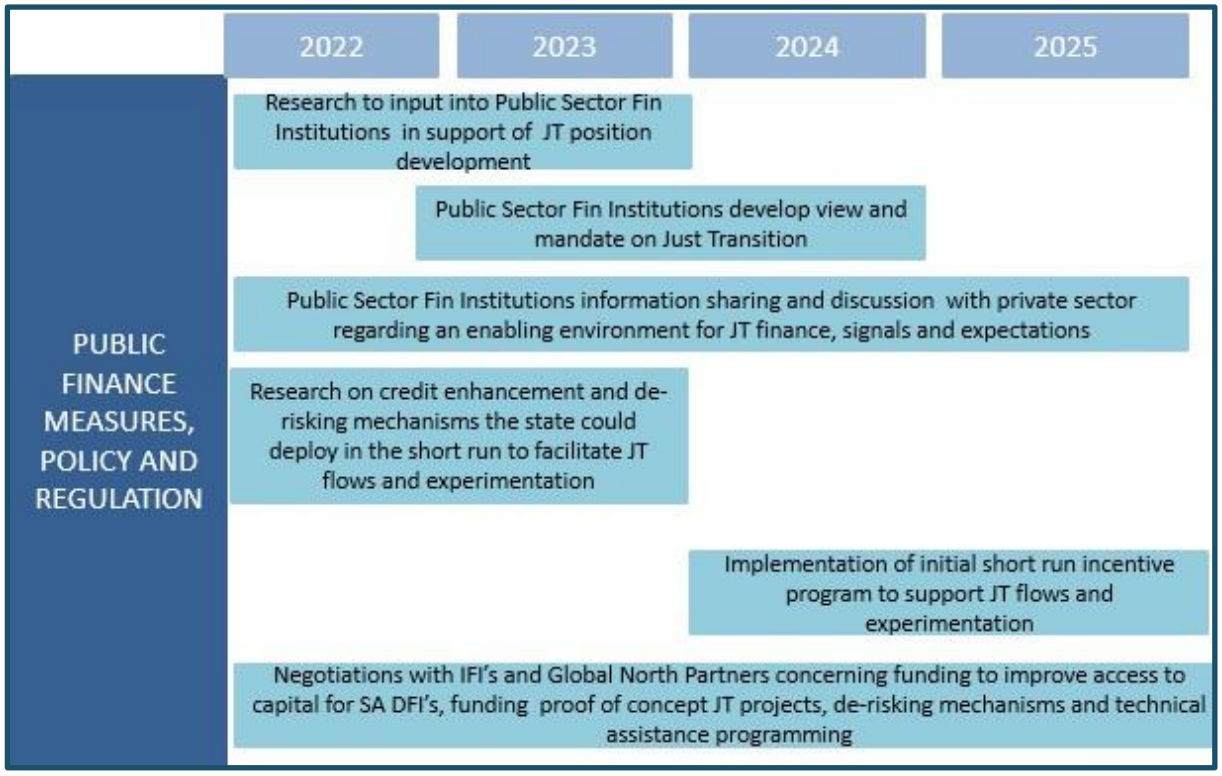
CHAPTER 5: CONCLUSION

This contribution towards a just transition finance roadmap is a first iteration in a field characterised by a lack of definitional clarity and high levels of contestation. When designing the research approach, the aim was to move beyond a conceptual and theoretical understanding of just transition financing supply and demand. It was hoped that by adopting a bottom-up, place-based approach, a body of evidence could be created to support practical traction for the challenges and opportunities that financing the just transition present to the financial ecosystem.

From the evidence base it was possible to articulate a future vision of a financial ecosystem which is perfectly aligned with government climate action and socio-economic development policies. In this future finance ecosystem decarbonisation, climate change impact responses, and just transition activities can be funded as mainstream transaction in the normal course of business.

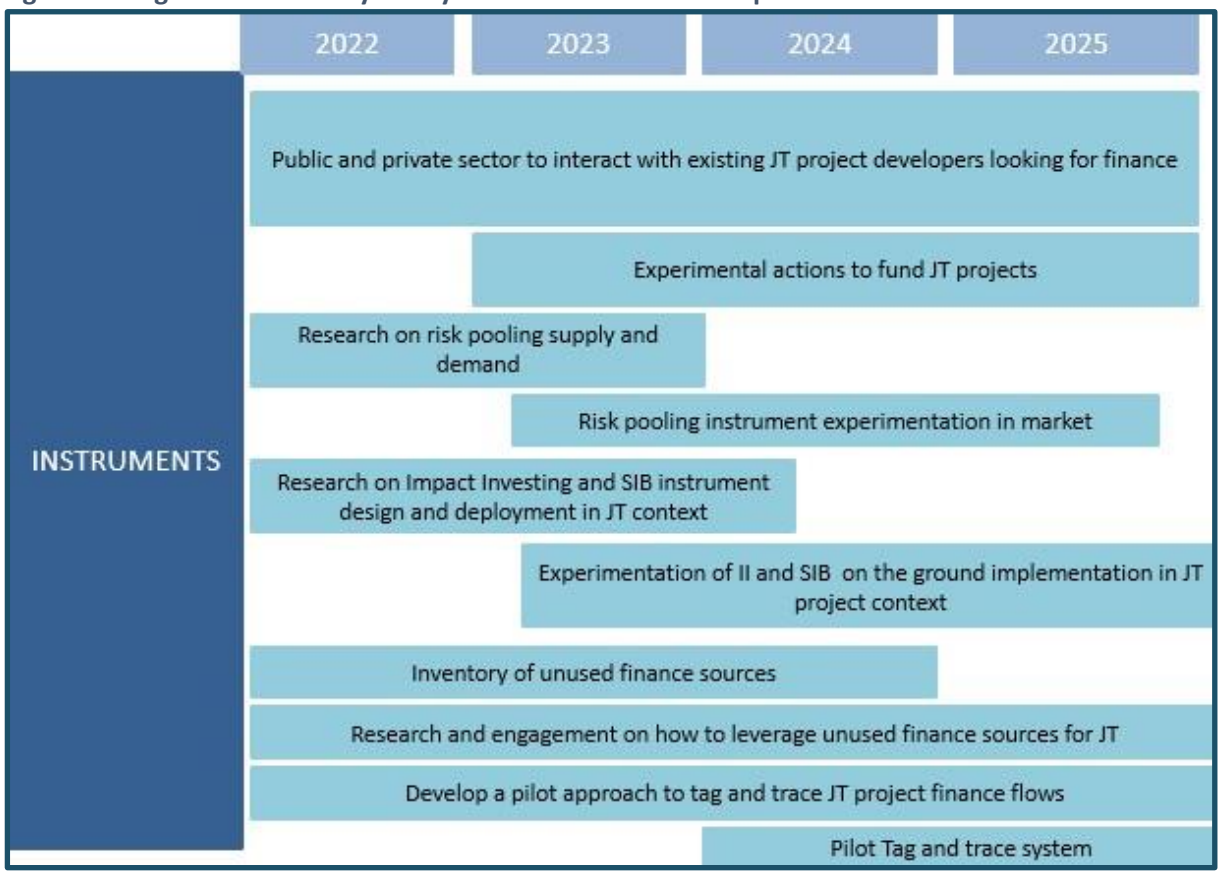
Rather than suggesting a high-level roadmap covering all possible activities to lead to the vision, this iteration of the roadmap took a pragmatic decision to focus on an agenda of actions and activities over the next four years to 2025. This short-term focus is driven by the need to make tangible progress on the issues of just transition financing, given the imminent impacts of decarbonisation which will be experienced in hotspots such as Mpumalanga over the coming years. A core focus is the need for collaboration, engagement and research, as well as support for immediate experimentation and learning by doing. These are shown in the sequenced actions summarised at a high level (Figures 19 -23).

Figure 19: High-level summary of key actions 2022-2025 in sequence: Public Finance, Policy and Regulation



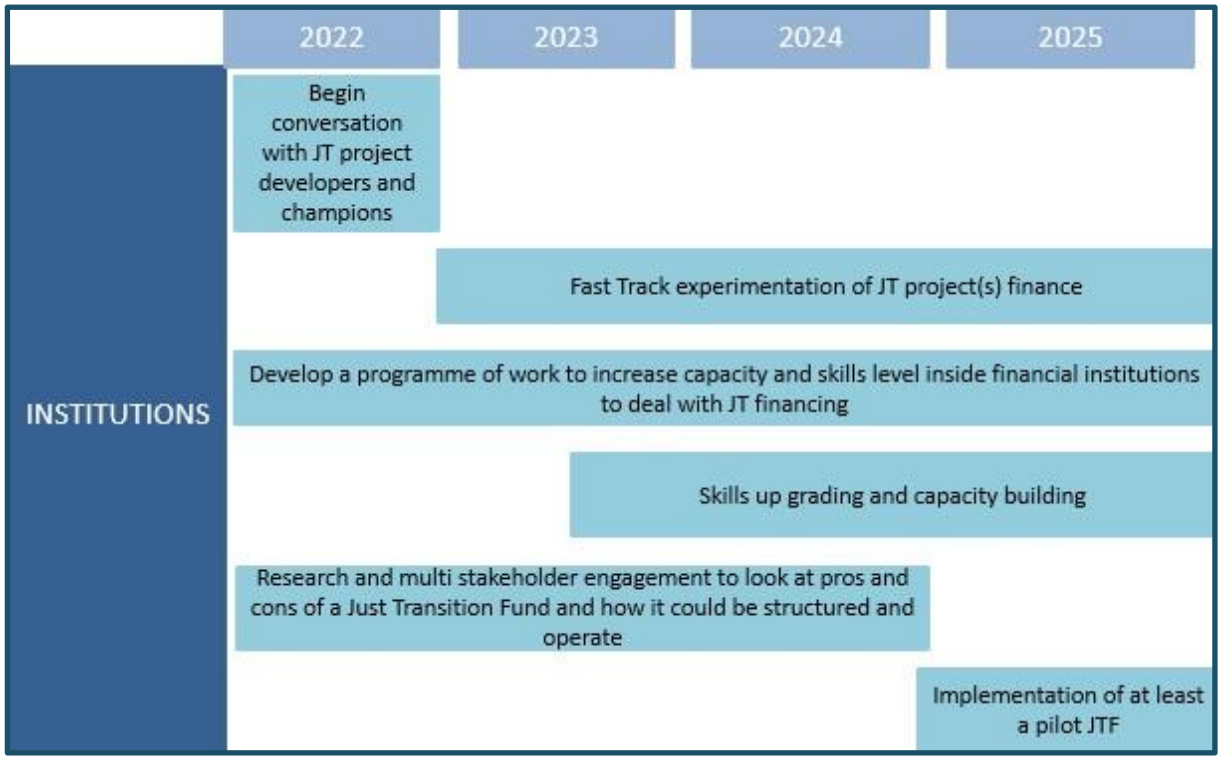
Source: Author.

Figure 20: High-level summary of key actions 2022-2025 in sequence: Instruments



Source: Author.

Figure 21: High-level summary of key actions 2022-2025 in sequence: Institutions

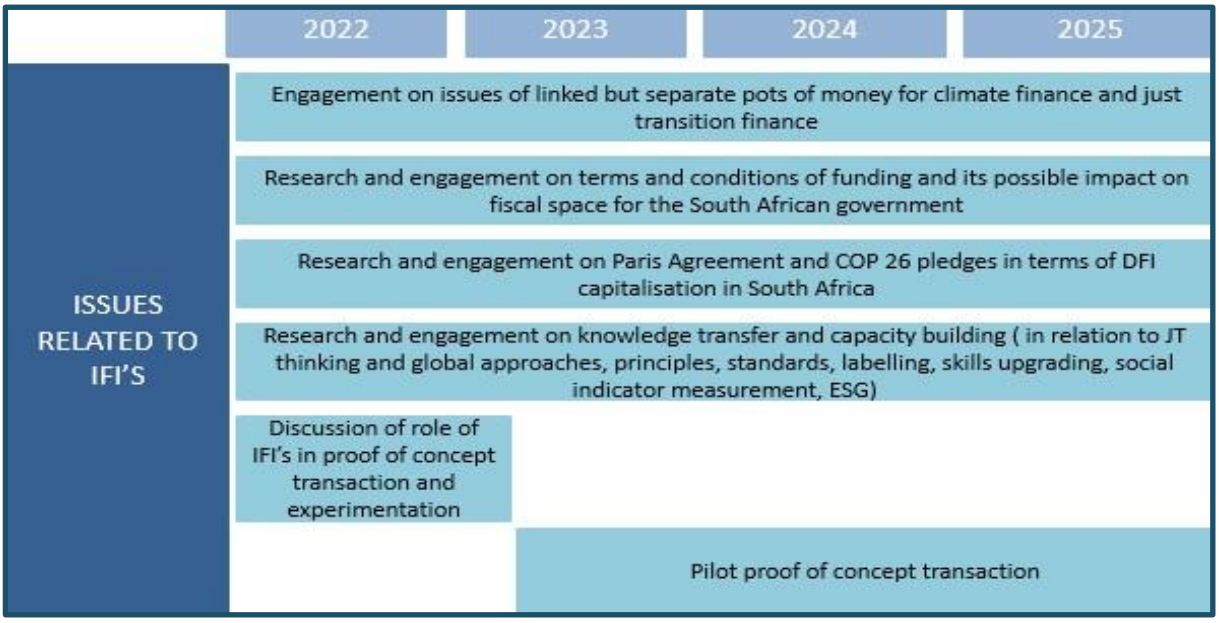


Source: Author.

Figure 22: High-level summary of key actions 2022-2025 in sequence: Disclosure, Monitoring and Evaluation

Source: Author.

Figure 23: High-level summary of key actions 2022-2025 in sequence: Issues related to IFIs



Source: Author.

The just transition finance roadmap is a living document which will continually updated, reworked and become increasingly resolved, as all parties in the ecosystem begin to engage more actively in the space. Institutions which create places of convergence and learning, for example National Treasury's Sustainable Finance Working Groups; NBI's work with Carbon Trust on Social Indicator inclusion in the Green Finance Taxonomy, or TIPS's Just Transition Finance Observatory (Figure 24), can play key roles in moving the research agenda forward and supporting future roadmap iterations and the creation and dissemination of just transition thinking.

Figure 24 : TIPS Just Transition Finance Observatory

Source: Author.

The Just Transition Finance Observatory's ambition to experiment with tagging and tracking just transition finance transactions will be an important contribution to tracking progress on just transition finance flows, and hence fulfilment of the actions and activities set out in this first iteration of the roadmap. This tracking along with other observatory action areas, together with the work of other convergence spaces, will help identify future areas of focus for successive iterations of the roadmap. In time this process may become formalised and even possibly institutionalised.

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ANNEXURE A: PROJECT SURVEY TEMPLATE

Just Transition Road Map Survey

SECTION A: PROJECT OVERVIEW		
1. NAME OF PROJECT		
2. PROJECT SECTOR OR INDUSTRY (e.g., bioplastics, wastewater reuse, sustainable farming)		
3. LOCATION (Municipality)		
4. IS THE PROJECT LINKED TO CLIMATE CHANGE? (Please provide detail e.g., mitigation, adaptation, land restoration, water restoration, pollution decrease.)		
5. PROJECT OVERVIEW		
6. PROJECT CHAMPION/DEVELOPER (e.g., name of NGO, division of govt dept, research institute)		
7. PROJECT PARTNERS AND/OR COLLABORATORS (if any e.g., gov dept, agencies, corporate, NGO)		
8. CURRENT STAGE OF DEVELOPMENT (e.g., planning, pilot, roll out, upscaling)		
9. PLANNED NEXT STEPS (e.g., seek funding, site location, roll out)		
10. WILL THE PROJECT BE COMMERCIALLY VIABLE (Yes/No - Please identify if there is or will be an off-take agreement)		
11. IS THERE A COMPLETED BUSINESS PLAN?	☐ Yes	☐ No

12. HAS A FEASIBILITY STUDY OR EQUIVALENT BEEN COMPLETED?	☐ Yes	☐ No
13. INVESTMENT REQUIRED TO IMPLEMENT PROJECT (Rand Requirement - If multiple phases please indicate investment per phase e.g., R5m pilot; R300m full scale plant)		
14. HAS FUNDING BEEN SECURED? (If yes please provide source; if no, but you plan to approach a provider, please specify)		
15. IS THE PROJECT SCALABLE AND/OR REPLICABLE? (Please elaborate)		
SECTION B PROJECT IMPACTS		
16. WHAT IS THE ENTERPRISE STRUCTURE? (e.g., Pty Ltd, community trust, partnership, subsidiary)		
17. WHAT IS THE OWNERSHIP STRUCTURE OF THE ENTERPRISE? (e.g., community ownership %, worker ownership %, corporate %, funders %; and BBBEE %)		
18. HAS THE RELEVANT COMMUNITY BEEN CONSULTED ON THE PROJECT? (Please provide detail of engagement completed or planned. Will the community be passive in the consultation process or is the process geared towards co-creation?)		
19. WILL THE PROJECT INCLUDE ANY COMMUNITY OR WORKER UPSKILLING/RESKILLING/TRAINING? (Please provide details).		
20. HOW MANY PERMANENT JOBS IS THE PROJECT EXPECTED TO CREATE? (If multiple project phases please specify by phase. Construction phase jobs must be listed as a separate phase)		
21. TO WHICH OF THE FOLLOWING BENEFITS ARE THE PERMANENT EMPLOYEES/PARTICIPANTS IN THE PROJECT EXPECTED TO HAVE ACCESS?		
Pensions	☐ Yes	☐ No
Healthcare	☐ Yes	☐ No
Paid Leave	☐ Yes	☐ No
22. WHAT IMPACT MEASURES WILL BE EVALUATED TO TEST THE PROJECT'S SUCCESS OVER TIME? (e.g., number of women employed, community income level, training completed, municipal unemployment rate, access to potable water, construction of a clinic)		

ANNEXURE B: MAPPING A JUST, UNJUST AND STATUS QUO FRAMEWORK AS A BASIS FOR THE CREATION OF POSSIBLE JUST TRANSITION SOCIAL INDICATORS

Figure 1: The status quo of these economies from a national to local level contributes to the "functioning" of the system (Author creation)

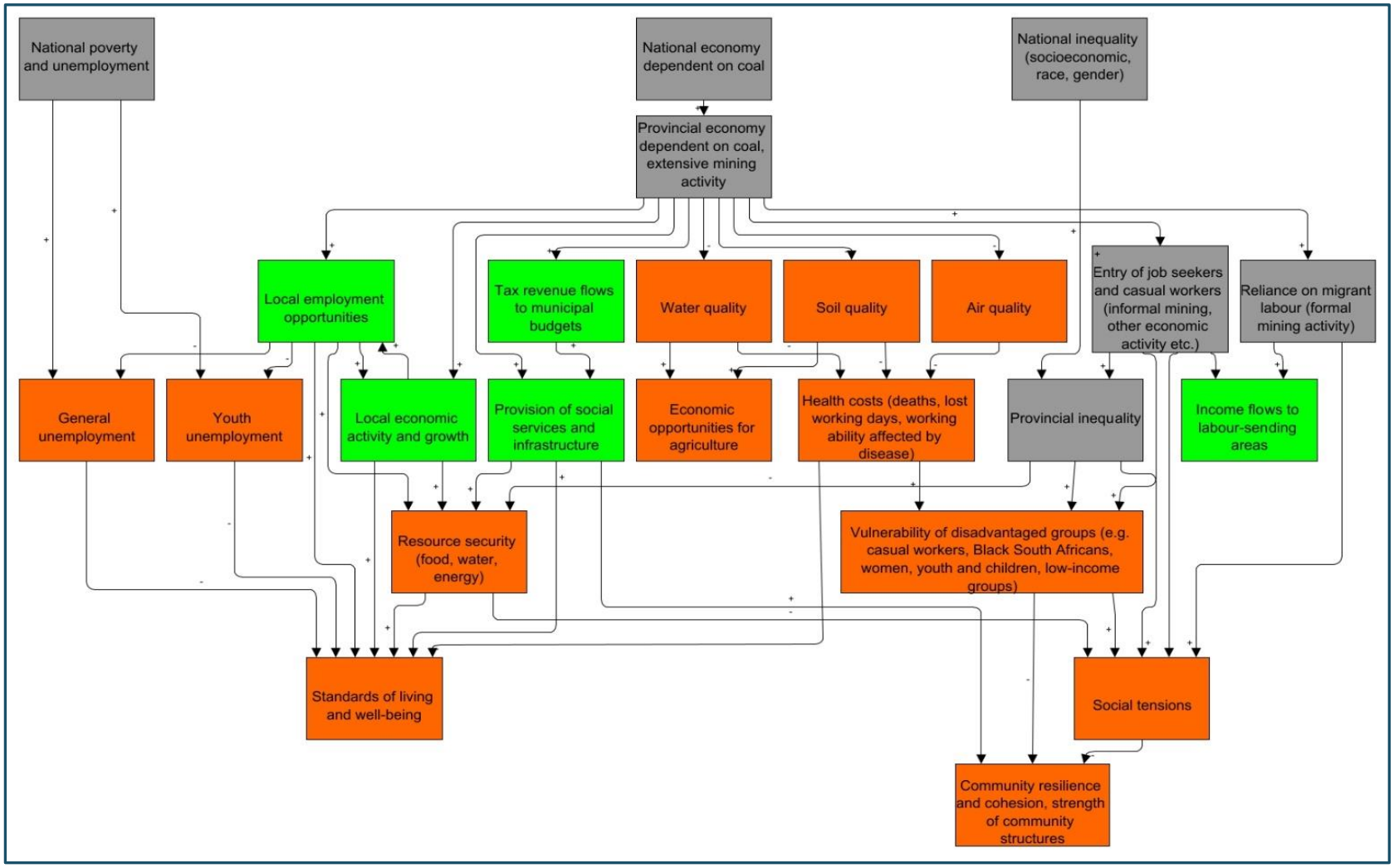

Figure 2: Mapping of an unjust transition framework under current coal transition context (Author creation)

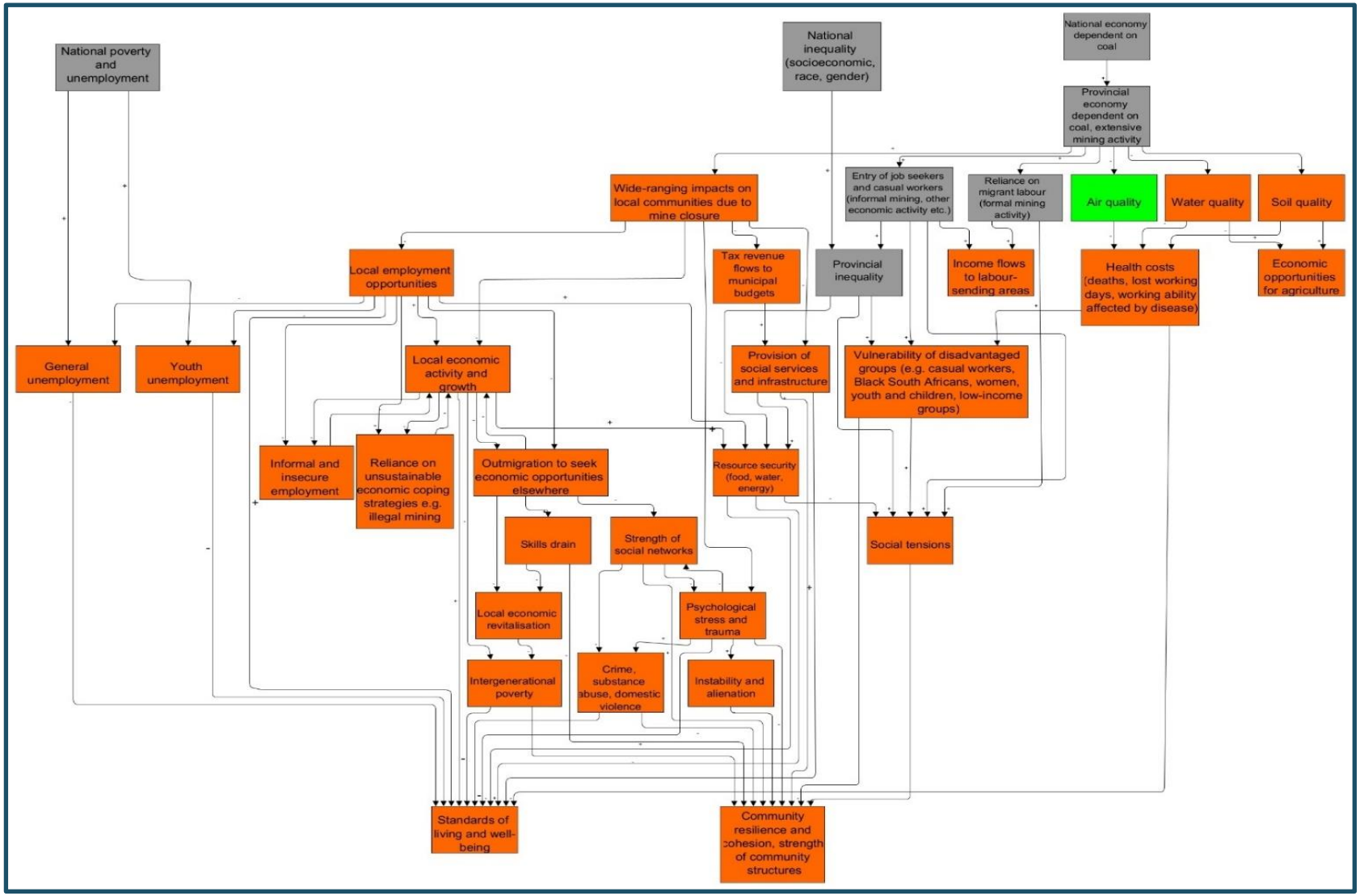

Figure 3: Mapping of a just transition framework under current coal transition context (Author creation)