

DRAFT – June 2021

Sustainable Finance Handbook for South Africa

Delivered by the Carbon Trust to the members of the South African National Treasury Sustainable Finance Working Group, chaired by the Johannesburg Stock Exchange and supported by BASA and ASISA as co-chairs.

Development of the Handbook was supported by Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH and the International Finance Corporation (IFC), a member of the World Bank Group.

IFC support was provided by IFC's Green Bond Market Development Program in partnership with SECO (Swiss State Secretariat for Economic Affairs), Sida (Swedish International Development Cooperation Agency), and the government of Luxembourg; and by IFC's Climate Advisory Program in partnership with the government of the Netherlands.

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Purpose of this document and user guide

Document aim and overall structure

A Sustainable Finance Working Group was established in June 2020 under South Africa's Climate Risk Forum. Hosted by Banking Association South Africa (BASA) and chaired by National Treasury (NT), the Climate Risk Forum supports the implementation of recommendations in NT's 2020 draft technical paper on "Financing A Sustainable Economy". The Sustainable Finance Working Group aims to establish the norms and standards that are needed for the development of sustainable finance (SF) instruments in South Africa.

Members of the working group include ASISA, Batseta, JSE, National Treasury, SAVCA, and BASA. The working group is chaired by the JSE and supported by BASA and ASISA as co-chairs.

The working group's objectives are to

1. Map the universe of SF instruments/products globally, with reference to the relevant enabling environments and prevailing norms and standards;
2. Understand the relevance, appetite for, and applicability of these instruments to the SA financial markets; and
3. Recommend the enabling environment for SF to grow and support investment in sustainable development.

This Handbook responds to the first two objectives. It brings together a diverse range of subjects in, and connected to, SF, the current state of these matters, and applicability to South Africa. It aims to support the South African financial sector, including financial institutions (FIs) and other stakeholders, to more effectively tackle pressing sustainability challenges.

The Handbook focuses on practitioners in the financial services industry, which broadly includes banks, institutional investors, insurers, investors and capital markets, and their regulators. **Guidance is provided to help the following types of users navigate the Handbook –**

- 1 Those FIs who are new to the subject
- 2 Those FIs familiar with ESG practice, but needing to check, align or progress
- 3 Advanced FIs looking for SF development opportunities
- 4 Regulators and others wanting to understand enabling environments
- 5 Real economy actors wanting to align or access sustainable finance
- 6 How insurance and carbon offsets fit into Sustainable Finance

This Handbook depicts the current landscape and organises information in the following sequence:

- **Chapter 1 Introduction to SF**
- **Chapter 2 Methods to integrate SF practice**
- **Chapter 3 SF instruments and applications**
- **Chapter 4 Norms, standards and enabling environments**
- Acronyms and glossary of terms
- Lists of tables and figures in this report
- **Annexures – relating to detailed information and analysis**
 - South African context, background, and financial landscape
 - Focus on the norms and standards in transition finance
 - Focus on SF and the just transition
 - International developments in carbon offsets as finance instruments
 - Overview of the relevance of SF in the insurance industry
 - Enabling environment countries study
 - Cases studies of SF for green economy applications
 - South African green economy end uses mapping to capital and risk/size
 - South African end-uses mapping to financial instruments
 - Universe of Methods analysis framework and short-listing
 - Short-listed Methods overviews
 - Listing of sustainable finance initiatives
- **References**

User guide

Who are the actors? Where do you fit?



Sector bodies



Ecosystem actors



The real economy



Other government agencies



Capital markets



Prudential Authority



FSCA



National Treasury



Banks



Asset Owners



Asset and Investment Managers



Private equity / Venture Capital

For those FIs new to the subject and just starting off

Who should read this?

Who are you?

What part of the Handbook can you consult to know more?



Anyone new to Sustainable Finance

Read the introductory Annexure on the [South African context](#) and take your time through the [Chapter 1 \(Introduction\)](#), each of [Chapter 2 \(Methods\)](#), [Chapter 3 \(Instruments\)](#), [Chapter 4 \(Enabling Environment\)](#), to start.



Anyone that wants to understand the real economy needs

The Annexure on the [South African context](#) starts out with an overview of the context and challenges.



A financial institution that wants to start a process of change to sustainable finance

The starting point is adopting appropriate principles, setting targets and deciding reporting frameworks. This should be complemented with additional leading frameworks, methodologies, tools and standards for particular applications. Consult [Chapter 2 \(Methods\)](#) for the details on the main recommendations, [Chapter 2's summary slide](#) for a listing of the recommended Methods, and read the relevant sections of the [Annexure detailing each Method](#) for more information.



A financial institution wanting to know more about just transition in finance

To come up to speed and know about the projects underway to define just transition in finance with greater certainty, consult the [Annexure on just transition](#). Many of the projects identified are underway; research whether interim results are being published and access these for more information. Complementary to this, South African end-uses that would constitute transitioning industries are included in the [Mappings of Chapter 3 \(Instruments\)](#) and identified as most directly suited to performance-linked instruments; read this Chapter for more detail.



A financial institution that wants to integrate ESG for risk management purposes

ESG risk management is a subject with substantial global coverage. Consult virtual resources from leading organisations such as the [International Finance Corporation](#), [UNEP FI](#) and [UN PRI](#). These organisations also study and promote sustainable finance, and their resources should be consulted. This Handbook concerns Sustainable Finance; we recommend you also familiarise yourself with this Handbook.

User guide

Who are the actors? Where do you fit?

-  Sector bodies
-  Ecosystem actors
-  The real economy
-  Other government agencies
-  Capital markets
-  Prudential Authority
-  FSCA
-  National Treasury
-  Banks
-  Asset Owners
-  Asset and Investment Managers
-  Private equity / Venture Capital

For those FIs familiar but needing to check, align or progress practices

Who should read this?

Who are you?

What part of the Handbook can you consult to know more?



A financial institution already versed in ESG, confirming adoption of recommended Methods

Consult [Chapter 2's summary slide](#) for a listing of the recommended Methods to compare to those you are using.

Also read the [Annexure on transition](#) and the [Annexure on just transition](#), to see what opportunities there are to expand and evolve my approach.

If interested, the [Long-list of Methods](#) analysed can be found at that Annexure.



A financial institution that wants to identify opportunities for advancing SDGs through current, or new, products (also if developing potential financial partnerships or programmes)

Different SDGs can be advanced by almost any financial instrument, but some seem to be more suited to some types of SDGs. Consider the [SDG Instrument Map](#) for an idea of this, and consider your current and prospective products designs to advance these.

It is also worth considering the Methods you employ, and whether you are strongly enough leveraging their potential within the organisation for focusing on the multiple South African sustainable development needs and challenges. Consider the [Methods shortlist](#) for the applicability of those Methods to do so, and consider the robustness of your own approach.



A financial institution that needs to pay greater heed to just transition issues in transactions

The [Annexure on just transition](#) includes a series of recommended actions and instruments to incorporate just transition into engagement and financing. This Annexure also provides clarity on which Methods provide a foundation or are already suited to incorporating just transition, that users should start expanding their use of the Method appropriately; this is derived from the [Methods shortlist](#). Complementary to this, South African end-uses that would constitute transitioning industries are included in the [Mappings of Chapter 3 \(Instruments\)](#) and identified as most directly suited to performance-linked instruments; read this Chapter for more detail.

User guide

Who are the actors? Where do you fit?



Sector bodies



Ecosystem actors



The real economy



Other government agencies



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National Treasury



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Asset Owners



Asset and Investment Managers



Private equity / Venture Capital

For advanced FIs looking for SF development opportunities

Who should read this?



**A financial institution
wanting to identify real
economy
investment/financing
opportunity areas**

Any actor looking for examples of composite sustainable finance designs applied internationally in key areas of development for South Africa



What part of the Handbook can you consult to know more?

This Handbook does not undertake market potential studies, go to the level of individual project types, or provide financial / transaction / institutional designs for innovative instruments and products. This work will need to be done for any particular area of interest.

However, this Handbook does identify the most appropriate financial instruments that can be associated with real economy development needs, both to finance transition and to finance green economic activities, set out in summary in Chapter 3 (Instruments) Part 2.

The detailed analyses matching economic activities with instrument is found in the Annexure named South African end-uses mapping to financial instruments. The results are a composite of detailed underpinning mapping exercises, including the Annexure South African green economy end uses mapping to capital and risk/size, if this is of interest.

To explore the ‘real economy’ opportunity further and derive insights from how sustainable finance is being used in innovative ways internationally, the Handbook includes a brief introduction to sectoral and finance developments and provides a few case studies (both local, and international from emerging and developed countries) regarding [Hydrogen](#), [Low Carbon Transport](#), [Decentralised Renewable Energy](#), [Utility Scale Renewable Energy](#) and [Ecosystem based Adaptation](#).



User guide

Who are the actors? Where do you fit?

- | | | |
|---------------------------|----------------------|----------------------------------|
| Sector bodies | Capital markets | Banks |
| Ecosystem actors | Prudential Authority | Asset Owners |
| The real economy | FSCA | Asset and Investment Managers |
| Other government agencies | National Treasury | Private equity / Venture Capital |

For regulators and others wanting to understand enabling environments

Who should read this? Who are you? What part of the Handbook can you consult to know more?



A regulator, industry body or public agency wanting to understand what other countries are doing

Chapter 4 (Enabling Environment) Part 1 identifies the main ways that sustainable finance is being promoted internationally, including through regulatory and non-regulatory approaches. For the details for each of the countries studied, refer to the [Enabling environment countries study](#) Annexure.



A regulator, industry body or public agency wanting to understand what international and regional initiatives are active and what I could get from these engagements

Chapter 4 (Enabling Environments) Part 2 lists the main international and regional sustainable finance initiatives and highlights those that South Africa is represented in (either directly or indirectly), and those which South Africa is not. The Annexure [listing sustainable finance initiatives](#) provides more information on each initiative.



A financial institution wanting to get ahead, contribute to advancing industry practice or understand the current regulatory and enabling environment trends

Chapter 4 (Enabling Environment) identifies the main ways that sustainable finance is being promoted internationally, including through regulatory and non-regulatory approaches. The detailed recommendations report that follows this Handbook should also be consulted, as well as the National Treasury draft Technical Paper *Financing a Sustainable Economy*, as these provide a good understanding of the challenges and gaps that are systematically being addressed.

User guide

Who are the actors? Where do you fit?



Sector bodies



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Private equity / Venture Capital

For the real economy actors wanting to align or access sustainable finance

Who should read this?



Who are you?

Anyone wanting to access finance, wanting to understand sustainable financial institutions' expectations

What part of the Handbook can you consult to know more?

Understanding how sustainable finance institutions manage risk and set targets that flow through to their investment and financing decisions is important, to begin to match those expectations and requirements so that you can (continue to) access sustainable finance. Consult [Chapter 2's summary slide](#) for a listing of the recommended Methods that include target setting functions, and read the relevant sections of the [Annexure detailing each Method](#) for more information.



An economic actor with projects, assets or activities that advance the SDGs, looking for financing

Consider the [SDG Instrument Map](#) for an idea of the type of financial products that might align to your impact focus/potential and consider the typical provider of such financial products/instruments. This might help identifying the typical financial institution that might have an interest and suited products to support you.

Nonetheless, financial institutions offer different products and have different priorities relative to your objectives.

User guide

Who are the actors? Where do you fit?

	Sector bodies		Capital markets		Banks
	Ecosystem actors		Prudential Authority		Asset Owners
	The real economy		FSCA		Asset and Investment Managers
	Other government agencies		National Treasury		Private equity / Venture Capital

How insurance and carbon offsets fit into Sustainable Finance

Who should read this?



Who are you?

Anyone wanting a snapshot of how carbon offsets as finance instruments is being thought about

What part of the Handbook can you consult to know more?

The [Annexure on carbon offsets](#) provides a quick overview of the relevance of carbon offsets in sustainable finance and lead the reader to the outputs from the Taskforce on Scaling Voluntary Carbon Markets (TSVCM) which has a strong role to play in advancing this area.



Anyone wanting a snapshot of how the insurance industry plugs into and is relevant to sustainable finance

The [Annexure on sustainable finance in the insurance industry](#) will give a quick orientation of why sustainable finance is highly relevant to this industry. The discussion in [Chapter 4 \(Enabling Environment\)](#) highlights the current situation as being much less mature than it really ought to be. [Chapter 3 \(Instruments\)](#) identifies the typical end uses and the potential SDGs that a sustainable insurance industry would best relate to.



User guide

General acknowledgement on coverage and focus

While the share of finance identified as sustainable is in the minority today, coalescing global perspectives on the need to align financing activity and the realisation of a sustainable future in the “real economy” should impress upon users that system change and market change is on its way. It is also useful to keep in mind that sustainable finance is not a different realm of activity to “ordinary” finance, but is the practice of incorporating sustainability considerations into financial decision-making for more effective and resilient long-term capital allocation. It is expected to become a mainstay of finance, with rapid developments and shifts well underway.

It is also important to acknowledge developments in political economy, and that sustainable finance is a fast-moving arena with new products and instruments and an array of conventions and approaches continually developing. Globally, financial actors have put considerable work in to understanding how to integrate climate-related or ESG considerations in to their decisions, and governments, regulators and development agencies have driven changes in the enabling environment. The result is a proliferation of approaches, making this a complex and inconsistent area. Whilst the Handbook seeks to identify and analyse the wealth of activity and examples and be materially complete, further developments outside its scope and timing is likely.

This project and report focuses more often on climate change, without meaning to imply that opportunities, need and action is less urgent in other areas of sustainable development and sustainable finance.

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Executive summary

Introduction

South Africa's National Development Plan aspires it to be sustainable and economically prosperous while safeguarding democracy and managing limited ecological resources responsibly. The context defining the development of South Africa is, however, framed by several challenges which serve to impede the country's progress towards an inclusive and prosperous society. Inextricable from the developmental imperative, climate change poses a significant risk to South Africa's development gains, exacerbating the existing national challenges, the scale and reach of which is multifaceted and requiring both structural and socio-economic reforms and an urgent response to sustainable development imperatives.

The South African financial sector enables economic growth, job creation, building of vital infrastructure and social development, and plays a crucial role in delivering a just transition to a cleaner, more balanced, inclusive and resilient economy. Part of the financial sectors' pivotal role is identifying financial solution opportunities that will also support delivery of national government's climate and social objectives. In particular;

- Activating and increasing financial flows into inclusive, low-carbon, climate-resilient economic activities, which stimulates high quality job creation;
- Directing financial flows to projects that build economic resilience and adaptive capacity in communities;
- Diverting investment from incompatible activities, and increase resilience in portfolios that in turn will help safeguard jobs and enhance economic competitiveness.

The need to mobilise financial resource to address other environmental and social development issues and to drive development that is sustainable

in each of its economic, social and environmental dimensions while concurrently fostering greater transparency and long-termism in the economy is emphasised through National Treasury's landmark draft Technical Paper, *Financing a Sustainable Economy* which highlights sustainable finance playing a pivotal role in enabling environmentally appropriate social development and create new economic opportunities in the green economy' (National Treasury, 2020).

South African National Treasury (2020) defines *Sustainable finance as encompassing "financial models, services, products, markets and ethical practices to deliver resilience and long-term value in each of the economic, environmental and social aspects and thereby contributing to the delivery of the sustainable development goals and climate resilience."* This definition offers a platform for conducive frameworks for investing and policy making towards the UN SDGs. It is also significant in its holistic recognition of mechanisms, and the role and expectations of actors in affecting sustainable finance.

This Handbook is in aid of progressing recommendations set out by the landmark Technical Paper. It contains global mappings of sustainable finance methods, instruments and enabling environments as well as an analysis of their applicability/suitability for the SA context. It aims to serve as a useful introductory tool bringing together a diverse range of subjects in, and connected to, sustainable finance, the current state of these matters and the applicability to South Africa. The Handbook provides the results of analysis frameworks, touches on topical areas with the objective of "progressing the conversation" – adding to efforts to raise awareness and understand key issues in combination, so that the South African financial sector and its stakeholders may more effectively tackle pressing sustainability challenges. It has applicability to the financial services industry and is suitable for both beginners and more advanced institutions.



Executive summary

Overview of Handbook topics and structure

The Handbook is set out as four Chapters and a series of supplemental Annexures, so readers have access to both the highlights and the details.

What is included

What is covered

Chapter 1: Introduction to Sustainable Finance

- What is sustainable finance?
- What actors have a role in advancing sustainable finance and realising a sustainable economy?

Chapter 2: Mapping of Methods

- Identify and **organise the main and emerging ESG Methods** in terms of a comprehensive ESG function (TCFD)
- **Shortlist** these for (i) global prevalence and endorsement; (ii) strong structural suitability for the South African financial system
- Make recommendations to South African financial actors for the main Methods to apply

Chapter 3: Mapping of instruments

- What level and type of SF instruments are prevalent in SA?
- **What do we see globally** in SF instruments?
- What end-use applications are the most clearly linked?
- **What SF instruments are best suited for SA's applications?**

Chapter 4: Mapping the enabling environment

- Consider the **evolving international SF infrastructure and practice**, and pin down the key elements
- What could **SA take-away from these**, and what might fit?

Annexures

- A series of Annexures that set the context for sustainable finance in South Africa, and provide detailed mapping, analysis and knowledge summaries for readers to consult

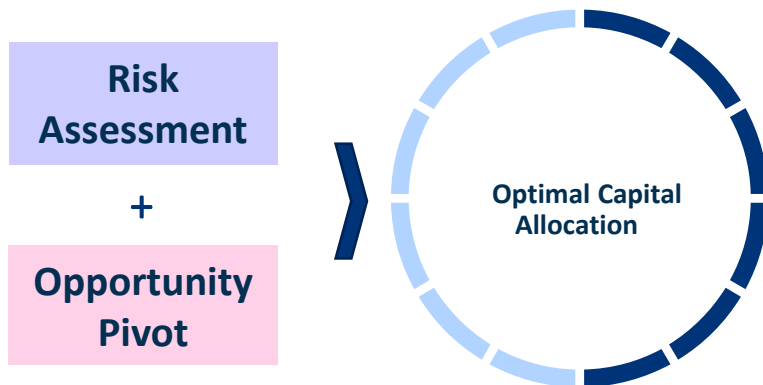


Executive summary

Effective sustainable finance should entail capital reallocation responding to both risk and opportunity, and applying governance and management **Methods** is a means to integrate sustainable financing

There are two complementary aspects that need to be affected to integrate sustainability aspects into the decision-making processes for financial institutions. To be clear, both are needed.

To date, integrating risk-related factors and practices has seen the most uptake by financial institutes and provides a basis. Now, strategic evolution is needed to pivot to sustainable finance and opportunity pursuit.





Executive summary

The results of the analysis identifies several **Methods** recommended for universal and sectoral adoption, with other main Methods to supplement governance and management for effective sustainable finance functions

Widely applicable to financial sector

Equator Principles	P	●●●●◆
PACTA	M	●●●●●
Water Risk Filter	M	●●●●●
UNEP PRI	P	●●●●◆
TCFD	F	●●●●●
GRI/SASB collab	M	●●●●◆
CDSB Standards	F	●●●●◆
IRIS+ & GRI	M	●●●●◆
Natural, Social, Human Cap. Prot.	F	●●●●●+
FAST-Infra	F	●●●●◆
PCAF	M	●●●●●
SBTi for FI	M	●●●●●
CDP for FI	M	●●●●●
LMA* SLLP	P	●●●●◆●+
ICMA* Transition	P	●●●●●
CBI Transition	F	●●●●●

Tailored to Investors

ESG Integration	M	●●●●◆
IIGCC Net Zero Investment Framework	F	●●●●●
IFC Operating Principles for Impact Management	P	●●●●◆
TPI Tool	M	●●●●●

Suited to Banks

UNEP FI Principles for Responsible Banking	P	●●●●◆
ICMA GBP	P	●●●●◆
ICMA SBP	P	●●●●+
ICMA SBG	P	●●●●◆+
CBI CBS	M	●●●●●
LMA* GLP	P	●●●●●

Specific to Insurers

UNEP FI PSI	F	●●●●◆
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- Key**
- P** Principles and standards
 - F** Frameworks
 - M** Methodologies and tools
 - Enables opportunity pivot and applications
 - More suited to risk management applications
 - Strong recommendation for universal adoption by all FIs
 - Recommended as front runner between options for FIs, but others could suit organisation better
 - Application specific front-runner, recommended when FI is taking on a specific activity

- Addresses or supports management function
- Not applicable to management function
- Overarching/contextual E,S & G applicability
- Social specific applicability
- Climate change specific applicability
- * Produced by the Loan Market Association (LMA), Asia Pacific Loan Market Association (APLMA) and LSTA

Commitments & Targets
Strategy & Planning
Scenario & Risk
Reporting



Executive summary

The analysis of applicable **Instruments** was done in two parts, to provide a general opportunity mapping to end-uses and SDGs, and then to link instruments to activities in the real economy

Instruments were mapped in two ways, with respective utilities:



The current use of sustainable finance instruments as means to affect societal change. The mapping demonstrated, by instrument type:

- i. Relative international activity levels
- ii. Typical (and hypothetical) end-uses
- iii. Associated identifiable SDGs progress by these typical (and hypothetical) end-uses

The maps show basic relationships between end-uses SDGs and instruments and could be used by practitioners to better understand where they might focus their instruments of choice (as a starting point to their exploration)



Sustainable finance instruments that best match with the South African sustainable economy end-uses with the objective of identifying the most relevant, combining a series of analysis frameworks that overlay

- i. Typical current technology maturity and risk for underlying major solutions in SA's prospective green economy sectors, with
- ii. Typical finance instruments according to the typical the technology/solution maturities these match to, as an inherent function of the types of actors that operate in those market spaces



Executive summary

In terms of **general opportunity mapping of Instruments to end-uses**, the mapping hypothecates a concentration in SDG 6 – 13, but with tremendous potential beyond the existing examples

Also, that:

- ‘Social’ labelled instruments match to those SDGs, compared to the predilection for ‘environmental’ types thus far
- **Performance linked debt instruments lend themselves to social dimensions** (but can be used otherwise), and **together with equity instruments have the widest applicability**
- **Climate Change insurance has relevance and is important to positive social outcomes**
- **Guarantees, subordinated debt and blended finance concentrate in SDG 6 – 13** with technological and infrastructural end-uses most tie-ing to these instruments (though not being limited)

Sustainable Finance Instrument	Sustainable Development Goals (SDGs)																
	1. Poverty	2. Zero Hunger	3. Health and Well-being	4. Quality Education	5. Gender Equality	6. Clean Water and Sanitation	7. Affordable and Clean Energy	8. Decent Work and Economic Growth	9. Industry, Innovation and Infrastructure	10. Reduced Inequality	11. Sustainable Cities and Communities	12. Responsible Consumption and Production	13. Climate Action	14. Life Below Water	15. Life on Land	16. Peace and Justice	17. Partnerships
Green/climate Bonds						✓	✓		✓		✓		✓	✓	✓		
Transition Bonds							✓						✓				
KPI-Linked Bonds			✓			✓		✓					✓				
Social Bonds			✓	✓	✓			✓		✓			✓				
Green/Thematic Loans		✓					✓		✓		✓	✓	✓				
KPI-Linked Loans		✓		✓		✓	✓	✓	✓		✓		✓	✓			
Green subordinate debt							✓				✓		✓		✓		
Green or Sustainable Equity		✓				✓	✓		✓		✓						
Private Equity and Venture Capital	✓	✓	✓	✓			✓	✓	✓								
Climate Change Insurance	✓	✓	✓					✓					✓				
Risk Guarantees							✓										
Blended finance							✓		✓		✓		✓				



Executive summary

In **linking instruments to activities in the real economy**, mapping established that development of certain instruments is most pressing for South Africa's economic transformation

Instruments
with **more
niched
applications**

Carbon Offsets

Carbon offsets have a fairly limited role in sustainable finance at this time, but is a useful constituent for ecosystem and land-use based activities and the waste sector

Grants

Grants continue to be relevant for technologies in demonstration and deployment phases, more often for concessional models and necessary ecosystem development

Use of Proceeds Green, Social and Sustainability Bonds

Use of Proceeds models will continue to have relevance, but with a needed emphasis on new finance and new project pipelines
There may also be a greater focus on social and sustainable bonds in future. These instruments may well have a place in blended finance arrangements

Listed equities

Listed equities and related products will offer a means to broaden the market and offer products in sustainable infrastructure and developing and transitioning economic activities

KPI-linked, Green, Social and Sustainability Loans and Bonds

Performance-linked instruments will tie-into transitioning sectors especially

Project Finance

Project finance offers opportunities to FIs who could prepare and engage industrial clients accordingly

Private equity and venture capital

Attracting equity players into this space will be vital, especially in 'pre-commercial and demonstration' phase value chains

Guarantees

Blended finance and guarantees are going to be especially important – and will

- **Demand actor cooperation**
- **Need to balance objectives and constraints of the cooperating capital providers**

Blended Finance

Instruments
with **high
potential for
catalysing a
wide variety
and scale**

We recommend consulting [Chapter 3: Instruments](#) for end-uses that link most closely to each, [case studies](#) provided and detailed analysis provided in [Annexure 8](#) and [Annexure 9](#)





Executive summary

When scanning for **enabling environment** insights from international developments and considering options for SA, the Handbook focuses on four dimensions for sustainable finance, having scanned a number of countries

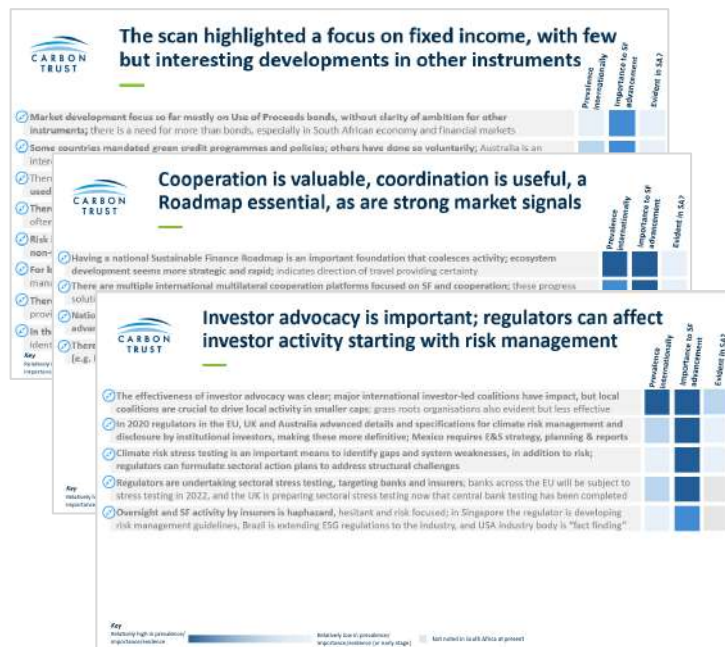
1 Four dimensions of enabling environment scanned

Policies and measures to mainstream sustainable finance	Risk Management	ESG/sustainability disclosure	Asset classes through standards
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2 Fifteen countries enabling environment's scanned

Latin America	Africa	UK & EU	USA, Canada & Australia	China & ASEAN
<ul style="list-style-type: none"> Brazil Colombia Chile Mexico 	<ul style="list-style-type: none"> Kenya Nigeria 	<ul style="list-style-type: none"> UK EU (studied in aggregate) 	<ul style="list-style-type: none"> Australia Canada USA 	<ul style="list-style-type: none"> China Indonesia Singapore Vietnam

3 Highlighted a range of insights on sustainable finance interventions globally





Executive summary

The enabling environment developments that are needed must be a combination of push and pull with several actors work in concert



South African actor	Change investor mandates	Build system and human capacity	Increase cross-cutting and cross-sectoral co-ordination/co-operation	Develop and support markets	Adopt, implement and use Methods & tools effectively	Address data sparsity and access	Enhance regulations & shift markets
PA	■	■	■	■	■	■	■
FSCA	■	■	■	■	■	■	■
JSE	■	■	■	■	■	■	■
Sector bodies	■	■	■	■	■	■	■
Asset Owners	■	■	■	■	■	■	■
Asset and Investment Managers	■	■	■	■	■	■	■
Banks	■	■	■	■	■	■	■
Private equity / Venture Capital	■	■	■	■	■	■	■
National Treasury	■	■	■	■	■	■	■
Other government agency	■	■	■	■	■	■	■
The real economy	■	■	■	■	■	■	■
Ecosystem actors	■	■	■	■	■	■	■

Key

Role / requirement for SF is critical



Role / requirement for SF is nominal



Not pertinent to actor/driver

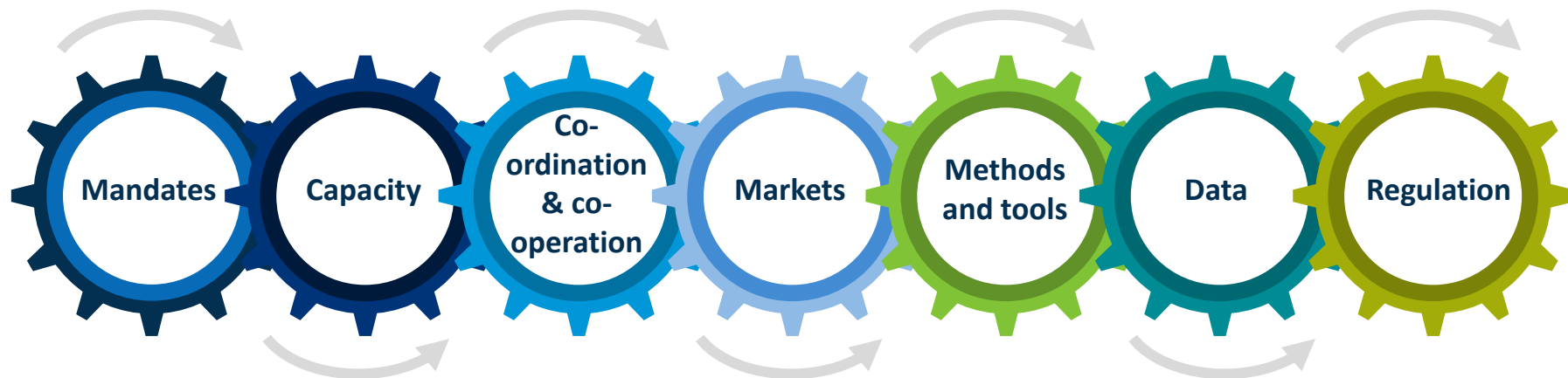


Executive summary

In **summary**, action will be needed at the individual and collective level and regulators will have a part to play to guide and drive the changes needed in South Africa – but **all the parts must move together**

- **SF is better mobilised within a coherent enabling environment with synchronous elements**
- **SF instruments do not operate in isolation**, and may not gain traction if other enabling elements are absent or deficient
- There is significant interplay between instruments and Methods, and the needed actions of **different actors each pulling in the same direction**
- The **recommendations that emanate from this study will be**

framed in terms of enabling environment elements, and the actors the recommendations are targeted to. The reader should consult the Detailed Recommendations Report associated with this Handbook.



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The context of this project

To achieve the aspirations set by the South African National Development Plan: Vision 2030 (NDP), South Africa needs to catalyse investments and finance development that is sustainable at an economy-wide scale and, thereby, activate financial flows into a sustainable economy that advances job creation and increases resilience in investment and financing portfolios to help safeguard jobs and boost long-term competitiveness.

Concurrently, climate change is already a measurable reality and, along with many other developing countries, South Africa is especially vulnerable to its impacts and is already experiencing significant effects of climate change with increased temperatures and water variability. Extreme weather events are also expected to occur more frequently in coming years. While climate change is clearly an environmental challenge, it will have profound economic and social impacts in South Africa as well as globally, and exacerbate many of South Africa's existing socioeconomic and developmental challenges.

The urgent need for proactivity with regards climate change mitigation and adaptation are by no means the only sustainable development imperatives for South Africa. However, **an effective response to climate change will make far reaching contributions to other environmental and social impact objectives.** Climate change offers an unequivocal focal point for all parts of the global economy, and is thereby a unique (if unfortunate) challenge around which the global and domestic call-to-action may coordinate. A simultaneous consideration of economic, social and climate ambitions is therefore required to develop an effective response.

Moreover, responses *cannot* be focused solely on challenges from a

technological and economic stand-point, without having **the essential and urgent need to address inequity and vulnerability and make a significant socio-economic development contribution, front-and-centre.**

The importance of private sector funding in achieving national climate change response is further emphasised by the NCCRP and identifies the opportunity for the financial sector to mainstream climate change in risk and investment decisions. However, the majority of green projects have typically only had access to grant and concessional finance or have been public sector funded which has generally curtailed projects' scale and risk tolerance (NBI & Carbon Trust, 2020).

South Africa's Nationally Determined Contribution (NDC) makes clear the imperative that financial flows must be directed to projects that build climate resilience and adaptive capacity, so as to foster long-term national stability, economic resilience and socio-economic transformation.

The need and urgency to scale sustainable finance (both the private and the public) directed towards building a more climate-resilient and low carbon economy for South Africa is echoed by South Africa's National Treasury. Intertwined with this challenge, are questions concerning the means and pace of transition of present-day emissions intensive industries that have a place in a low-carbon (world provided emissions can be addressed), and the appropriate "market-moving" financial instruments and methods to support the transition.

(continued next slide)



The context of this project

The South African financial sector enables economic growth, job creation, building of vital infrastructure and social development and therefore plays a crucial role in delivering a just transition to a cleaner, more balanced, inclusive and resilient economy. A part of the financial sectors' pivotal role is identifying financial solution opportunities which will also support the delivery of national government's climate and social objectives. In particular;

- **Activating and increasing financial flows into inclusive, low-carbon, climate-resilient economic activities, which stimulates high quality job creation;**
- **Directing financial flows to projects that build economic resilience and adaptive capacity in communities;**
- **Diverting investment from incompatible activities, and increase resilience in portfolios that in turn will help safeguard jobs and enhance economic competitiveness.**



The need to mobilise financial resource to address other environmental and social development issues and to drive development that is sustainable in each of its economic, social and environmental dimensions while concurrently fostering greater transparency and long-termism in the economy is emphasised through National Treasury's landmark draft Technical Paper, *Financing a Sustainable Economy* which highlights

sustainable finance playing a pivotal role in enabling environmentally appropriate social development and create new economic opportunities in the green economy' (National Treasury, 2020). Refer to the [Technical Paper](#).

Echoing the NDC, the Technical Paper identifies it as critical that South Africa's efforts targeting financial stability, include managing environmental risks. This demands reallocation of capital to ensure a more positive impact, as well as raising of new and dedicated funds to finance the transition to a lower carbon economy. These measures are needed because financing deep decarbonisation and equitable transition will require significant financial resources, and access to finance through additional instruments. Public funds alone are not a match for the significant investment needed; private sector capital and financial institutions will play a pivotal role in the allocation and transfer of capital to catalyse economy-wide investment and financing, at the scale and pace needed (NBI & Carbon Trust, 2020).

To advance the key recommendations of the draft Technical Paper, working groups composed of representation by regulators, industry and experts have been established under the Climate Risk Forum Steering Committee, hosted by the Banking Association of South African and chaired by National Treasury (South Africa Sustainable Finance Initiative, 2020). The **Sustainable Finance Working Group** ("SFWG") being one of five working groups, has as its main objectives to:

(continued next slide)



The context of this project

- Map the universe of sustainable finance instruments/products globally, with reference to the relevant enabling environments and prevailing norms and standards;
- Understand the relevance, appetite for and applicability of these instruments to South African financial markets;
- Recommend an enabling environment for sustainable finance to grow and support investment in sustainable development.

This project is to support the SFWG advance its objectives and workplan. This document is the first of two outputs, namely a **Handbook of Sustainable Finance for South Africa** which insights will contribute to the second output, a **Comprehensive Report of Recommendations**.

This Handbook is in aid of progressing some of the recommendations set out by the landmark Technical Paper and related challenges in the real economy, and readers are encouraged to consult the Technical Handbook for its detailed overview of the South African financial sector landscape.

The project is supported by Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH, The World Bank and the International Finance Corporation (IFC), a member of the World Bank Group, as part of the programme 'Scale Up Climate Finance through the Financial Sector – "30 By 30 Zero"'. The programme works with international and regional/local partners to support new green finance and capital market innovations with the aim of harnessing the financial sector to considerably scale-up private sector financing for climate mitigation and adaptation projects in line with National Determined Contributions (NDCs).



Handbook of Sustainable Finance for South Africa is composed of 4 core chapters, accompanied by detailed analyses mapping global sustainable

finance instruments and products, analyses of the state of enabling environments and prevailing norms and standards, consideration of methodologies by which financial sector and capital market stakeholders may integrate sustainability into decision-making processes and advance opportunities.

Comprehensive Report of Recommendations is developed from the insights gained through the analysis presented in this handbook and is reported separately as an extension of this Handbook. It is delivered subsequent to this document to the SFWG. It will make a suite of recommendations regarding sustainable finance instruments and Methods for the South African financial markets, having analysed learnings and best practices from relevant emergent and existing examples of policies and initiatives (both local and global); considered the relevance, appetite for and applicability of instruments, method and applications for the South African markets; and consulted with relevant local financial sector and capital markets stakeholders.



Acknowledgements

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- Christelle van Vuuren, Associate Director
- Thora Helgadóttir Frost, Senior Manager – Green Finance
- Nick Harris, Senior Manager – Green Finance
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Special thanks to the IFC, GIZ and members of the Sustainable Finance Working Group for their support and input developing this document, particularly

- Shameela Soobramoney, Chief Sustainability Officer, Johannesburg Stock Exchange (JSE) and co-chair of Sustainable Finance Working Group
- Sunette Mulder, Senior Policy Advisor Investments & Systemic Risk,

Association for Savings and Investment South Africa (ASISA) and co-chair of Sustainable Finance Working Group

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The members of the Sustainable Finance Working Group comprised representatives from the following organisations: ABSA Bank, Association for Savings and Investment South Africa (ASISA), Financial Sector Conduct Authority (FSCA), First Rand Bank, International Finance Corporation (IFC), Investec, Johannesburg Stock Exchange, Nedbank, RisCura, South African National Treasury, Southern Africa Venture Capital and Private Equity Association (SAVCA), and Standard Bank

Additional thanks to all the institutions and individuals who contributed their time and views to this work

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Introduction

The limitations of ESG risk management, and the two-sides of sustainable finance response demanded

It is evident that the global financial sector is accelerating towards a sustainability transition with many important reforms having taken place and continue, growing international commitment, coherence and momentum. There has also been tremendous work towards developing and proliferating norms and standards to ward against “loss of ethical substance” as sustainable finance has mainstreamed, and promoting methods to encourage responsibility and agency in finance to advance sustainability.

It is broadly concurred that greening finance and improving financial sector performance transparency, should benefit the financial sector in terms of long-term risk management, and improve the ability to engage stakeholders and communicate effective impact. However, given the intricate socio-technical systems of the financial sector, and its interactions with the wider economy and breadth of stakeholder responsibilities, it would be naïve and possibly unfair to demand radical change in mainstream financial institutions to pivot to financing the sustainable development goals. Moreover, the implications for financial stability would be profound, and therefore some balance needed in the speed of the pivot required.

Nonetheless, given the urgency for the changes needed in the real economy, and the exposure of the global financial sector if failing to transition itself alongside the real economy, there is growing international and domestic consensus that the time is overdue for the financial sector to deepen and embed efforts to:

- **Integrate sustainability in financing** – integrating sustainability aspects into the decision-making process for financial institutions. This latter having two interrelated dimensions that may drive financial institutions:
 - Integrating risk-related aspects of sustainability considerations (low carbon transition risk, climate related physical risk, environmental and social risk) in to lending / investing / insuring decisions
 - Integrating an assessment of the sustainability of an asset, or a company against a framework or set of criteria (e.g. a taxonomy) related to social or environmental impact, that may inform the decision to lend / invest / insure
- **Finance Sustainability** – to mobilize capital for sustainable investments in the broader context of environmentally sustainable development; and

This Handbook identifies the many innovations in instruments, methods and enabling environment aspects that are building momentum and will contribute to the acceleration of the sustainable finance “breakthrough” for South Africa, given adoption commitment from the financial sector, an enhanced enabling environment (including addressing structural constraints where appropriate), and time.



Introduction

The definition and role of sustainable finance in South Africa

‘Sustainable finance’ is defined by several organisations, not least:

- **European Commission:** “Sustainable finance is the provision of finance to investments taking into account environmental, social and governance considerations.” (European Commission, 2019)
- **G20 Sustainable Finance Study Group:** Sustainable finance refers to “financial services, products, processes as well as institutional and market arrangements that contribute directly and indirectly to the delivery of the Sustainable Development Goals (SDGs).” (United Nations Environment, 2019)
- **UN Environment and World Bank Group:** “A sustainable financial system is stable and creates, values, and transacts financial assets in ways that shape real wealth to serve the long-term needs of a sustainable and inclusive economy along all dimensions relevant to achieving those needs, including economic, social, and environmental issues; sustainable employment; education; retirement financing; technological innovation; resilient infrastructure construction; and climate change mitigation and adaptation.” (United Nations Environment Programme and the World Bank Group, 2017)
- **South African National Treasury:** “Sustainable finance encompasses financial models, services, products, markets and ethical practices to deliver resilience and long-term value in each of the economic, environmental and social aspects and thereby contributing to the delivery of the sustainable development goals and climate resilience.

This is achieved when the financial sector:

- *Evaluates portfolio as well as transaction-level environmental and social risk exposure and opportunities, using science based*

methodologies and best practice norms;

- *links these to products, activities and capital allocations;*
- *maximises opportunities to mitigate risk and achieve benefits in each of the social and environmental and economic aspects; and*
- *contributes to the delivery of the sustainable development goals.”* (National Treasury, 2020)

The South African National Treasury definition offers a platform for conducive frameworks for investing and policy making towards the UN SDGs. It is also significant in its holistic recognition of mechanisms, and the role and expectations of actors in affecting sustainable finance, as well as the broad but finitely identified spectrum of challenges to be addressed and objectives to be realised.

Sustainable finance may only come into its mainstream role when a synchronised financial ecosystem exists within a sound sustainable finance framework, which intrinsically requires (National Treasury, 2020):

- An effective enabling environment, comprised of a composite of voluntary and mandatory policy requirements and incorporation of ESG considerations, to promote sustainable finance at a market level.
- Environmental and social (E&S) risk management driven through policy, regulation, guidelines, management and disclosure, guiding and assessing integration of E&S risk into strategy, governance and management systems, at strategic and transaction level.
- The actual reallocation of capital, through sustainable and green finance flows. This might be through initiatives, definitions, market instruments and monitoring in place to promote the flow of capital to green and socially inclusive investments.



Introduction

The scope of sustainable finance

Therefore, sustainable finance takes into account investments that **deliver social and environmental benefits alongside economic benefits** (across multiple time horizons). In other words, it **includes the practice of evaluation to avoid risk and prevent harm** (being the traditional realm of ESG risk management practice), **and goes beyond this by increasing capital flows to activities that deliver impact in the “sustainable” dimensions** of sustainable development. This clarifies ‘sustainable finance’ as an opportunity-orientated activity, evolving from and beyond its foundations in risk management. Therefore, sustainable finance demands that organisations pivot strategies doubly, and is a paradigm that seeks at once to;

- (i) Reduce environmental and social (E&S) risk and prevent harm, *and*
- (ii) Advance environmental, social and governance (ESG) factors alongside traditional financial and economic parameters, in the context of sustainable development ambition.

Within this, ESG dimensions have the understood definitions;

- The **“Environmental”** dimension refers to environmental aspects which include climate change mitigation (‘low carbon’ and transition activities) and adaptation together with others such as biodiversity, pollution prevention, water resource management and other resource efficiency including waste / circularity.
- The **“Social”** dimension refers to aspects which deal with social inclusion, equality, human rights, labour relations amongst many others.
- The **“Governance”** dimension refers to aspects of management and decision-making structures, standards, practices and disclosure, which direct wholistic value creation.

There is international consensus that addressing all elements of ESG is necessary for sustainable development and the achievement of the SDGs.

There are diverse labels applied within the domain of sustainable finance, including such as “low-carbon finance”, “climate finance”, “green finance”, and other themes. It is commonly understood these concepts represent subsets of sustainable finance.

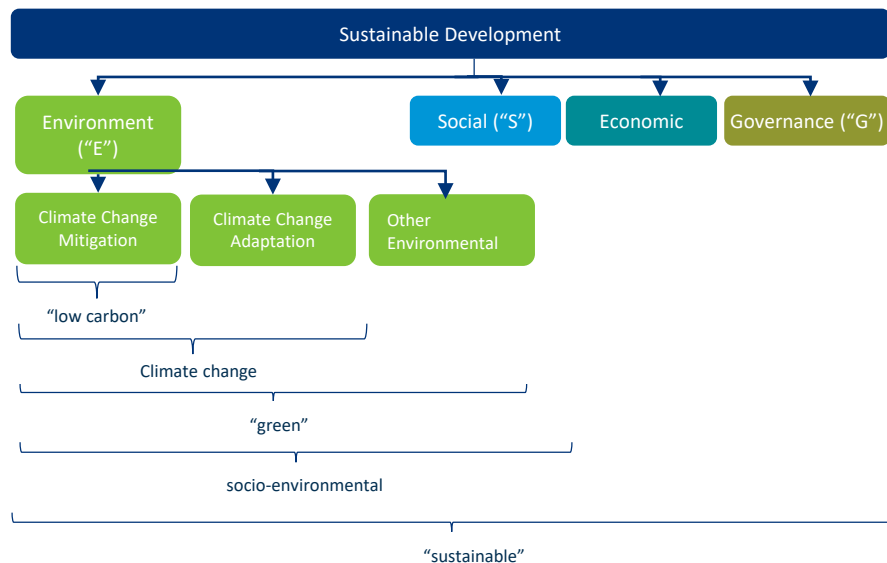


Figure 1: The breadth of sustainable development and environmental, social, economic and governance foci for sustainable finance (National Bank of Georgia, 2019, adapted from UNEP)

Introduction

The sustainable finance ecosystem

Insurers act as long-term investors and provide cover for climate-related and social risks, and their financial consequences. They have a role in integrating sustainability considerations into risk assessment practices, and bringing new products to market that support the development of low-carbon, resilient economic activities and projects

Banks finance projects, assets and activities that can contribute to sustainable development. These include international, national, development, commercial and boutique institutions. Their risk policies and processes may also restrict finance to projects with negative social and environmental impacts or exposure

Investors and investment, fund and asset managers, in actioning investment and management strategies, meeting mandates and fulfilling fiduciary responsibility, are integrating sustainability considerations into their investment strategies and demanding greater action, coherence, impact, and transparency

Companies and project developers seek to raise financing for projects, assets and activities that can contribute to sustainable development; in turn, their disclosing sustainability performance information is useful to market participants and other stakeholders

Governments and regulators have the mandate to ensure financial stability and can help create an enabling environment that facilitates the deployment of sustainable finance

International organisations support the development of sustainable finance through guidelines, initiatives, knowledge transfers, tools, capacity development and on occasion – financial support through concessional finance and derisking mechanisms

Debt capital markets facilitate the issuance of sustainable debt instruments and access to investors, to raise capital to finance projects, assets and activities that deliver sustainable development benefits

Equity capital markets facilitate the listing of companies and can drive sustainability through minimum performance and disclosure requirements, and good practice guidance; sustainability indexes provide visibility to listed companies with leading ESG performance and are used by investors with aligned strategies to benchmark investment portfolio performance

NGOs, service providers, universities and professional bodies provide independent reviews and advice on environmental and social integrity of sustainable finance markets and products; they bring knowledge, capacity and independence to the ecosystem, lend integrity and build trust

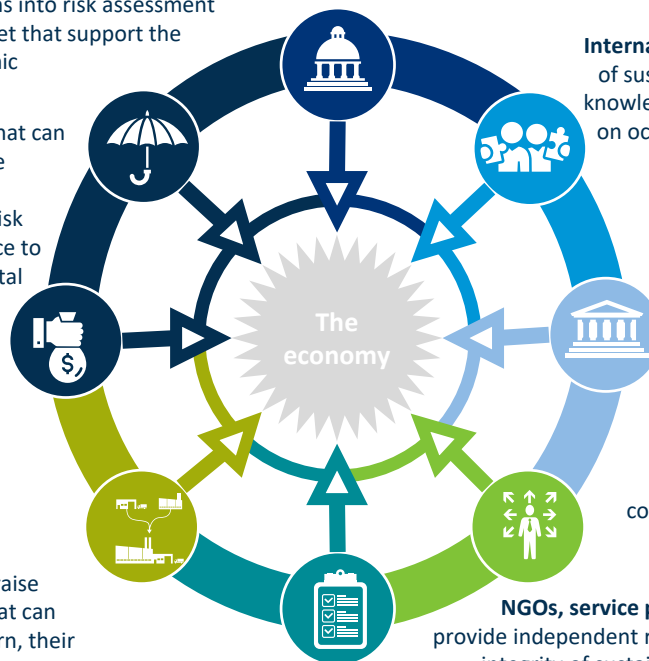


Figure 2: The sustainable finance ecosystem

The prototypical sustainable finance market, and the relationships between actors, sectors, instruments and offerings

- Private financial institutions (FIs) help direct capital to projects and businesses
- Development banks can support private markets with co-lending and risk sharing.
- Central banks and financial regulators supervise the financial sector and are key in shaping an enabling environment conducive to a robust and functional ecosystem, with increasing focus on societal relevance and climate change
- Service providers and technical and environmental specialists support financial and non-financial institutions with their expertise (law firms, accountancy firms, consultancy firms, exchanges, rating agencies, index and data providers)
- NGOs, universities, professional bodies, and independent reviewers each have a different role and influence in the market. E.g. by providing education and expertise, thought leadership, and assurances of credibility

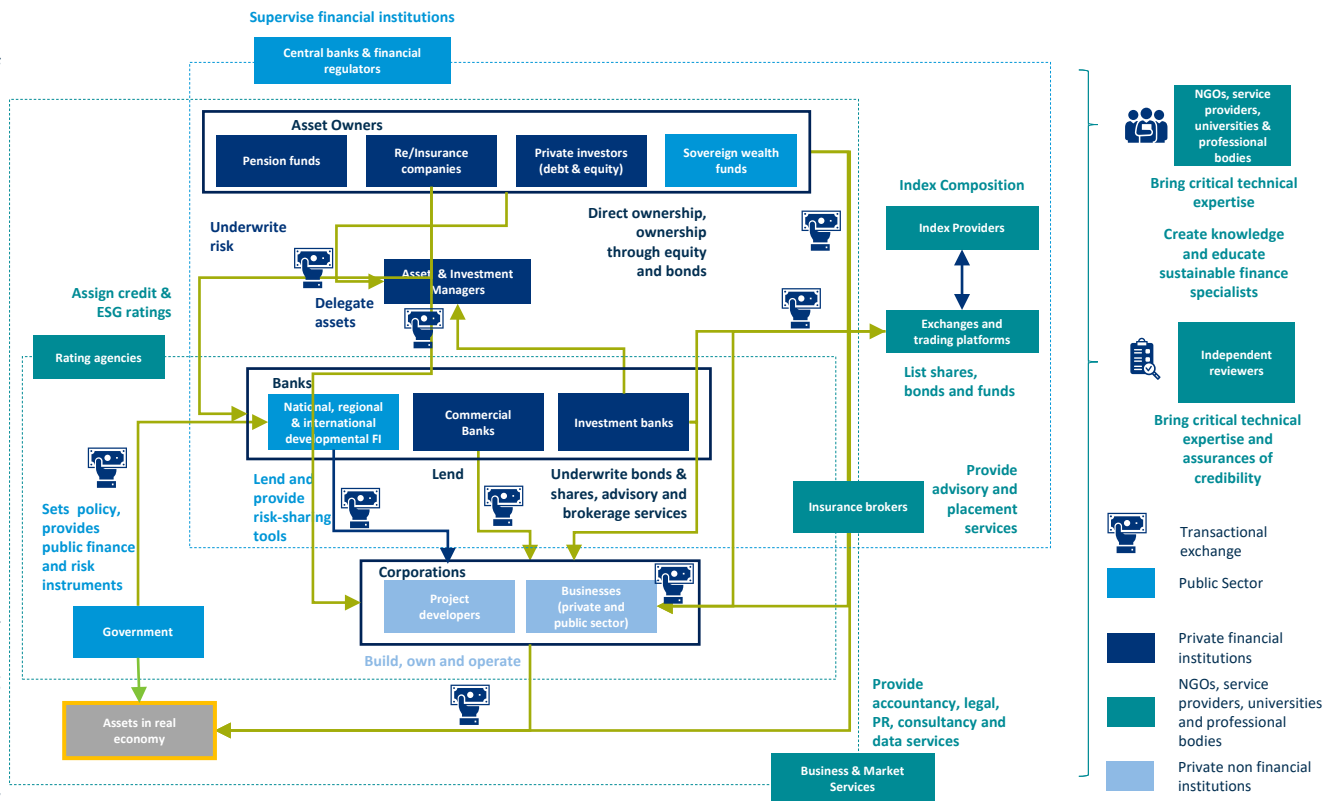


Figure 3: A depiction of the various actors engaged in sustainable finance ecosystem, their inter-relationships and ultimate connection to the economy

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Methods to integrate sustainable financing

Effective sustainable finance should entail capital reallocation responding to both risk and opportunity

There are two complementary aspects that need to be affected to integrate sustainability aspects into the decision-making processes for financial institutions. To be clear, both are needed.

To date, integrating risk-related factors and practices has seen the most uptake by financial institutes and provides a basis. Now, strategic evolution is needed to pivot to sustainable finance and opportunity pursuit.



Integrating risk-related aspects of sustainability

- This is **the best-established ESG management approach and focuses on risk and harm prevention**
- There are established Methods for identifying, managing and disclosing on ESG risk*
- New and additional methods and tools to do so with greater ease are emerging, especially for climate risk (both physical and transition)
- Integrating ESG risk management leads to decisions that divert capital away from activities with ESG risk and detrimental impacts
- This includes through practices such as exclusionary screening and screening against minimum standards of business practice and international norms
- It co-incidentally creates the platform on which activities that perform well can be identified (i.e. those that typically do not fare poorly in ESG risk assessments)
- Sustainable finance intrinsically requires ESG risk management, and must be complemented with ESG advancement



Integrating an assessment of the sustainability opportunity

- This is intended as the **next step in maturity and purpose of sustainable finance**
- At a minimum, it requires opportunities for ESG advancement to be identified and integrally considered (given some weight) when evaluating investment and financing opportunities
- The objective is to **pivot capital deployment toward activities in the real economy that align with societal and development goals, and capture and promote the opportunity created by the transitioning economy**
- This intrinsically requires a supportive strategy and a mandate to pursue innovation and financing/investment in such sectors and activities
- Organisations can identify opportunities that advance environmental and social dimensions that fit their financing / investment scope**
- It is the realm of instrument and product innovation with the leaders accessing and opening new markets

* ESG Risk Management Methods and practices is not the focus of this Handbook (please refer slide 14)

** This is not the same as 'impact investing', though this is a subset of sustainable finance that typically invests in businesses with clear E&S purpose and impact, and serves underserved individuals and communities. It does involve a form of 'positive screening' because of the identification of sectors, companies and/or projects with aligned traits.



Methods to integrate sustainable financing

Framing the analysis for suitability of the existing principles, frameworks, methodologies, tools and standards

Financial institutions and investors are now pivoting their strategies to finance financially attractive assets that are also sustainable and resilient; to finance assets and activities that are anticipated to yield positive financial and non-financial outcomes in the longer-term; and to give due consideration to the financing needs of existing industries that remain compatible with the needs of society but must transition current environmental performance to be in line with decarbonisation trajectories and targets, and environmental performance thresholds (accounting for inherent social challenges and opportunities).

This brings two key decision-making factors into consideration for the finance providers and investors:

1. **Risk:** Are the underlying assets and investments at risk of being damaged or destroyed, or becoming stranded, or are they otherwise at risk of not being able to generate returns in future?
2. **Opportunity:** Are the underlying assets actively seeking and positioning themselves to capture opportunities that could be presented in a more sustainable future?

Investors, lenders and insurers have recently put considerable work in to understanding how to integrate ESG risk and opportunity considerations in to their decisions. These efforts are both to better understand risk and opportunities of investments and financing decisions, and to identify investments that are sustainable and aligned to societal and development goals.

This has resulted in a proliferation of principles, frameworks, methodologies,

tools and measurement and reporting standards, and has made this a complex and inconsistent area. Both general and specific methodologies have been developed for a variety of applications, including for particular –

- sectors (such as water)
- industries (insurance)
- instruments (such as green bonds)

These seek to standardise, harmonise and validate finance activities credibility so market actors can be assured that their activities manage risks appropriately and have appropriate sustainable development outcomes.

In the following analysis a series of global principles, methodologies, frameworks, tools and standards (hereafter referred to as “Methods”) have been identified, analysed according to their fundamental elements and focus areas, and assessed according to their applicability to financial institutions, sectors, geographies and financial instruments especially for their suitability for an “opportunity pivot” and their situation within a comprehensive and effective management framework (as in **Figure 4**).

The (non-exhaustive) series of Methods that were identified and analysed are listed in Annexure 10.

The first step of the analysis was to characterise the Long-List according to functional coverage, being: Governance, Strategy, Risk & Opportunity Management, and Metrics and Targets. This structure was derived from the framework for disclosure developed by the Financial Stability Board Task Force for Climate-related Financial Disclosures (TCFD).







Methods to integrate sustainable financing

Framing the analysis for suitability of the existing principles, frameworks, methodologies, tools and standards

The TCFD speaks directly to the risk and opportunity for investors and financial institutions, which uniquely positions the TCFD as a common management construct on which to understand an organisation's contribution to and readiness for a sustainable future. The TCFD has received considerable global buy-in due to its global relevance.

Thereafter, the attributes for relevance and suitability of the Methods were identified, the analysis being in terms of following qualitative indicators:

-  Applicability to different actors (namely banks, investors, insurance companies, or all of the above)
-  Industry buy-in and applicability (major organisations and considerable assets under management that have implemented or aligned to the Method)
-  Government and industry endorsement (partnerships, uptake or recommendations of major industry bodies, NGOs and governmental bodies for the Method)
-  Primary indicators (such as climate-related, social, or governance risks, opportunities or impacts that fall within the Method's remit or coverage)
-  Requirement for independent verification, validation or certification by a third-party or the Method developer itself

Investment / Finance	Governance of risks and opportunities	Strategy concerning material risks and opportunities
	Strengthen the organisation's governance around sustainable development risks and opportunities	Identify the actual and potential impacts of sustainable development risks and opportunities on the organisation's performance and impact, and adapt the strategy and management processes
	Risk and opportunity management	Metrics and Targets
	Adapt how the organisation identifies, assesses, and manages sustainability risks Adapt how the organisation identifies and manages business opportunities aligned to societal and development goals	Develop / adopt, track and report on the metrics and targets that provide decision-useful management information to assess and manage these risks and opportunities

Figure 4: Adapted core elements of the recommended TCFD climate related financial disclosures for the purpose of sustainable finance Methods analysis



Methods to integrate sustainable financing

Approach to short-listing most relevant and applicable Methods

Having characterised the Long-List, a two-step approach was applied to the Long-List, to shortlist Methods and derive a set of recommended Methods that would be both **globally relevant and credible** and **suitable to the South African context**.

The two-steps consider 'popularity' and 'structural suitability' for each Method as follows:

1. The first dimension of shortlisting to identify the Methods that have global popularity, endorsement (from regulators, companies, and industry bodies), wholistic management constructs and processes, and that address the range of financial actors and organisation that are present and prevalent in South Africa.
2. The next dimension of shortlisting regards the assessment of potential and suitability to the South African context. This dimension looks into the needs and challenges that South Africa faces, the pertinent market structures and financial environment, the uptake and endorsement of principles, methodologies, frameworks and tools by South African institutions and industry bodies, and other South African considerations and constraints that may limit the suitability of a given principle, methodology, framework or tool.

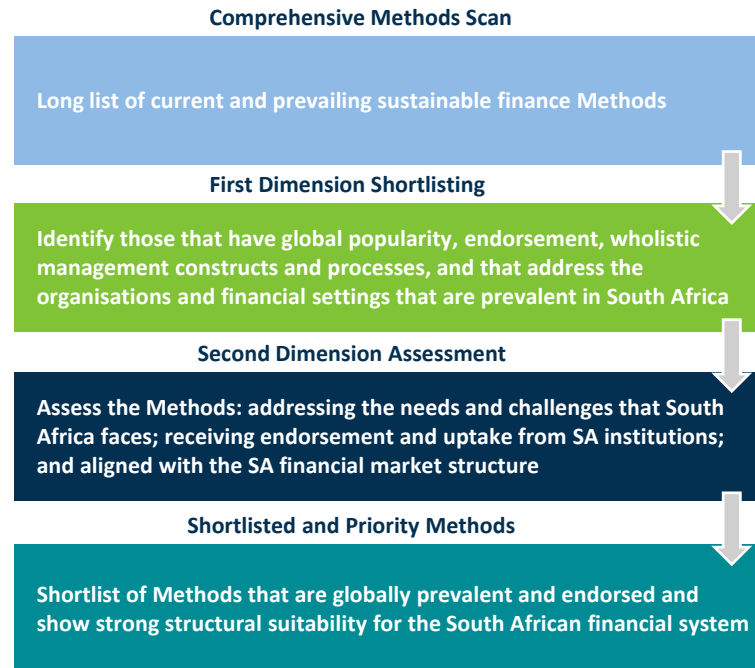


Figure 5: Approach to short-listing most relevant and applicable methods



Methods to integrate sustainable financing

Summary of the shortlisted Methods recommended for the South African financial sector for a comprehensive management function being the basis for risk management and pivoting to also prioritise opportunity pursuit

Widely applicable to financial sector

Equator Principles	P				
PACTA	M				
Water Risk Filter	M				
UNEP PRI	P				
TCFD	F				
GRI/SASB collab	M				
CDSB Standards	F				
IRIS+ & GRI	M				
Natural, Social, Human Cap. Prot.	F				
FAST-Infra	F				
PCAF	M				
SBTi for FI	M				
CDP for FI	M				
LMA* SLLP	P				
ICMA* Transition	P				
CBI Transition	F				

Tailored to Investors

ESG Integration	M				
IIGCC Net Zero Investment Framework	F				
IFC Operating Principles for Impact Management	P				
TPI Tool	M				

Suited to Banks

UNEP FI Principles for Responsible Banking	P				
ICMA GBP	P				
ICMA SBP	P				
ICMA SBG	P				
CBI CBS	M				
LMA* GLP	P				

Specific to Insurers

UNEP FI PSI	F				
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- Key**
- P Principles and standards
 - F Frameworks
 - M Methodologies and tools
 - Enables opportunity pivot and applications
 - More suited to risk management applications
 - Strong recommendation for universal adoption by all FIs
 - Recommended as front runner between options for FIs, but others could suit organisation better
 - Application specific front-runner, recommended when FI is taking on a specific activity

- Addresses or supports management function
- Not applicable to management function
- Overarching/contextual E,S & G applicability
- Social specific applicability
- Climate change specific applicability
- * Produced by the Loan Market Association (LMA), Asia Pacific Loan Market Association (APLMA) and LSTA

Commitments & Targets
Strategy & Planning
Scenario & Risk
Reporting



Pivot decision-making approaches and supporting processes to opportunity pursuit



Make sure the approach includes just transition and social contribution evaluations

Methods to integrate sustainable financing

In summary, it is for the individual financial institution to implement the relevant Methods in an end-to-end management process, but some Methods are intrinsic to stimulating the change needed, recommending that FIs...

...enhance its governance and management functions through commitments, embedded into practice

...must make credible long term commitments

Kick-start with adoption of the relevant, global comprehensive ESG Framework or Principles

- All FIs' should adopt and implement the **UNEP PRI**
- *Tailored, also to be adopted: UNEP FI PRB; UNEP FI PSI*

Adopt significant specific frameworks to align practices

- TCFD Recommendations
- Equator Principles

Adopt frameworks to structure monitoring and reporting

- GRI and SASB
- CDSB

Supplement with targeted methods and tools as needed

Embed internally and report externally to CDP and TPI Tool

Set targets according to recognised frameworks

- All FI's should take on **SBTi** guidelines for FIs, and report to **CDP** for FIs
- *Tailored to Asset Owners: Net Zero Asset Owners Alliance Protocol*
- *Tailored to Asset Managers: IIGCC Net Zero Investment Framework*

Implementing TCFD Recommendations effectively and improved disclosure will mean a clearer understanding of the challenges (and effective responses), a focus on change by all parties, and support the development of transition finance (instruments and lending). Financiers and investors committing to net zero targets, more companies setting themselves SBTs, and all actors acting on these commitments, will drive the funding of the transition, as the process of fulfilling those target means focusing on transition.



Methods to integrating sustainable financing

Resulting shortlist of the available Methods and significant characteristics

Table 1: Shortlisted sustainability and ESG financing principles, frameworks, methodologies, and tools and their prevalence, potential and coverage of South Africa’s major developmental needs and challenges

Methods	Current SA industry uptake	Potential for integration and ownership	Lends itself to Risk Management or also Opportunity Pursuit	ESG management process addressed by the principle, methodology, framework or tool					Post-commitment obligations with external enforcement	To what extent does the principle, methodology, framework or tool drive risk and opportunity management and governance for these South African needs and challenges										
				Commitments & Target Setting	Strategy and Action Planning	Scenario and Risk Analysis	Reporting and Metrics	Independent verification, validation or certification		Climate Change Adaptation	Climate Change Mitigation	Sustainable Water and Marine Resources	Sustainable Resource Use and Circularity	Pollution Prevention	Ecosystem Protection and Restoration	Governance	Poverty and Equity	Gender	Just Transition	
PRINCIPLES AND STANDARDS																				
Equator Principles	Prevalent	High	Risk Management		✓	✓	✓	✓	✓	🕸	🕸	🕸	🕸	🕸	🕸	🟢	🕒	🕸	🕸	
UNEP FI PRI	Prevalent	High	Opportunity Pursuit	✓	✓	✓	✓	✓	✓	🕸	🕸	🕸	🕸	🕸	🕸	🕸	🕸	🕸	🕒	
UNEP FI PSI	Emerging	High	Opportunity Pursuit	✓	✓	✓	✓		✗	🕸	🕸	🕸	🕸	🕸	🕸	🕸	🕸	🕒	🕒	
UNEP FI Principles for Responsible Banking	Prevalent	High	Opportunity Pursuit	✓	✓	✓	✓		✓	🕸	🕸	🕸	🕸	🕸	🕸	🕸	🕸	🕸	🕒	
IFC Operating Principles for Impact Management	Emerging	High	Opportunity Pursuit	✓	✓	✓	✓	✓	✓	🕸	🕸	🕸	🕸	🕸	🕸	🟢	🕸	🕸	🕸	
ICMA Green Bond Principles	Emerging	High	Opportunity Pursuit				✓	✓	✓	🟢	🟢	🟢	🟢	🟢	🟢	🕸	🕸	🕸	🕸	
ICMA Social Bond Principles	Emerging	High	Opportunity Pursuit				✓	✓	✓							🟢	🟢	🟢	🕸	
ICMA Sustainable Bond Guidelines	Emerging	High	Opportunity Pursuit				✓	✓	✓	🟢	🟢	🟢	🟢	🟢	🟢	🟢	🟢	🟢	🕒	
LMA, APLMA, LSTA Green Loan Principles	Emerging	High	Opportunity Pursuit				✓	✓		🟢	🟢	🟢	🟢	🟢	🟢					





Methods to integrating sustainable financing

Resulting shortlist of the available Methods and significant characteristics

Table 2: Shortlisted sustainability and ESG financing frameworks and their prevalence, potential and coverage of South Africa’s major developmental needs and challenges (continued)

Methods	Current SA industry uptake	Potential for integration and ownership	Lends itself to Risk Management or also Opportunity Pursuit	ESG management process addressed by the principle, methodology, framework or tool					Post-commitment obligations with external enforcement	To what extent does the principle, methodology, framework or tool drive risk and opportunity management and governance for these South African needs and challenges									
				Commitments & Target Setting	Strategy and Action Planning	Scenario and Risk Analysis	Reporting and Metrics	Independent verification, validation or certification		Climate Change Adaptation	Climate Change Mitigation	Sustainable Water and Marine Resources	Sustainable Resource Use and Circularity	Pollution Prevention	Ecosystem Protection and Restoration	Governance	Poverty and Equity	Gender	Just Transition
PRINCIPLES AND STANDARDS (cont'd)																			
LMA, APLMA, LSTA Sustainability Linked Loan Principles	Emerging	High	Opportunity Pursuit	✓			✓	✓	✓	●	●	●	●	●	●	●	●	●	○
FRAMEWORKS																			
IIGCC Net Zero Investment Framework	Limited	High	Opportunity Pursuit	✓	✓	✓	✓	✓*	✓	●	●								
TCFD	Emerging	High	Opportunity Pursuit	✓	✓	✓	✓		✗	●	●					●	○	○	●
Natural, Social and Human Capital Protocols	Limited	High	Opportunity Pursuit		✓	✓						●	●				●	●	●
FAST-Infra	TBD	High	Opportunity Pursuit		✓	✓	✓	✓		●	●	●	●	●	●	●	●	●	○
CDSB Standards	Emerging	High	Opportunity Pursuit	✓	✓	✓	✓	✓	✓	●	●	●	●	●	●	●			





Methods to integrating sustainable financing

Resulting shortlist of the available Methods and significant characteristics

Table 3: Shortlisted sustainability and ESG financing methodologies, and tools and their prevalence, potential and coverage of South Africa’s major developmental needs and challenges (continued)

Methods	Current SA industry uptake	Potential for integration and ownership	Lends itself to Risk Management or also Opportunity Pursuit	ESG management process addressed by the principle, methodology, framework or tool					Post-commitment obligations with external enforcement	To what extent does the principle, methodology, framework or tool drive risk and opportunity management and governance for these South African needs and challenges									
				Commitments & Target Setting	Strategy and Action Planning	Scenario and Risk Analysis	Reporting and Metrics	Independent verification, validation or certification		Climate Change Adaptation	Climate Change Mitigation	Sustainable Water and Marine Resources	Sustainable Resource Use and Circularity	Pollution Prevention	Ecosystem Protection and Restoration	Governance	Poverty and Equity	Gender	Just Transition
METHODOLOGIES AND TOOLS																			
SBTi Science-based Targets	Emerging	High	Opportunity Pursuit	✓			✓	✓	✓	●	●								
ESG Integration Techniques	Emerging	High	Risk Management			✓	✓		✗	◉	◉	○	○	○	○	◉	◉	◉	◉
PACTA	Emerging	High	Risk Management			✓			✗	●	●								
Global Reporting Initiative (GRI) and SASB collaboration	Prevalent by listed companies	Medium	Opportunity Pursuit	✓	✓	✓	✓	✓*	✓	●	●	●	●	●	●	●	●	●	○
Climate Bonds Standard (CBS) and Certification Scheme	Emerging	High	Opportunity Pursuit				✓	✓	✓	●	●	●	●	●	●				
PCAF	Limited	High	Opportunity Pursuit	✓	✓	✓	✓			●	●								
CDP for Financial Services Sector	Emerging	High	Opportunity Pursuit	✓	✓	✓	✓	✓*	✓	●	●	●			◉	◉			
Water Risk Filter	Limited	High	Risk Management	✓	✓	✓	✓					●							
TPI Tool	Limited	High	Opportunity Pursuit	✓	✓	✓	✓		✓	●	●								
IRIS+ & GRI Impact Toolkit	Emerging	High	Opportunity Pursuit	✓		✓	✓			◉	◉	◉	◉	◉	◉	◉	◉	◉	◉



Methods to integrating sustainable financing

Resulting shortlist of the available Methods and significant characteristics

Table 3: Shortlisted sustainability and ESG financing methodologies, and tools and their prevalence, potential and coverage of South Africa’s major developmental needs and challenges (continued)

Methods	Current SA industry uptake	Potential for integration and ownership	Lends itself to Risk Management or also Opportunity Pursuit	ESG management process addressed by the principle, methodology, framework or tool					To what extent does the principle, methodology, framework or tool drive risk and opportunity management and governance for these South African needs and challenges									
				Commitments & Target Setting	Strategy and Action Planning	Scenario and Risk Analysis	Reporting and Metrics	Independent verification, validation or certification	Climate Change Adaptation	Climate Change Mitigation	Sustainable Water and Marine Resources	Sustainable Resource Use and Circularity	Pollution Prevention	Ecosystem Protection and Restoration	Governance	Poverty and Equity	Gender	Just Transition
METHODOLOGIES AND TOOLS (cont'd)																		
SBTi Science-based Targets	Emerging	High	Opportunity Pursuit	✓			✓	✓	●	●								
ESG Integration Techniques	Emerging	High	Risk Management			✓	✓		◉	◉	○	○	○	○	◉	◉	◉	◉
PACTA	Emerging	High	Risk Management			✓			●	●								
Global Reporting Initiative (GRI) and SASB collaboration	Prevalent by listed companies	Medium	Opportunity Pursuit	✓	✓	✓	✓	✓*	●	●	●	●	●	●	●	●	●	○
Climate Bonds Standard (CBS) and Certification Scheme	Emerging	High	Opportunity Pursuit				✓	✓	●	●	●	●	●	●				
PCAF	Limited	High	Opportunity Pursuit	✓	✓	✓	✓		●	●								
CDP for Financial Services Sector	Emerging	High	Opportunity Pursuit	✓	✓	✓	✓	✓*	●	●	●			◉	◉			
Water Risk Filter	Limited	High	Risk Management	✓	✓	✓	✓				●							
TPI Tool	Limited	High	Opportunity Pursuit	✓	✓	✓	✓		●	●								
IRIS+ & GRI Impact Toolkit	Emerging	High	Opportunity Pursuit	✓		✓	✓		◉	◉	◉	◉	◉	◉	◉	◉	◉	◉



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Sustainable finance instruments and applications

An overview of the analysis approach and purpose

This Chapter is set out in 2 main parts, supported integrally by the detailed analysis for which readers should consult the Annexures, as follows:

The **first part** of the Chapter identifies **the current use of sustainable finance instruments** (for a select number of countries evaluated by the study, as well as South Africa by comparison), **mapping these instruments (i) by relative international activity levels, (ii) by typical end-uses and (iii) by identifiable SDGs**. Importantly, the SDGs and end-use maps have been complemented with ‘hypothetical additional applications’, because these sustainable finance instrument (by their basic design) will have opportunity for many more applications. **This part of the Chapter captures a basic landscape and basic relationships between end-uses SDGs and instruments.**

Certain instruments are more easily mapped due to data availability as a result of disclosure regulations. Loans, guarantees, blended finance and project instruments require scanning across the active and emerging regions and due to the opaque nature of these transactions and the myriad applications for which they are used, this information may be incomplete.

The **second part** of the Chapter sets out the results of analysis of **which sustainable finance instruments best match with the South African sustainable economy end-uses**. This analysis combines (i) a framework of end-uses arranged according to current technology maturity for the underlying major solution); (ii) a framework mapping finance instruments according to the typical technology/solution maturities these match to; (iii) these two maps being overlaid, and then further analysed according to experience and examples in South Africa and internationally of the finance instruments typically (and

currently) applied to these end-uses.

For this analysis, close reference was made to the draft South African Green Finance Taxonomy.

The reader should consult the following annexures for the detail of the analysis frameworks and results identified above:

- *South African green economy end uses mapping to capital and risk/size*
- *South African end-uses mapping to financial instruments*

Complementary to this Chapter are annexures regarding Insurance and Carbon Offsets. These instruments are not presently cornerstones in the South African landscape. For an update, please refer to:

- *International developments in carbon offsets as finance instruments*, where the Annexure discusses the role of the insurance industry in progressing the sustainable development agenda, as a major risk carrier, a financial service provider and an investor, and the nodes where insurance evidently intersects with ESG and climate imperatives in insurance product innovation.
- *Overview of the relevance of sustainable finance in the insurance industry*, where the Annexure discusses the recent developments from the Taskforce on Scaling Voluntary Carbon Markets (TSVCM).

There is tremendous room for innovation and transformation in sustainable finance instrument design and application, and achieving the SDGs will require such instrument innovation, as eluded to in this Chapter.

Global Sustainable Finance Instrument Mapping

The selected regions demonstrate application and uptake of specific sustainable finance products due to their financial sectors and market compositions

Table 4: Sustainable finance instruments' relative volumes in countries of analysis

Asset class (Product)	Product focus	Argentina	Bolivia	Brazil	Chile	Colombia	Costa Rica	Dominican Republic	Ecuador	Mexico	Panama	Paraguay	Peru	Uruguay	China	Singapore	Indonesia	Vietnam	Malaysia	Thailand	Philippines	Myanmar	Cambodia	Brunei	Laos	Kenya	Nigeria	Morocco	Egypt	Ghana	Cote d'Ivoire	Uganda	Mauritius	Seychelles	Botswana	South Africa	UK	EU	USA	Canada	Australia	
Debt (Bonds)	Green/Climate	✓		✓	✓	✓	✓		✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓					✓	✓	✓	✓							✓	✓	✓	✓	✓	✓	
Debt (Bonds)	Transition			✓																																▶	✓					
Debt (Bonds)	KPI-Linked			✓																																▶	▶	✓				
Debt (Bonds)	Sustainability/ (Env.) Thematic	✓		✓	✓	✓				✓					✓		✓		✓	✓	✓												✓	▶	✓			✓	✓			
Debt (Bonds)	(Social) Thematic			✓	✓	✓				✓			✓			✓	✓	✓	✓	✓															✓							
Debt (Loans)	Green/Themati c	✓			✓					✓					✓	✓	✓			✓						✓	✓	✓	✓						✓	✓			✓	✓	✓	
Debt (Loans)	KPI-Linked												✓																							✓						
Equity	Green equity products									✓																✓	✓	✓	✓	✓	✓	✓		✓		✓	✓					
Equity	Private equity and venture capital	✓		✓	✓	✓	✓			✓			✓	✓												✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓					
Risk (Loans)	Green subordinated debt			✓																																✓						
Risk (Guarantee)	-																																			✓						
Risk (Insurance)	Climate change					✓																															✓	✓			✓	
Mixed (Blended finance)	-	✓		✓		✓	✓			✓			✓	✓												✓	✓	✓			✓	✓	✓			✓						
Mixed (Project finance)	-																																			✓	✓					
Alternative (Carbon offsets)	Climate change mitigation	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓					✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓					

Key

- ✓ Activity noted in country
- ▶ Prospective activity noted in country
- Market activity unknown
- Relatively **high** activity (frequency/volume) in region
- Moderate** activity (frequency/volume) in region
- Relatively **low** activity (frequency/volume) in region
- Did not research/detect activity



Mapping the universe of sustainable finance instruments

While not prescriptive, sustainable finance instruments are typically employed by sustainable development end-use

1 Sustainable development includes dimensions of economic development and governance; these are not the focus of this study concerned with co-development of green and social dimensions

2 “Thematic” products take a variety of naming conventions, denoting the financing end use, e.g. blue, SME, social, etc. Transition, climate, etc. are really also themes.

3 Transition bonds typically deal with the changes to technologies and economic processes to mitigate emissions; whereas financing social challenges, even if associated with transition, are typically labelled social or thematic products

4 Climate bonds historically focused on mitigation, but adaptation standards are growing

5 Green products often include climate change relevant end-uses

6 KPI-linked products could have any performance input/output associated

7 We identified subordinated debt as a risk mitigation measure; many other such mechanisms are already in traditional finance that apply equally to sustainable objectives

8 We did not study Grants, PES, or crowdfunding etc. mechanisms in this Handbook

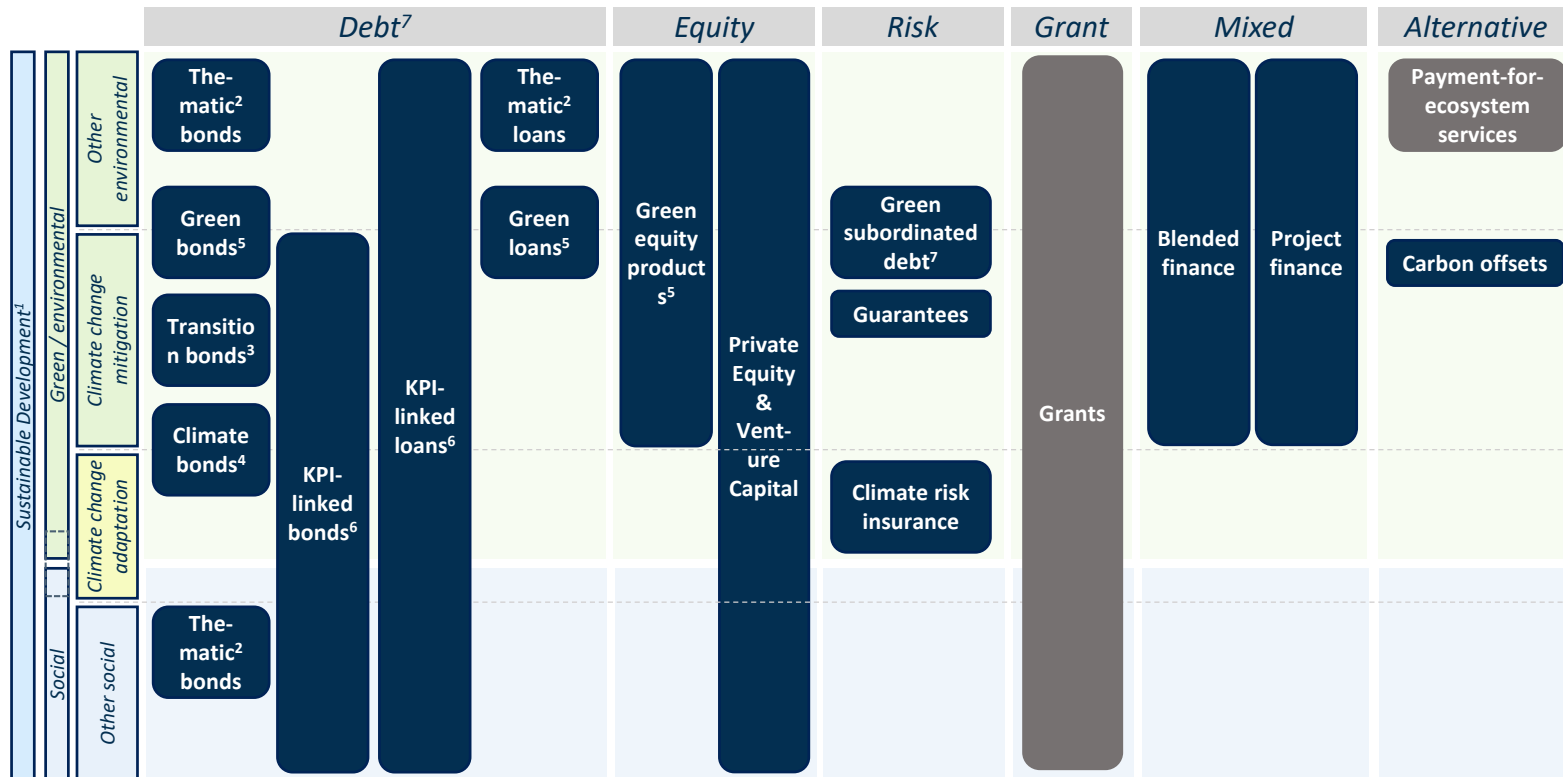


Figure 6: Universe of sustainable finance instruments

Global Sustainable Finance Instrument Mapping

Sustainable finance instrument use for SDG outcomes

Table 5: SDGs identified through country scans in the study, and hypothesis of potential further send-uses lending themselves to the instrument type

Sustainable Finance Instrument	Sustainable Development Goals (SDGs)																
	1. Poverty	2. Zero Hunger	3. Health and Well-being	4. Quality Education	5. Gender Equality	6. Clean Water and Sanitation	7. Affordable and Clean Energy	8. Decent Work and Economic Growth	9. Industry, Innovation and Infrastructure	10. Reduced Inequality	11. Sustainable Cities and Communities	12. Responsible Consumption and Production	13. Climate Action	14. Life Below Water	15. Life on Land	16. Peace and Justice	17. Partnerships
<i>Green/climate Bonds</i>						✓	✓		✓		✓		✓	✓	✓		
<i>Transition Bonds</i>							✓						✓				
<i>KPI-Linked Bonds</i>			✓			✓		✓					✓				
<i>Social Bonds</i>			✓	✓	✓			✓		✓			✓				
<i>Green/Thematic Loans</i>		✓					✓		✓		✓	✓	✓				
KPI-Linked Loans		✓		✓		✓	✓	✓	✓		✓		✓	✓			
Green subordinate debt							✓				✓		✓		✓		
Green or Sustainable Equity		✓				✓	✓		✓		✓						
Private Equity and Venture Capital	✓	✓	✓	✓			✓	✓	✓								
Climate Change Insurance	✓	✓	✓					✓					✓				
<i>Risk Guarantees</i>							✓										
<i>Blended finance</i>									✓		✓		✓				

As expected, the study identified use of proceeds bonds and loans in particular, that linked notionally to or could reasonably be identified as having associated SDG impacts, largely concentrated in SDG 6, SDG 7, SDG 11 and SDG 13, with fewer applications in SDG 6, SDG 8 and SDG 9. We hypothesise that such instruments might reasonably have applications in SDG 12.

We identified niche applications of bonds and loans for land use and reforestation (SDG 15) in tropical applications

Importantly, while we identified few transition bonds (being a relatively new and challenging asset class), but theorise that it may be applied across SDG 7 to SDG 13, as economies make to transition performance, with the most likely in SDG 13, SDG 9, SDG 11 and SDG 12. We also identified SDG 8 and SDG 10 on the basis of opportunity to tie just transition impacts into transition project designs.

Again, guarantees and blended finance have similar applications related to technological and finance risk, with relevance to social impact especially where projects or activities are addressing financial inclusion and resilience, such as for SMMEs.

Climate insurance has some interesting potential applications across a number of socially-impactful SDGs. For instance subsequent to catastrophic events, insurance can help individuals and families maintain access to education (SDG 4) and some insurance products are incorporating educational savings components for low-income policy holders.

Applications relevant to SDG 1, SDG 2, SDG 3 and SDG 8 were also identified, in addition to the understandable SDG 13. These examples again relate to products developed for low-income policy holders for resilience to climate change impact.

With respect SDG 13, large-ticket examples were identified such as the Caribbean Catastrophe Risk Insurance Facility, are being developed to pay out countries most damaged by catastrophic events and enable them to build back more resilient infrastructure

We identified fewer instruments linking to or evidently suitable for SDG 14 and SDG 15.

We identified related bonds, and hypothesise that KPI-linked instruments would be suitable.

We theorise the potential for equity and venture capital to have very niche applications for promising technological applications such as in aquaculture, meat replacements and agricultural efficiency, which might reasonably be demonstrated to relieve land-use pressures.

Key

✓ Identified in countries studied

Hypothetical additional applications

Global Sustainable Bond Finance Flows to End-Use Markets

Mapping of the regional and country level climate and social bond finance flows

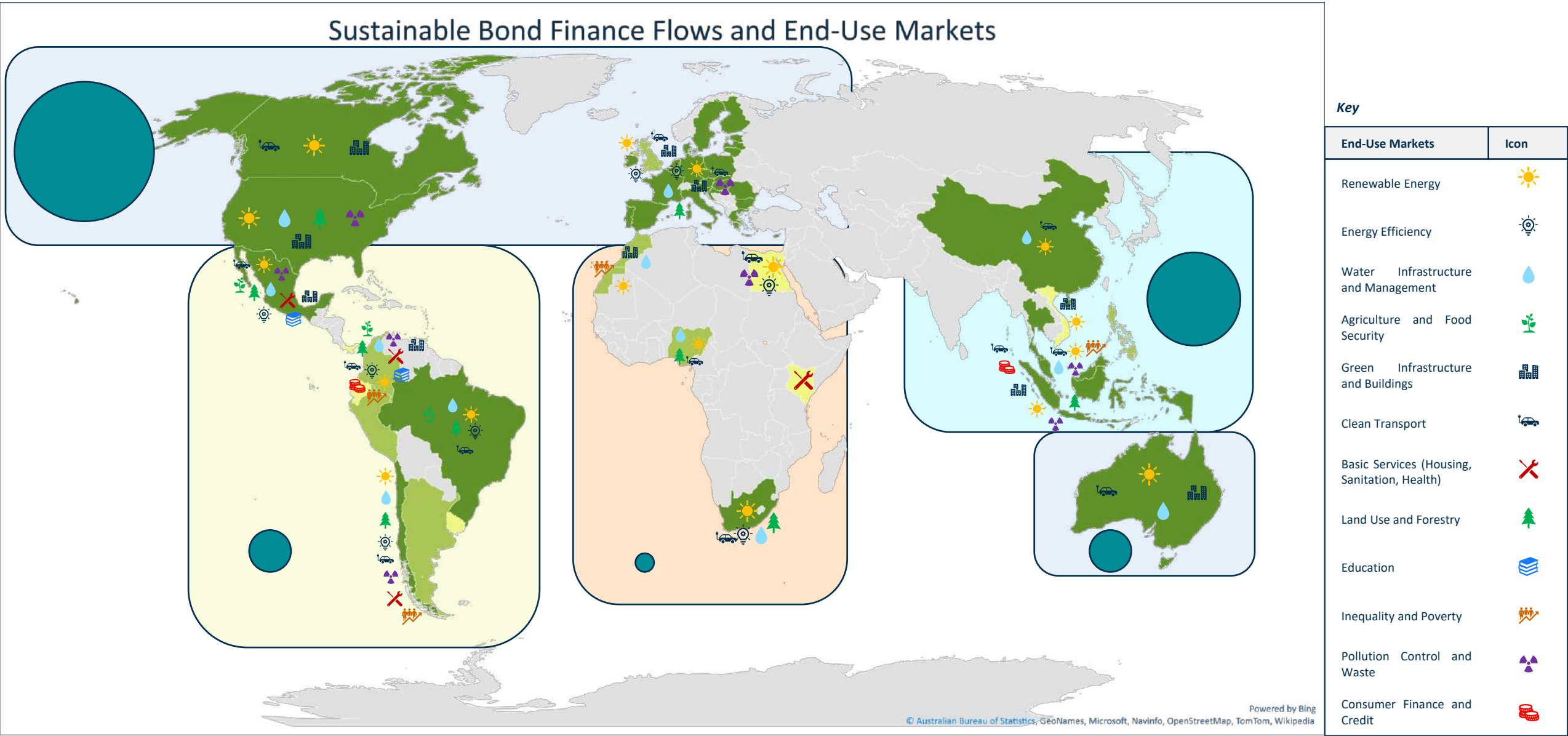



Figure 7: Green, social and sustainability bond end-uses identified in the countries studies

Relative volume of the sustainable bond finance activities

Global Sustainable Finance Instrument Mapping

End-use market activity by sustainable finance instrument

Table 6: End-use markets identified though country scans in the study, and hypothesis of potential further send-uses lending themselves to the instrument type

Loan or Equity Instrument	End-Use Markets												
	Renewable Energy and Storage	Energy Efficiency	Water Infrastructure and Management	Agriculture and Food Security	Green Infrastructure and Buildings	Clean Transport	Basic Services (Housing, Sanitation, Health)	Land Use and Forestry	Education	Inequality and Poverty	Pollution Control and Waste	Consumer Finance and Credit	Ecosystem Health and Natural Capital
													
Green/Thematic Loans	✓	✓		✓	✓	✓					✓	✓	
KPI-Linked Loans	✓	✓	✓	✓	✓	✓			✓		✓		
Green subordinate debt	✓	✓						✓					
Green or Sustainable Equity	✓	✓	✓	✓	✓	✓	✓		✓		✓		
Private Equity and Venture Capital	✓			✓			✓		✓	✓		✓	
Climate Change Insurance													
Risk Guarantees	✓												
Blended finance	✓				✓								

Our hypothesis is that environmental infrastructure typically lends itself to a wealth of financing alternatives (dependent on the exact application), typically because:

- Use of Proceeds or physical impacts may be identifiable with reasonable certainty;
- Technological and economic activity applications offer the potential to generate financial returns;
- Some applications have inherent technology or financial risk and call for risk reduction mechanisms.

We identified many of these applications in the countries studied.

By comparison, we identified far fewer socially-orientated applications, and hypothesise that these applications lend themselves to impact orientated instrument designs.

The strategic application of blended finance may also be applicable, whereas we did not expect that guarantees would apply widely.





Mapping the universe of sustainable finance instruments

(Sustainable) finance instruments¹ are typically applied according to commercial maturity of underlying typical end uses/users

1 Commercial debt may also be deployed (not the focus of this study)

2 For this analysis, we have differentiated between KPI-linked bonds, transition bonds and other types of bonds focused on environmental outcomes, as the choice of instrument is not a further differentiating feature; we have differentiated social bonds, as these are employed in typically different settings and for smaller values

3 Stage of maturity is also typically associated with technological risk (i.e. R&D is higher risk, mature technologies are generally lower technological risk)

4 While Payment-for-Ecosystem Services (PES) models can be applied in mature applications, PES is typically used in combination with other instruments and where commerciality is less favourable; it is generally a public sector remit (not the specific focus of this study)

5 While there are examples of private sector grants, this is predominated by public finance and is not the focus of this study; similarly, although there is a growing demonstration of equity/debt crowdfunding, it is synonymous with early stage financing alongside grants and also not studied in this Handbook

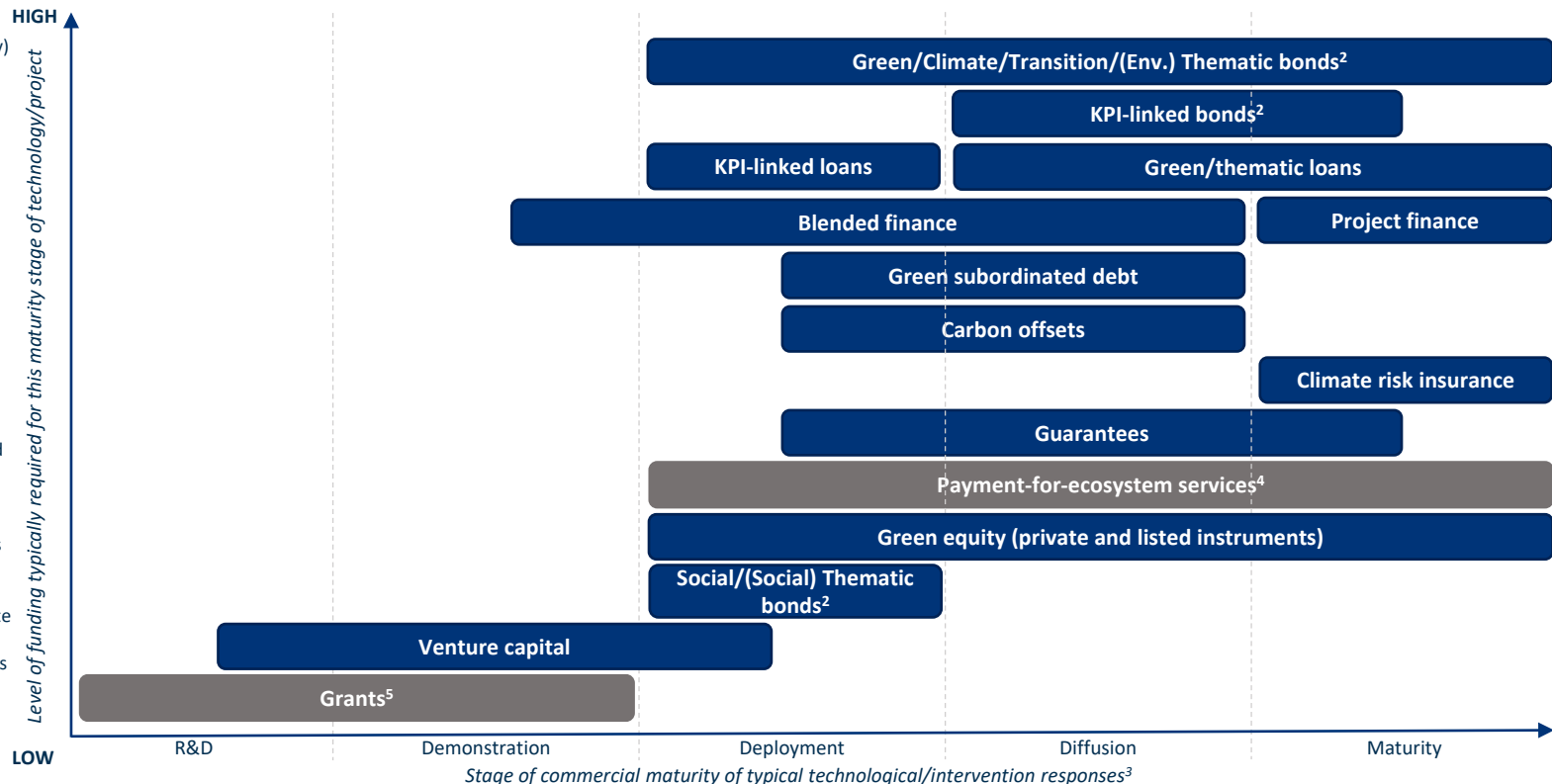


Figure 8: Sustainable finance instruments and typical applications by commercial maturity (Adapted from NBI and KPMG 2015)

Mapping the universe of sustainable finance instruments

Summary of the typical climate change related sectors' sub-components (as in the draft Green Finance Taxonomy²) by approximate project/technology maturity, linked to the typical risk/size profile and funder type (refer *Appendix 1: Green economy end use sectors mapping*)

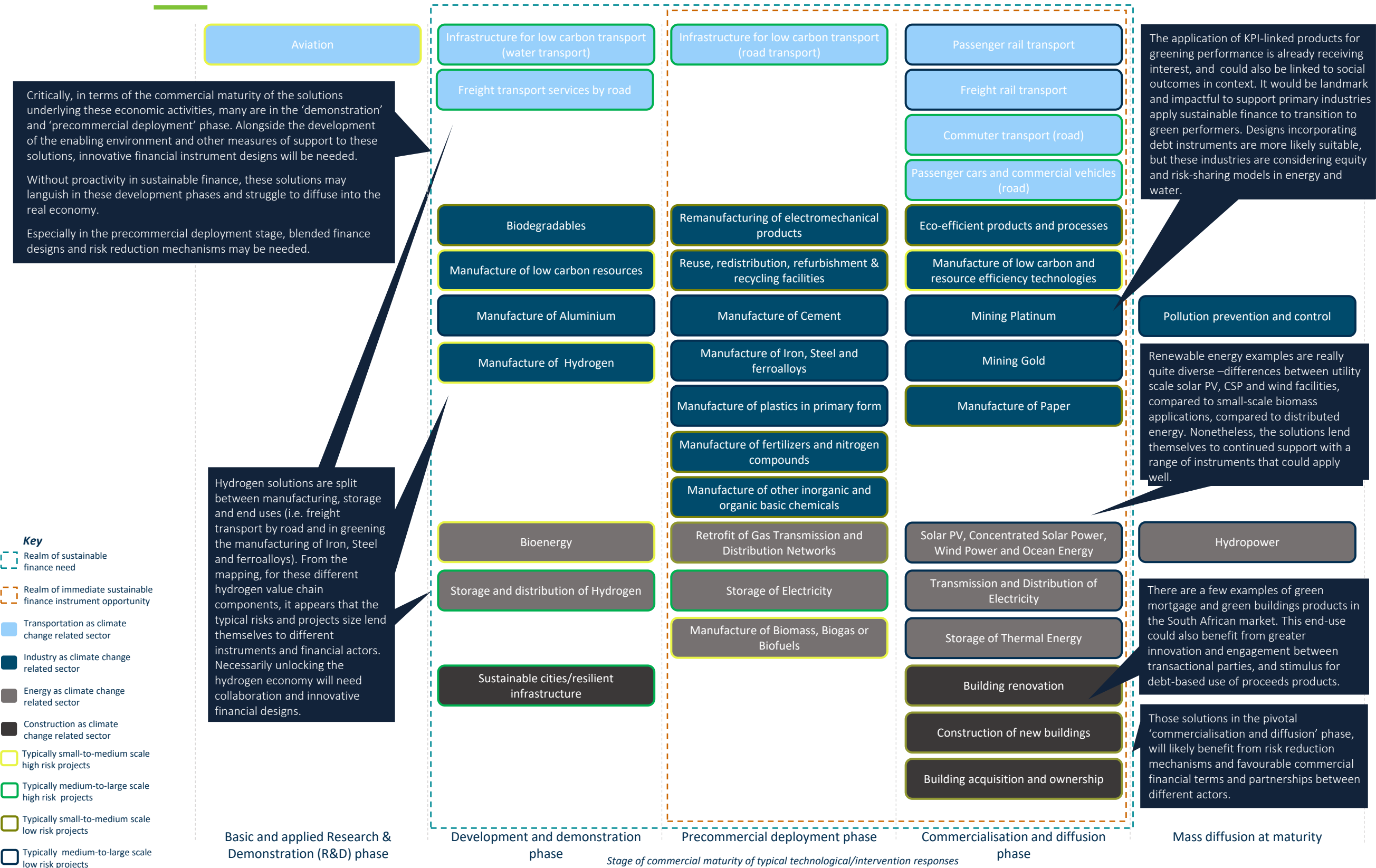


Figure 9: Approximate underlying low-carbon/green technology/application market maturity, for transportation, industrial energy and construction economic activities identified in the draft South African Green Finance Taxonomy (Carbon Trust analysis)



Mapping the universe of sustainable finance instruments

Summary of the typical climate change related sectors’ sub-components (as in the draft Green Finance Taxonomy²) by approximate project/technology maturity, linked to the typical risk/size profile and funder type (refer *Appendix 1: Green economy end use sectors mapping*)

The commercial maturity of many of the water sector end-uses tend towards the ‘commercial and diffusion’ and ‘mass diffusion’ phases. There will be specific considerations as to the business models that apply and the economic viability that may dictate the typical instrument that might be applied. Nonetheless. As identified in this report – water risk and water sector infrastructure and projects are crucial to resilience in South Africa.

Water sector projects should be considered for different financial interventions, instruments and products – ranging from domestically-targeted loan solutions through to bulk water projects for which blended or project finance options may better suit, considering the designs that may need to be explored for public sector revenue models.

Key

- Realm of sustainable finance need
- Realm of immediate sustainable finance instrument opportunity
- Water and Waste as climate change related sector
- AFFOLU as climate change related sector
- ICT as climate change related sector
- Enabling activities as climate change related sector
- Social resilience as climate change related sector
- Typically small-to-medium scale high risk projects
- Typically medium-to-large scale high risk projects
- Typically small-to-medium scale high risk projects
- Typically medium-to-large scale high risk projects

Basic and applied Research & Demonstration (R&D) phase

Development and demonstration phase

Precommercial deployment phase

Commercialisation and diffusion phase

Mass diffusion at maturity

Stage of commercial maturity of typical technological/intervention responses

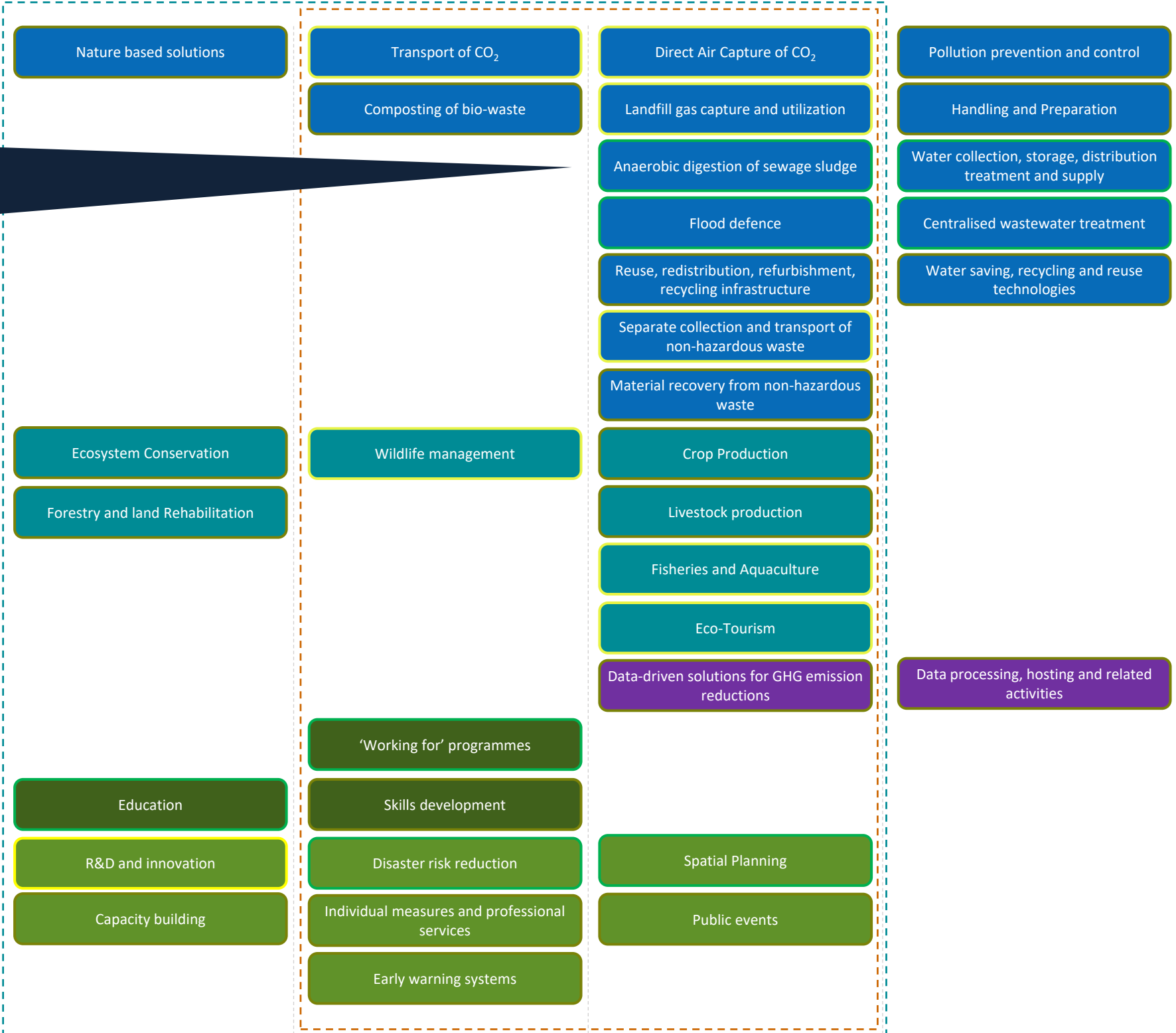


Figure 10: Approximate underlying low-carbon/green technology/application market maturity, for water, sanitation, waste, AFFOLU, ICT, social resilience type and enabling economic activities identified in the draft South African Green Finance Taxonomy (Carbon Trust analysis)



Linking green finance instruments to end-uses

In summary, this establishes that development of certain instruments is most pressing for South Africa's economic transformation

Instruments
with more
niched
applications

Carbon Offsets

Carbon offsets have a fairly limited role in sustainable finance at this time, but is a useful constituent for ecosystem and land-use based activities and the waste sector

Grants

Grants continue to be relevant for technologies in demonstration and deployment phases, more often for concessional models and necessary ecosystem development

Use of Proceeds Green, Social and Sustainability Bonds

Use of Proceeds models will continue to have relevance, but with a needed emphasis on new finance and new project pipelines
There may also be a greater focus on social and sustainable bonds in future. These instruments may well have a place in blended finance arrangements

Listed equities

Listed equities and related products will offer a means to broaden the market and offer products in sustainable infrastructure and developing and transitioning economic activities

KPI-linked, Green, Social and Sustainability Loans and Bonds

Performance-linked instruments will tie-into transitioning sectors especially

Project Finance

Project finance offers opportunities to FIs who could prepare and engage industrial clients accordingly

Private equity and venture capital

Attracting equity players into this space will be vital, especially in 'pre-commercial and demonstration' phase value chains

Guarantees

Blended finance and guarantees are going to be especially important – and will

- **Demand actor cooperation**
- **Need to balance objectives and constraints of the cooperating capital providers**

Instruments
with high
potential for
catalysing a
wide variety
and scale

Blended Finance



Mapping the universe of sustainable finance instruments

Identifying the Instrument (**blended finance**) and providing a summary of the typical climate change related sectors' sub-components by approximate project/technology maturity, linked to the typical risk/size profile and funder type (refer *Appendix 1: Green economy end use sectors mapping*)

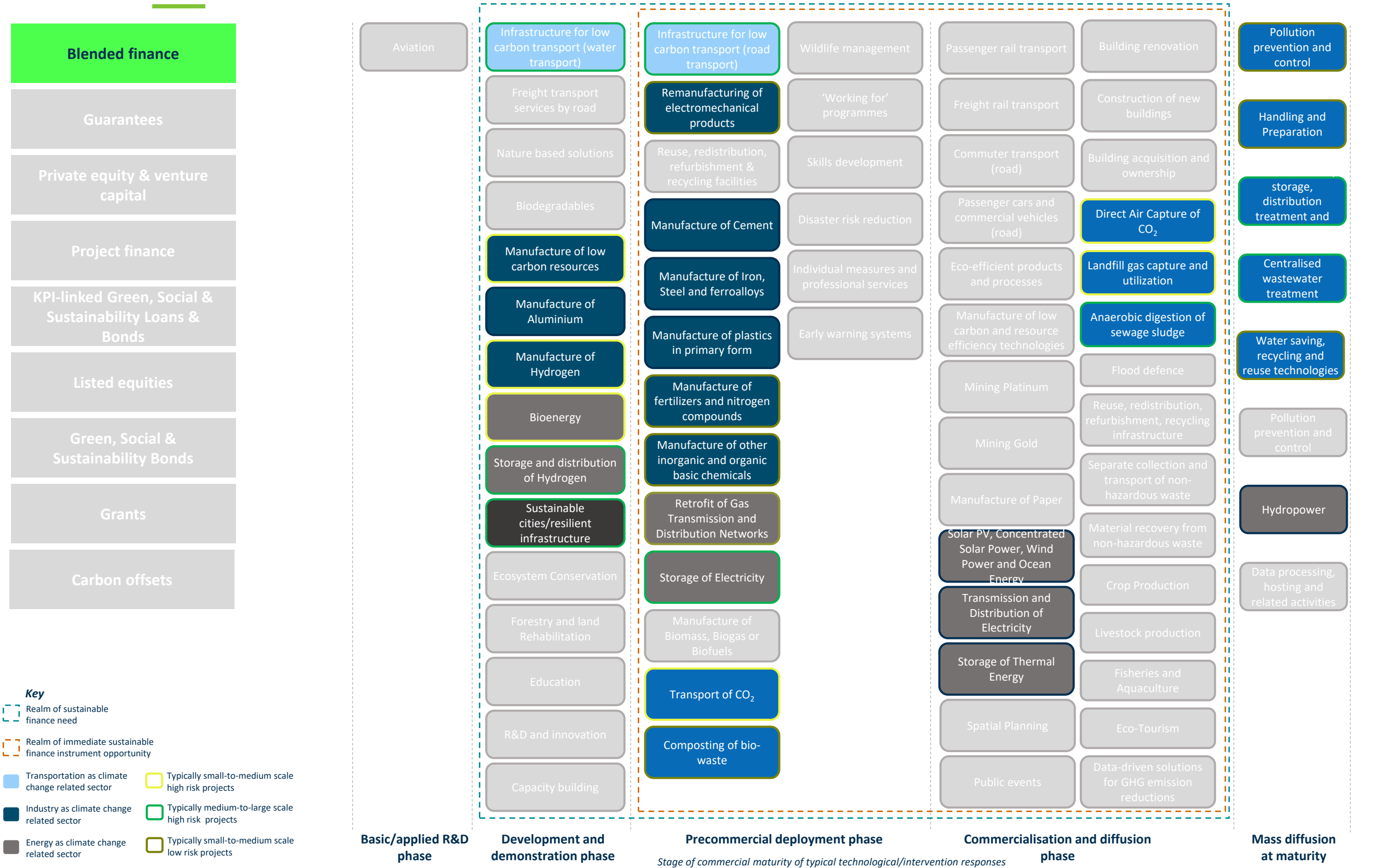
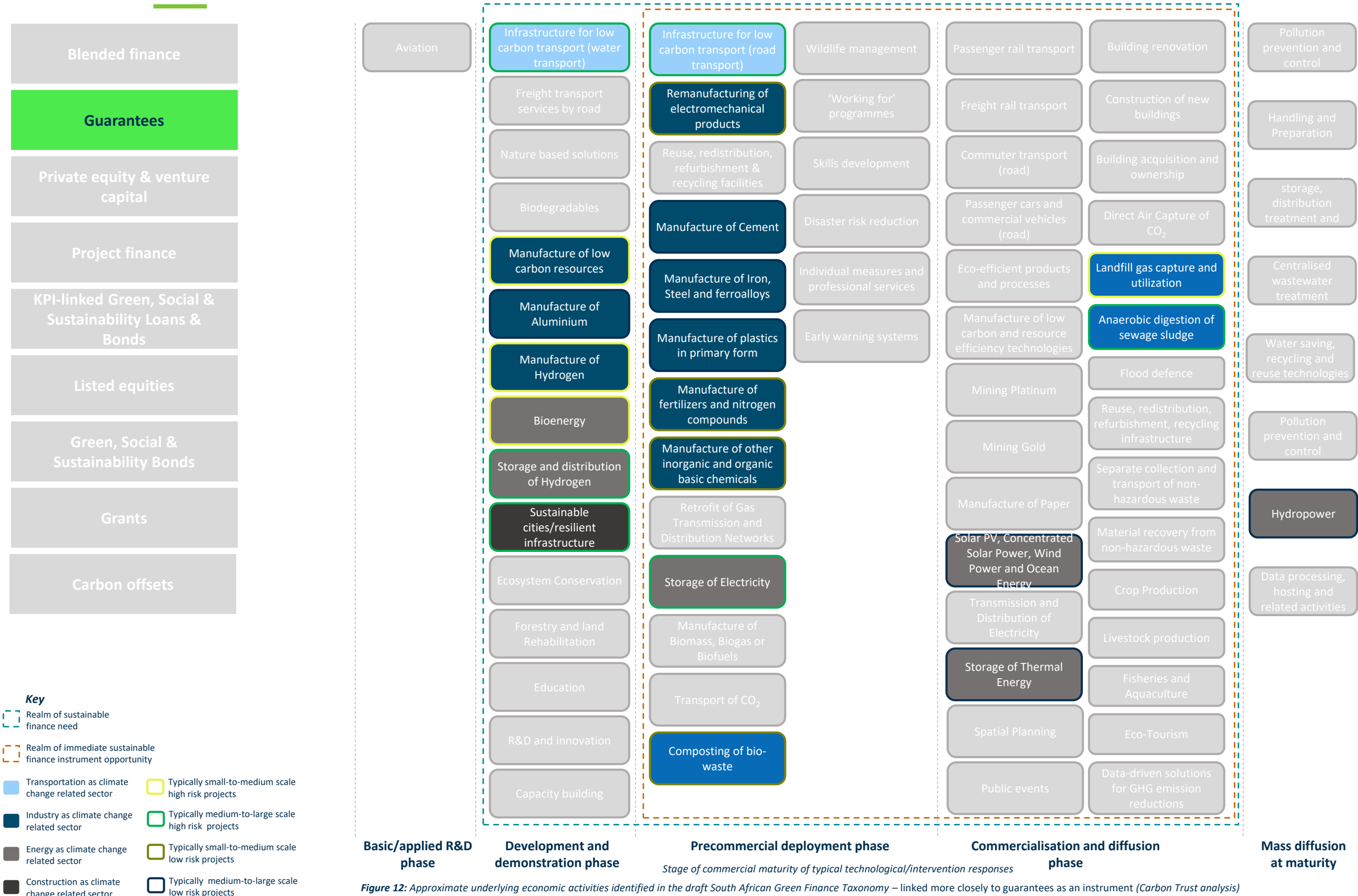


Figure 11: Approximate underlying economic activities identified in the draft South African Green Finance Taxonomy – linked more closely to blended finance as an instrument (Carbon Trust analysis)



Mapping the universe of sustainable finance instruments

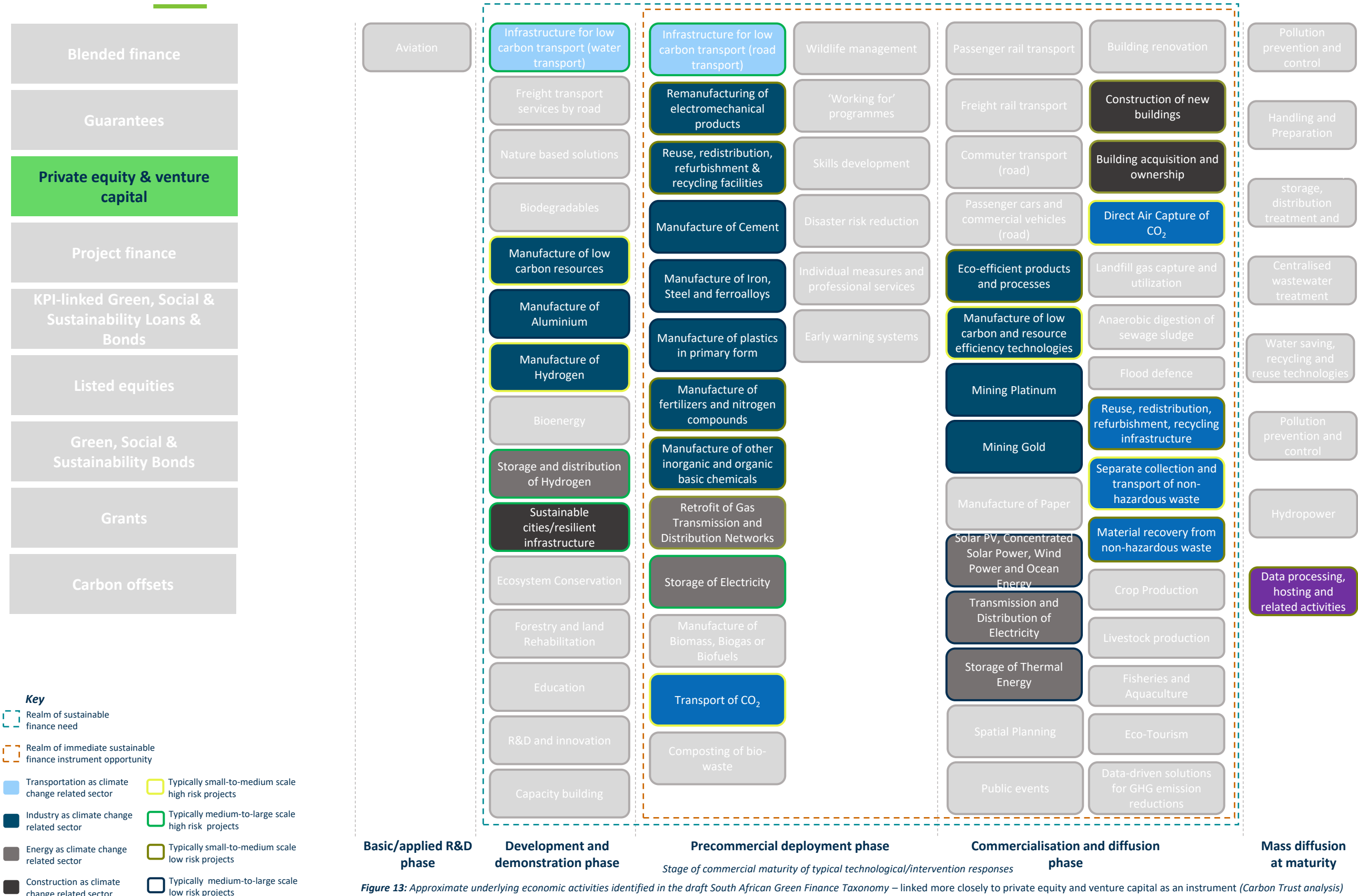
Identifying the Instrument (**guarantees**) and providing a summary of the typical climate change related sectors’ sub-components by approximate project/technology maturity, linked to the typical risk/size profile and funder type (refer *Appendix 1: Green economy end use sectors mapping*)





Mapping the universe of sustainable finance instruments

Identifying the Instrument (PE/VC) and providing a summary of the typical climate change related sectors’ sub-components by approximate project/technology maturity, linked to the typical risk/size profile and funder type (refer *Appendix 1: Green economy end use sectors mapping*)





Mapping the universe of sustainable finance instruments

Identifying the Instrument (**project finance**) and providing a summary of the typical climate change related sectors’ sub-components by approximate project/technology maturity, linked to the typical risk/size profile and funder type (refer *Appendix 1: Green economy end use sectors mapping*)

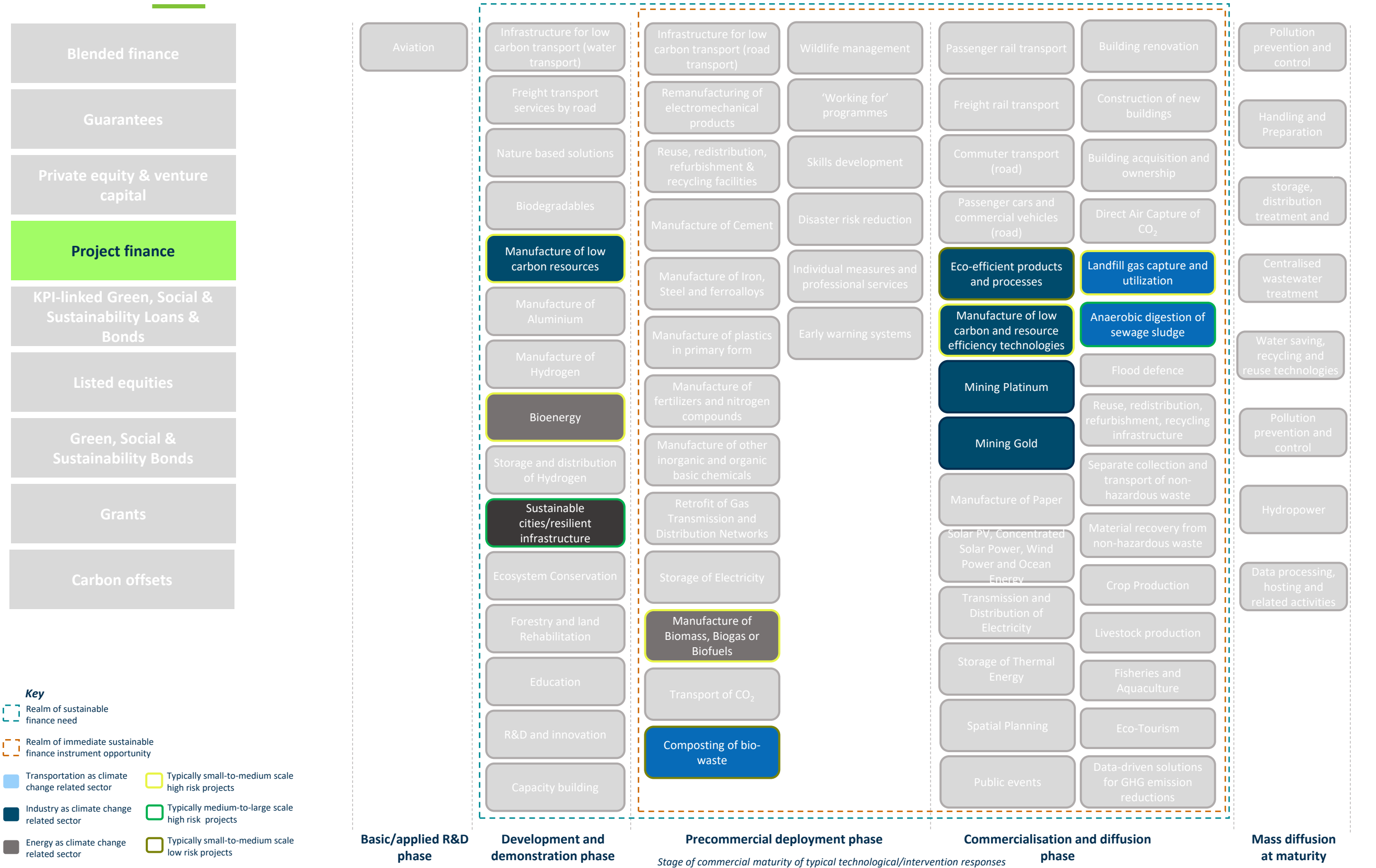


Figure 14: Approximate underlying economic activities identified in the draft South African Green Finance Taxonomy – linked more closely to project finance as an instrument (Carbon Trust analysis)



Mapping the universe of sustainable finance instruments

Identifying the Instrument (**performance-linked loans and bonds**) and providing a summary of the typical climate change related sectors’ sub-components by approximate project/technology maturity, linked to the typical risk/size profile and funder type (refer *Appendix 1: Green economy end use sectors mapping*)

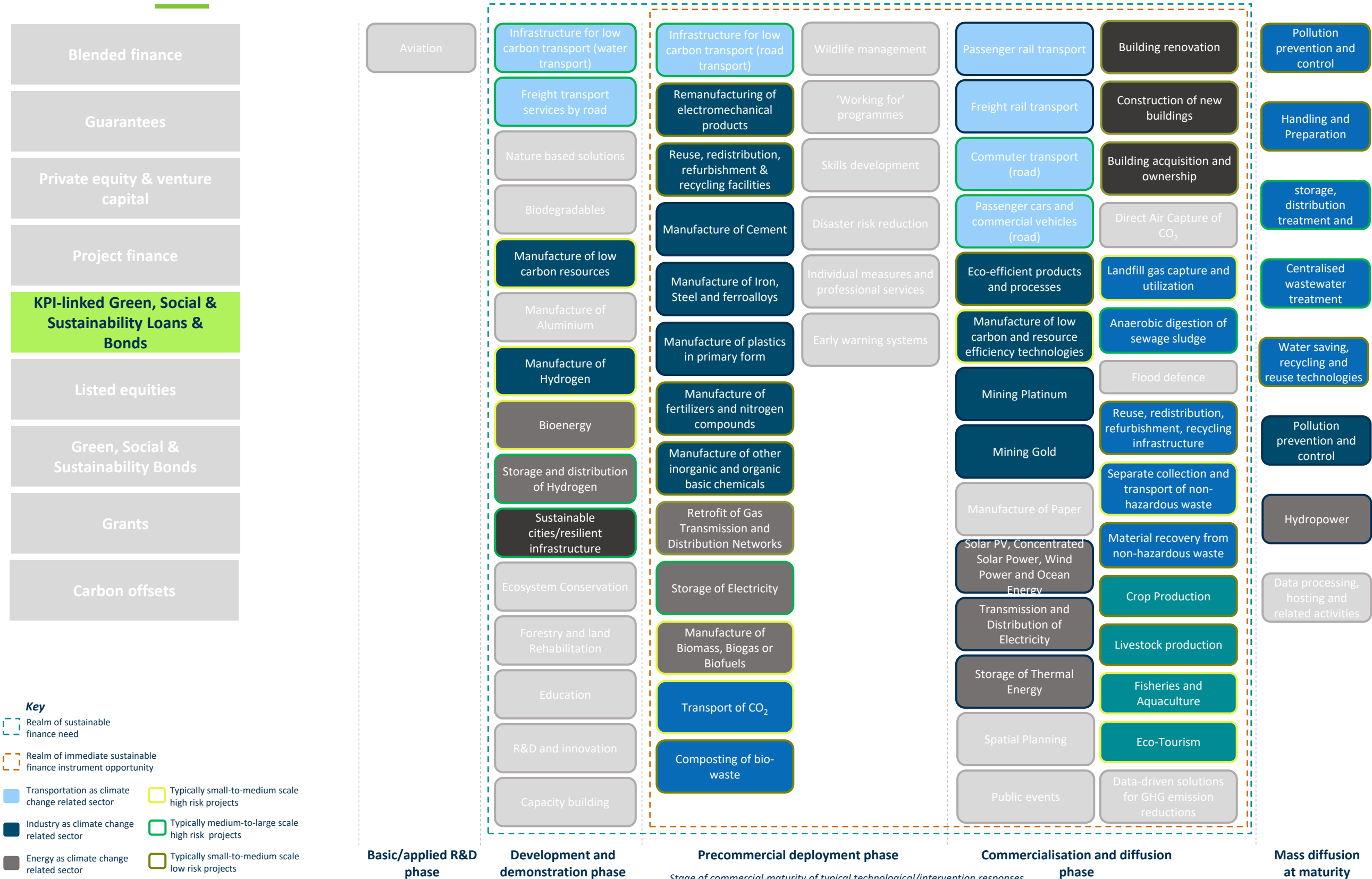


Figure 15: Approximate underlying economic activities identified in the draft South African Green Finance Taxonomy – linked more closely to performance-linked loans and bonds as an instrument (Carbon Trust analysis)



Mapping the universe of sustainable finance instruments

Identifying the Instrument (**listed equities**) and providing a summary of the typical climate change related sectors' sub-components by approximate project/technology maturity, linked to the typical risk/size profile and funder type (refer *Appendix 1: Green economy end use sectors mapping*)

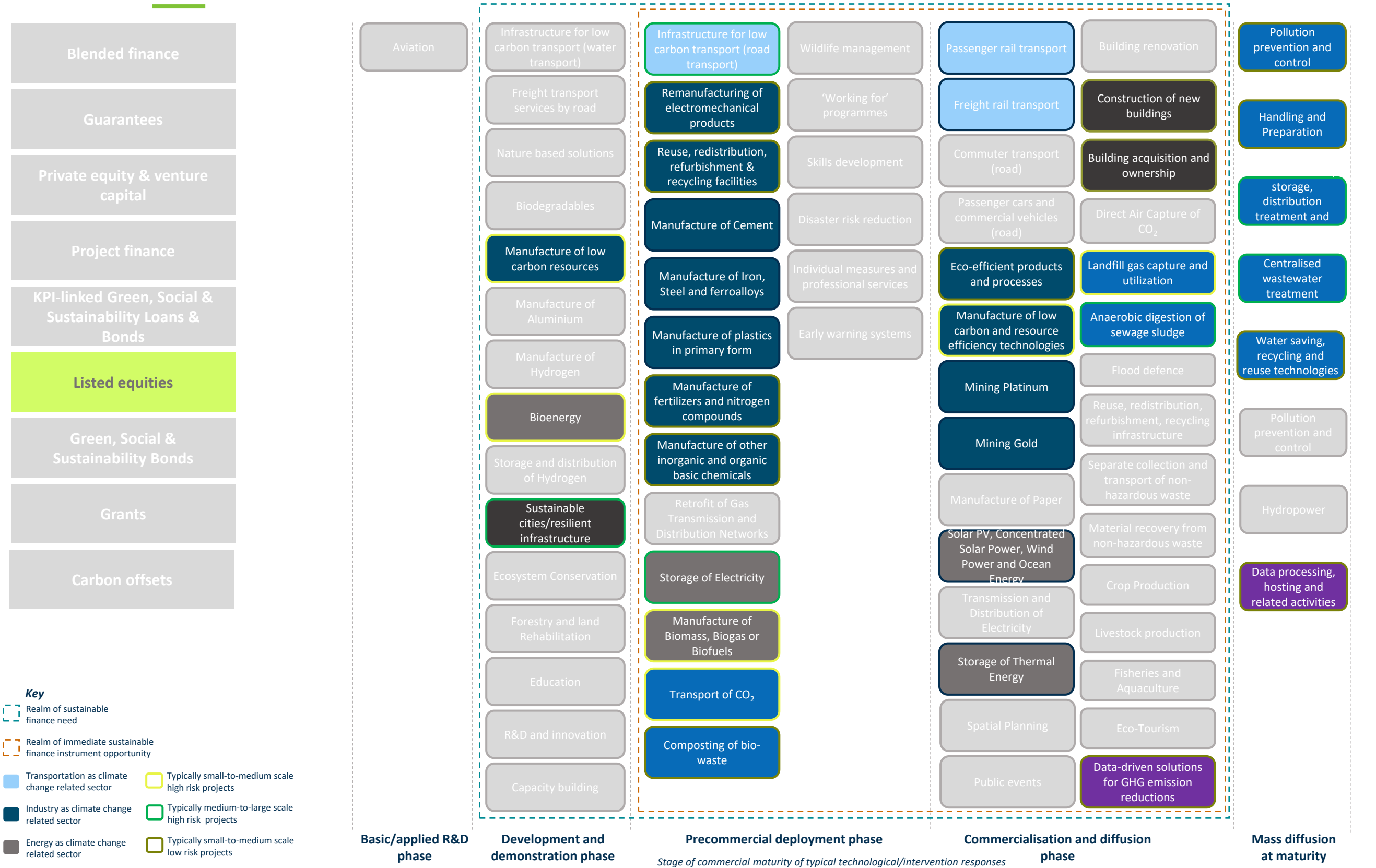


Figure 16: Approximate underlying economic activities identified in the draft South African Green Finance Taxonomy – linked more closely to listed equities as an instrument (Carbon Trust analysis)



Mapping the universe of sustainable finance instruments

Identifying the Instrument (green, social & sustainability bonds (use of proceeds) and providing a summary of the typical climate change related sectors’ sub-components by approximate project/technology maturity, linked to the typical risk/size profile and funder type (refer *Appendix 1: Green economy end use sectors mapping*)

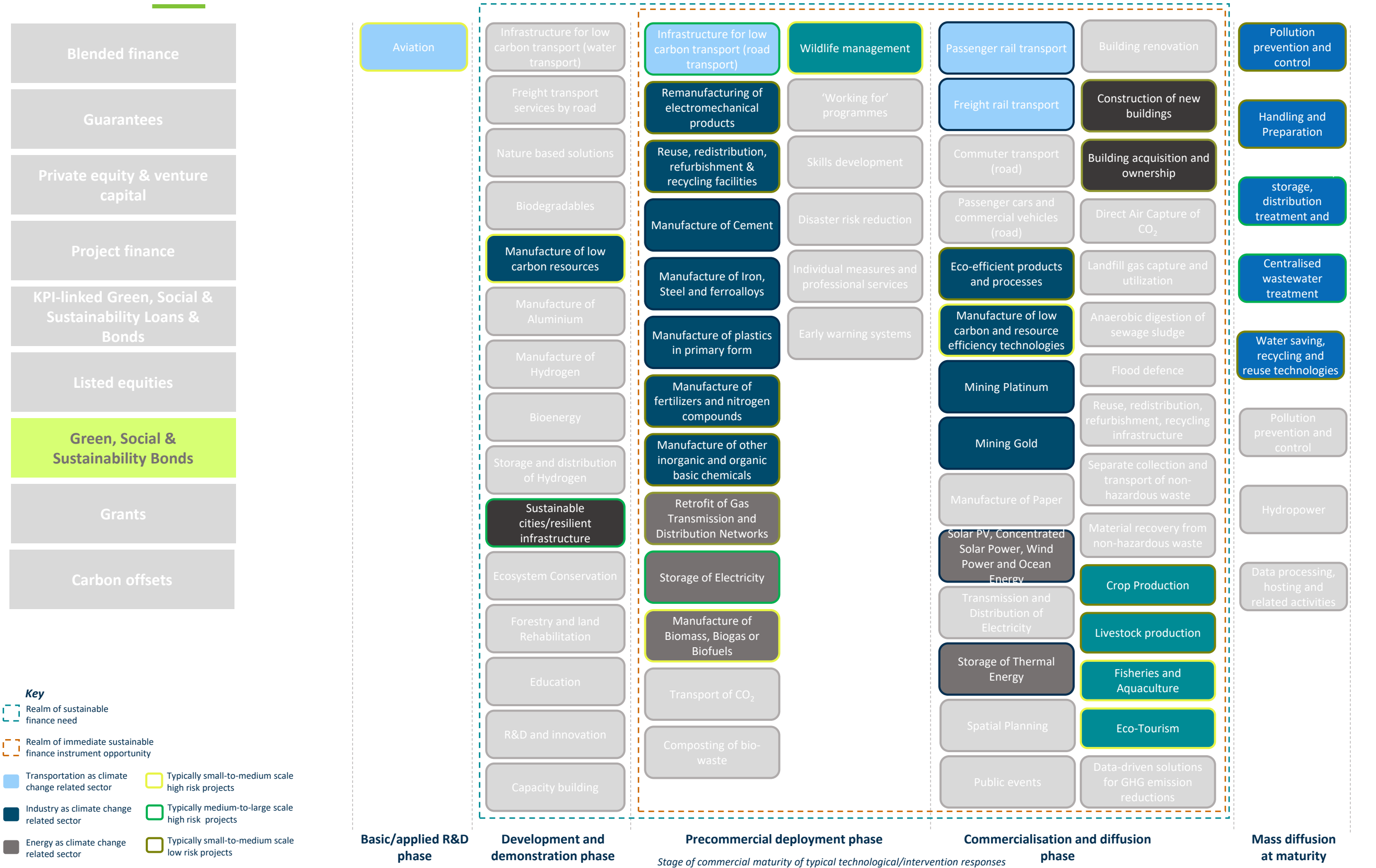
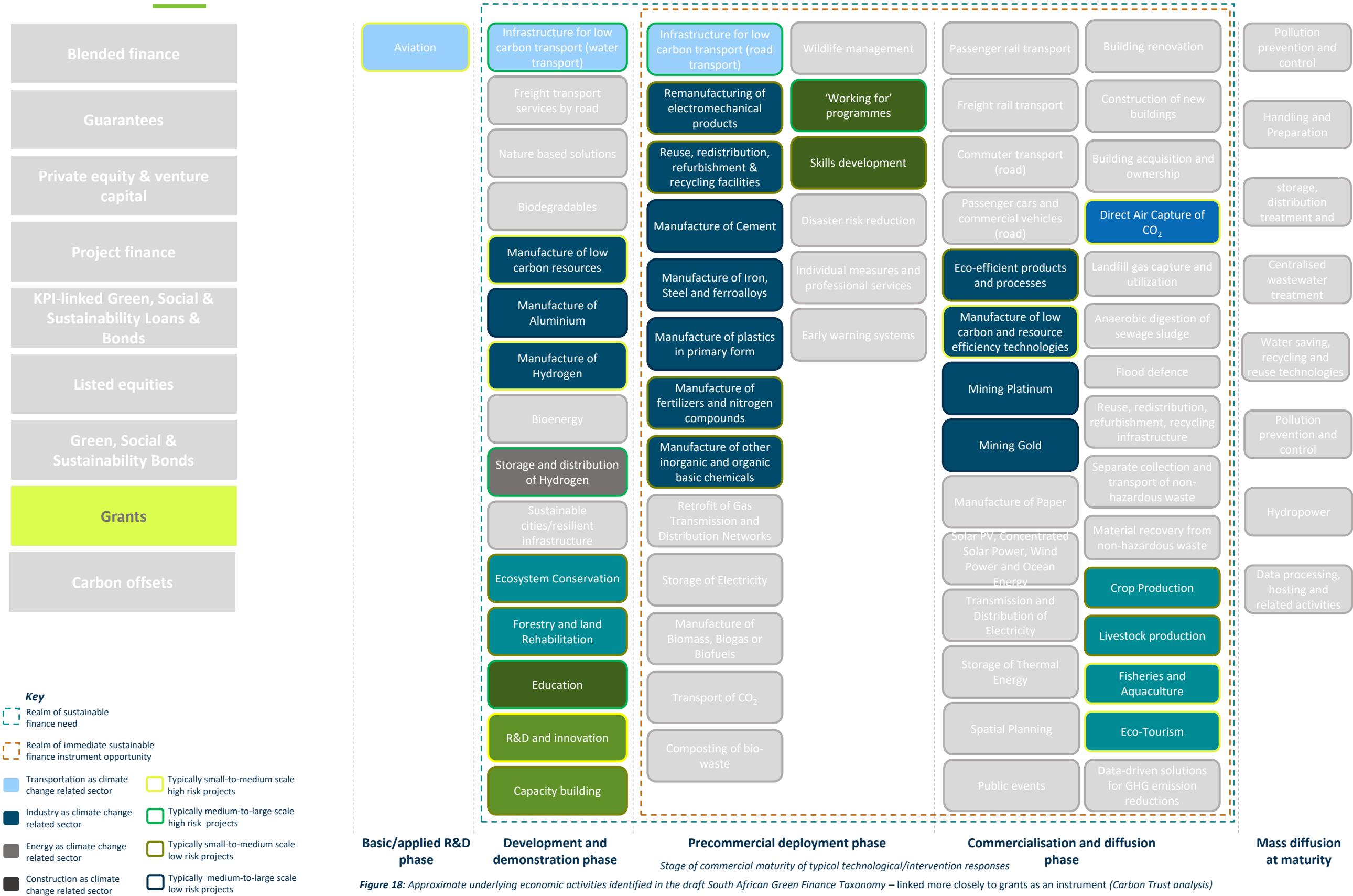


Figure 17: Approximate underlying economic activities identified in the draft South African Green Finance Taxonomy – linked more closely to green, social & sustainability bonds (use of proceeds) carbon offsets as an



Mapping the universe of sustainable finance instruments

Identifying the Instrument (**grants**) and providing a summary of the typical climate change related sectors’ sub-components by approximate project/technology maturity, linked to the typical risk/size profile and funder type (refer *Appendix 1: Green economy end use sectors mapping*)





Mapping the universe of sustainable finance instruments

Identifying the Instrument (**carbon offsets**) and providing a summary of the typical climate change related sectors’ sub-components by approximate project/technology maturity, linked to the typical risk/size profile and funder type (refer *Appendix 1: Green economy end use sectors mapping*)

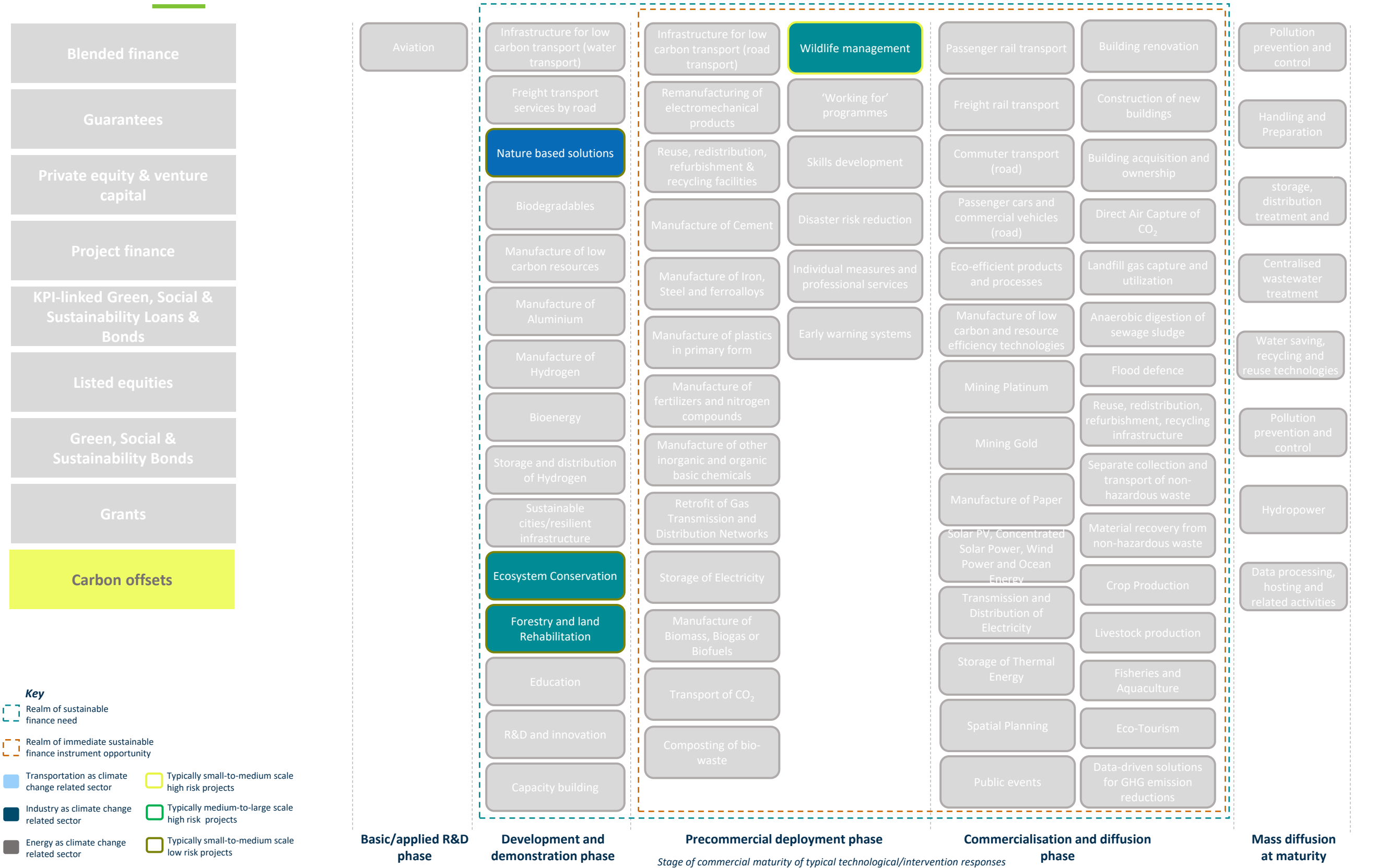


Figure 19: Approximate underlying economic activities identified in the draft South African Green Finance Taxonomy – linked more closely to carbon offsets as an instrument (Carbon Trust analysis)

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Norms, standards and enabling environments

An overview of the analysis approach and purpose

This Chapter looks to capture **the role of the enabling environment in driving sustainable finance activity**, in terms of both regulatory and market driven initiatives that shape sustainable finance landscape. This is necessarily a complex challenge – activity (and the apparent trajectory) in a particular region or country might be a result of a complex mix of:

- The political economy, and the relationship with the international community;
- The depth, composition and diversity of the real economy;
- The nature of cooperation or different interests; and
- The structure, culture, capacity and resources of the financial sector;
- The composition, depth and activity of capital markets;
- The nature of the sustainable development challenges faced;

amongst many others.

Our analysis focused on particular regions and countries, selected for breadth of coverage and recent sustainable finance market activity and/or development progress. While our starting point is not exhaustive, the net was cast fairly wide to provide a diversity of data and possible insights.

Where we began from a regional perspective, we scanned the countries in these regions to narrow our focus for the process of identifying key elements of their sustainable finance enabling environments. The narrowed selection

was made on the basis of:

- Participation in major international sustainable finance initiatives;
- Our initial assessment of debt market activity – as an accessible indicator of sustainable finance activity
- Pace of development since publishing a Sustainable Finance Roadmap, or similar national strategic plan

Again, this is not exhaustive, but provided a range of data points within the study parameters. (In the following analysis, where we initially found relatively little information on participation concerning a country, these were removed for succinctness of presentation, although this does not imply irrelevance in terms of sustainable finance.)

The result of this process is this Chapter's study focus areas as follows:

Latin America	Africa	UK & EU	USA, Canada & Australia	China & ASEAN
<ul style="list-style-type: none"> • Brazil • Colombia • Chile • Mexico 	<ul style="list-style-type: none"> • Kenya • Nigeria 	<ul style="list-style-type: none"> • UK • EU (studied in aggregate) 	<ul style="list-style-type: none"> • Australia • Canada • USA 	<ul style="list-style-type: none"> • China • Indonesia • Singapore • Vietnam



Norms, standards and enabling environments

An overview of the analysis approach and purpose

The study recorded the identifiable aspects of the enabling environment in two principal ways:

- (i) The major ways by which sustainable finance activity and development is being driven internationally. This was identified through a scan of the different **high-level aspects of the approaches and means employed** in different countries. This is necessarily highly diverse, but provides examples to reflect upon for their potential for South Africa.

The analysis reports on the following four:

- **Policy, and other enabling environment measures**, identifying different modalities;
 - **Specific measures concerning ESG risk management**, as a potential driver for proactivity in sustainable finance;
 - **Specific measures concerning disclosure** in the financial sector;
 - Any particular **examples of differentiated asset classes** created, and the rationale for these.
- (i) Participation in international or regional voluntary initiatives. Such initiatives offer capacity and knowledge sharing, are the hubs for international practice development and dissemination, and their respective proliferation point to a direction of travel for international sustainable finance (at least in the near term). In the analysis, initiatives are mapped as follows:
 - The **availability of and participation patterns in international**

initiatives. The major international initiatives cover a range of subjects and actor types. The map demonstrates the uptake from countries in the regions we scanned, and compares these to South Africa's participation. We identify gaps in participation and suggest further participation options.

- The **availability of and participation in regional initiatives.** While regional initiatives may arise for different reasons, predominantly they seek to normalise international practice for a more appropriate continental/regional context, and/or to create solidarity or dedicated capacity for continental/regional development (which may come from a different base, to those leading on international arenas). South African financial institutions act in the wider region, so regional development initiatives (or lack of) may be of interest. It is uncertain whether continental/regional initiatives may drive progress in sustainable finance in South Africa, but may offer opportunities for discovering the breadth of challenges and alternative approaches in Africa and offer an opportunity for South Africa as a role player in its further development.

Norms, standards and enabling environments

The four aspects studied to identify how other countries are enabling and driving sustainable through these levers

Table 7: Aspects studied to understand how other countries are enabling and driving sustainable finance through four key levers

<p>1 Policies and measures to mainstream sustainable finance</p> <p>These measures generally serve as ecosystem drivers and provide foundations for responding sustainable development finance strategies.</p> <p>In this section we have also identified:</p> <ul style="list-style-type: none"> - Examples of major government policies, roadmaps and/or action plans to support mainstreaming sustainable finance; - The presence and roles of regulators, ministries, and investor initiatives; - Whether a dedicated entity has been created to coordinate efforts; - What market specifications have been developed; - Whether measures are discretionary or mandatory; - Whether financial incentives have a role to play. 	<p>2 Risk Management</p> <p>In this section, we consider the instances where governments or regulators have introduced policies and regulations which require financial institutions to integrate risks associated with climate change and other sustainability factors into their risk management policies.</p> <ul style="list-style-type: none"> - While it is increasingly accepted that the financial sector is exposed to climate change and other material sustainability matters, and that this risk exposure may result in financial consequences for financial stability in the near- and the long-terms, management of climate-related risks is a relatively new risk management area within the financial sector; - There are different approaches and different extents to which risk management practices are regulated and enforced; - There are a range of collaborative approaches also adopted. <p>We identify and examine a range of these hard- and soft measures to drive sustainability risk management in the financial sector.</p>	<p>3 ESG/sustainability disclosure</p> <p>Sustainability disclosure aims to encourage actors to undertake the necessary and effective governance of key sustainability challenges, in order to disclose on their actions and effectiveness. It is also intended to discourage greenwashing and allow for transparency by increasing the level and quality of information available to relevant stakeholders.</p> <p>Sustainability disclosure is aimed at companies (considering assets, projects and activities), as well as at the financial sector in terms of its (and investors') exposure to these companies and the risks to value and financial stability. There is also growing attention from regulators and investors concerning climate-related financial disclosures.</p> <p>This section therefore considers:</p> <ul style="list-style-type: none"> - Whether listed companies on equity capital markets are required to provide sustainability disclosure, what type and detail is expected, and how this is encouraged or enforced. - Similar analysis, but focused on expectations or requirements of Financial sector actors. - We also consider how recent developments and specificity in climate-related risk assessment and disclosure practice has been considered, if so expressly. 	<p>4 Asset classes through standards</p> <p>This section relates the examples in which regions and nations have developed and introduced nuanced standards that allow for distinctive identification of sustainable finance assets.</p> <p>While international standards are typically applied by market actors seeking to signal conformance to market expectations, there are instances of regional and national divergence, which we relate and seek to understand the rationale and benefit of these actions.</p>
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Norms, standards and enabling environments

Cooperation is valuable, coordination is useful, a Roadmap essential, as are strong market signals

In summary

- Having a national Sustainable Finance Roadmap is an important foundation that coalesces activity; ecosystem development seems more strategic and rapid; indicates direction of travel providing certainty
- There are multiple international multilateral cooperation platforms focused on SF and cooperation; these progress solutions, and offer alignment, engagement and mainstreaming for SF mechanisms; knowledge sharing is important
- National progress seems to be spurred when there is a designated actor championing sustainable finance advancement; often take the form of industry cooperatives; act as coordinators and practice developers in local markets
- There are also instrument specific commitment platforms (e.g. Green Bond Pledge) and green labelling developments (e.g. FAST-Infra); these act as signals of intent and are compatible with definitive stance on green infrastructure

Prevalence internationally	Importance to SF advancement	Evident in SA?
Dark Blue	Dark Blue	Light Blue
Medium Blue	Dark Blue	Light Blue
Light Blue	Light Blue	Light Blue
Light Blue	Medium Blue	Light Blue

Key

Relatively high in prevalence/
importance/evidence



Relatively low in prevalence/
importance/evidence (or early stage)

Not noted in South Africa at present





Norms, standards and enabling environments

The scan highlighted a focus on fixed income, with few but interesting developments in other instruments

In summary

	Prevalence internationally	Importance to SF advancement	Evident in SA?
Market development focus so far mostly on Use of Proceeds bonds, without clarity of ambition for other instruments ; there is a need for more than bonds, especially in South African economy and financial markets			
Some countries mandated green credit programmes and policies ; others have done so voluntarily; Australia is an interesting case of product development and competition in green lending portfolios			
There are a few leading examples (used in Australia, promoted in UK) where KPI-linked debt instruments are being used and promoted ; international standards for bonds and loans are referred to; activity is voluntary and markets exist			
There is little focus on developing tradeable sustainable equity products ; while ESG reporting by listed entities was often required, few examples translated this into products (indexes, benchmarks, data services such as by LSEG)			
Risk instruments and blended finance designs are crucial ; in many emerging markets these were typically the remit of non-financial ministries with DNAs/NDBs, considered in climate finance, but not strongly presented in SF publications			
For bonds, some regulation and enforcement is needed ; but the objective of this market structuring is for risk management and to the benefit of the investor; however, investors must still pivot their capital raising strategies			
There were a few examples of market-specific bond standards (EU, ASEAN, Mexico) ; these are modelled on ICMA and provides locally relevant typical eligible projects and verification expectations			
In the case of bonds, examples showed initial activity benefits from market support initiatives including pipeline identification, capacity building, grants for issuance labelling costs, and co-listing arrangements			

Key

Relatively high in prevalence/
importance/evidence

Relatively low in prevalence/
importance/evidence (or early stage)

Not noted in South Africa at present



Norms, standards and enabling environments

Investor advocacy is important; regulators can affect investor activity starting with risk management

In summary

- 🔍 The effectiveness of investor advocacy was clear; major international investor-led coalitions have impact, but local coalitions are crucial to drive local activity in smaller caps; grass roots organisations also evident but less effective
- 🔍 In 2020 regulators in the EU, UK and Australia advanced details and specifications for climate risk management and disclosure by institutional investors, making these more definitive; Mexico requires E&S strategy, planning & reports
- 🔍 Climate risk stress testing is an important means to identify gaps and system weaknesses, in addition to risk; regulators can formulate sectoral action plans to address structural challenges
- 🔍 Regulators are undertaking sectoral stress testing, targeting banks and insurers; banks across the EU will be subject to stress testing in 2022, and the UK is preparing sectoral stress testing now that central bank testing has been completed
- 🔍 Oversight and SF activity by insurers is haphazard, hesitant and risk focused; in Singapore the regulator is developing risk management guidelines, Brazil is extending ESG regulations to the industry, and USA industry body is “fact finding”

Prevalence internationally	Importance to SF advancement	Evident in SA?
Dark Blue	Dark Blue	Light Blue
Light Blue	Dark Blue	Light Blue
Light Blue	Dark Blue	Light Blue
Light Blue	Dark Blue	Grey
Light Blue	Dark Blue	Grey

Key

Relatively high in prevalence/
importance/evidence



Relatively low in prevalence/
importance/evidence (or early stage)

Not noted in South Africa at present





Norms, standards and enabling environments

Results and discussion

From the analysis, it is evident that many different approaches are being followed, and that the enabling environments in different countries are evolving and a composite of different actors pulling different levers, with various norms adopted and differences in the role of standards. In the following slides, we discuss the insights we have drawn from this analysis, and identify high-level recommendations for further consideration.

Having a roadmap is an important foundation that coalesces activity

All the countries scanned had recently developed Sustainable Finance Roadmaps, most often as cooperative industry efforts supported by international development agencies. While activity typified as “sustainable finance” was often already underway before this Roadmap, it would seem that that Roadmap development process itself may be important for financial sector and broader corporate and government cooperation and awareness raising, and that subsequent to Roadmap launch developments in the enabling environment are affected more systematically and strategically.

Together with the growing international momentum and emphasis on the urgency for financing sustainable economies, these **Roadmaps provide some clarity on national policy and regulatory trajectory and expectations of the private, public and financial sector.** A roadmap also provides a vision for a low-carbon and just transition of the economy.

The greatest focus in market development efforts is on Use of Proceeds bonds, without as much clarity of ambition for other instruments

Overall, and consistent to the general wisdom that green fixed-income instruments are the most fully-developed; lend themselves to the more

mature, typically green Use of Proceeds technologies and applications; and offer a means to attracting private sector and international investment, **development of the green bond market has been a very-specifically articulated objective of all countries** scanned – both emerging and developed.

ESG management practices in financial services actors is often through a risk lens. However green lending activities might could offer an opportunity for product development. While South Africa’s financial sector structure differs from these examples, from Vietnam is interesting, whereby the Central Bank of Vietnam mandated development of green credit programmes and policies; Australia is interesting, in that several commercial banks of their own volition – declared green lending portfolio targets and are developing green products.

In clearly identified only a few instances did we find development of KPI-linked products, namely in the United Kingdom as an option to explore, and Australia where this instrument is already widely applied, both in bonds and loans.

Similarly, it was **not immediately evident whether there was any much focus on encouraging the development of equity products,** especially ESG indexes. Listed indexes, as an example for consideration, is the realm of capital markets; while ESG reporting by listed companies was most often a requirement in some format (ranging from discretionary principles, to highly specific implementation and disclosure specifications), the reporting itself is linked to fiduciary responsibility and *not regularly translated directly* for tracking or benchmarking purposes. If well designed and coordinated, an index or benchmark has the potential to create a **virtuous cycle of ESG**





Norms, standards and enabling environments

Results and discussion

performance competitiveness benefitting environmental (or social) performance in the real economy, and **providing investors an option for both active and passive investment**. The Nigerian Stock Exchange example whereby annual ESG disclosures include discrete environmental and social data points is an example, as are Vietnamese stock exchanges environmental intensity metrics disclosures. There may well be concerns around fairness; but examples such as those in the UK of additional ESG trading segments and performance-based Marks point to indexes as options worth further consideration.

While risk instruments and blended finance designs clearly have an important role to play in green economy development – it was unclear from the scan that there was any specific focus on innovative financial design or cooperation that would lead to unlocking private sector investment particularly through risk mechanisms. Rather, such mechanisms may be associated with international climate finance and be designated as the remit of other ministries, development agencies, project developers and public sector programmes. By contrast, in the case of the EU, it is clear that it intends to **utilise its significant supranational budget to underpin regional investment** and it is demonstrating recycling of its Emissions Trading Scheme (ETS) Revenue. While public sector fiscal constraints may prevent South Africa from following a similar route, it is suggested that commercial financial actors could play a more proactive in designing blended financial instruments that leverage South Africa's international climate finance pipeline.

Technical and financial support to stimulate Use of Proceeds bond market activity

There were distinct examples of market support being applied to stimulate market activity, notably:

- In Brazil, where low interest rates are extended to carbon mitigation activities;
- In Kenya, where Parliament approved tax incentives for green bonds;
- Also in Kenya, where the FSD Africa Programme is active, which provides technical assistance to prospective issuers, seeks out suitable projects, and subsidises external reviewer costs (this programme is active in multiple regions);
- In Nigeria, where the Nigerian Stock Exchange signed an MOU with the Luxembourg Stock Exchange, and has one of its four green bonds to date cross-listed as a result;
- In Singapore, where the Monetary Authority of Singapore has launched two separate grant schemes; one subsidising external review costs of Green Bonds (the Green Bond Grant Scheme), the second subsidising the independent review for green and KPI-linked loans (the Green and Sustainability-Linked Loan Grant Scheme) – this example is interesting in subsidising an activity which is seen as necessary by investors but burdensome by many issuers, in order to overcome issuer reticence

The latter three examples take a more proactive approach to bridging key challenges, in addition to establishing necessary infrastructure (frameworks, rules, debt market segments, etc. which also serve to create market certainty and understanding for the market).



Norms, standards and enabling environments

Results and discussion

The case for bond market regulation

Different countries had different extents of regulations concerning bonds, from the EU regulations (which are extensive and detailed) to Australia or the US, where issuer practice (as far as the green or sustainable label is concerned) is entirely discretionary. While concerns are fairly raised around greenwashing, Australia presents an interesting case where it could be interpreted that credibility is brought through the robustness of the of the issuing institution, and vigorous enforcement is not needed. It would seem however that this is an outlier; therefore **some regulation and some enforcement is needed**.

Clear and specific guidelines, standards and regulations regarding issuances provide certainty for all market actors. The argument has also been made that doing so promotes the sustainable bond market activity, because criteria/taxonomies and standards improve transactional efficiency and may support identification of potential investment opportunities.

Ultimately however, this exercise in **market structuring is focused on risk management and to the benefit of the investor** (demand side), whereas it is unlikely to act as direct stimulus for market activity. To be clear, even if more specific guidance, standards and regulation is brought about, **it remains for institutions to pivot their capital raising strategies** (supply side).

There may therefore be a balance to be struck between regulation and market-determinism, and a need for proactive market stimulation *in addition to* market infrastructure.

In some countries, a middle-ground of sorts has been struck by providing interpretative and accessible guidance to prospective issuers (such as through a guideline or handbook) on the green bond issuance process, and the focus areas for projects to be considered (but not mandated). A similar handbook is being developed for South African Municipalities at present, in cooperation with the Department of Environment, Forestry and Fisheries (DEFF) supported by UNDP and GIZ. This may offer a starting point.

What about the need for market-specific specific standards?

As noted above, many markets have published Green Bond guidelines, which are voluntary and serve to interpret or clarify an international standard example. This type of guidance may be useful to local first-time issuers, especially where the practical steps of undertaking a bond issuance is not clear.

However, some (the EU, ASEAN, Mexico – not considering China for this example) have created their own bond standards. These are modelled on the pertinent ICMA standards and the Climate Bonds Standards, with various or all aspects being more firmly defined, or built-out.

At first glance, **it appears sensible to specify the typical eligible projects appropriate to the region/country**, as activity would only be labelled as green” etc. if it is deemed contextually relevant. In the South African case, the draft Green Finance Taxonomy might serve the same purpose, although for it to have the same bearing the Debt Listing Regulations would need to specify its applicability.



Norms, standards and enabling environments

Results and discussion

The extent to which other aspects of international standards should be enhanced is unclear; these examples made adjustments including requirements concerning to the content of the issuer framework, exclusions, frequency of reporting, specific disclosure requirements, and external reviewer. Conforming to these requirements, enables the issuer to label their bond accordingly; it is possible that this “gold star” approach may appeal to particular investors.

Again, there may be a balance to be had in the extent of regulatory specificity, which would be to the benefit of investors (and the capital market regulations teams) but may deter prospective issuers.

Taking this recommendation to its next logical step, it might be considered how, or whether the South African Green Finance Taxonomy should be referenced for other sustainable finance instruments and products, and whether the appropriate regulators will take a position in guiding the market.

Regulating verifiers and independent reviewers

The EU Green Bond Standard suggests the creation of a supervised verifier pool. The JSE Debt Listing Requirements is not unlike this type of stipulation, in acknowledging the importance of appropriate skill and experience in external reviews, which has been revised in 2020 for greater clarity of expectations.

It is not evident whether further regulation of external reviewers is practical, given the diversity of the types of expertise and the diversity in the means by which experience and skills have been acquired by local service providers.

Past national experiences seeking to regularise environmental impact service providers may be relevant.

It is also not evident whether knowledge of available service providers is a hindrance to market development. It could be useful to develop a panel or pool of vetted (non-prescriptive) service providers, such as CBI maintains.

Nonetheless, thought should be given to capacity building programmes that support the development and diversification of a pool of local service providers.

The effectiveness of investor action

More generally, globally, it is fairly understood the development of sustainable finance products is often in response to demand, and that investor and shareholder initiatives like Ceres and Climate Action 100+ have made some effect on financial sector and publicly-listed company transformation.

While there has been vocal advocacy group-led activism in the past 2 years in South Africa particularly with regards fossil-fuel investment strategies, it is not evident that there is similar coordinated and public engagement by major institutional investors advocating for change. The draft National Treasury *Financing a Sustainable Economy* Technical Paper highlights entry points, challenges and recommendations regarding sustainable finance for the retirement sector, noting the “Responsible Investment and Ownership – A Guide for Pension Funds in South Africa” (2011) publication, endorsed by the FSCA and National Treasury, makes the recommendation of engaging



Norms, standards and enabling environments

Results and discussion

with investee companies on ESG issues of concern. However, capacity to identify, evaluate and monitor such issues is lacking. Therefore, investee engagement on these issues will lag.

The recommendations made to the FSCA with regards guidance, regulatory instruments and disclosure requirements of the retirement sector, alongside the sector itself pivoting to proactivity in developing capacity and systems to undertake its risk management and fiduciary mandate more effectively, are therefore each *pivotal* to change in the downstream sectors.

The case of Mexico's Green Finance Advisory Council (Consejo Consultivo de Finanzas Verdes, CCFV) is an interesting example. This coalition brings together over 300 financial sector stakeholders, promoting dialogue, awareness and capacity. In 2020 it launched an engagement campaign targeting listed companies concerning ESG and climate risk information, amongst other initiatives.

CBI notes that Australian superannuation funds have recently been increasing their local and global activity around climate risk issues, particularly via Climate Action 100+, TCFD reporting and The Investor Agenda. The question is whether the same route is an effective approach for the South African retirement sector; the overlap with investees is likely to be significant but not complete, and is not likely to increase the intrinsic capacity and commitment challenge for the sector. Nonetheless, it is notable that Australian actors appear to be scaling up their activities.

Notably, in 2020 regulators in the EU, UK and Australia advanced details and specifications for climate risk management and disclosure by institutional investors, as the FSCA is recommended to do.

Where is the insurance industry?

Through our scan, we identified levers relevant to integrating ESG risk management in the insurance market were identified in:

- Brazil, where the Central Bank has extended to the insurance industry existing regulations mandating the implementation of a Policy for Socio-Environmental Responsibility, including integrated environmental and social risk management and disclosure;
- USA, where the United States' National Association of Insurance Commissioners' (NAIC) formed a Climate Risk and Resilience Working Group in 2020, to undertake a series of studies and report on sector recommendations concerning climate risk and opportunity.
- Singapore, where Environmental Risk Management Guidelines are to be developed under the Monetary Authority of Singapore's Green Finance Action Plan

Again, overall these activities touch on the recommendations made by the draft *Financing a Sustainable Economy* Technical Paper to the Prudential Authority.

Stress testing for banks and the insurance industry

Our scan identified several specific mentions of stress testing, by:

- China, which identifies the need to support banks include environmental and social risks in credit stress testing; and



Norms, standards and enabling environments

Results and discussion

- UK, where the Prudential Regulation Authority at Bank of England is preparing to undertake climate stress testing with banks and insurers.
- UK, where the Prudential Regulation Authority at Bank of England undertook an exploratory stress testing exercise for the insurance industry. It highlighted gaps in capabilities, data and tools in the industry, as well as providing learnings in scenario design, specification and reporting to the regulator, that it intends to act on for next steps.
- In the EU, the European Banking Authority (EBA) conducts stress testing biannually. The ECB was notified banks that climate risk stress testing across the EU will be undertaken in 2022.

These efforts are market engagement and support measures, to gain a clearer view of the potential challenges.

An actor to champion change

In many countries, some form of industry cooperative initiative has been created to progress sustainable finance, such as the Brazil Green Finance Initiative, Chile's Public-Private Roundtable on Green Finance, and the Kenyan Sustainable Finance Initiative, to name only a few. These initiatives appear to have a central role in championing sustainable finance activity and often act as coordinators and practice developers in their local markets. While some of these initiatives have been launched with the support of international actors, like the IFC and CBI, the champions are local stakeholders – banking associations, investor groups, etc.

The South African National Treasury Working Groups created to progress the recommendations of the draft *Financing a Sustainable Economy* Technical Paper have some similarities. However, their mandates are necessarily linked to the Technical Paper, and are voluntary and transient in nature.

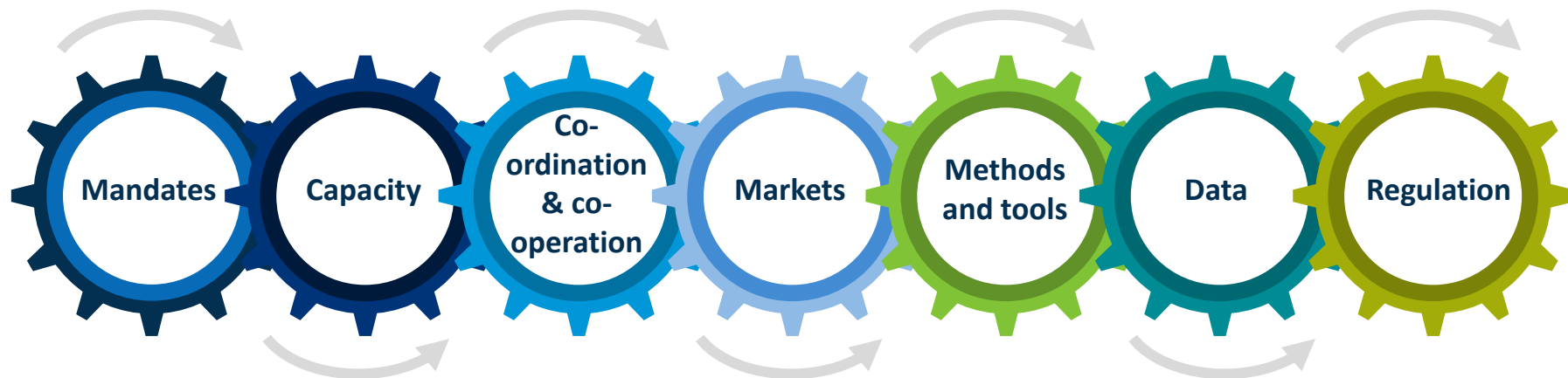
Some thought could be given to creating a sustainable finance initiative (or Green Finance Institute) in South Africa, whose members continue to coordinate and progress sustainable finance themes, into the future. Such an initiative may need a secretariat and resourcing for greater effectiveness.

Norms, standards and enabling environments

In summary, action will be needed at the individual and collective level and regulators will have a part to play to guide and drive the changes needed in South Africa – but all the parts must move together

- **SF is better mobilised within a coherent enabling environment with synchronous elements**
- **SF instruments do not operate in isolation**, and may not gain traction if other enabling elements are absent or deficient
- There is significant interplay between instruments and Methods, and the needed actions of **different actors each pulling in the same direction**
- The **recommendations that emanate from this study will be**

framed in terms of enabling environment elements, and the actors the recommendations are targeted to. The reader should consult the Detailed Recommendations Report associated with this Handbook.



Norms, standards and enabling environments

The enabling environment developments that are needed must be a combination of push and pull with several actors work in concert

Table 8: The South African actors engaged or related most directly to sustainable finance and the significance of their role in enabling sustainable finance

South African actor	Change investor mandates	Build system and human capacity	Increase cross-cutting and cross-sectoral co-ordination/co-operation	Develop and support markets	Adopt, implement and use Methods & tools effectively	Address data sparsity and access	Enhance regulations & shift markets
PA	■	■	■	■	■	■	■
FSCA	■	■	■	■	■	■	■
JSE	■	■	■	■	■	■	■
Sector bodies	■	■	■	■	■	■	■
Asset Owners	■	■	■	■	■	■	■
Asset and Investment Managers	■	■	■	■	■	■	■
Banks	■	■	■	■	■	■	■
Private equity / Venture Capital	■	■	■	■	■	■	■
National Treasury	■	■	■	■	■	■	■
Other government agency	■	■	■	■	■	■	■
The real economy	■	■	■	■	■	■	■
Ecosystem actors	■	■	■	■	■	■	■

Key Role / requirement for SF is critical

Role / requirement for SF is nominal

■ Not pertinent to actor/driver

International Sustainable Finance Initiatives Mapping

National participation in international knowledge sharing, practice development and technical support

Table 9: International initiatives and participation by countries analysed

International Initiative	South Africa	Argentina	Bolivia	Brazil	Chile	Colombia	Costa Rica	Dominican Republic	Ecuador	Mexico	Panama	Paraguay	Peru	Uruguay	China	Singapore	Indonesia	Vietnam	Malaysia	Thailand	Philippines	Myanmar	Cambodia	Brunei	Laos	Kenya	Nigeria	Morocco	Egypt	Ghana	Cote d'Ivoire	Uganda	Mauritius	Seychelles	Botswana	UK	EU	USA	Canada	Australia	
Global Green Finance Council (GGFC)	🇿🇦	🇦🇷		🇧🇷	🇨🇱	🇨🇴	🇨🇷		🇪🇨	🇲🇽	🇵🇦	🇵🇷	🇵🇪		🇨🇳	🇸🇬	🇮🇩	🇻🇳	🇲🇾	🇹🇭	🇵🇭	🇲🇲	🇰🇲	🇧🇷	🇱🇦	🇰🇪		🇳🇮	🇪🇬	🇬🇦	🇨🇮		🇲🇺	🇸🇪	🇧🇼	🇬🇧	🇪🇺	🇺🇸	🇨🇦	🇦🇺	
The Loan Principles (GLP & SLLP) (via Loan Market Association)	🇿🇦			🇧🇷											🇸🇬	🇸🇬	🇮🇩		🇲🇾	🇹🇭	🇵🇭		🇰🇲			🇰🇪	🇳🇮	🇪🇬	🇬🇦	🇨🇮				🇲🇺			🇺🇸	🇨🇦	🇦🇺		
Green Bond Pledge										🇲🇽					🇨🇳	🇸🇬	🇮🇩	🇻🇳	🇲🇾	🇹🇭	🇵🇭															🇬🇧	🇪🇺	🇺🇸			
Network of Central Banks and Supervisors for Greening the Financial System (NGFS)	🇿🇦			🇧🇷	🇨🇱	🇨🇴	🇨🇷			🇲🇽		🇵🇦		🇺🇾	🇨🇳	🇸🇬	🇮🇩		🇲🇾	🇹🇭								🇳🇮	🇪🇬		🇨🇮		🇲🇺	🇸🇪		🇬🇧	🇪🇺	🇺🇸	🇨🇦	🇦🇺	
Task Force on Climate Related Financial Disclosures (TCFD)	🇿🇦			🇧🇷	🇨🇱	🇨🇴		🇩🇲		🇲🇽	🇵🇦		🇵🇪		🇨🇳		🇮🇩	🇻🇳		🇹🇭	🇵🇭		🇰🇲		🇱🇦	🇰🇪		🇳🇮	🇪🇬	🇬🇦		🇨🇮		🇲🇺		🇸🇪					
G20 Sustainable Finance Study Group	🇿🇦	🇦🇷		🇧🇷						🇲🇽					🇨🇳	🇸🇬	🇮🇩	🇻🇳	🇲🇾	🇹🇭	🇵🇭															🇬🇧	🇪🇺	🇺🇸	🇨🇦	🇦🇺	
Sustainable Banking Network (SBN)	🇿🇦	🇦🇷		🇧🇷	🇨🇱	🇨🇴	🇨🇷	🇩🇲	🇪🇨	🇲🇽	🇵🇦	🇵🇷	🇵🇪		🇨🇳		🇮🇩		🇲🇾							🇰🇪	🇳🇮	🇪🇬	🇬🇦												
Sustainable Stock Exchanges Initiative (SSE) Partner Exchange	🇿🇦	🇦🇷		🇧🇷	🇨🇱	🇨🇴	🇨🇷	🇩🇲	🇪🇨	🇲🇽	🇵🇦	🇵🇷	🇵🇪		🇨🇳	🇸🇬	🇮🇩		🇲🇾	🇹🇭			🇰🇲			🇰🇪	🇳🇮	🇪🇬	🇬🇦		🇨🇮	🇲🇺	🇸🇪	🇧🇼	🇬🇧		🇺🇸	🇨🇦	🇦🇺		
Global Investors for Sustainable Development Alliance (GISD)	🇿🇦			🇧🇷		🇨🇴				🇲🇽						🇸🇬				🇹🇭						🇰🇪											🇺🇸				
International Platform on Sustainable Finance (IPSF)		🇦🇷			🇨🇱										🇨🇳	🇸🇬	🇮🇩									🇰🇪			🇳🇮								🇺🇸				
Coalition of Finance Ministers for Climate Action (Helsinki Principles)		🇦🇷			🇨🇱	🇨🇴	🇨🇷		🇪🇨	🇲🇽	🇵🇦	🇵🇷		🇺🇾			🇮🇩				🇵🇭					🇰🇪	🇳🇮			🇬🇦	🇨🇮	🇲🇺	🇸🇪		🇬🇧			🇺🇸			
Sustainable Insurance Forum	🇿🇦	🇦🇷		🇧🇷			🇨🇷									🇸🇬													🇳🇮	🇪🇬	🇬🇦						🇬🇧	🇪🇺	🇺🇸	🇨🇦	🇦🇺
30 by 30 zero	🇿🇦									🇲🇽											🇵🇭								🇳🇮	🇪🇬											

At present, South African bond issuers are not amongst the signatories of the Green Bond Pledge, and the JSE is not a supporter signatory. It is a commitment to action and seeks to drive green infrastructure as the rule.

Given that a major pillar of South Africa's green financing requirements are for sustainable infrastructure, mainstreaming the objectives of the Pledge is compatible. Green Bond Pledge signatoryship by the JSE and future infrastructure related (green) bond issuers could be considered.

At present, South Africa is not a member [International Platform on Sustainable Finance](#).

South Africa is also not a member of the [Coalition of Finance Ministers for Climate Action](#).

While additional cooperation platforms may stretch the capacity, these offer further alignment, engagement and mainstreaming opportunities for sustainable finance mechanisms, which may be valuable. IPSF and Helsinki Principles participation should be considered by of the appropriate South African ministries and agencies.

South Africa is well connected, in its participation in other major international initiatives.

Disseminating and contributing to progress across these initiatives is likely a complex task that requires resourcing and coordination.

If not yet considered, thought should be given to how best to organise participation and relate knowledge to the South African financial sector.

Key

- ✓ Direct participation
- ! Indirectly through membership of one or more overarching organisations

Regional Sustainable Finance Initiatives Mapping

National participation in international knowledge sharing, practice development and technical support

Table 10: Regional initiatives and participation by countries analysed

[illegible]

At present, there is no southern African regional initiative of platform concerning sustainable finance, as compared to the example in East Africa and West Africa (considering this separate to activities under the South African Development Community). While the purpose and objectives of such an initiative would require further consideration, it may be that South African financial sector actors are benefited through the development in sustainable financing in the region.

At present, neither South Africa regulatory authorities or the JSE are signatory to the Marrakech Pledge. As we set out in the following slides, there are interesting developments in the likes of Kenya and Nigeria which South Africa may learn from. Though the Pledge is not attributed as the (sole) driver for this activities, it offers an engagement platform for South Africa in the context of the unique socio-economic challenges the country – and the continent – face.

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Acronyms

Acronym	Definition
<i>AE</i>	Accredited Entity in terms of the GCF
<i>AFOLU</i>	Agriculture, food production, fisheries and forestry
<i>APLMA</i>	Asia Pacific Loan Market Association
<i>AUM</i>	Assets Under Management
<i>BBBEE</i>	Broad-Based Black Economic Empowerment
<i>BNEF</i>	Bloomberg New Energy Finance
<i>CA100+</i>	Climate Action 100+
<i>CCFV</i>	Consejo Consultivo de Finanzas Verdes
<i>CDP</i>	Climate Disclosure Project
<i>CDSB</i>	Climate Disclosure Standards Board
<i>CPI</i>	Climate Policy Initiative
<i>DMRE</i>	Department of Mineral Resources and Energy
<i>DOE</i>	Department of Energy, now DMRE
<i>EARF</i>	Energy Access Relief Facility
<i>EBF</i>	European Banking Federation

Acronym	Definition
<i>EC</i>	European Commission
<i>DBSA</i>	Development Bank of Southern Africa
<i>DFI</i>	Development Financial Institution
<i>EMF-ECBC</i>	European Mortgage Federation-European Covered Bond Council
<i>FI</i>	Financial Institution
<i>FIT</i>	Feed In Tariffs
<i>FSCA</i>	Financial Sector Conduct Authority
<i>GCF</i>	Green Climate Fund
<i>GFS</i>	Green Funds Scheme
<i>GFMA</i>	Global Financial Markets Association
<i>GLP</i>	Green Loan Principles
<i>GRESB</i>	Global Real Estate Sustainability Benchmark
<i>GRI</i>	Global Reporting Initiative
<i>HESC</i>	Hydrogen Energy Supply Chain Project

Acronyms

Acronym	Definition
<i>IAIS</i>	International Association of Insurance Supervisors
<i>ICE</i>	Internal combustion engine
<i>ICMA</i>	International Capital Market Association
<i>IEA</i>	International Energy Agency
<i>IFC</i>	International Finance Corporation
<i>IFRS</i>	International Financial Reporting Standards
<i>IIF</i>	Institute of International Finance
<i>IIGC</i>	Institutional Investors Group on Climate Change
<i>IIRC</i>	International Integrated Reporting Council
<i>IPCC</i>	Intergovernmental Panel on Climate Change
<i>IPP</i>	Independent Power Producers
<i>IRP</i>	Integrated Resource Plan
<i>ISDA</i>	International Swaps and Derivatives Association

Acronym	Definition
<i>LMA</i>	Loan Market Association
<i>LSTA</i>	Loan Syndications and Trading Association
<i>MDB</i>	Multilateral Development Bank
<i>MW</i>	megawatts
<i>NCCRP</i>	South Africa's National Climate Change Response Policy
<i>NDP</i>	South Africa's National Development Plan Vision 2030
<i>NERSA</i>	National Energy Regulator of South Africa
<i>NGO</i>	Non-Governmental Organisation
<i>NOL</i>	No Objection Letter in terms of the GCF
<i>PACTA</i>	Paris Agreement Capital Transition Assessment
<i>PIC</i>	Public Investment Corporation
<i>PPA</i>	Power Purchase Agreement
<i>PPP</i>	Public Private Partnership

Acronyms

Acronym	Definition
<i>PRI</i>	Principles for Responsible Investment
<i>PSI</i>	Principles for Sustainable Insurance
<i>REIPPP</i>	Renewable Energy Independent Power Producer Procurement
<i>RFP</i>	Request for Qualification and Proposal or just Request for Proposal
<i>SASB</i>	Sustainability Accounting Standards Board
<i>SBN</i>	Sustainable Banking Networking
<i>SBV</i>	State Bank of Vietnam
<i>SED</i>	socio-economic development
<i>SDG</i>	Sustainable Development Goal
<i>SMME</i>	Small, Medium and Micro Enterprise
<i>TPI</i>	Transition Pathway Initiative
<i>UNCTAD</i>	United Nations Conference on Trade and Development
<i>UNDP</i>	United Nations Development Programme

Acronym	Definition
<i>WFE</i>	World Federation of Exchanges
<i>UNGC</i>	United Nations Global Compact
<i>UNEP</i>	United Nations Environment Programme



Glossary

TERM	MEANING
Alternative Assets	An alternative asset is an investment that does not fall into the traditional asset classes of equities or bonds. An alternative asset is usually used to describe more exotic investment options like works of art or bottles of fine wine, but the term applies to relatively common investments like residential or commercial real estate, infrastructure, commodities, private equity and venture capital, (Investopedia).
Asset Classes	An asset class is a grouping of investments that exhibit similar characteristics and are subject to the same laws and regulations. Asset classes are made up of instruments which often behave similarly to one another in the marketplace. Historically, the three main asset classes have been equities (stocks), fixed income (bonds), and cash equivalent or money market instruments. Currently, most investment professionals include real estate, commodities, futures, other financial derivatives, and even cryptocurrencies to the asset class mix (under alternative assets). Investment assets include both tangible and intangible instruments which investors buy and sell for the purposes of generating additional income on either a short- or a long-term basis, (Investopedia).
Asset management	Asset management refers to the management of investments on behalf of others. The process essentially has a dual mandate - appreciation of a client's assets over time while mitigating risk, (Investopedia).
Asset owners	Legal owners of assets (often referred to as institutional investors) who make asset allocation decisions based on investment objectives, capital markets outlook, regulatory and accounting rules. Asset owners can manage assets directly and/or outsource to asset managers. Examples: pension funds, insurers, banks, sovereign wealth funds, foundations, endowments, family offices, individuals, (Adapted from Blackrock).
AUM	Assets under management (AUM) is the total market value of the investments that a person or entity manages on behalf of clients. Assets under management definitions and formulas vary by company, (Investopedia).
Banks	A bank is a financial institution licensed to receive deposits and make loans. Banks may also provide financial services such as wealth management, currency exchange, and safe deposit boxes. There are several different kinds of banks including retail banks, commercial or corporate banks, and investment banks. In most countries, banks are regulated by the national government or central bank, (Investopedia).
Blended finance	Strategic use of development finance (i.e. public finance) for the mobilisation of additional finance (i.e. private finance) towards the sustainable development in developing countries.
Bond	A bond could be thought of as an I.O.U. between the lender and borrower that includes the details of the loan and its payments. Bonds are used by companies, municipalities, states, and sovereign governments to finance projects and operations. Owners of bonds are debtholders, or creditors, of the issuer. Bond details include the end date when the principal of the loan is due to be paid to the bond owner and usually includes the terms for variable or fixed interest payments made by the borrower, (Investopedia).
Budget expenditure	The capital disbursements of various ministries and government departments
CAT bond	A catastrophe bond (CAT) is a high-yield debt instrument that is designed to raise money for companies in the insurance industry in the event of a natural disaster.



Glossary

TERM	MEANING
Claims Services	An insurance claim is a formal request by a policyholder to an insurance company for coverage or compensation for a covered loss or policy event. The insurance company validates the claim and, once approved, issues payment to the insured or an approved interested party on behalf of the insured. Insurance claims cover everything from death benefits on life insurance policies to routine and comprehensive medical exams. In many cases, third-parties file claims on behalf of the insured person, but usually, only the person(s) listed on the policy is entitled to claim payments, (Investopedia).
Concessional debt	Debt evidence by a note which specifies, in particular, the principal amount, interest rate, and date of repayment, at below-market rates. Debt is extended at terms preferable to those prevailing on the market. The concession can be achieved either through interest rates below those prevailing on the market or longer maturity or grace periods, or a combination of these.
Climate Risk Advisory	Advisory services for companies assessing, disclosing and responding to climate related risks, (Carbon Trust).
ClimateWise	The ClimateWise Principles guide members' contribution to the transition to a low carbon, climate-resilient economy and integrate a response to the climate risk protection gap – the growing divide between economic and insured losses – across their business activities, (CISL).
Corporate Broker	The corporate broker acts as the main interface with the stock market, assessing market conditions, the demand for your company's shares and actively marketing them to potential investors, (London Stock Exchange).
Debt	Debt evidence by a note which specifies, in particular, the principal amount, interest rate and date of repayment. This debt is extended at regular market conditions.
Distributive justice	In the context of a just transition and the <i>Just Transition Initiative</i> definition, distributive justice includes the fair allocation of the benefits and harms associated with the transitions including addressing issues of access, historical injustices (restorative justice), the current allocation of transition outcomes, and the consideration of future impacts of these transition processes.
Diversified asset manager	An asset manager that offers a diverse set of funds with different investment objectives, investing in a range of asset classes with no one specific investment mandate (i.e. sustainability), (Carbon Trust).
Emerging Markets	An emerging market is a market that has some characteristics of a developed market, but does not fully meet its standards. This includes markets that may become developed markets in the future or were in the past. The database will use the countries listed by S&P as follows: Brazil, Chile, China, Colombia, Czech Republic, Egypt, Greece, Hungary, India, Indonesia, Malaysia, Mexico, Pakistan, Peru, Philippines, Poland, Qatar, Russia, South Africa, Taiwan, Thailand, Turkey and the UAE (S&P, 2018)
Equity	Equity is typically referred to as shareholder equity (also known as shareholders' equity) which represents an ownership share in the company and the amount of money that would be returned to a company's shareholders if all of the assets were liquidated and all of the company's debt was paid off, (Investopedia).



Glossary

TERM	MEANING
ESG	Environmental, social and governance (ESG) criteria are a set of standards for a company's operations that socially conscious investors use to screen potential investments. Environmental criteria consider how a company performs as a steward of nature. Social criteria examine how it manages relationships with employees, suppliers, customers, and the communities where it operates. Governance deals with a company's leadership, executive pay, audits, internal controls, and shareholder rights, (Investopedia).
EU taxonomy	The EU Taxonomy is a tool to help investors, companies, issuers and project promoters navigate the transition to a low-carbon, resilient and resource-efficient economy. The Taxonomy sets performance thresholds (referred to as 'technical screening criteria') for economic activities which: make a substantive contribution to one of six environmental objectives defined; do no significant harm (DNSH) to the other five, where relevant; meet minimum safeguards (e.g., OECD Guidelines on Multinational Enterprises and the UN Guiding Principles on Business and Human Rights).
Funds	An investment fund is a supply of capital belonging to numerous investors used to collectively purchase securities while each investor retains ownership and control of his own shares. An investment fund provides a broader selection of investment opportunities, greater management expertise, and lower investment fees than investors might be able to obtain on their own. Types of investment funds include open and closed funds, mutual funds, exchange-traded funds, money market funds, and hedge funds.
Grants	Subsidies or transfers made in cash, goods or services for which no repayment is required.
Green Finance	The mobilisation of private capital for investment in sustainable and environmental companies, projects and infrastructure, such as renewable energy, energy efficiency, and pollution control. It is characterised by two main elements: 1) mobilising capital through specific green financial mechanisms; 2) integrating environmental, social and governance (ESG) considerations into the financial system and disclosing such risks.
Hybrid investment fund	A hybrid fund is an investment fund that is characterized by diversification among two or more asset classes. These funds typically invest in a mix of equity and bonds. They may also be known as asset allocation funds.
ILS	Insurance-linked securities, or ILS, are essentially financial instruments which are sold to investors whose value is affected by an insured loss event.
Impact Fund	Impact Funds invest in companies, organizations, and funds with the intention to generate a measurable, beneficial social or environmental impact alongside a financial return.
Loans	There are a variety of different types of loans. For example, a whole loan is a single loan that a lender has issued to a borrower. Some lenders choose to package and sell their whole loans in the secondary market, which allows for active trading and market liquidity, (Adapted from Investopedia).
MGA	Managing General Agent (MGA) is a specialized type of insurance agent/broker that, unlike traditional agents/brokers, is vested with underwriting authority from an insurer. Accordingly, MGAs perform certain functions ordinarily handled only by insurers, such as binding coverage, underwriting and pricing, appointing retail agents within a particular area, and settling claims, (IRMI).



Glossary

TERM	MEANING
Net-Zero Asset Owner Alliance	Representing more than USD 4 trillion in assets under management, the United Nations-convened Net-Zero Asset Owner Alliance is an international group of institutional investors delivering on a bold commitment to transition their investment portfolios to net-zero GHG emissions by 2050, (Net-Zero Asset Owner Alliance).
P2P	Peer-to-peer (P2P) lending enables individuals to obtain loans directly from other individuals, cutting out the financial institution as the middleman.
PRB	The Principles for Responsible Banking (PRB) help any bank – whatever its starting point – to align its business strategy with society's goals. The Principles provide the framework for a sustainable banking system, and help the industry to demonstrate how it makes a positive contribution to society, (UNEP FI).
PRI	The six Principles for Responsible Investment (PRI) are a voluntary and aspirational set of investment principles that offer a menu of possible actions for incorporating ESG issues into investment practice, (UN PRI).
Private finance	The outflow of resources implemented by individuals and companies, not state-controlled
Procedural justice	In the context of a just transition and the <i>Just Transition Initiative</i> definition, procedural justice refers to the recognition of marginalized groups by including them in discussions and decision-making processes; enabling broad stakeholder participation such as the ability to shape the outcomes of change processes; and ensuring that governance structures are in place to influence local, national, and international transitions.
Private Equity	Private equity is an alternative investment class and consists of capital that is not listed on a public exchange. Private equity is composed of funds and investors that directly invest in private companies, or that engage in buyouts of public companies, resulting in the delisting of public equity. Institutional and retail investors provide the capital for private equity, and the capital can be utilized to fund new technology, make acquisitions, expand working capital, and to bolster and solidify a balance sheet, (Investopedia).
Private Placement	A private placement is a sale of stock shares or bonds to pre-selected investors and institutions rather than on the open market. It is an alternative to an initial public offering (IPO) for a company seeking to raise capital for expansion, (Investopedia).
Project Finance	Project finance is the funding (financing) of long-term infrastructure, industrial projects, and public services using a non-recourse or limited recourse financial structure. The debt and equity used to finance the project are paid back from the cash flow generated by the project, (Investopedia).
Public finance	The outflow of resources in the form of public expenditure towards national and local objectives (public: the whole body politic, or the aggregate of the citizens of a state, nation or municipality)



Glossary

TERM	MEANING
SBTi	The Science Based Targets initiative (SBTi) champions science-based target setting as a powerful way of boosting companies' competitive advantage in the transition to the low-carbon economy. It is a collaboration between CDP, World Resources Institute (WRI), the World Wide Fund for Nature (WWF), and the United Nations Global Compact (UNGC). It is one of the We Mean Business Coalition commitments, (SBTi).
Specialised asset manager	An asset manager with specific focus on a certain investment strategy or a type of asset, this could include focus on infrastructure investments, renewable energy assets or impact investments, (Carbon Trust).
Sustainability-linked loans	Sustainability linked loans are any types of loan instruments and/or contingent facilities (such as bonding lines, guarantee lines or letters of credit) which incentivise the borrower's achievement of ambitious, predetermined sustainability performance objectives, (Loan Market Association).
TCFD	The Task Force on Climate-related Financial Disclosures (TCFD) will develop voluntary, consistent climate-related financial risk disclosures for use by companies in providing information to investors, lenders, insurers, and other stakeholders, (TCFD).
Venture Capital	Venture Capital is money, technical, or managerial expertise provided by investors to start-up firms with long-term growth potential, (Investopedia).

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A South African green economy

The vision distilled for the economic transition

South Africa's historical economic structure dependent on extractive and heavy industries fuelled using coal-fired heat and electricity means that the current shading of the South African economy towards the 'brown' (or unsustainable) end of the spectrum.

In reality, there is only one economy and that economy must be greened to remain resilient and competitive. A green economy is not separate to the current understanding of economic activity, but rather an intrinsic element of the vision for a thriving, resilient and competitive economy and the enabling activities required to achieve it. (NBI, 2016).

As a direct result of South Africa's mainstreaming approach to sustainable development, green economy and socio-economic development-related objectives are expressed in a variety of policies and strategies. The intricacies and complexities of the South African green economy-related policy landscape is, in part, an expression of the multifaceted challenge of sustainable development in South Africa. At the heart of all of this, remains the objective of sustainable development in South Africa.

National Business Initiative (NBI) put forward a *Framework of Economic Principles* to help frame central tenets of a green economy, so solutions could be assessed for alignment of intent, rather than having to formulate definitive criteria for each circumstance (NBI & KPMG, 2016). We reintroduce this [Framework](#), to capture finitely the central elements that efforts to catalyse sustainable finance are also driving towards.

These objectives are effectively instrument-agnostic. The imperative is for the financial sector to better integrate the means and methods to consider these objectives integrally to their fiduciary and financial considerations. The Methods discussed in Chapter 5 and the enabling environment recommendations in Chapter 6 are orientated towards supporting this.



Figure 20: Framework of Economic Principles for a South African green economy (NBI & KPMG, 2016)



Changes needed in the “real economy”

The deep climate change mitigation needed in the “real economy”

Though climate change mitigation and adaptation are respectively not the only important environmental objectives, these are urgent challenges that demand response and have particular relevance to sustainable finance.

As set out in the following slides:

- **Deep and rapid sectoral decarbonisation** is needed in major South African economic sectors. Whereas the significant financing gap for green and climate mitigation projects is understood and is the appropriate remit for sustainable finance; the majority of technological and systems interventions to drive mitigation have typically to date been the remit of public and concessional finance (with the notable exception of the South African Renewable Energy Independent Power Procurement Programme (REIPPP)).
- **Climate change adaptation** is also an urgent challenge in South Africa, but to date there are few examples of private sector financing, in part due to structural challenges in non-financial value attribution. Yet, the impacts on key economic sectors is clear, as are the immediate adaptation priorities. While coordinated multidimensional interventions will be needed to affect improved resilience, sustainable finance has a clear role in financing adaptation and managing resilience risks.

in them, hinging on “ensuring that workers and communities [are] placed at the heart of decision-making so that the benefits and costs of climate actions [are] shared fairly” (Creamer, 2021). This is consistent with the South African National Treasury Technical Paper definition for Sustainable Finance.

Importantly, **environmental objectives cannot be the sole focus**. Success in addressing climate change should not be measured only as progress in the transition to low-carbon performance of technologies, systems and economies, but by the resilience of those economies and the people living



Changes needed in the “real economy”

The deep climate change mitigation needed in the “real economy”

Energy industries constitute the most significant of South Africa’s carbon footprint. To avert the most devastating climate change impacts – contributing in line with well-below 2°C trajectories (B2DS) – this sector will need to decarbonise deeply and quickly; achieving the majority change by 2035 and continuing to reduce absolute emissions (alongside efficiency gains as demand

increases under different economic projections) until and beyond 2050. Similarly, industrial and transport sectors will need to undergo significant shifts compared to what is pledged by present climate-related commitments.

Sector grouping (B2DS dark palette; RTS light palette)	Absolute sector emissions (MtCO ₂ e) (2014)	Projected sector emissions to align to a B2DS (MtCO ₂ e), relative change (%) (2050)
Other transformation	43	0 (-100%)
Buildings, agriculture, fishing, non-specified other	34	1 (-99%)
Industry	63	23 (-63%)
Transport	64	26 (-59%)
Energy industries	252	4 (-98%)

Divergence of SA Direct Emissions Pathways between RTS and B2DS

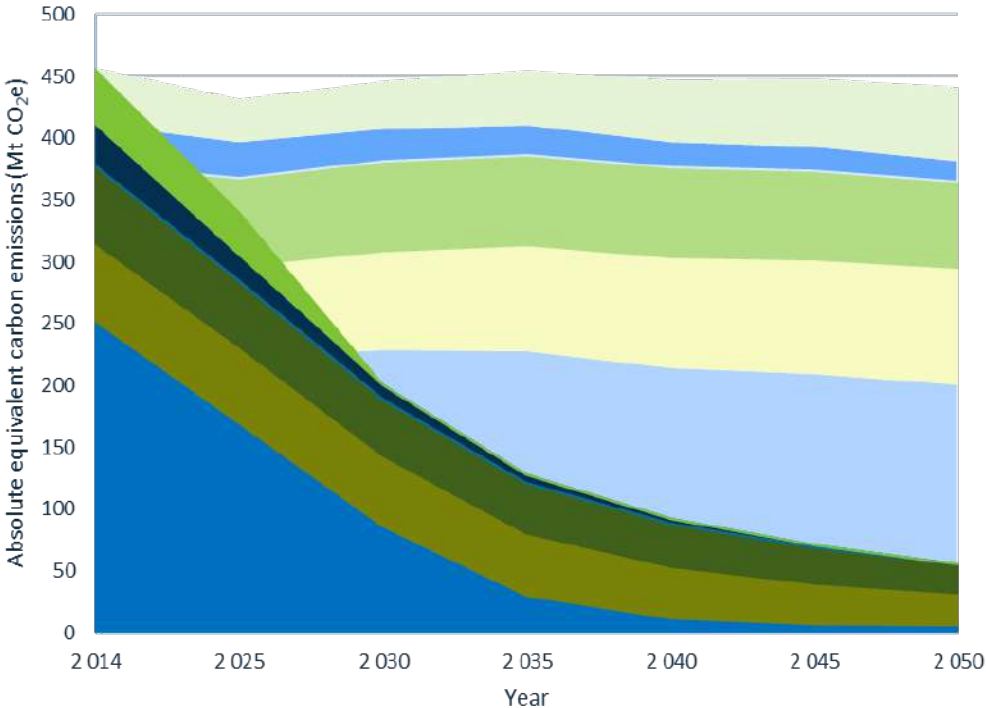


Figure 21: Major sectoral groupings carbon emissions trajectories under IEA 2017 Technology Perspectives RTS and B2DS projections (Carbon Trust analysis)



Changes needed in the “real economy”

Technological and systems climate change mitigation interventions in energy, transport and industrial sectors

The importance of private sector funding in achieving national climate change mitigation is emphasised by the NCCRP and identifies the opportunity for the financial sector to mainstream climate change in risk and investment decisions. (NBI & Carbon Trust, 2020).

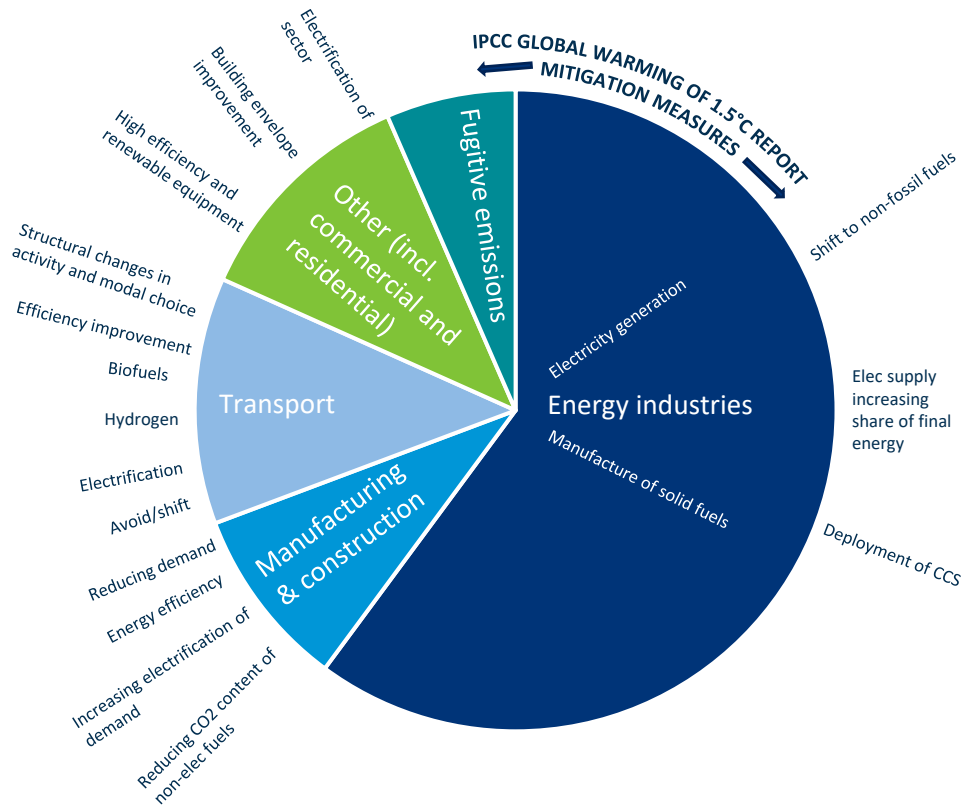


Figure 22: South Africa’s 2015 national carbon footprint composition and major technological and systems low-carbon interventions (Carbon Trust analysis)



Changes needed in the “real economy”

The sectoral vulnerability to climate change and focus areas for adaptation in the “real economy”

South Africa is not unique in the challenge it faces with respect adaptation financing. To date, adaptation finance has demanded significant over-the-market interventions and has mostly been the realm of public and philanthropic interventions.

Climate justice is intrinsic to adaptation – especially where interventions reduce the vulnerability of climate change exposed populations; understanding that in South Africa impoverished populations are least able to adapt independently. Financing adaptation is therefore a pillar of a just transition.

Table 11: Summary of the vulnerability of key socio-economic sectors in South Africa to climate change, and adaptation priorities (Department of Environmental Affairs, 2018)

Sector	Current stresses to the systems	Adaptation priorities
Agriculture and Forestry	<ul style="list-style-type: none"> Land use and change Water stress Invasive alien plants 	<ul style="list-style-type: none"> Climate Smart Agriculture Conservation Agriculture
Coastal zone	<ul style="list-style-type: none"> Direct wave impacts, coastal flooding and inundation, and erosion and under-scouring Land use change 	<ul style="list-style-type: none"> Land use planning Designation of flood areas/ high risk areas and development - free zones Construction of dykes, groynes, bank protection, sea walls Beach nourishment, dune protection
Health	<ul style="list-style-type: none"> Burden of disease in SA and people from neighbouring countries Poor housing, infrastructure and service delivery Change in geographical distribution of diseases Water supply, agriculture, catastrophic events 	<ul style="list-style-type: none"> Cross-sectoral cooperation and collaboration Tailored regions/communities adaptation strategies to based on risks, vulnerability Measuring / monitoring the effects of climate change on health
Terrestrial Ecosystems	<ul style="list-style-type: none"> Habitat fragmentation Land use change Invasive alien plants 	<ul style="list-style-type: none"> Land use planning and land management Ecosystem-based adaptation Mainstreaming of stewardship programmes Monitoring and evaluation
Urban and Rural Settlements	<ul style="list-style-type: none"> Deficit in infrastructure and provision of services 	<ul style="list-style-type: none"> DRM Mainstreaming of no-regret interventions Principals of water sensitive urban design (WSUD) and ecological infra.
Water Resources	<ul style="list-style-type: none"> High water demand: water usage already exceeds reliable yield High levels of variability in rainfall from year to year, resulting in frequent floods and droughts Deteriorating major river systems water quality, water storage reservoirs and ground water resources 	<ul style="list-style-type: none"> National water policies, plans and funds mainstream climate change adaptation monitoring and information needs to be appropriately designed Infrastructure development, operation and maintenance Groundwater needs to be protected by preventing degradation and exploitation



The South African finance system

Snapshot of the South African finance flows to actors and sectors

Foreign entities, such as DFIs, corporates and banks, held R3.3 trn in assets with South African corporates and R1.9trn in assets with South African FIs; however, SA corporates and FIs were net holders of foreign assets to the tune of R2.9 trn.

In terms of FDI, the main sectors that have been recipients of financing include financial services, real estate and business services (39%), mining (26%), manufacturing (17%), transport, storage and communication (11%), and trade, catering and accommodation (6%) in 2018 (Willemse *et al.*, 2020)

The main holders of SA government debt are foreign entities, South African banks, the PIC and South African insurers and retirement funds

South Africa's FIs have a positive net stock position into corporates, foreign entities and government entities; however, of their total assets (R21.9 trn) 41% are with other FIs indicating major inter-investments between these actors

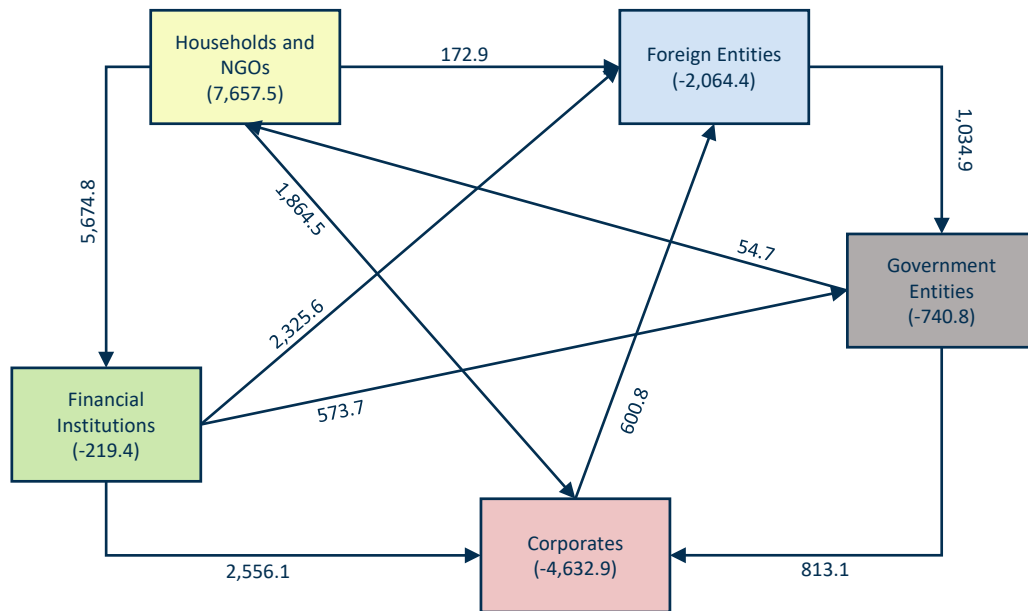


Figure 23: Net stock positions (in box) and net finance flows between South African financial market actors as at 30 June 2020 (R billion) (Willemse *et al.*, 2020)



The South African finance system

Where does finance flow from into the South African financial markets

Foreign direct investment (FDI) into South Africa is an important source of funding to plug domestic savings and capital formation gaps. Non-residents were net lenders to the SA financial market in 2019 for R153 bn, primarily through bonds (R142 bn), loans (R27.4 bn), and deposits (R16.7 bn). Foreigners have typically been net buyers of SA equities; however, in 2019 they were net sellers (R41 bn).

The **government remains a major player in provision of capital** in SA, though recent budgetary restraints have curtailed this fixed capital formation to ~15% of total fixed capital formation in 2019. Government has mainly financed this capital investment **through the issuance of bonds, as well as concessional bilateral and multilateral loans.** As of 2019, foreign entities were holders of R785 bn of SA debt followed by banks (R586 bn), and insurance companies and retirement funds (R345 bn). (This figure does not yet include the IMF loan to South Africa under the Rapid Financing Instrument (RFI) approved in 2020). Foreign and domestic lending to

government takes place within each sphere of government.

Domestic FIs receive financing through premiums (insurance), **contributions** (from asset managers and investment funds), **and deposits**, which amounted to R955 bn in 2019. These funds are **then channelled to corporates, government and households** in the form of fixed-interest securities (bonds), equity investments and credit (loans and mortgages). There are several examples of international DFIs deploying development-orientated debt and risk instruments via domestic FIs.

Private corporates and FIs are an important source of finance for capital investment in South Africa, representing 59% of total fixed capital investment in 2019. These actors have notable cash treasuries and often are direct capital investors into infrastructure rather than lending to government for this function, especially as government reins in borrowing in the short- to medium-term (Madonsela & Khoza, 2019).

Negative values depict a borrowing position and positive values a lending position, with the exception of Foreign Sector where a negative value depicts a deficit for the rest of the world and a surplus for South Africa's current account

Sphere of Financial Market	2018 (R millions)				2019 (R millions)			
	Gross Saving	Net Capital Transfers	Gross Capital Formation	Net Lending (+)/Borrowing (-)*	Gross Saving	Net Capital Transfers	Gross Capital Formation	Net Lending (+)/Borrowing (-)*
Foreign Sector	172,961	-236	-	172,725	153,177	-244	-	152,933
Financial Institutions	116,818	-	23,288	93,530	130,269	-	41,936	88,333
Government	-1,123	-17,053	145,767	-163,943	-11,960	-98,807	137,193	-247,960
Corporates (public enterprises)	56,926	1	127,410	-70,483	53,633	75,728	135,228	-5,767
Corporates (private enterprises)	461,713	2,235	479,911	-15,963	502,291	1,979	481,500	22,770
Households	67,101	15,053	98,020	-15,866	65,695	21,344	97,248	-10,209
Total	874,396	0	874,396	0	893,105	0	893,105	0

* Net lending (or borrowing) = Gross saving + Net Capital Transfers – Gross Capital Formation

The South African finance system

The structure of the South African financial market

Relative to other emerging economies of similar size and gross domestic product (GDP), South Africa has well-capitalised and highly active financial markets.

The foreign exchange market, being the largest financial market globally, is especially active in South Africa. The Rand daily trading activity on a net-net basis averaged US\$ 72 bn in April 2019, ranking the South African currency as the 18th most traded currency globally in April 2019. (Bank for International Settlements, 2019)

The South African money market (debt instruments with short maturities), is dominated by the major banks lending to other FIs, corporates and households. The average monthly settlement value of these short term debt instruments in South Africa is R331 billion representing a major source of debt finance in the country. (National Treasury, 2018)

The South African bond market (listed, tradeable, long-term debt that corporates, FIs and government institutions use to finance capital investments) was estimated to be valued at R2.7 trillion rand in 2017. This debt is dominated by government institutions in South Africa, with National Treasury accounting for 68% and state-owned entities for 11%. Similarly, in terms of bond trading on the JSE, government bonds account for 90% of trading activity, indicating that the corporate bond market in South Africa is thinly traded. (National Treasury, 2018)

South Africa's equity market is sizeable and trading via the JSE is active. The market capitalisation of the JSE as of December 2020 is R17.8 trillion, ranking it as the 16th largest equity market in the world, and the JSE has

averaged around R5.6 trillion in annual trade volumes since 2016. (JSE, 2021b)

The **credit market** for trading, structuring and investing in the credit/credit risk of governments, businesses and households **through bonds and loans or through securitisation, structured credit products and credit derivatives, is in its relative infancy in South Africa** and could be leveraged to improve liquidity and package riskier assets and income streams appropriately for investors, bearing in mind the regulatory and credit risk management requirements.

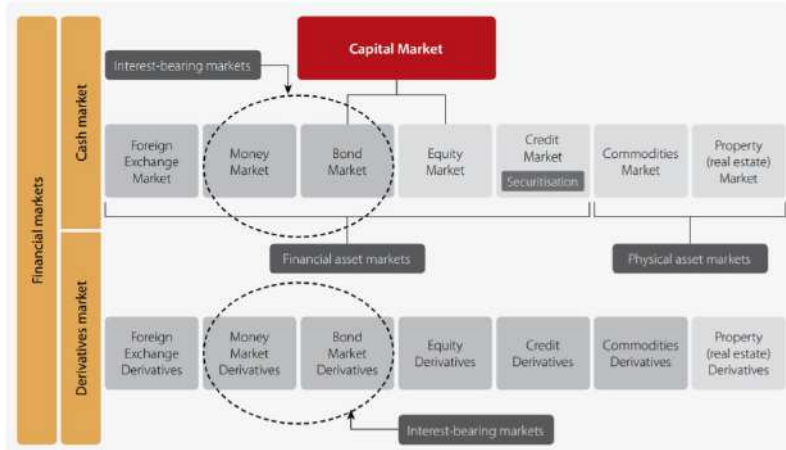


Figure 24: South African financial markets and the types of instruments apparent in each market (Goodspeed, 2017)

The South African finance system

How does money flow through the South African financial market

The role of fixed interest-securities (bonds) as a vehicle for investment in South Africa is notable and has been consistently used, predominantly by government and SOEs, as a **source of financing for major projects** and more general financing needs. Foreign entities and local FIs have been attracted to SA government bonds due to their high, real yields versus other asset classes.

Corporate entities in South Africa, aside from government corporations, have not historically typically used bonds to raise cash to finance projects, acquisitions or expansion, **relying instead on credit lines (debt) from the well-capitalised banking sector and equity from investment managers** and asset owners as a finance source.

Equity has fluctuated as a finance source over the last decade in South Africa. This is a reflection of the liquidity of these instruments that can be bought and sold rapidly depending on the investor's risk and perceptions about the company and the country's outlook. This is echoed by the finance flows from foreign entities over the last decade which show swings from over R250 billion in South African equity purchases in 2012, to a net sale of R41 billion.

Debt in the form of loans from banking institutions to corporates for discrete investment projects, acquisitions or organic expansion **and to households in the form of mortgages (for fixed capital), vehicle finance or unsecured debt** has been on an increasing trend over the last two decades in South Africa. Unsecured lending to households has increased steeply recently in South Africa, to finance stagnating income growth against rising costs of living.

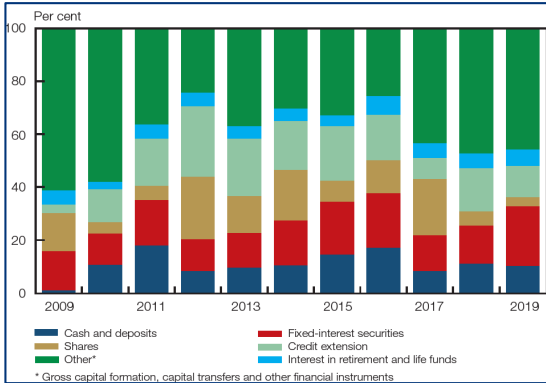


Figure 25: proportion of finance instruments in total finance flows¹

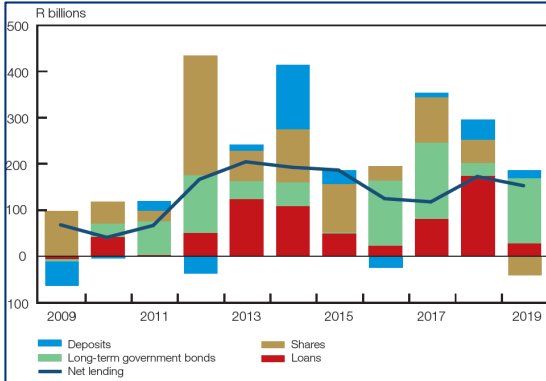


Figure 26: foreign entities' net funding in SA by instrument type¹

¹ (Madonsela & Khoza, 2019)

The South African finance system

Snapshot of the South African asset ownership and composition by financial sector actors

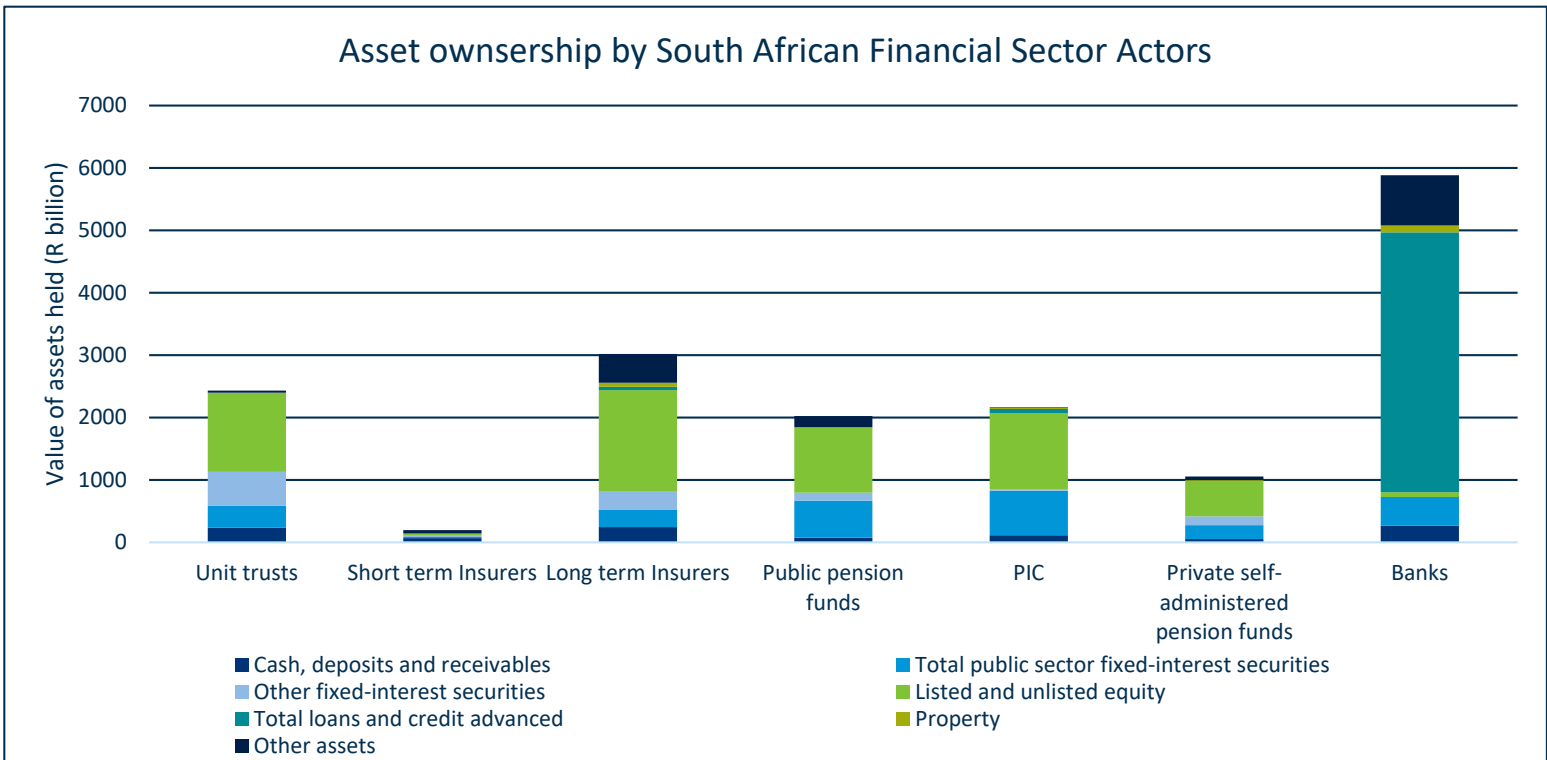
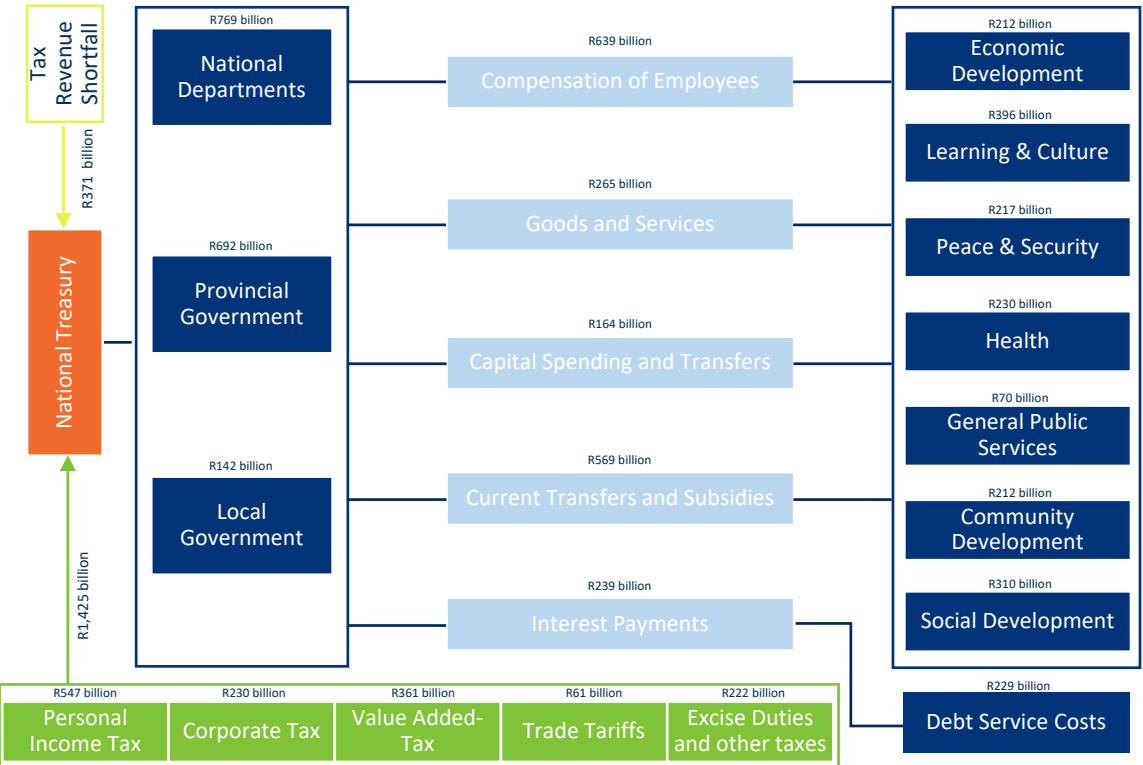


Figure 27: Types of assets held by the different South African financial institutions as at 2019 (SARB, 2020)

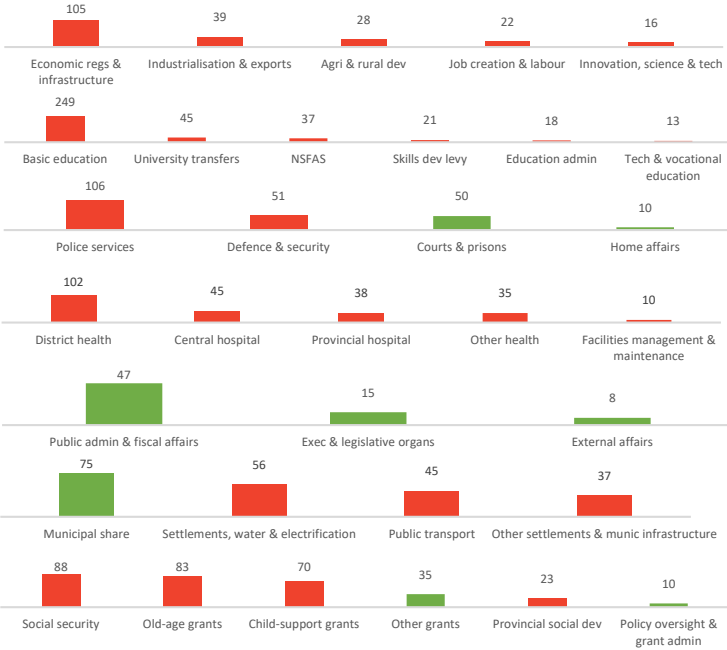


The South African finance system

The structure of the South African government finances



Government Spend (R billion) in 2020 budget



Indicates budget allocations with direct linkage to sustainable finance outcomes



Figure 28: South African government financing structures according to the 2020/2021 budget (National Treasury, 2020), identifying applications that can be linked to sustainable development dimensions and therefore sustainable finance



The South African finance system

Development finance in the South African financial market

Southern Africa has been the recipient of approximately US\$ 34 bn in development finance since the beginning of last century. The allocation of this DFI funding has been heterogenous throughout the region, with the vast majority of it flowing into South Africa (US\$ 27 bn). In part, this is due to the fact that three of the major DFIs active in the region are based in South Africa and funded by the South African government (DBSA, IDC, LandBank). These **three DFIs have invested more development finance than all of the international DFIs combined** (over US\$ 17 bn) (GIIN, 2016).

There are 26 DFIs that have publicised their investments in Southern Africa; the major South African and international DFIs are listed below:

African Development Bank	UK Department for International Development	Finnfund	Belgian Investment Company for Developing Countries
CDC Investment Works	Swedfund	U.S. International Development Finance Corporation	Proparco (AFD)
European Investment Bank	Trade and Development Bank	Dutch Entrepreneurial Bank (FMO)	Norfund
International Finance Corporation (IFC)	KfW	Land and Agricultural Development Bank of South Africa	Development Bank of Southern Africa
Industrial Development Corporation (IDC)	National Empowerment Fund		

Of the 26 DFIs that have publicised their investments in Southern Africa, **two South African DFIs and three international DFIs account for over 90% of the capital provided to the region** – showing high concentration of DFI finance flows (GIIN, 2016).

International DFIs South African DFIs

The energy sector in Southern Africa, and by extension South Africa, has received the most international development finance to date followed by financial services for fintech and financial innovations.

This has been **driven largely by the South African Renewable Energy Independent Power Producers Procurement Programme (REIPPPP)** (over US\$ 1.5bn) and major energy projects such as the Ingula Pumped Storage Scheme **which have attracted finance from the IFC, KfW, Norfund (equity), and the AfDB**. The **DBSA and IDC** have contributed a combined R 18.4 bn to the REIPPPP in debt instruments, while the IDC was also a significant equity source (9 projects) in the REIPPPP. (Eberhard & Naude 2017).

Housing, education and healthcare have only received 2% of international DFI funding to date – **indicating a preference for environmental projects.**

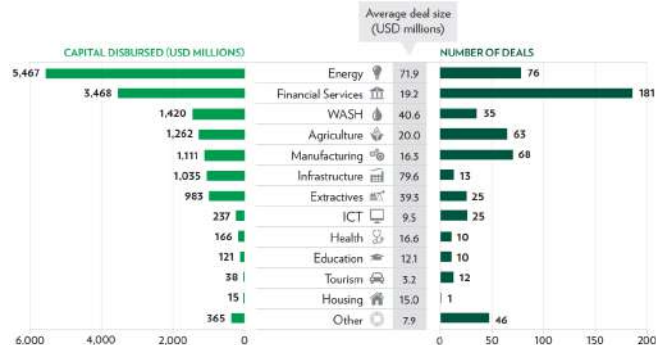


Figure 29: International DFIs and MDBs active in Southern Africa and DFI funding foci (GIIN, 2016)



The need to advance sustainable finance in South Africa

The link between sustainability, policy and economy-wide investment

South Africa has actively endorsed a green economy since the issuance of the Green Economy Accord (the “Accord”) in 2011 at COP17 in Durban that promoted green finance flows toward public sector priority areas. This enabled a policy environment for initiatives that sought to deliver environmental, social and economic outcomes across the country. The Accord also aimed to ensure that greening the economy prompted employment creation, improved conditions for poor South Africans and increased use of renewable energy. A number of government agencies signed the Accord and were supported by representative from labour unions, civil society and business (SBN, 2019).

In that same year South Africa’s National Strategy for Sustainable Development and Action Plan was developed, setting out the steps to a just transition to a Green Economy. This laid the foundation for establishing the Green Fund in 2012 (through the then Department of Environmental Affairs and implemented by the Development Bank of Southern Africa) to provide catalytic finance facilitating investment in green initiatives.

South Africa’s National Development Plan (NDP) aspires South Africa to be sustainable and economically prosperous while safeguarding democracy and managing the limited ecological resources responsibly. The context defining the development of South Africa is, however, framed by several challenges which serve to impede the country’s progress towards an inclusive and prosperous society; these include, high levels of poverty, inequality and unemployment, low provision of education, underprovided public services together with deficient infrastructure and a lack of social cohesion (NBI & Carbon Trust, 2020).

Inextricable from the developmental imperative, climate change poses a significant risk to South Africa’s development gains, exacerbating the existing national challenges, the scale and reach of which is multifaceted and requiring both structural and socio-economic reforms (National Treasury, 2020). Along with other developing countries in Africa, South Africa is especially vulnerable to impacts of climate change due to our high exposure to damaging climate risks. South Africa has affirmed its commitment to making a fair contribution to global efforts to address climate change by submitting its Nationally Determined Contribution (NDC) and ratifying the Paris Agreement in November 2016. In addition to mitigation, the NDC aims to address climate change adaptation through six goals to enhance adaptive capacity and resilience while recognising the cost of transitioning the economy and the imperative to participate in the global climate action efforts.

South Africa’s National Climate Change Response Policy (NCCRP) calls for the inclusion of the financial services sector and emphasises mainstreaming climate change in decision-making by actors throughout the economy. It further promotes a multidimensional South African climate finance strategy to enable climate-resilient development that employs a range of traditional and emerging finance options and instruments and embracing capital market innovations (NBI & Carbon Trust, 2020).

South Africa’s policy landscape (*see next slide*), therefore, recognises the development of investment mobilisation strategies, capacities, mechanisms, and instruments as priorities to support and enable implementation of climate change responses.



The policy landscape

Key instruments as platforms for the transition to sustainable development

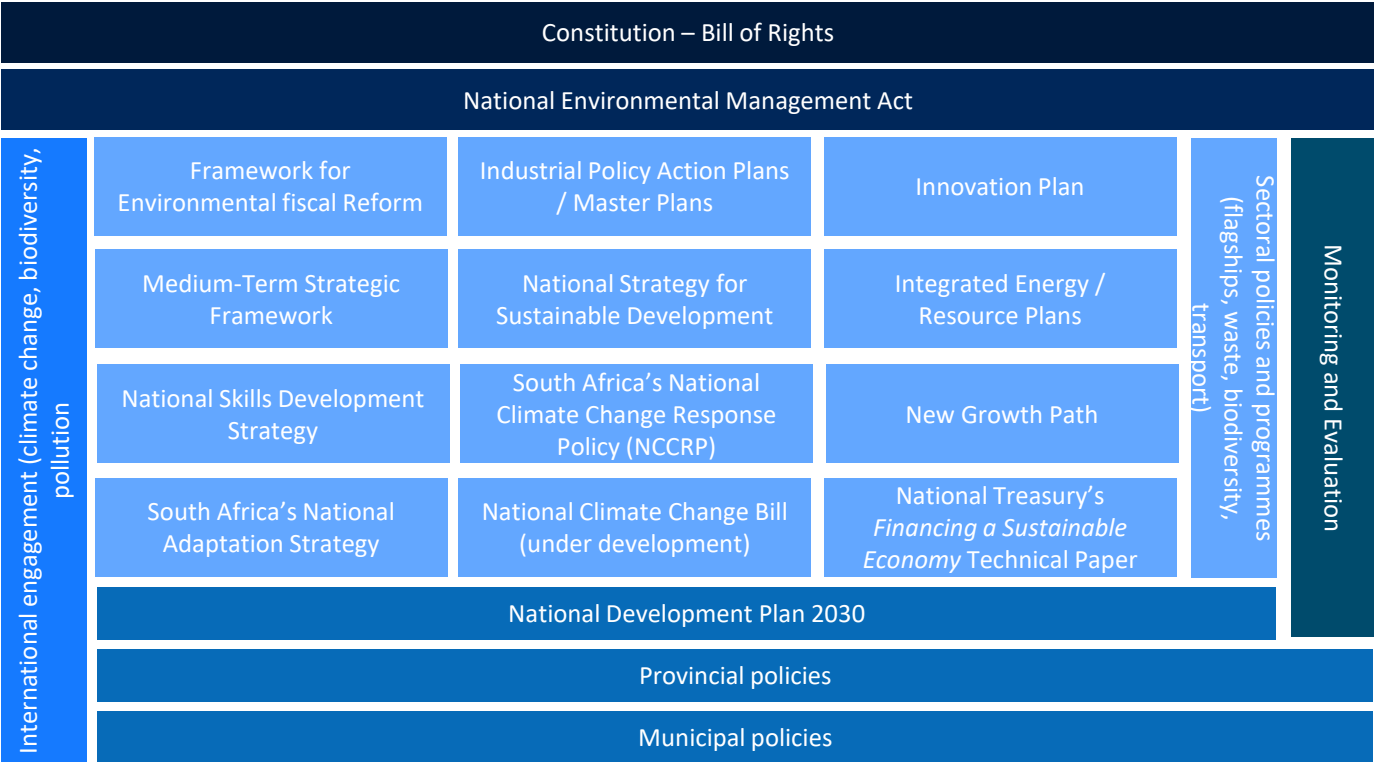


Figure 30: Principle policy instruments by which sustainable development is mainstreamed in South Africa (adapted from Mohamed & Montmasson-Clair, 2018)



Sustainable Finance in South Africa

South African sustainable finance ecosystem actors

Institutions and organisations with relevance to the national sustainable finance ecosystem

SA Government of South Africa – There are a number of funding programmes which serve as diverse financing approaches which aim to crowd in private investment. Examples include The Green fund, The Energy Efficiency and Demand-side Management Fund and National Expanded Public Works Programme

Private Sector – Private equity and debt is a major contributor to funding socially and environmentally impactful interventions, including to transition and green the real economy, through balance sheet spending and impact investment funds. Corporates also undertake corporate social responsibility

Regulators – Under the Twin Peaks financial framework model, South Africa's financial sector is regulated through the Financial Sector Conduct Authority (FSCA), a national public entity responsible for supervision of the conduct of financial institutions, and Prudential Authority (PA) responsible for regulating banks, insurers, co-operative financial institutions, financial conglomerates and certain market infrastructures. Johannesburg Stock Exchange (JSE) also acts in the capacity of a regulator

International Agencies – Bilateral and multilateral development and donor agencies have played a substantial role in funding green economy initiatives in South Africa such as Agence Française de Développement (AFD), Entrepreneurial Development Bank (FMO), Gesellschaft für Internationale Zusammenarbeit GmbH (GIZ), International Finance Corporation (IFC), German Investment and Development Company (DEG), Government of Flanders (Belgium), Government of Norway, KfW Development Bank, Proparco, UK Foreign, Commonwealth & Development Office (FCDO), UN Environment Programme (UNEP), U.S. International Development Finance Corporation (DFC), World Bank and others. In addition to this, global and regional entities remain important contributors in the support of a diverse range of green economy initiatives

Labour – Trade Unions remain dubious of the green economy highlighting the need for a 'Just transition' which focuses on retaining jobs and skills through a transition to a low carbon economy. Labour representation are a key constituency in progressing just transition financing and real economy changes

Non-Government Organisations (NGOs)

NGOs contribute significantly to stimulating the green economy, by brokering collaboration and coordinating stakeholders and developing knowledge

Research and Educational Institutions, service providers, professional bodies – Research and educational institutions mainly play a role in piloting technological solutions and creating an environment which fosters innovation within the green economy, with a role to advance understanding of the needs and opportunities for mitigation, adaptation and just transition being critical. Service providers and professional bodies. All these actors have a role to play in mainstreaming knowledge and good practice. Professional bodies include ecosystem actors such as trade and industry associations and initiative secretariats

Figure 31: Institutions and organisations within the sustainable finance ecosystem (adapted from NBI & Carbon Trust, 2020)



Sustainable Finance in South Africa

Timeline of landmark developments in South Africa's sustainable finance ecosystem

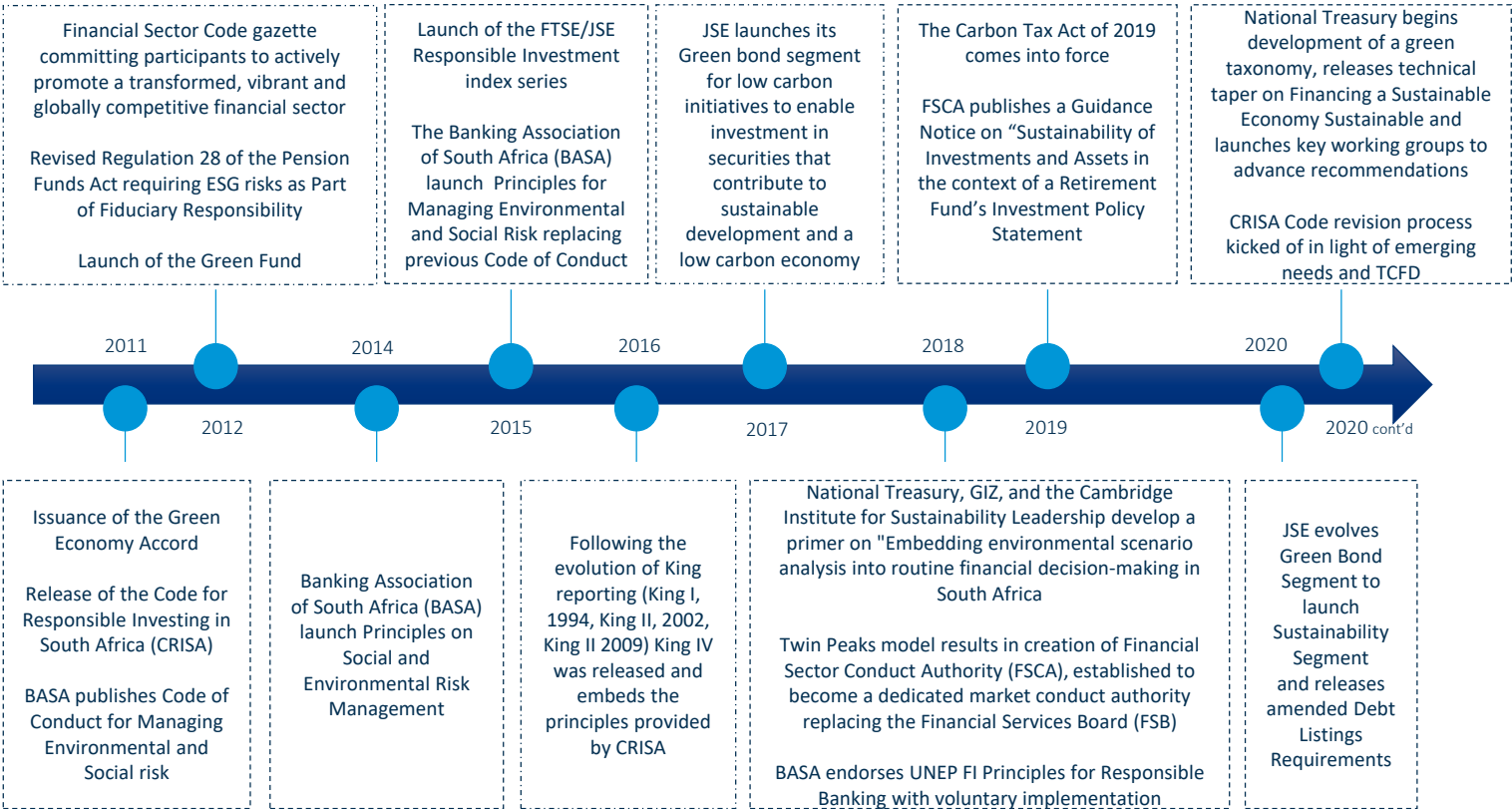


Figure 32: Timeline of major Sustainable finance-related milestones in South Africa



Sustainable Finance in South Africa

Snapshot of climate finance deployment in South Africa as indicative of significant sustainable finance activity

In January 2021, a report capturing the South African Climate Finance Landscape (primary investment into productive assets and products, 2017 – 2018) was published, provided critical insights to the state of climate finance as a representation of sustainable finance activity in South Africa. (To note, the data reports commitments rather than disbursements, which generally lag well-behind for several reasons). **Figure 33** showcases the Sankey diagram of South African climate finance studied in this period, indicating the following (Cassim, Radmore, Dinham & McCallum, 2021):

- The split between private, public and blended finance is 57%, 35% and 8% respectively;
- Clean energy was allocated 76% of funding, followed distantly by “general ecosystem” (6%), “cross-sectoral” (5%), low-carbon transport (4%) and water (3%), others making up the remaining 6%;
- Instruments applied were debt (46%), equity (23%), budget expenditure (13%), concessional debt (12%) and grants (5%);
- 81% was allocated to mitigation finance, 7% to adaptation, and 12% to a combination of the two;
- In public sector finance, water end-uses applied blended finance, whereas other end-uses applied a range of instruments.

Cassim, Radmore, Dinham & McCallum (2011) further report that, while still considered relatively nascent, there are initial signs that blended finance facilities are on the increase; expected to continue through the

DBSA and GCF CFF and with expressed interest in blended finance models from member states of the Southern African Development Community.

In the following slides, we provide an update on:

- Green bonds emanating from South Africa (as a focal area for further development and for which fairly centralised information is available on sustainable finance instrument and market development).
- A selection of examples of other distinct sustainable finance instruments and products operational in South Africa.

The South African sustainable finance landscape

A snapshot of climate finance deployment in South Africa as indicative of significant sustainable finance activity

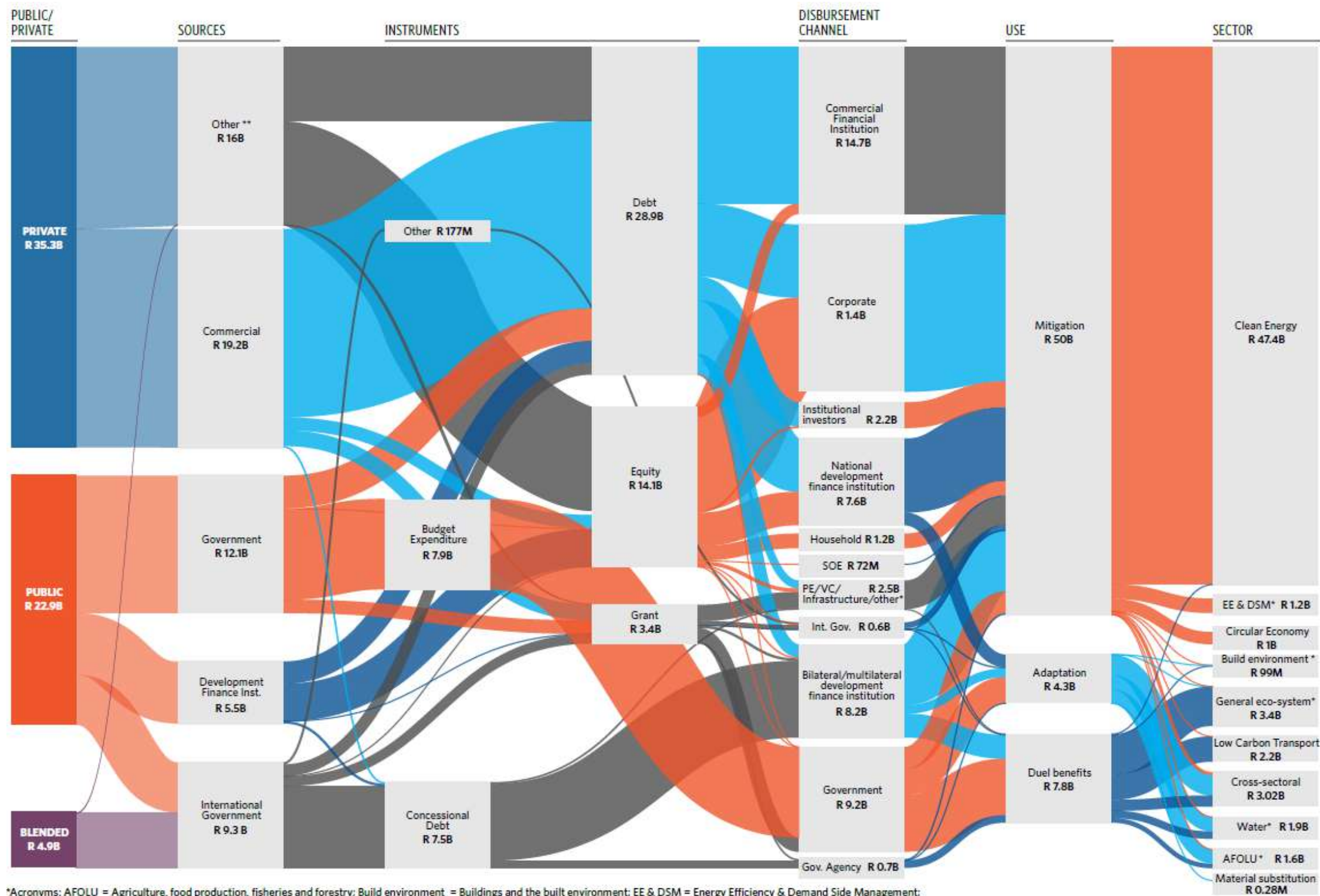


Figure 33: Sankey diagram of South African climate finance in 2017 – 2018 (Cassim, Radmore, Dinham & McCallum, 2021)



The South African sustainable finance landscape

The existing sustainable finance mechanisms in South Africa: Regulation 28 and the retirement sector

What is Regulation 28 in terms of the Pension Funds?

The main purpose of Regulation 28 of the South African Pension Fund Act aims to protect the members' retirement provision from the effects of poorly diversified investment portfolios, and to ensure that savings are directed towards economic development and growth (National Treasury, 2011). It provides guidance on how to formulate appropriate investment strategies to provide suitable retirement and sets out a number of principles to strengthen decision-making process of trustees and improve transparency and accountability to fund members.

How does Regulation 28 incorporate ESG considerations?

Regulation 28(2)(c)(ix) requires consideration of ESG factors before investing in an asset and therefore explicitly requires a fund to consider its approach to ESG issues with respect to its investment and to services provided to a fund. In this sense requires funds to consider all factors that could materially affect an investment "including factors of an ESG character" as these need to be accounted for in the long-term sustainability of investments. Moreover, it strongly supports economic development by increasing flexibility afforded to investment into private equity and public entity debt. Pension funds are currently the only part of the financial sector that is required by regulation to integrate ESG considerations into investment decision making and reporting.

Reporting issues of sustainability in alignment with Regulation 28

In June 2019, the Financial Sector Conduct Authority (FSCA) published a Guidance Notice on "Sustainability of Investments and Assets in the context of a Retirement Fund's Investment Policy Statement (FSCA, 2019),

setting out expectations regarding disclosure and reporting on issues of sustainability. For example, Regulation 28(2)(b) of the Pension Funds Act, 1956 (Act No. 24 of 1956), requires that all funds provide an investment policy statement. Expectations set out by the FSCA highlight that funds should reflect in their investment policy statement how the fund intends to monitor and evaluate the sustainability of the asset. This includes which ESG factors are going to be considered and the impact of these factors on the assets of the fund. Additionally, guidance is given for funds which hold assets with limited application of ESG factors. In so doing, the FSCA encourages transparency to stakeholders on matters concerning sustainability (NBI and Carbon Trust, 2020).

Challenges

Below notes some of the challenges regarding retirement funds (National Treasury, 2020):

- Lack of awareness by the Boards of Funds of structural and long-term ESG risks;
- Inadequate evidence that such investment vehicles are in the best interest of the fund and its members without undue risk exposure to the fund; and
- Lack of capacity-knowledge, workers and instruments. For example, Regulation 28 allows boards to take the ESG character of the investment into account when making an investment and when investing. They have not, however, invested in the expertise to recognize, evaluate and track investment opportunities and vehicles.



The South African sustainable finance landscape

The existing sustainable finance mechanisms in South Africa: King IV and JSE listed equity

The King IV Governance Code is a corporate governance model that came into effect in 2016 with a set of core principles and leading practices to support ethical and effective leadership and allow entities to substantiate a claim that good governance is being practised. The Governance Code is part of an evolving series of reports which started in 1994 and now seeks to advance the relationship between the role of business in society and the sustainability challenges it faces. In so doing it identifies three interventions to pivot business thinking along a more sustainable route (BankSETA, 2019):

- Shift from financial capitalism to inclusive capitalism by creating sustainable value through positive contribution to the environment, society and economy in which the organisation operates;
- Encouraging investors and finance providers to extend their investment horizons from short-term capital markets to long-term capital markets and thereby creating sustainable value; and
- Digressing from siloed reporting to integrated reporting that is inclusive and aligned with sustainable capital market system.

Furthermore, three principles have particular relevance to sustainable banking:

- Principle 3 which require governing bodies to ensure that the business is a responsible corporate citizen:
- Principle 4 linking sustainable development to value creation; and

- Principle 17 which specifically requires that institutional investors promote good governance and sustainable value creation in the companies in which they invest.

King IV's sector supplement includes that the fund "is and is seen to be a responsible corporate citizen" – citing sustainability and ESG as considerations – and that the fund's value creation process is inseparable from its elements of risks, opportunities, strategy, business model, performance and sustainable development. The Governance Code, therefore, requires consideration of material ESG factors by setting principles to be taken up as an appropriate standard of care as required by the Companies Act and associated Regulations (BankSETA, 2019).

The Johannesburg Stock Exchange (JSE) has made application of King IV provisions mandatory for entities listed on the exchange, requiring that each of the more than 400 listed companies apply all King Code Principles with specific King IV Code Practises being mandatory (JSE, 2021a). Most of the large banks in South Africa are listed on the Johannesburg Stock Exchange and are thus required to comply with King IV. JSE-listed companies are also required to report annually the extent to which they comply with the King IV Code.



The South African sustainable finance landscape

The existing sustainable finance mechanisms in South Africa: Code for Responsible Investing in South Africa

The Code for Responsible Investing in South Africa (CRISA) is largely informed by global initiatives aimed at managing financial risk related to environmental and social issues such as Basel III (which require banks to reduce exposure to longer-term risk) and the UN Principles for Responsible Investment (that work to promote the incorporation of ESG into investment decision-making).

CRISA provides five principles as guidance concerning how institutional investors should execute investment analysis, investment activities and exercise rights to promote sound governance; these include (IoDSA, 2011):

1. An institutional investor should incorporate sustainability considerations, including ESG, into its investment analysis and investment activities as part of the delivery of superior risk-adjusted returns to the ultimate beneficiaries;
2. An institutional investor should demonstrate its acceptance of ownership responsibilities in its investment arrangements and investment activities;
3. Where appropriate, institutional investors should consider a collaborative approach to promote acceptance and implementation of the principles of CRISA and other codes and standards applicable to institutional investors.
4. An institutional investor should recognise the circumstances and relationships that hold a potential for conflicts of interest and should pro-actively manage these when they occur.
5. Institutional investors should be transparent about the content of their policies, how the policies are implemented and how CRISA is applied to enable stakeholders to make informed assessments.

The CRISA principles are voluntary and apply to institutional investors such as pension funds and insurance companies as the owners of assets, and their service providers including asset managers and consultants. They encourage institutional investors and service providers to adopt the principles and practice recommendations on an "apply or explain" basis. The code further encourages investors to fully disclose the extent to which the principles have been applied together with supporting policies on an annual basis.

CRISA is presently under revision, taking into account significant international changes and the necessity to consider the implications of climate change risk and the TCFD Recommendations. To date in South Africa, CRISA has seen greater adoption by listed equity funds, less so by private equity and venture capital actors; those that have adopted such principles referring to international benchmarks such as the foundational UN PRI.

What is the link to Regulation 28 of the Pension Fund Act?

Although CRISA is voluntary code, it has been supported by Regulation 28 of the Pension Funds Act (2012) that deals with environmental, social and governance risk management related to pension fund investments. The Regulation notes that appropriate consideration is given to any factor which may materially affect the sustainable long-term performance of a fund's assets, and in this sense endorse the Code.



The South African sustainable finance landscape

The existing sustainable finance mechanisms in South Africa: Code for Responsible Investing in South Africa

King IV also includes a sector supplement for Retirement Funds and identifies that the CRISA should be considered in conjunction with it. Therefore, both King IV and CRISA, encourage institutional investors and their associated services providers to adopt the principles and practices to ensure that reporting enables stakeholders to make informed assessments of the organisation's performance in the short, medium and long-term.

Challenges

Although awareness of ESG has increased through both King IV and CRISA, there are still considerable gaps in knowledge about how to implement ESG practices, amongst others these include (National Treasury, 2020):

- Environmental and social concerns are still not taken into account by the majority of the Collective Investment Scheme (CIS) industry and there is no overall environmental and social risk management strategy or guidance document for the industry which represents the low understanding of E&S threats faced by the industry.
- It is assumed that the general lack of structured terminology and methods to assess ESG and externality risks limits the growth of this market. However, there are frameworks, methodologies and tools increasingly available and tested internationally that offer opportunities for South African testing and adoption, which should be promoted by the various regulatory and ecosystem actors.
- The deficient and unclear regulatory framework concerning private equity also adds to the limitation on regulators to intervene and facilitate the implementation of requirements relating to ESG. Considering that private equity is expected to play a significant role in

realising a sustainable economy, the regulatory challenges regarding private equity require special attention, and recommendations pivot around treating private equity specifically and distinctly from other categories when considering investment allocations, ESG integration and disclosure, and licencing.

- Lack of coherent climate risk management policy definitions and standards (international, national and departments within government) and a lack of clear and consistent policy signals are key challenges in incorporating environmental and social risks into their operations.
- Other barriers include data gaps, a general lack of investment grade ESG data, the prohibitive cost of accessing data and tools, as well as the non-accessibility of public data in risk instruments.
- The incorporation of environmental and social threats is still seen as an expensive specialist activity. There are also no reporting requirements or incentives to adopt a sustainable approach, which is a further impediment to integrating these risks and reporting progress in collaborating with clients to minimize the risks.
- Time horizons are not aligned for risk management and reporting purposes and consistent definitions and time frames linked to a financial system-wide taxonomy are required.

In this Handbook, we touch on some of the practical enabling environment enhancements that may contribute to diminishing the significance of these challenges, which nonetheless will require financial sector proactivity.



Sustainable Finance in South Africa

Green bonds as a major opportunity, and steady but growing activity

In some respects, South Africa is leading the way regarding the issuance of private sector and financial institution issued green bonds and municipal green bonds in Africa. South Africa is the first African exchange to develop a Green (now Sustainability) Bond segment, and has (to date) the greatest number of Green Bonds listed on the continent (5 compared with Niger's 4 and Kenya's one). There have been four more Green Bonds issued by national actors, either self-identified and listed on the JSEs debt market, through private placement or listing on international exchange. The national cumulative green bond issuance stands at approximately US\$ 1.56 billion since 2012, contributing 74% of the total value of green bond issuances emanating directly from Africa (Stockholm Sustainable Finance Centre, 2020). **Figure 13** lays out the timeline of these issuances.

South Africa issued its first green bond through the Industrial Development Corporation (IDC) who concluded on a R5bn for investment in clean energy infrastructure. Since then the first local municipality to list a green bond on the JSE was the City of Johannesburg in 2012 with R1,46bn issuance to finance initiatives such as biogas to energy and the Solar Geyser Initiative. Further landmark issuances have continued by commercial financial institutions, a REIT and a development bank, each with a slightly differentiating approach.

The JSE Interest Rate Market Green Segment was launched in 2014, becoming the first African exchange to launch a Green Bond Segment and Green Listing Rules, helping to promote green bond issuances further (The Economist, 2020). Four of South Africa's green bonds to date are listed there.

As of July 2020, the JSE's Green Bond Segment has been expanded to a fully-fledged Sustainability Segment and interested issuers can now list social and sustainability bonds along with green bonds. The amended rules now refer to the Social Bond Principles, Sustainability Bond Guidelines, and Green Bond Principles (GBP), issued and governed by ICMA, or any other standard acceptable to the JSE, in its discretion. It maintains requirements for review by an independent sustainability advisor as well as ongoing reporting.

The JSE Debt Listing Requirements (as amended from time to time) are intended to provide investor confidence through an effective, open and safe financial market and represent the rules and procedures regulating applicant issuers' new applications and ongoing obligations. (JSE, 2017). The debt listing requirements illustrate the disclosure regulations that investors and professional advisers would require to make informed assessment of an applicant issuer's business. This is being considered to include the terms of debt securities.

Debt issuance, including green debt, focuses on the listing documentation which represents the terms and conditions of debt securities, along with the subscription and selling of debt securities. These terms include the investor's rights, the applicant issuer's obligations, the terms of any security or guarantee, the mechanics of payment and settlement and any credit enhancements or trust deeds, credit ratings (JSE, 2017).



The South African sustainable finance landscape

Timeline of key green, social and sustainability bond developments in South Africa

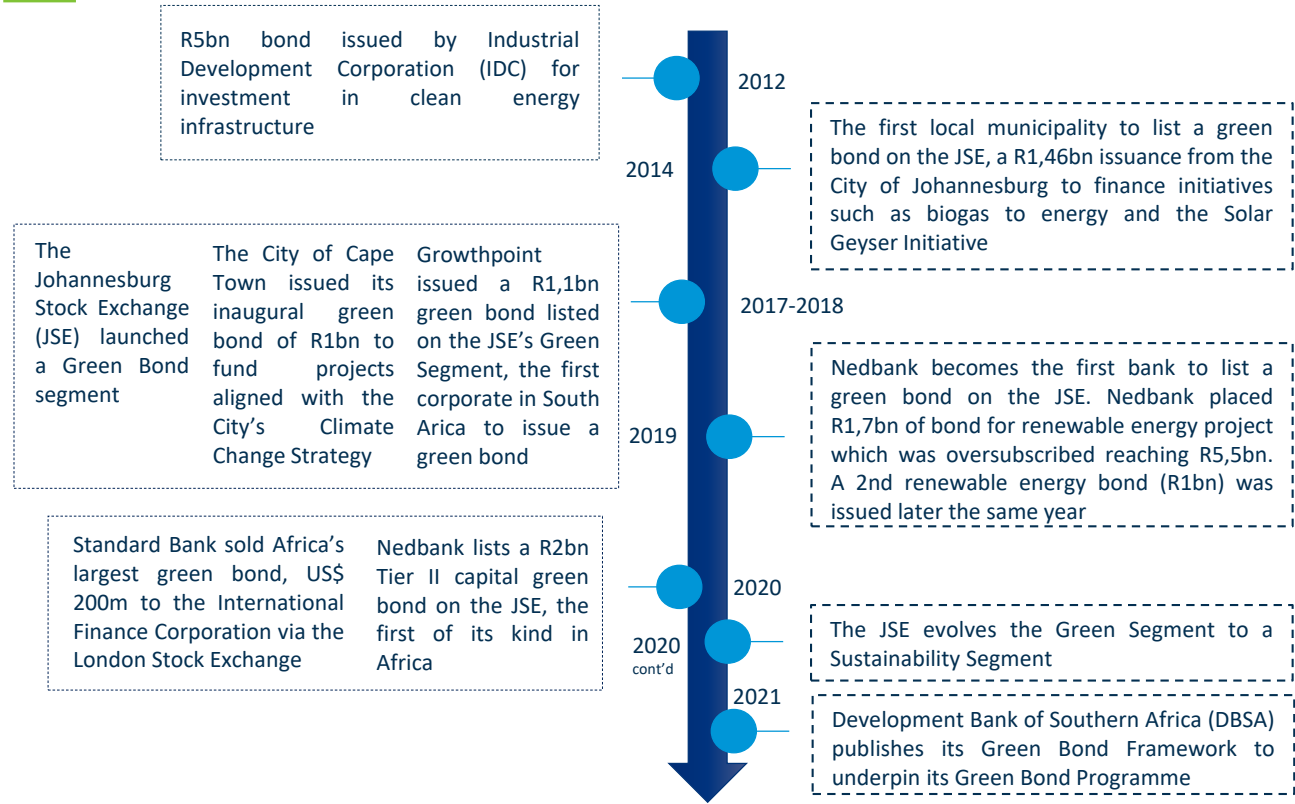


Figure 34: South African Green bond issuances timeline in South Africa to date (adapted National Treasury, 2020)



The South African sustainable finance landscape

Snapshot of smaller-ticket commercial and concessional debt and equity products offered to market in South Africa

The development of the green economy has been limited by the levels of private equity and venture capital, and by financial services sector being inhibited by a number of barriers such as policy coherence, poor implementation capacity and poor planning (WWF, 2018).

A notable exception is the Renewable Energy Independent Power Producer Procurement Programme (REIPPP) which mobilised R150bn of domestic investment and serving as a proof case that there is considerable latent capacity in South Africa for investments that can be considered sustainable.

At present, number of institutions are providing various financial services within the green finance ecosystem, demonstrating some appetite to do so. Though these remain fairly niche products, there are examples of green financial debt and equity products provided by a wide variety of institutional lenders, including banks, credit unions and mortgage loan originators, some backed by climate finance facilities, such as:

- Energy efficient mortgages and appliance financing;
- Residential scale solar PV financing;
- Green credit cards;
- Green car loans;
- Sustainable business working capital support programmes; and
- Eco-savings deposits

For instance, purely as a snapshot of activity –

- Now closed, Standard Bank and ABSA each provided private project financing through a credit line from Agence Française de Développement (AFD) to finance energy efficiency or renewable energy under the Sunref I programme.
- Under Sunref II, Agence Française de Développement (AFD) provided a credit line to the Industrial Development Corporation of South Africa (IDC). The debt fund could be combined with the IDC's equity products in some cases (ESI-Africa, 2020). The facility was hosted by South African National Energy Development Institute (SANEDI) and was complemented by a technical assistance facility to stimulate finance for clean energy to enable companies capitalise green growth. (This facility was extended to November 2020.)
- The FNB ecoEnergy loan provides additional capital to refurbish or retrofit a premises to make them more energy efficient.
- Sustainable Affordable Housing finance facility has been formulated by Nedbank's Affordable Housing Development Finance division, and South Africa's Green Fund. The finance facility is aimed at containing accommodation costs by developing housing which is resource efficient.
- Motus includes a Sustainability Linked Loan (SLL) feature to its existing US\$30m BNP Paribas loan, linking preferential interest rates with sustainability targets in support of Motus' sustainability strategy.
- Supported by Swiss State Secretariat for Economic Affairs (SECO), Business Partners, a risk financier, provides equity and debt products to SMEs in green manufacturing sectors, attached to technical assistance.



The South African sustainable finance landscape

Snapshot of impact funds, schemes and the leading climate finance facilities in South Africa

DBSA's Climate Finance Facility (CFF) finances low-carbon and climate resilient infrastructure projects in partnership with private lenders to help catalyse finance through a blended finance approach. The CFF is supported by the Green Climate Fund through sub-ordinated loans and grant funding, matched in co-financing by the DBSA alongside co-financing from private sector financiers, with a total programme size of USD 170 million. (GCF, 2018)

At the beginning of 2020 National Treasury's Jobs Fund and GreenCape developed the Green Outcomes Fund to provide concessional funding to increase investment into green Small, Medium and Micro Enterprises (SMMEs). The fund is designed to positively contribute to both green and social aspects by clearly defining green outcomes and encouraging greater capital allocation to green SMME businesses by local fund managers.

In addition, a number of socially orientated debt and equity finance exists, many of which have risen to provide debt relief for SMMEs negatively impacted by COVID-19. For example, DBSA provided COVID-19 SMME debt relief finance scheme for businesses that are negatively affected, directly or indirectly, due to the Coronavirus pandemic. There are also several other social enterprise funding sources that provide finance to companies who generate social impact

Although there is increasing demonstration of interest from innovation teams at major commercial financial institutions with the identification of the likes of 'green and social finance' there has arguably been limited activity in this arena to date, particularly regarding equity and green and

social investment products (NBI & Carbon Trust, 2020). However, Sustainable development is at a critical juncture in South Africa and engagement with these actors indicates that private finance institutions are actively assessing their investment capacities in this regard.

<i>Annexure 1: South African context, background and financial landscape</i>	<u>pp. 102</u>
<i>Annexure 2: Focus on the norms and standards in transition finance</i>	<u>pp. 129</u>
<i>Annexure 3: Focus on sustainable finance and the just transition</i>	<u>pp. 137</u>
<i>Annexure 4: International developments in carbon offsets as finance instruments</i>	<u>pp. 156</u>
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Transition

How asset classes are evolving

This chapter introduces current international concepts and activities concerning transition finance. There are **disparate views as to whether transition finance is within the remit of sustainable finance, or whether it “bridges the gap between traditional and sustainable financing as businesses begin the journey to net zero”** (HSBC, 2020a).

Furthermore, while transition inextricably may be argued to be linked to “just transition” (please see the next Chapter), international practice in “transition finance” has not made this an explicit specification to date. **Therefore, we first examine international developments in transition financing, and then seek to proactively draw the link for the just transition as integral to such transition in the South African context,** identifying the pertinent ESG Methods applied by the financial sector, in the following Chapter.

This Handbook does not seek to promote or detract from the role of any particular pathway, technology or solution in achieving a transition to a resilient, equitable, low-carbon economy.

Definitional challenge for Transition finance

Transition finance is a diaspora of definitions. Without recounting these each (see Duteil, 2019; CBI, 2020; HSBC, 2020a; Caldecott, 2020), the following has been put forward to aid progress:

- A simplified, broad but unifying definition that encompasses roleplayers, instruments and applications:

Transition Finance is the provision and use of financial products and services to support counterparties, such as companies, sovereigns, and individuals, realise alignment with environmental and social sustainability. (Caldecott, 2020)

Precepts for a transition label

Climate Bonds Initiative with Credit Suisse published a Whitepaper presenting a framework for “identifying credible transitions” (CBI, 2020). The principles provide a holistic approach to apply within economies, and places strong emphasis on transition pathways and what is technologically viability, not what is simply economically viable or politically convenient. This approach makes clear the **imperative for agreed national and sectoral transition pathways**, (also emphasised by HSBC, 2019) so that a financing or investment decision can be considered within that “framework of credibility” (or irrelevance) in a country.

Transition instruments

It is suggested that the main transition financing instruments (relevant to both public and private sector finance) are:

- **Asset-backed securities and Use of Proceeds type bonds and loans:** These are applicable to “activities” (CBI, 2020) and have typically been used by:
 - Corporates to finance activities that “reduce emissions and enable the achievement of long-term climate objectives” (HSBC, 2020a); and
 - Sovereigns raising capital with proceeds raised “hypothecated to government expenditures that can help to address just transition challenges” (Caldecott, 2020) – which may be diverse.
- **Equity investments and general purpose bonds:** as used typically, but in this case with the participation or applications being directed to affecting transition for the whole entity. (CBI, 2020)



Transition

How asset classes are evolving

- **Sustainability-linked bonds and loans:** These are any type of bond or loan which the financial and/or structural characteristics dependant on issuer performance against predefined sustainability/objectives. (HSBC, 2020a)

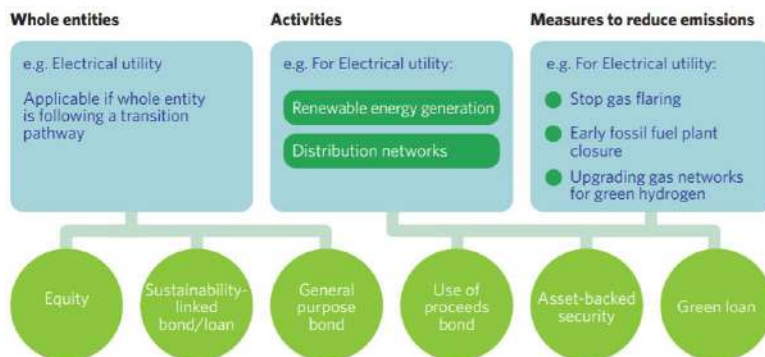


Figure 35: Proposed framework for transition-label instruments and applications by entity, activity, or measure (CBI, 2020)

When is it credible to use the transition label?

CBI (2020) proposes that a “transition label” ought only to be applied to investments that:

- “Are making a substantial contribution to halving global emissions by 2030 and reaching net zero by 2050 but do not have a long term role

to play”; or

- “Will have a long term role to play, but at present the pathway to net zero is not certain.”

Therefore, an investment must be considered in terms of the sector’s relevance in a low-carbon future, answering the following two questions:

1. “Is it needed post 2050?”



Figure 36: The five categories of sector by its relevance to a low-carbon future (CBI, 2020)

The five categories proposed by CBI (2020) would indicate that:

- **Financing to stranded assets have only select applications where the transition label would apply** (see next slide). To be clear, this does not deter from financing activities that contribute to just transition, e.g. for training in new skills for those made unemployed as these sectors decline – but these can more aptly be labelled social or ‘just transition’ instruments.



Transition

How asset classes are evolving

- ‘Near zero’ applications are those already recognised as “typically green” (e.g. in the draft South African Green Finance Taxonomy) and would be labelled as green finance. (As discussed in the next Chapter, these may also have just transition contributions to be considered).
- ‘Pathway to zero’, ‘no pathway to zero’ and ‘interim’ categories are especially **where greater definition is required** to determine whether a sector (or activity and entity) has a role to play in transition and what the pace of change must be to contribute accordingly.

For these, the CBI sets out a number of transition principles (see **Figure 37**), and decision-trees to inform financing/investment for entities and activities (**Figure 38** and **Figure 39** respectively).

As identified in HSBC (2020a), it is imperative that:

- **Transition pathways are defined** “for each sector with transparent policy expectations to provide clarity for issuers and investors.”
- “This should **include information about the technologies that are on the next frontier of investment....**”
- “There needs to be a clearer regulatory framework, notably to discourage moral hazard, but also widespread public awareness campaigns on benefits and risks to foster the investment required.”

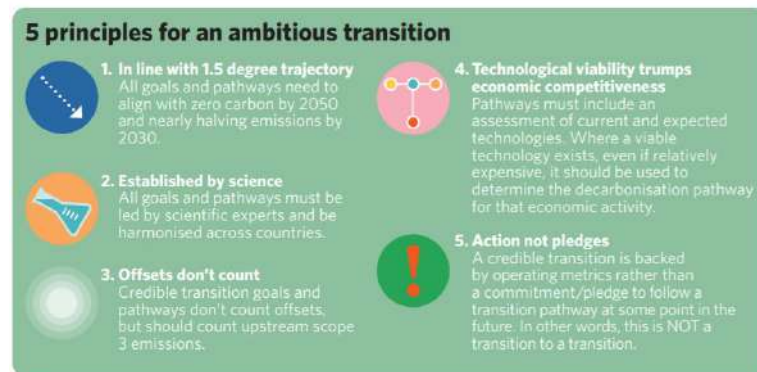


Figure 37: Proposed “ambitious transition” principles to meet for underlying applications in transition finance (CBI, 2020)



Transition

How asset classes are evolving

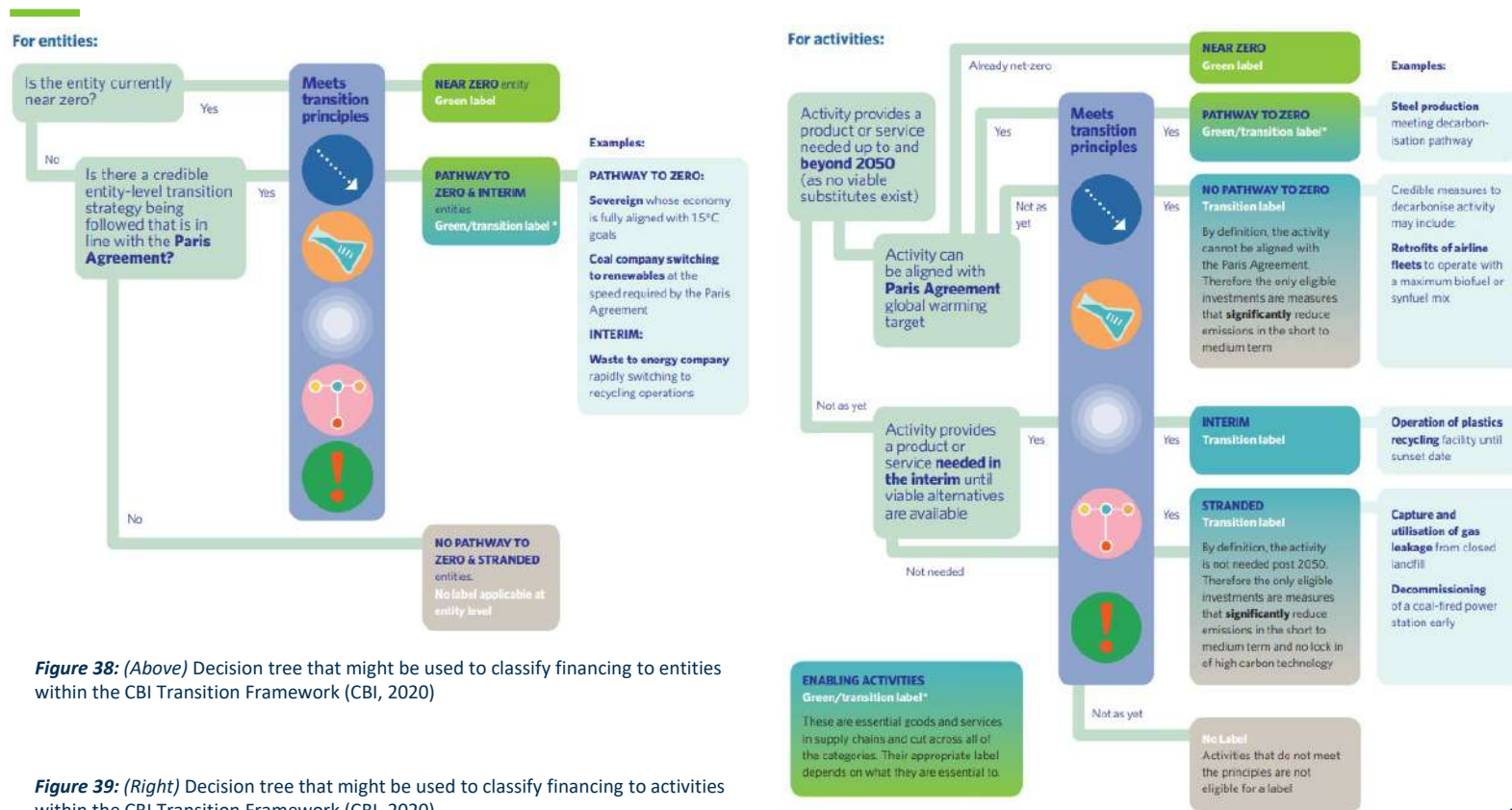


Figure 38: (Above) Decision tree that might be used to classify financing to entities within the CBI Transition Framework (CBI, 2020)

Figure 39: (Right) Decision tree that might be used to classify financing to activities within the CBI Transition Framework (CBI, 2020)



Transition

How asset classes are evolving

Guidance to capital markets

In December 2020, ICMA published the '*Climate Transition Finance Handbook: Guidance for Issuers*' (the "Climate Transition Finance Handbook") to help facilitate climate transition financial flows. The Handbook may apply to both Use of Proceeds instruments or general purpose instruments.

Climate Transition Finance Handbook articulates the four elements that the Handbook recommends issuer consideration and disclosure concerning, namely (ICMA, 2020);

1. "Issuer's climate transition strategy and governance;
2. Business model environmental materiality;
3. Climate transition strategy to be 'science-based' including targets and pathways; and
4. Implementation transparency."

Our understanding is that the Climate Transition Finance Handbook could be referenced *in addition to* the appropriate format regarding:

- Use of Proceeds instruments, defined as **those aligned to the Green and Social Bond Principles or Sustainability Bond Guidelines** or,
- General Corporate Purpose **instruments aligned to the Sustainability-Linked Bond Principles.**

For example, a prospective issuer might wish to raise capital as a Use of

Proceeds type bond for underlying projects that reduce its carbon emissions. It might apply the ICMA Green Bond Principles (GBP) *in conjunction with* the Climate Transition Finance Handbook (CTFH), and apply a transition label. In such instance, the requirements and disclosure of both the GBP and the CTFH apply.

For each of the four elements, the CTFH provides a rationale, disclosure and independent review specifications.

For a "credible transition proposition, issuers should reference appropriate benchmark, sector-specific decarbonisation trajectories", which points – again to the need for science based sectoral decarbonisation pathways and targets to be developed, although the ICMA Handbook identifies PACTA and SBTi amongst options for the science based pathway which may open the market to expediting such issuance.



Transition

How asset classes are evolving

Market opportunities created by transition

In a whitepaper released in January 2021, SEB Group (a Swedish private bank) argues for the financial opportunities that can be realised through the large scale capital replacement needed to affect the transition, and the relative valuation gap between new assets and old assets – terming this the “transition arbitrage” opportunity in capital markets created by fast-movers as compared to market, depicted simplistically in **Figure 40**.

- The opportunity emanates first in the repricing of capital in the primary energy sector, by identifying those companies that are moving faster towards renewable production than the traditional

- The next wave of opportunity lies in the technology enablers associated with the capital equipment coming in to replace fossil fuelled traditional technologies.
- On the leading edge of the opportunity are “transition leaders”, being industrial energy users benefiting from widening valuation gap. (Although this grouping is also identified as potentially having lower default risk at the same time as higher obsolete collateral – and present a particular form of transition risk to banks).
- Sectors with low energy intensity may face indirect effects of the transition, emanating from intensifying competition for capital and higher yields.

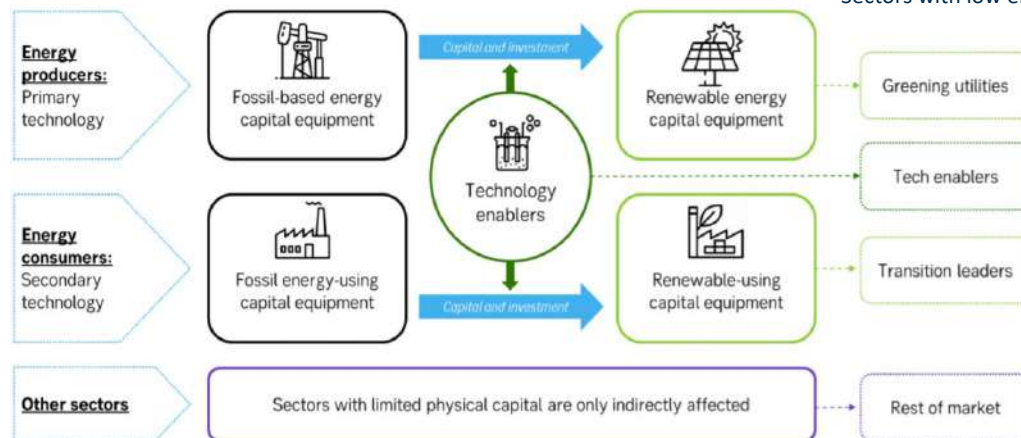


Figure 40: Conceptual transition arbitrage sectors (SEB, 2021)

The whitepaper goes on to argue that capital markets will play a central role in facilitating the transition capital reallocation, relying on taxonomies to support doing so. The instruments most relevant being sustainable bond issuance and equity raise through IPOs and secondary offerings earmarked for transition financing. (SEB, 2021)



Transition

How asset classes are evolving

Market developments – transition bond segments

On 16th February 2021, the London Stock Exchange (LSE) issued a press release that it is to launch a dedicated segment for transition bonds, for issuers that “have a corporate strategy or transition framework aligned with the Paris Agreement, including approved targets to achieve net zero, and discloses, manages and addresses climate-related risks in line with global standards such as the Climate Transition Finance Handbook, the CBI Transition Certification Framework and the Transition Pathway Initiative.” The Transition Bonds Segment is to complement the LSE’s Green, Social, Sustainability, Sustainability-Linked and Green revenues bond segments to form London Stock Exchange’s Sustainable Bond Market. (LSEG, 2021)

Market developments – transition bond ratings

The CICERO Shades of Green methodology is a proprietary rating framework developed by CICERO, an international independent consultancy, applied when providing Independent Reviews of green bonds. It is an identifier stated in CICERO’s Second Party Opinions (SPOs) intended to providing information on “how well a bond aligns with a low-carbon resilient future”. It is not expressly recommended, but may have relevance to transition finance, in the positioning of bonds that might qualify by the methodology as “medium-” or “light green” (see **Figure 41a**).

Market developments – equity indexes

The London Stock Exchange and FTSE Russel launched the FTSE TPI Climate Transition Index in 2020, a global index relating climate transition to equity portfolios. The index relies on Transition Pathway Initiative (TPI) analysis

and includes companies weighted against five criteria, as in **Figure 41b**.



Figure 41b: The TPI Index criteria overview (FTSE Russell, 2021)

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The challenge of the Just Transition

Context and overview of recent developments in understanding the challenge

In this Handbook, **we identify the “just transition” as the social dimension ensuring climate justice in the process of transition.** This is treated as a focused discussion, within the umbrella and inextricably linked to consideration of ‘transition’ – being the process of economic decarbonisation.

The South African National Development Plan 2030, published in 2011, emphasises the injustice of climate change in that the poor and vulnerable will be most affected, that significant employment is created by South Africa’s climate change exposed energy-intensive industries and the mining sector. The NDP therefore calls on the transition to be “judicious” and identifies that the poor and vulnerable must be protected from the costs of transitioning and mitigation, such as increases in cost of food, energy, transport, job losses and need for skills

Just transition needs arise as particular industries play a diminishing role as the economy transitions; as these industries shrink and their reliant value chains are similarly impacted, there are significant impacts on labour made redundant, their dependents, reliant or tightly-linked communities, and local economies. E.g. fossil-fuel extractive industries, fuel processing, fuel distribution, power generation, fossil-fuel based automotive sector and dedicated value chains. In South Africa, these industries have particular geographic concentrations and are often major parts of local economies, therefore with devastating local impacts as they’ve gone into decline

At the same time, the transition offers tremendous economic opportunities in upscaling climate resilience interventions and the growth in new and emerging clean industries and their upstream and downstream value chains, not least renewable energy generation, energy efficiency technologies and services, green hydrogen manufacturing and carbon neutral fuels, clean transportation corridors and infrastructure, local manufacture of electric vehicles and renewable energy components, and

the mining and beneficiation of minerals critical to low-carbon technologies, such as platinum, iron ore, and many, many more

But severe challenges exist in geographic dislocation and skills of the declining industries with those of the burgeoning ones, ensuring equitable value distribution and access to opportunities, challenges in social fabric and the possibilities for social partnership

As far back as 2011, Congress of South African Trade Unions (COSATU), South Africa’s largest trade confederation, called for action to realise a just transition, capturing a structured response in its ‘*COSATU policy on climate change*’ policy and identifying the just transition in terms of environmental justice and as “putting the needs of working and poor people first in the social and economic changes ahead of us”. While the document identifies a range of actions for COSATU and affiliates, some identified are particularly pertinent to considerations for financiers; namely COSATU recommends:

- Consideration is given to trade union investment strategies and what pensions should be invested in
- Start ‘climate job loss funds’ to provide good pensions and benefits to older workers as jobs in high-emitting sectors get fewer
- Affiliates develop policies on climate change in relation to the relevant sectors, and affiliates do research and understand the climate change implications and needs for change for their sectors
- Affiliates encourage employers to engage on development of and adopt carbon budgets, set ambitious decarbonisation targets, and that affiliates interrogate the plans put forward by employers
- Affiliates devise sectoral adaptation responses



The challenge of the Just Transition

Context and overview of recent developments in understanding the challenge

- Climate change is included in collective bargaining agendas, and that cost saving benefits of climate action should be passed on to workers
- Negotiation should include for education and training for workers in new technologies and processes, and in skills that will be needed; the skills levy funds and SETAs could have a role to play
- Workplace and bargaining forums are used to keep workers informed of and that workers are engaged on matters of envisaged changes to machinery, processes and organisation

While in South Africa the dialogue on just transition has largely focused on the “just energy transition”, more recently dialogue and understanding of the challenge has evolved to recognition that the just transition is an imperative throughout the economy – and there has been growing momentum and support for honing in on timely, practical collaborative responses

In light of this, a number of notable recent programmes, projects and studies in South Africa are described below, relevant to understanding the progress toward establishing concrete expression of the opportunities and needs to affect a just transition, including:

- The South African Economic Development Department (EDD) and Department of Environment, Forestry and Fisheries (DEFF) commissioned studies ‘*National Employment Vulnerability Assessment*’ (NEVA), and ‘*Sector Job Resilience Plans*’ (SJRP). These studies were finalised in 2020 and delved into the value chains for: **coal, metals, petroleum-based transport, agriculture and tourism**. The SJRPs assess opportunities for green jobs and industries and suggest climate resilience interventions for these sectors

- A proposed *Just Transitions Fund* (also called Just Transitions Transaction, JTT) conceptualised and developed by a South African think tank, Meridian Economics, through 2019, but largely socialised during 2020, the **transaction proposes blended concessional finance (domestic and international) backed by sovereign guarantee**, with the funds **to support Eskom’s decarbonisation** (and subject to measurable carbon performance reductions) **and back new energy projects** with community and labour benefits. The proposed transaction drew interest from the World Bank and was announced by the South African President in a UN Climate Summit Statement in 2019

- The establishment of a *Just Energy Transitions Office* by the South African national utility, Eskom, in June 2020 tasked with:
 - **Evaluating green financing options** that could help accelerate the deployment of renewables and facilitate the repurposing of Eskom’s older coal-powered stations to such alternative uses like the conversion of the plants from coal to renewables, gas or biomass-to-energy options; battery energy storage; coal fines processing and blending facilities; acid-mine water processing; and bulk water supply to farmers and communities;
 - **Supporting Eskom’s own decarbonisation** objectives;
 - **Working on strategies for providing socioeconomic support to workers and communities** vulnerable to the transition from coal to renewables. (Creamer, 2020)

- In July 2020, the National Business Initiative (NBI), in partnership with Business Unity South Africa (BUSA) and the Boston Consulting Group (BCG) launched the ‘Just Transition Pathways Project’, now funded by



The challenge of the Just Transition

Context and overview of recent developments in understanding the challenge

- UK Department for Business, Energy & Industrial Strategy (BEIS) UK-SA PACT Programme. The project is to identify **high impact areas for just transition for business**, identify areas of **cross-industry collaboration**, generate high-level and **detailed design for pathways blueprints for selected industries**, and accelerate local and international support for those high impact areas. The results of the study should inform areas for sustainable finance.
- The South African 'Presidential Climate Change Coordinating Commission' (PCCCC), which was approved by Cabinet in September 2020, with a mandate to coordinate the **implementation of the South Africa's Low Emissions Development Strategy (SA LEDS)**, and to **coordinate the just transition to a low carbon climate and resilient economy and society by 2050**. (DEFF, 2020)
- The publication of the Climate Investment Funds (CIF) study '*Supporting Just Transitions in South Africa*', the first in a series of country studies analysing how CIF's transactions touched on just transition and share lessons and insights, with the objective to enhance the contributions of CIF's future policy support, investment planning, financing, and implementation of just transitions. The CIF together with Center for Strategic and International Studies' Energy Security & Climate Change Program launched the *Just Transition Initiative*. CIF is a multilateral development fund by AfDB, AFD, EBRD, IADB and World Bank Group. (Study key recommendations have been included in subsequent slides; refer to the project mapping for a comprehensive overview of stakeholders working on just transitions in South Africa).
- The '*Eskom Social Compact*' signed in December 2020 at the National Economic Development and Labour Council (Nedlac) between representatives of organised business, labour, communities and the government, that endorses the need to reduce the national utility, Eskom's, unsustainable debt burden and the need for a 'just transition' for labour and communities as the national electricity mix begins transitioning to greater renewable energy and self-generation, including **35 key intervention areas identified to stabilise and rebuild Eskom**.
- The '*Just Transition Finance Roadmaps in South Africa and India Project*' project is tasked with developing finance roadmaps for India and South Africa, which will guide the financial sector as to **where future investment is required to affect the just transition**, and **how finance could be mobilised to maximise the social and economic benefits of those investments**. The project is backed by the UK CDC Group, in partnership with Trade & Industrial Policy Strategies (TIPS), NBI, Observer Research Foundation, LSE Grantham Research Institute on Climate Change and the Environment, the Harvard Kennedy School's Initiative for Responsible Investment and the National Institute of Public Finance and Policy, and was launched in January 2021 (Creamer, 2021). The results and recommendations of the study are anticipated to be significant for the advancement of this area of sustainable finance.
- The draft **National Climate Change Bill (2018)** defines the framework for climate change response and the just transition to a climate resilient and lower carbon economy and society. Having undergone significant further consultation and debate at Nedlac, it is **anticipated that the second draft of the Bill will progress to parliament in 2021**.
- Just transition is also expected to be a key element of the South African engagement platform at COP26 in December 2021.



The challenge of the Just Transition

Conceptual frameworks for Just Transition and the financial sector

While addressing this complex social and environmental challenges will require concerted and coordinated efforts across multiple fronts by many different actors, it is clear that investment in the transition and in just transition opportunities will be needed, and that there is an opportunity to build such measures into economic recovery packages. Moreover, that private sector finance will have a pivotal role to upscale sustainable finance activities in support of these objectives.

The contribution and opportunity for sustainable finance to deliver environmental and societal benefits and support addressing the challenges of climate change is increasingly well understood and widely practiced. However, the potential to catalyse the just transition in particular is a relatively new area of opportunity.

On one hand, sustainable finance should be **deployed to support the growth in green economy industries**, and can be used to drive contribute to the realisation of the just transition objectives, by:

- Helping mobilise funding for projects and programmes that consider and prioritise inclusion, value distribution, access to opportunities and social partnership with labour and communities, and that identify, mitigate and manage risks and impacts on vulnerable groups
- Similarly, by orienting capital flows towards organisations that support labour resilience-orientated and equitable practices, are considerate and inclusive in value creation, prioritise skills and readiness, and prioritise access to opportunities for labour and communities

This first approach points to instruments that catalyse the uptake of economic activities, projects and assets in the industries prioritised for

South Africa's green economy (e.g. those identified by the draft Green Finance Taxonomy) that *also* incorporate the distinctive just transition objectives above; and ESG methods that incorporate evaluation of social value opportunity and risk, and result in capital prioritised to addressing the South African socio-economic development needs. For instance, various instruments appropriate to funding large scale charging infrastructure (that demonstrate just transition objectives and encourage inclusive development pathways), and products that enable equitable uptake of electric vehicles and domestic charging infrastructure.

On the other hand, sustainable finance should be **employed to encourage the necessary economic shifts** – in other words, that encourage the type of transitions identified by the NEVA and SJRP, and in particular support the identified:

- Vulnerable groups
- Exposed locations
- Affected value chains

It is especially important that sustainable financing support interventions that are demonstrably context-specific, context-appropriate, and that understand and mitigate local impacts. (SEI, 2019)

For instance instruments and products that prioritise support to SMMEs in the auto-value chain in the Eastern Cape to gain the skills readiness for electric vehicles; or prioritise support to taxi owners throughout the country to adopt dual-fuel systems and electric vehicles (TIPS, 2020). The options and opportunities for instrument and product design to affect these transitions might be extremely diverse.



The challenge of the Just Transition

Conceptual frameworks for Just Transition and the financial sector

With the *'Just Transition Finance Roadmaps in South Africa and India Project'* project underway, **it would be premature to recount in this Handbook where future investment in South Africa is required to affect the just transition, and how finance could be mobilised for best social and economic benefits of investments.** However it is useful to understand parallel initiatives that South Africa may benefit from, including;

- Work recently initiated in the UK led by LSE Grantham Research Institute on Climate Change and the Environment, a partner to the South African *'Just Transitions Finance Roadmaps...'* project – with plans to concentrate work in three areas (LSE, 2020):
 - “**financing place-based needs** across the UK” – pointing to considerations of location, multi-stakeholder engagement and connection to bottom-up initiatives in investment decision-making
 - “financing corporates (e.g. **shareholder engagement**)” – pointing to a means for driving change through active management and investor engagement
 - “**national action** and policy frameworks (e.g. the new sovereign **green bond**)” – pointing to the opportunities for financial instrument design incorporating social transition dimensions
- The LSE Grantham Research Institute on Climate Change and the Environment in partnership with the UN Principles for Responsible Investment (PRI) and the International Trade Union Confederation (ITUC) in 2018 launched the *'Investing in a Just Transition'* project, that set out to deliver 3 main activities (LSE, 2018):
 - “Explore the **strategic case for investor action** on the just transition in terms of factors such as **risk, opportunity and investor responsibility**”
 - “Produce draft **guidance for investors and the just transition**, based on emerging practice, covering aspects such as shareholder engagement, capital allocation and policy dialogue”
 - “Generate recommendations for policy, market and community-level **approaches that identify and enable effective investor contributions to the just transition**”
- The project developed a statement of support for the just transition here, inviting investors to [sign the statement](#); this now has 130-plus institutions with more than US\$8 trillion in assets under management. The project also published *'Climate change and the just transition: A guide for investor Action'* in 2018
- LSE Grantham Research Institute on Climate Change and the Environment in partnership with University of Leeds Sustainability Research Institute, working in partnership with UK Finance, published a Policy Insight in 2019 *'The Banking on a Just Transition project'*, the most pertinent findings being that **banks can play a central role in helping to deliver a just transition by supporting customers and clients; support to SMEs and bottom-up initiatives is crucial; and innovation in capital mix and risk management will be needed**
- If it is understood that the just transition requires a multifaceted and coordinated response, and there is increasing urgency and definitive action within the enabling environment, then the financial sector will not be acting prematurely by **taking strategic action, incorporating social dimensions of climate change into core operating practices**
- In this vein, we include excerpts and interpretation from the investor guide in the following slides



The challenge of the Just Transition

Conceptual frameworks for Just Transition and the financial sector – five strategic motivations for investor action
(Robins, Brunstig & Wood, 2018)



Understanding systemic risks

Broadening the understanding of systemic risks from climate change, by factoring in issues such as social exclusion and increasing inequality. Methods used to analyse climate change risk should be expanded to include dimensions of climate-related social risk and opportunity.



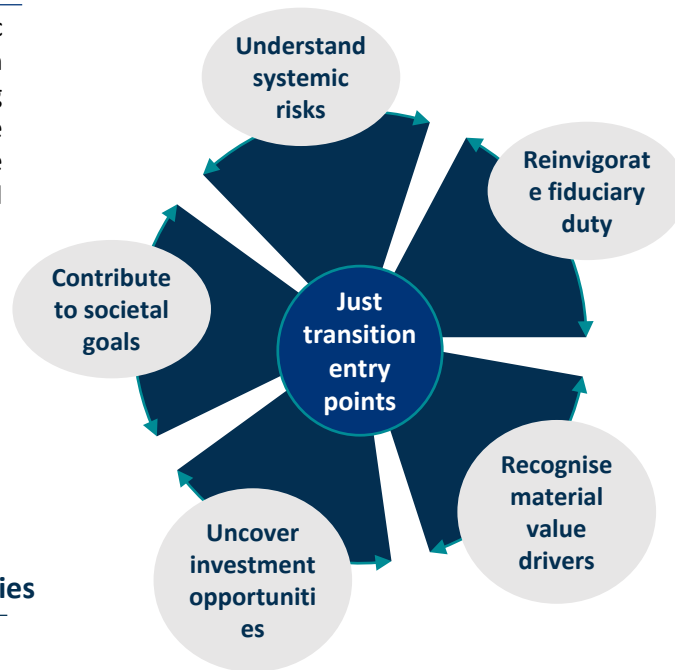
Contributing to societal goals

Contributing to societal goals including existing responsibilities to respect international human rights and labour standards as well as new ways of realising the Sustainable Development Goals.



Uncovering investment opportunities

Uncovering investment opportunities that combine climate and social goals such as inclusive growth, identified through the lens of the just transition.



Reinvigorating fiduciary duty

Reinvigorating fiduciary duty by better capturing the interrelated environmental and social drivers of long-term performance and by taking better account of beneficiary interests in sectors and regions affected by the transition. Approaches to investment decision making should distinctly incorporate just transition objectives.



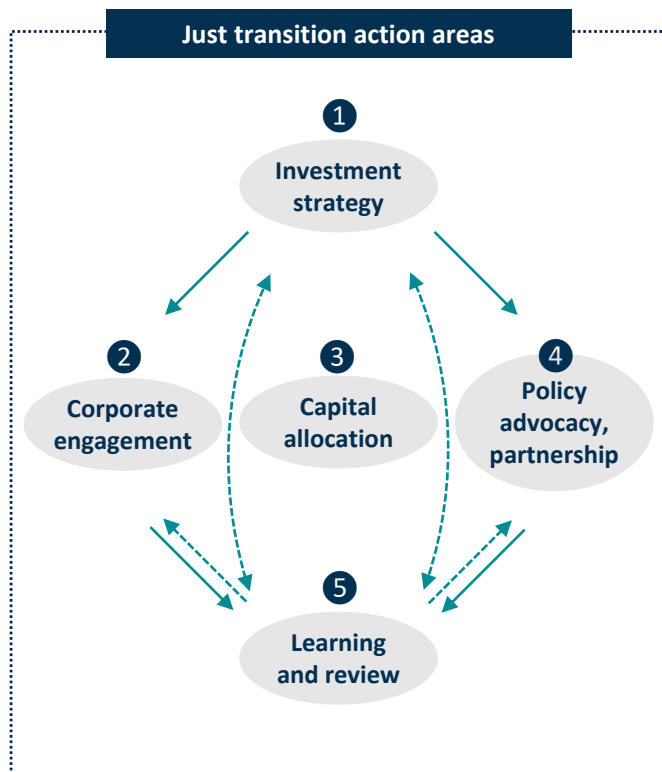
Recognising material value drivers

Recognising material value drivers in terms of corporate practices in the workplace and the broader social licence to operate: business performance will be increasingly conditioned by the just transition. Material matters and strategic responses should be considered in light of the just transition risks and opportunities.

Figure 42: Just transition entry points in investments (Robins, Brunstig & Wood, 2018)

The challenge of the Just Transition

Conceptual frameworks for Just Transition and the financial sector – five areas for action that investors can make just transition part of operating practices (Robins, Brunstig & Wood, 2018)



1 Investment strategy

Assessing exposure to the social dimension (including employment impacts) of the transition, pursuing dialogue with workers and other key stakeholders, and integrating just transition factors into investment beliefs and policies.

2 Corporate engagement

Including just transition factors in investor expectations, requesting disclosure, benchmarking performance, and pressing for improvement (Refer to the [investor guide](#) for initial set of questions for corporate engagement).

3 Capital allocation

Incorporating the social dimension into strategies for climate investment across all asset classes, including listed equities, bonds, private equity and real assets.

4 Policy advocacy, partnership

Making the just transition a part of policy dialogue at sub-national, national and international levels as well as taking part in place-based partnerships.

5 Learning and review

Understanding emerging lessons and disclosing results so that the efficiency and effectiveness of investor action on the just transition continue to improve.



The challenge of the Just Transition

Conceptual frameworks for Just Transition and the financial sector – further insights and recommendations building momentum toward the just transition

The *Just Transition Initiative's* study of Just Transition in South Africa (*Just Transition Initiative*, 2020) captured a number of general and finance specific insights and recommendations that we also highlight hereunder.

While many of the general recommendations are targeted at non-financial and government actors, many may – by corollary – be taken into account

General insights and recommendations

- A vital part of initiating a just transition involves use of socioeconomic and climate modelling to develop long-term national plans that are inclusive and transformational. **Informed national planning for the long term is key**
- It is vital to ensure the fair and inclusive representation of all interests and perspectives through cross-sectoral dialogues are taking place. **Inclusive cross-sectoral dialogues should be pursued at all levels**
- Anticipatory skills development is required to support the shift towards a low-carbon, resource-efficient, and inclusive economy. It is **imperative that these emerging skills and occupations are identified in order to proactively plan for their development**
- Incorporation of non-financial criteria in competitive processes can drive investments in new low-carbon, climate-resilient infrastructure that are ensured to be more closely aligned with the socioeconomic and environmental needs of local communities and national development. **Non-financial procurement criteria should be built-in to ensure just transitions**

by financial actors, as these actors consider their strategic roles and social licence and undertake the operational and strategic adjustments suggested, as many are already increasingly doing in aligning value statements, and integrating ESG into routine and investment decision making.

Insight concerning financing the just transition

- National and international banks and investors indicated recurrently a challenge of a shortage of bankable projects, as the limiting factor to greater green economy investment. This raised the question regarding the **sector's requirements and definitions for project bankability**, and the need for measures to improve feasibility (see next point)
- De-risking and incentivising public and private sector investments have been shown to be key to the feasibility and catalysing investment in key climate change technologies, such as renewables in South Africa. **Concessional finance will have an enabling role in de-risking and supporting green economy developments and the just transition intrinsic to that**
- The role of private finance and shareholders requires focused attention due to their power and influence. The need to **shift the focus of the financial sector from short-termism to long-term value creation** was a recurrent suggestion
- There is a need to support **capacity building** in all financial sectors; **adopt and disclose relevant performance measures**; and build an understanding of sustainability and just transitions, which **promote consistency and credibility**



The challenge of the Just Transition (1)

Conceptual frameworks for Just Transition and the financial sector – opportunity for just transition in capital allocation – an investor perspective, highlighting opportunities for proactive response by the financial sector

Table 12: Options for investor integrated and thematic just transition approaches (Adapted from Robins, Brunstig & Wood, 2018)

Asset class	Options for investor integrated and thematic just transition approaches	Opportunities for action in financial sector
Cash	<ul style="list-style-type: none"> Engage financiers on just transition principles and strategies, including safeguarding policies and lending strategies for exposed regions Prioritise investment with financial institutions with specialist just transition strategies and products 	<ul style="list-style-type: none"> Fls mainstream just transition objectives in operational and investment policies and strategies and investment tools
Debt	<ul style="list-style-type: none"> Incorporate just transition factors into core selection of bonds, debt index design incorporating social factors and performance benchmarks Target bonds linked to sectoral or regional transition plans with clear just transition objectives, impacts and success measures, and bonds that make clear the connection between climate action and social impact and target impact; both Use of Proceeds and KPI-linked issue types Prioritise investment with financial institutions with debt products clearly linked to and/or supporting just transition objectives 	<ul style="list-style-type: none"> Capital markets develop guidance and support for debt listings linked to just transition objectives Fls develop instruments and products that prioritise just transition related social impact and impact performance, and place-based initiatives
Equity	<ul style="list-style-type: none"> Engage capital markets and market securities regulators to require or encourage listed companies to report on diversity metrics Engage funds on just transition principles, including screening and engagement policies Apply investment research incorporating social impact indications (in particular labour and community) Seek out specialist impact investment funds linking climate, job quality and community development Identify listed companies, focused on solutions in affected regions Incorporate just transition factors into core selection of stocks, equity index design incorporating social factors and performance benchmarks 	<ul style="list-style-type: none"> Fls mainstream just transition objectives in operational and investment policies and strategies, and investment tools Fls develop instruments and products that prioritise just transition related social impact and impact performance, and place-based initiatives Fls develop (or enhance existing ESG) benchmarks, indices and segments that screen or rank according to explicit just transition objectives and impact metrics Capital markets develop guidance and enhance reporting requirements for listed companies to report on social transition objectives, activities and performance, initially for those whose operations or value chains link to transition exposed industries and/or operate in opportunity areas



The challenge of the Just Transition (2)

Conceptual frameworks for Just Transition and the financial sector – opportunity for just transition in capital allocation – an investor perspective, highlighting opportunities for proactive response by the financial sector

Table 12: Options for investor integrated and thematic just transition approaches (Adapted from Robins, Brunstig & Wood, 2018) *(continued)*

Asset class	Options for investor integrated and thematic just transition approaches	Opportunities for action in financial sector
Risk / Mixed / Alternative	<ul style="list-style-type: none"> Engage and invest in innovative financial instruments that address underlying risks and bankability challenges constraining development feasibility in green economy sectors, to kick-start programmes and projects with clear just transition impact Engage policy makers on alternative incentive designs and procurement models for social impact integration Encourage carbon tax and fuel tax revenues to be applied to funds supporting just transition 	<ul style="list-style-type: none"> Public finance institutions develop products that crowd in private and DFI capital for just transition programmes and projects FIs design instruments and products targeting green economy sectors and just transition objectives, being proactive about securing capital mix needed FIs support and build collaboration through multi-stakeholder engagement and just transition strategies through financial forums
Real assets	<ul style="list-style-type: none"> Enforce just transition criteria in green infrastructure, real estate strategies, and land-based commodity investments Target investment in communities and regions affected by transition Ensure effective social risk assessments and community engagements through due diligence 	<ul style="list-style-type: none"> FIs mainstream just transition requirements in operational and investment strategies and investment tools, alongside other measures of climate resilience and environmental and social performance FIs support pipeline development in projects and programmes targeting investment in communities and regions affected by transition



The challenge of the Just Transition

Conceptual frameworks for Just Transition and the financial sector – considerations to incorporate into ESG Methods

- A preliminary framework by the *Just Transition Initiative* looks to capture the dimensions of different approaches to driving the Just Transition for their distributional and inclusion, as in the figure below
- The preliminary framework is in part a response to the captured key questions surrounding a just transition, and equity, notably:
 - “Who decides what kind of transitions are needed?”
 - How are different groups included in the decision-making processes?
 - Who benefits and loses in change processes?
 - How can benefits be distributed and losses mitigated in both safe and just ways?”

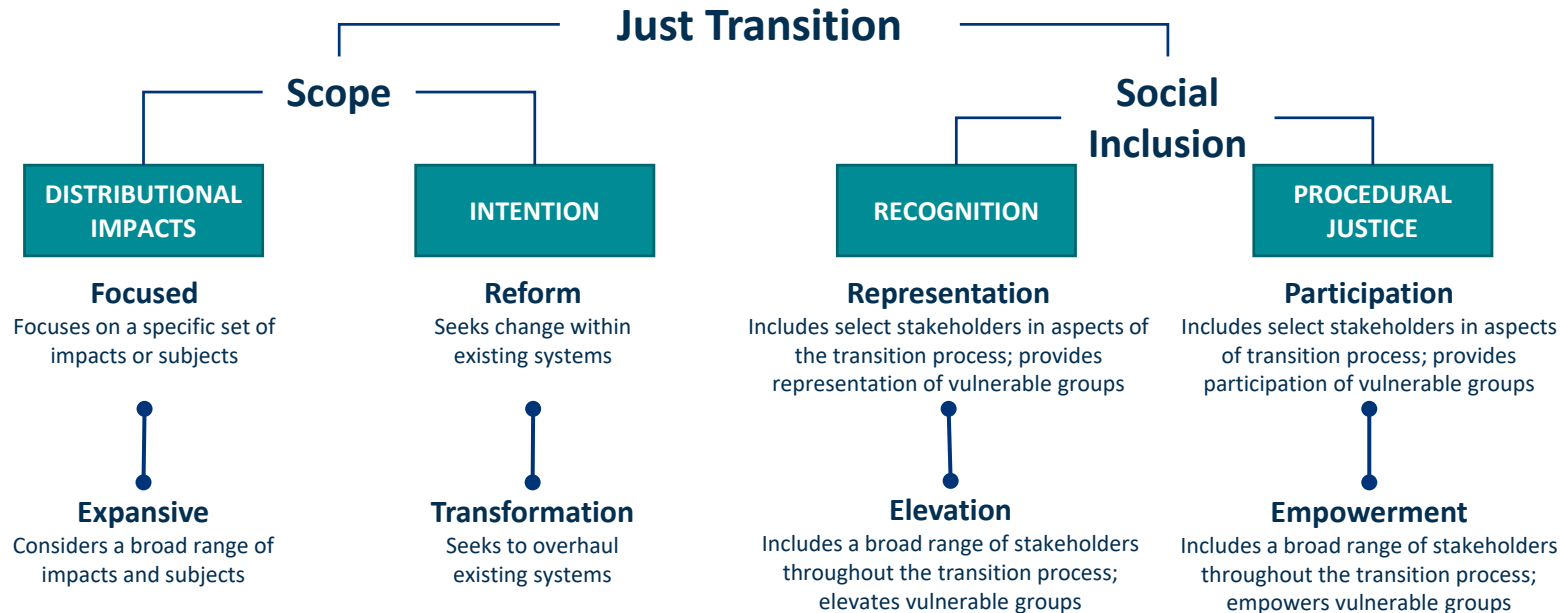


Figure 44: Considerations when incorporating just transition to ESG Methods (Just Transition Initiative, 2020)



The challenge of the Just Transition (1)

Conceptual frameworks for Just Transition and the financial sector – while additional guidance and tools will emerge in time, many ESG Methods already lend themselves to integration of just transition considerations

Table 13: Options for incorporation of just transition to ESG methods

Method	Options for incorporation of just transition to ESG methods
Equator Principles	<ul style="list-style-type: none"> The Equator Principles (EP) already includes requirement for highly context-specific, application-specific assessment and performance requirements, and is well-suited to the express incorporation of just transition by the extension of the evaluations undertaken through IFC Performance Standard 1 <i>Risk Management</i>, IFC Performance Standard 2 <i>Labour</i>, and IFC Performance Standard 4 <i>Community</i> Financial actors should develop specificity in their internal processes to require projects to consider the wider social implications and opportunities of development and the expectations for social contract (along the value chain, and beyond the immediate project boundaries) The effectiveness of EP as a Method is determined by the rigour of the processes developed by the financial actors, and the scrutiny from external reviews of their implementation practices
FAST-Infra	<ul style="list-style-type: none"> The incorporation of just transition impact assessment, performance analysis and indicators to FAST-Infra Methods is especially important to ensure that the Methods provide label-eligibility results that fully incorporate the direct and indirect labour and community implications of developments.
GRI and SASB collaboration	<ul style="list-style-type: none"> GRI's social standards and indicator guidance is already fairly comprehensive, and provides a wealth of leading and lagging social indicators that may be tied to just transition objectives, as well as encouraging governance, context-specific management approaches and own performance indicators The effectiveness of application of GRI is determined by the user's own materiality process, and therefore the effectiveness for just transition integration is dependent on the user's understanding, buy-in and proactivity Where GRI reporting is relied upon by indices and investment analysts, these might make express requirements for just transition related disclosure and performance, especially for organisations in key green economy industries and those in exposed industries, value chains and regions The collaboration between GRI and SASB provides the opportunity for the resulting schema to reduce overall burden and streamline the incorporation of just transition associated indicators
ICMA Social Bond Principles and others	<ul style="list-style-type: none"> Social Bond Principles provides suggestions of thematic social project categories, which includes 'Employment generation, and programs designed to prevent and/or alleviate unemployment stemming from socioeconomic crises, including through the potential effect of SME financing and microfinance'. This clearly resonates with just transition challenges. The SBP do not limit social bond issuers to these themes; project developers should articulate the just transition contributions – especially as aligned with national priorities defined in sector resilience plans for example. It could also be conceived that industrial transition projects (e.g. those that can credibly apply the ICMA Transition Climate Finance Handbook) with social justice benefits could be designed with clear and additional just transition contributions, and transition and/or sustainability bonds raised.



The challenge of the Just Transition (2)

Conceptual frameworks for Just Transition and the financial sector – while additional guidance and tools will emerge in time, many ESG Methods already lend themselves to integration of just transition considerations

Table 13: Options for incorporation of just transition to ESG methods (*continued*)

Method	Options for incorporation of just transition to ESG methods
Natural, Social & Human Capital Protocols	<ul style="list-style-type: none"> As these tools are particularly focused on social measurement, management and valuation, it may have a particularly useful application in quantifying and demonstrating social value of just transition projects and financing. The use of tools that support valuation of non-financial information could be valuable for communicating the additional benefits of proposed just transition projects and a means of normalising KPIs for benchmarking.
Positive & Negative Screening	<ul style="list-style-type: none"> Positive lists have a role to play in design of funds, indices and investment strategies – prioritising those key green economy industries and supporting the implementation of projects specific to transition for vulnerable groups, exposed locations and affected value chains (which necessitates hyper-local strategies) Negative lists could have a role to play in screening investments and companies that are not aligned to just transition pathways and do not demonstrate key leading indicators (e.g. social dialogue, labour and community social value, training and skills, and redeployment)
PRI, Principles for Responsible Banking, PSI	<ul style="list-style-type: none"> The remit of these Principles may be extended to expressly identify just transition as integral to climate change and ESG by implication For instance, the UNEP PSI principles already emphasise integration of ESG in decision-making, client-centrism, collaboration, and disclosure; signatories should be encouraged to consider the principles and possible actions through the lens of advancing climate justice and just transition objectives and thereby affecting critical support through the insurance industry
TCFD	<ul style="list-style-type: none"> TCFD is already concerned with the risks and opportunities of climate change, and sets out the guidance for governance, strategy, risk management and metrics and target setting; recommendations include for scenario development as well as risk- and opportunity-informed target setting (which should therefore expand the remit by exposed companies to consider, manage and report on climate-related social and socio-economic dimensions) Listed companies and the financial sector should use the TCFD framework and disclosure recommendations, distinctly extending these social dimensions The financial sector has a role to play in engagement, and the investor guide expresses how just transition could be drawn into elements of expectation setting, disclosure requirements, data and benchmarking, target setting and performance improvement dimensions, and non-performance consequences In parallel, financial sector actors arguably have an intrinsic responsibility to evaluate and monitor climate related social risk and opportunity in their lending and investing activities; while many are still building the capabilities of doing so for physical and transition risk, social dimensions should be engineered-in As TCFD is mainstreamed, regulators should include targeted stipulations around just transition as intrinsic to climate related fiduciary responsibility

Financial instrument designs target just transition: the Green Outcomes Fund

- Supports South African Fund Managers who sign-up to participate,
- Who are financially incentivised to increase investment in SMMEs.
- The Fund Manager tracks verifiable green metrics and reports to GOF.
- Based on verified impact results against agreed objectives, GOF disburses payments to the Fund Manager.

GOF is supported by the FirstRand Foundation and in partnership with the National Treasury's Jobs Fund, and is operational with four Fund Managers signed up: Edge Growth Ventures, Business Partners, Conservation International Ventures, and Mergence Investment Managers.

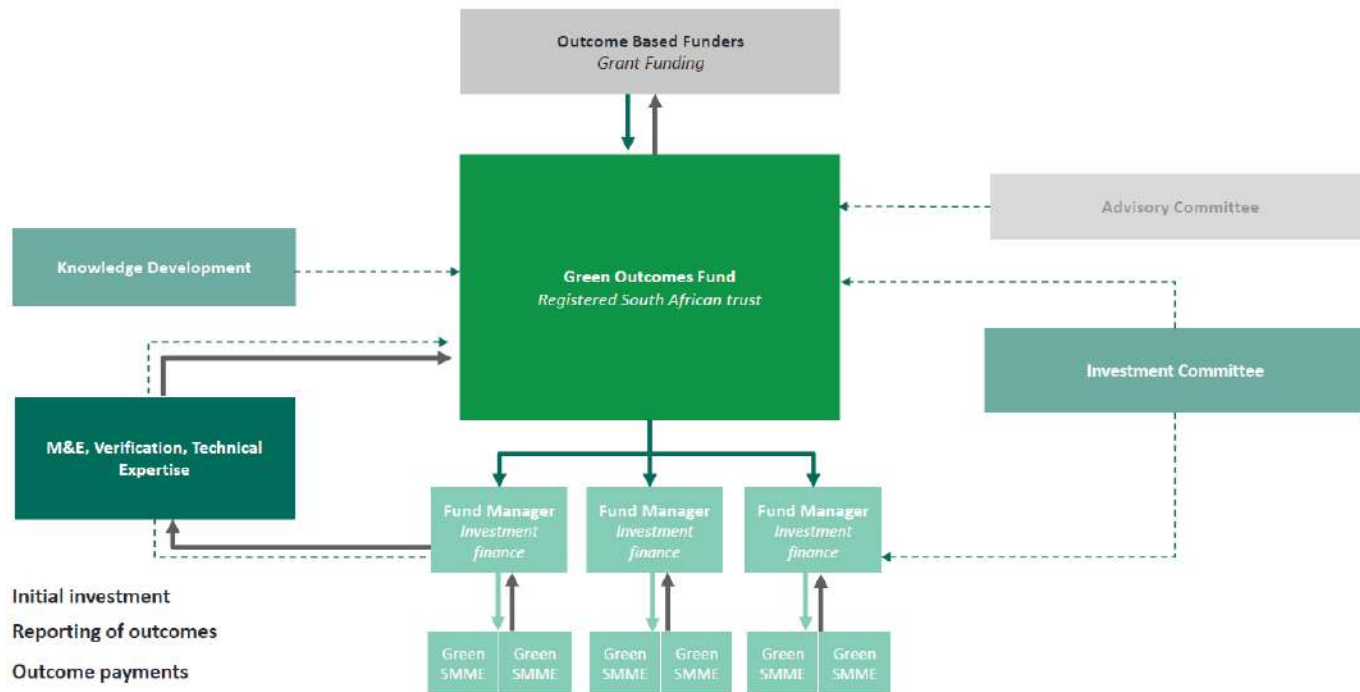


Figure 45: The Green Outcomes Fund structure, including knowledge, M&E and investment review process (GreenCape, 2020)



The challenge of the Just Transition

Financial instrument designs target just transition: the Green Outcomes Fund

The GOF measures, verifies and reports on thirteen metrics across the sectors of clean energy, waste, water and sustainable agriculture, **in addition to Green sector jobs.**

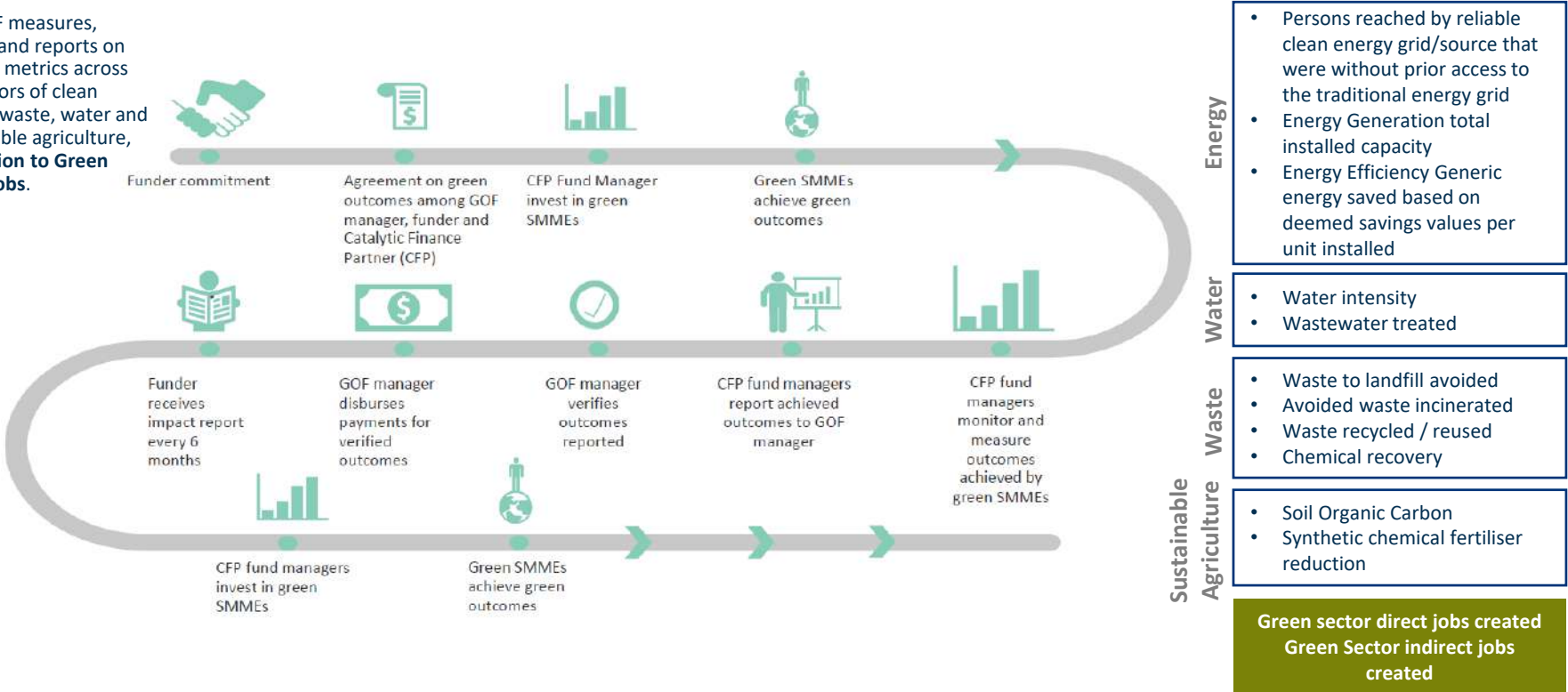


Figure 46: The Green Outcomes Fund process and green outcomes tracked (GreenCape, 2020)



The challenge of the Just Transition

Financial instrument designs target just transition: the Just Transition Transaction

The Just Transition Transaction (JTT) seeks to address the challenges of just energy transition and the financially constrained South African national electricity utility. It is to accelerate coal-powered phase-out and redirect funding to development of new renewable energy project with community and labour benefits through:

- Concessional finance (domestic and international)
- Backed by sovereign guarantee
- Linked to carbon reduction performance

The blended finance design concept has been developed and modelled by Meridian Economics, has drawn interest from the World Bank, and the South African government

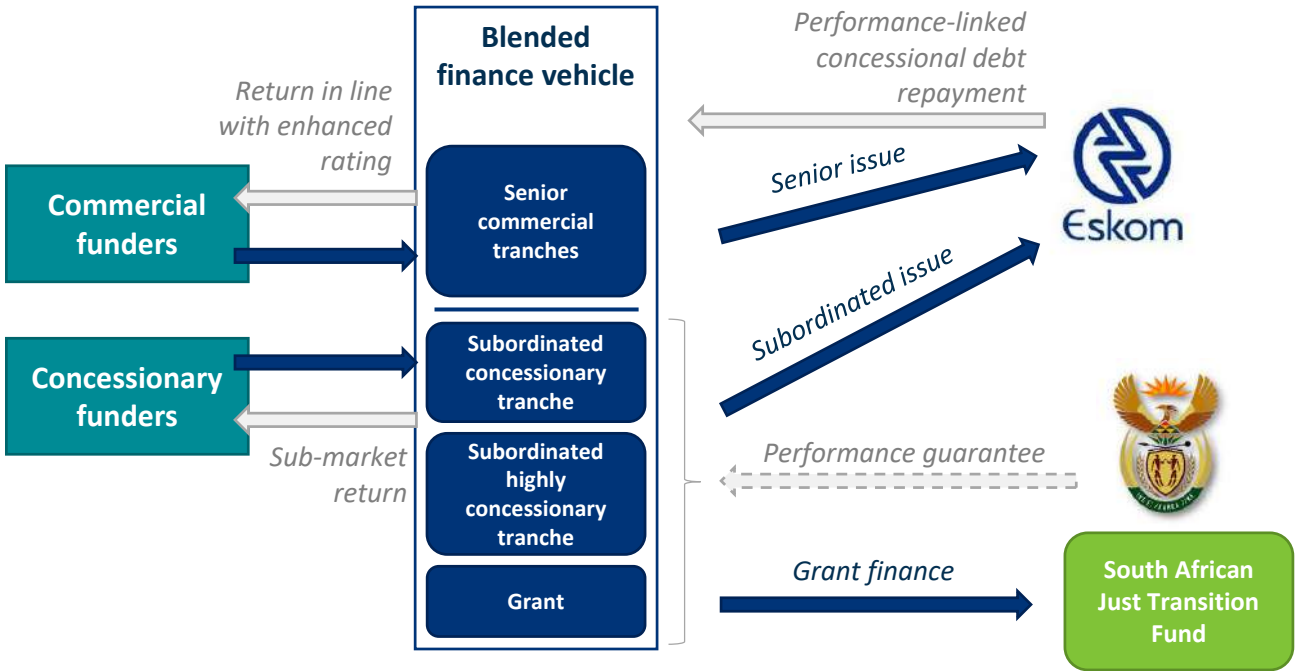


Figure 47: Just Transition Transaction blended finance design for South African just energy transition put forward by Meridian Economics (Meridian Economics, 2020)



The challenge of the Just Transition

Financial instrument designs target just transition: the CEF/CRF concept

The Energy Transition Mechanism (ETM) couples

- A Clean Energy Facility (CEF), to develop renewables, with
- A Carbon Reduction Facility (CRF), to expedite winding down coal assets,
- With the design indicating a proposal to direct a margin from the CRF and CEF to just transition plans, including retraining, job assistance and the development of new industries in affected communities.

The blended finance design concept has been put forward by Don Karmak of Prudential Insurance Growth Markets, as a design to encourage early coal retirement in Asia, profiling it to the WEF and DFIs over the past year.

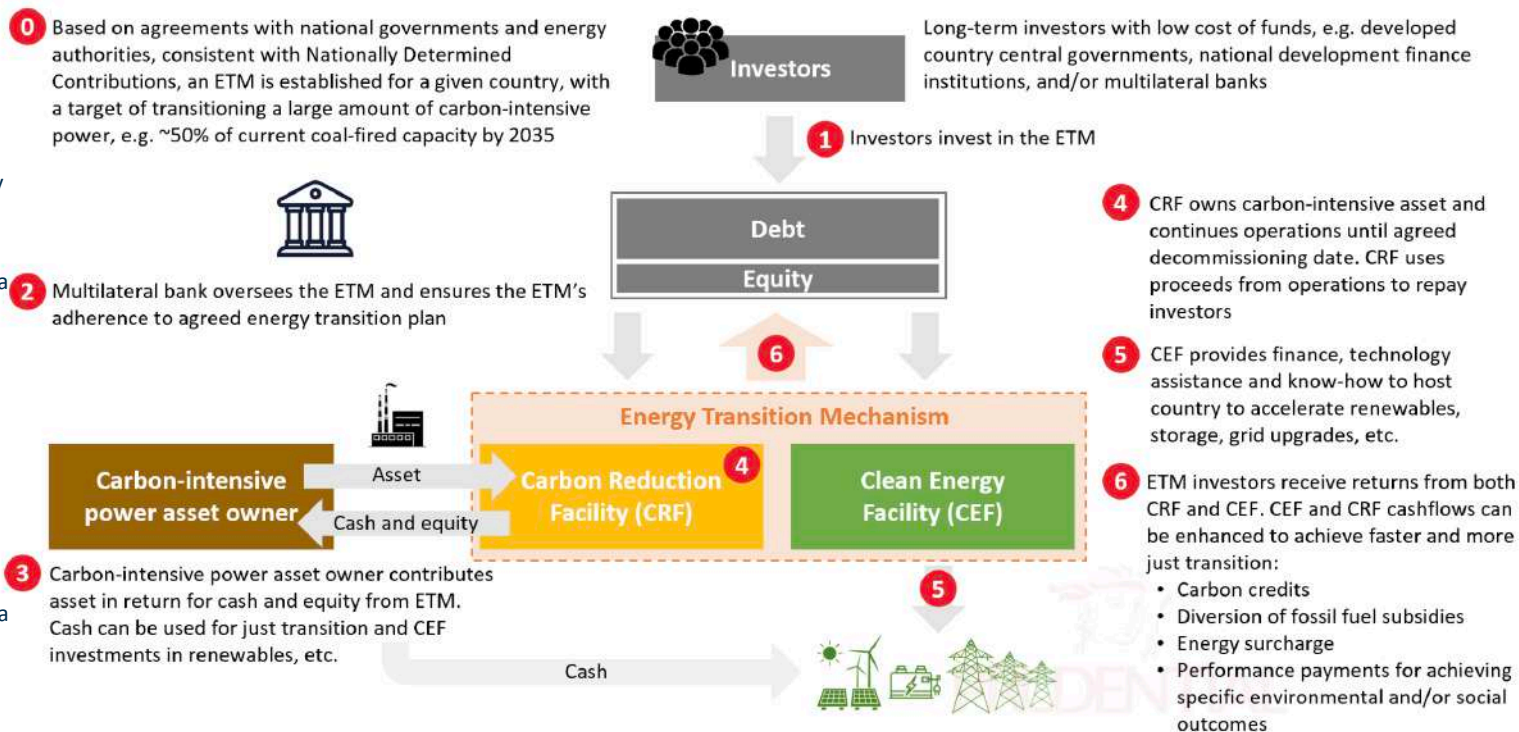


Figure 48: Energy Transition Mechanism and Carbon Reduction Facility concept put forward by Prudential Insurance Growth Markets (World Economic Forum, 2021)



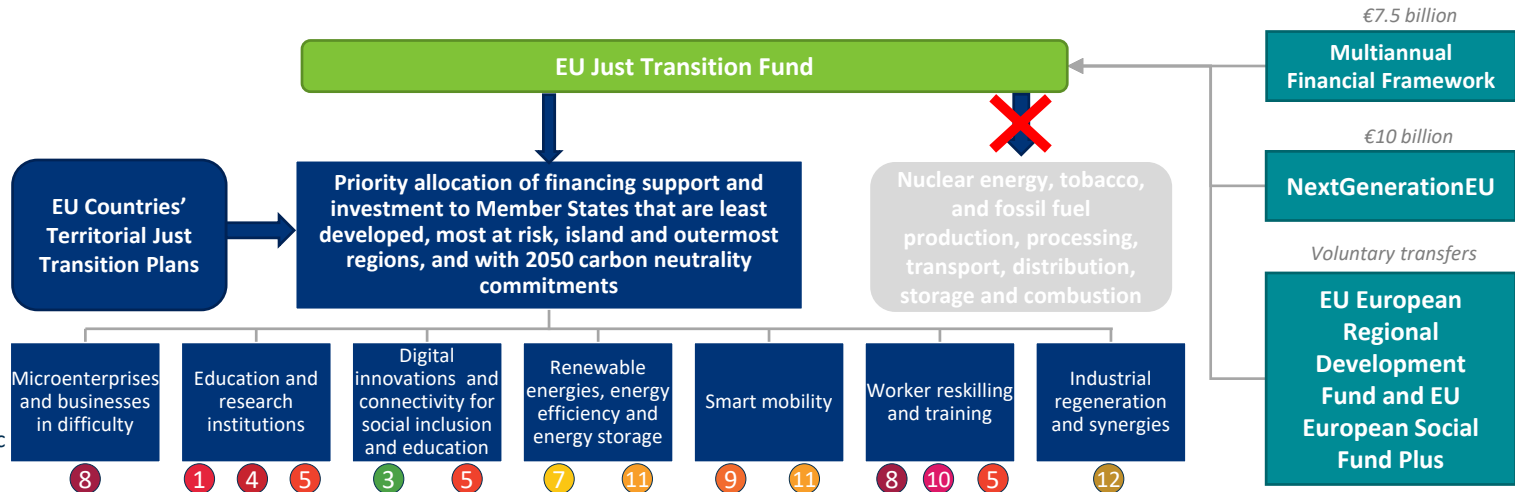
The challenge of the Just Transition

Financial instrument designs target just transition: the EU Just Transition Fund (JTF)

The EU Just Transition Mechanism (JTM) has been established to facilitate the implementation of the EU Green Deal primarily through provision of grants and comprises

- The Just Transition Fund
- A dedicate scheme under the InvestEU Programme
- A public sector loan facility funded by the European Investment Bank (EIB)

Support will focus on economic diversification of the most affected and vulnerable territories and will be administered in close cooperation with national and regional authorities and in alignment to National Energy and Climate Plans



The European JTF could be a significant finance provider for companies, technologies and research addressing climate and social challenges that the less developed and more remote EU Member States are predicted to suffer from disproportionately

A key component of the JTF is the focus on grant financing to crowd in private investment into early stage innovations and technologies and to fund social transitions such as reskilling and workforce preparation programmes to ensure a sustainable and equitable shift from fossil fuel industries to sustainable activities and sectors

The JTF, as a whole, will drive SDG 17 through the proposed collaborative approach to the Just Transition with national, regional, and state level industry bodies, education and research institutions, and the private sector

Mapping of the direct impact of JTF financing priorities to the SDGs

Figure 49: EU Just Transition Fund financing procedures, sources and SDG linkages (European Parliament 2020)

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Sustainable finance developments and opportunities

The role of carbon markets for achieving climate goals

Companies operating in carbon intensive industries such as mining and extractive industries, manufacturing and transportation contribute to the global carbon emissions and therefore have a responsibility to reduce the intensity of their activities for the world to reach climate targets. The emissions from these industries are however difficult to abate due to the technological breakthroughs that are required to deliver the level of decarbonisation needed and the costs that are associated with implementing these carbon abatement efforts.

Typically, companies pursuing a net-zero emissions target will pull two levers to reach this target:

- 1) carbon avoidance and reduction through energy efficiency, renewable energy development, or circularity intervention uptake; and
- 2) carbon removals and sequestration through reforestation (biological), geological and marine sequestration or technological removals (direct air capture)

Carbon credits through reforestation and biological sequestration projects may generate social, environmental and economic co-benefits that have increased global interest in carbon credits as a credible component of achieving the SDGs, provided that the carbon projects are developed and managed according to the accepted standards and that they genuinely provide net carbon removals (additionality).

Compliance markets which impose carbon emissions limits (cap and trade) or carbon tax regulations (as in South Africa) generally push companies to, as a first priority, implement internal, structural GHG emissions reductions and then offset the remaining emissions or pay a carbon tax on the

remaining emissions. This is therefore a positive climatic push factor.

Voluntary carbon markets, driven by companies' internal ambitions, stakeholder pressures and/or shareholder activism, represent a demand pull factor driving the global carbon abatement effort. For the voluntary market to work effectively, there needs to be coherence, validity and principles that ensure the veracity and credibility of the carbon credits on these markets and to ensure there is sufficient supply and demand for these credits. **The Taskforce on Scaling Voluntary Carbon Markets (TSVCM)** has developed a vision for voluntary carbon markets that would scale-up the global uptake of carbon credits and carbon trading. **The TSVCM is a significant international development to keep abreast of.**

Additionally, the TSVCM has devised key recommendations that will enable voluntary (and compliance) carbon markets to proliferate and contribute to the realisation of this vision for a globally effective carbon market. The key actions for developing an effective carbon market are shown on the following slides.

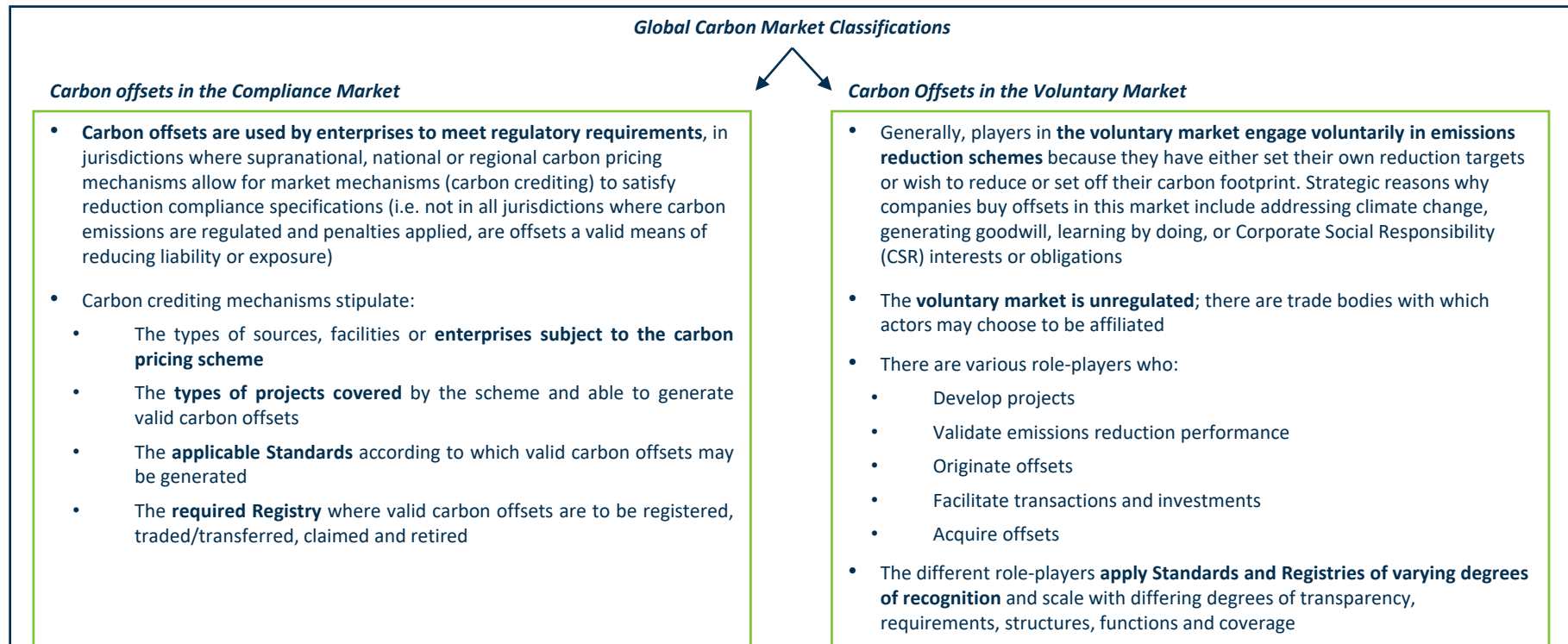
In South Africa, the introduction of Carbon tax regulations and the establishment of the Carbon Offset Administration Systems (COAS) which recognises selected internationally accredited carbon offset projects, will drive the country's demand for carbon credits. To date, a few FIs have traded carbon credits via trading desks that were established voluntarily but the significant carbon credit demand that will result with the proposed compliance market will need effective carbon market supply, governance, assurance and coordination (as per the TSVCM recommendations) by all interested and affected private and public sector actors.



Sustainable finance developments and opportunities

Carbon market classifications

Table 14: Carbon market classifications





Sustainable finance developments and opportunities

Carbon offset verification standards and registries

Table 15: Carbon offset verification standards and registries

	Verification Standards	Registries/Exchanges
Compliance market	<p>International Standards:</p> <ul style="list-style-type: none"> Clean Development Mechanism (CDM) Joint Implementation (JI) Regional crediting mechanisms' Standards: Joint Crediting Mechanism (JCM) (multiple countries in Africa, Asia, Middle East and Latin America) Various national and sub-national crediting mechanisms with respective Standards, including those of: Emissions Reduction Fund (ERF) Safeguard mechanism (Australia) South Africa is proposing the development of its own Verification Standards, but for the time-being accepts CDM, GS and VCS Canada is developing a federal GHG offset system which is currently in design and consultation phase and is expected to include its own Standards 	<p>These international, regional, national and sub-national crediting mechanisms each have their associated Registries and Exchanges</p> <p>Many of these registries and exchanges allow transfers of carbon credits between their registry and exchange and accredited international or supranational registries and exchanges, provided the credits are transferred (and not able to be double counted) accordingly</p> <p>The South African Carbon Offset Administration System (COAS) is the system that is to be used to offset carbon emissions and reduce carbon tax obligations for entities in South Africa. Carbon offset projects that are accredited to the CDM, VCS and the CD will be accepted by the South African COAS.</p>
Voluntary market	<p>Major independent accounting Standards</p> <ul style="list-style-type: none"> American Carbon Registry (ACR) Climate Action Reserve Gold Standard (GS) Verified Carbon Standard (VCS) Warsaw Framework for REDD+ Recognised non-accounting Standards Climate, Community and Biodiversity Alliance (CCBA) Social Carbon Multiple bespoke private label Standards (often proprietary) 	<ul style="list-style-type: none"> ACR, Climate Action Reserve, GS and VCS (operated by Verra) CDM also operates an exchange that can also be accessed for voluntary offsetting purposes Projects applying REDD+, CCBA and Social Carbon Standards may be eligible for independent registries, subject to specifics Private registries may contain projects having been verified against another Standard and transferred from independent registries, or projects subject to the particular bespoke Standard



Sustainable finance developments and opportunities

The TSVCM vision for voluntary carbon markets

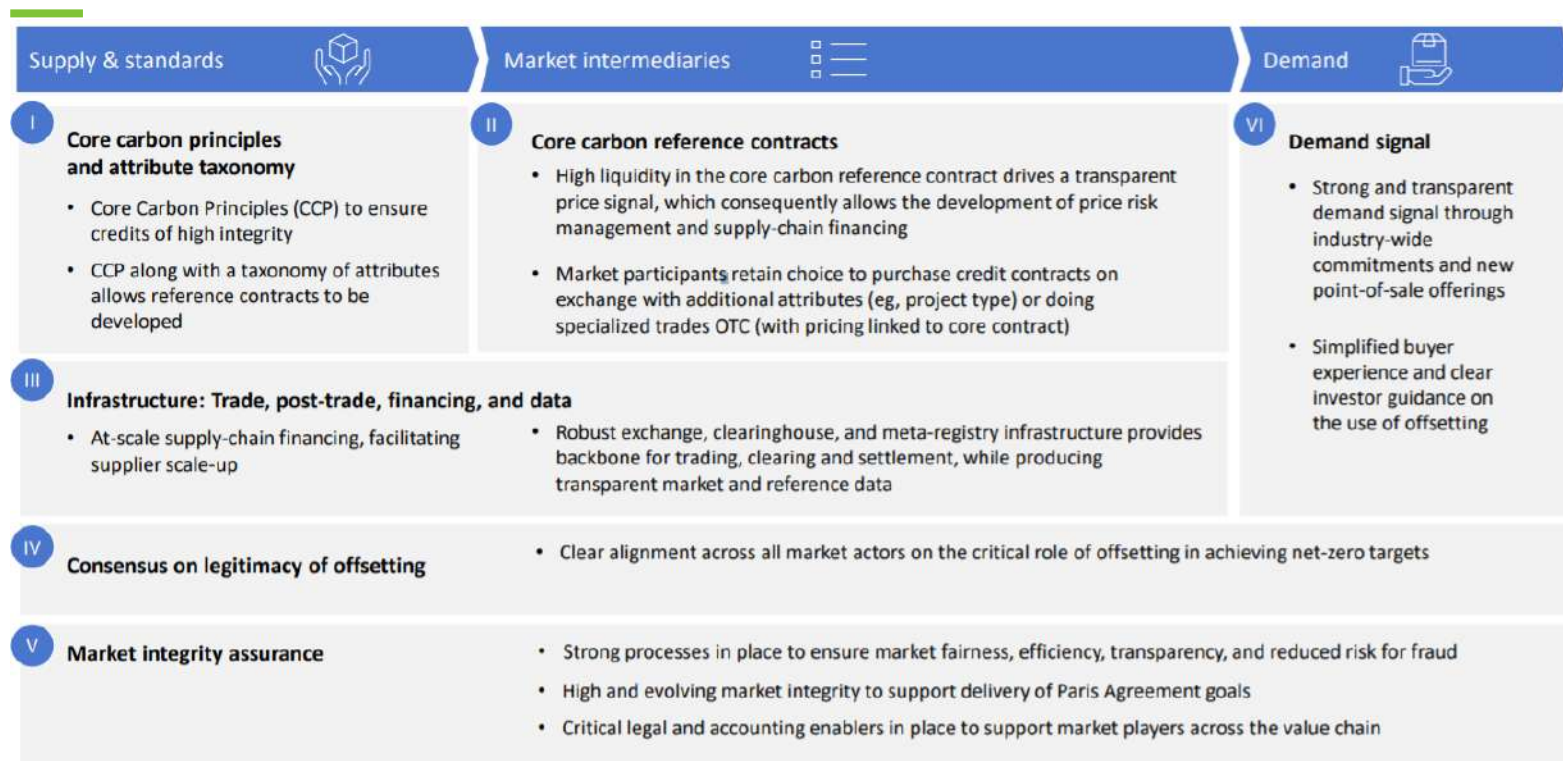


Figure 50: Taskforce on Scaling Voluntary Carbon Markets overview of a credible functioning carbon offsets market (TSVCM, 2021)



Sustainable finance developments and opportunities

The TSVCM recommended actions for scaling up carbon markets

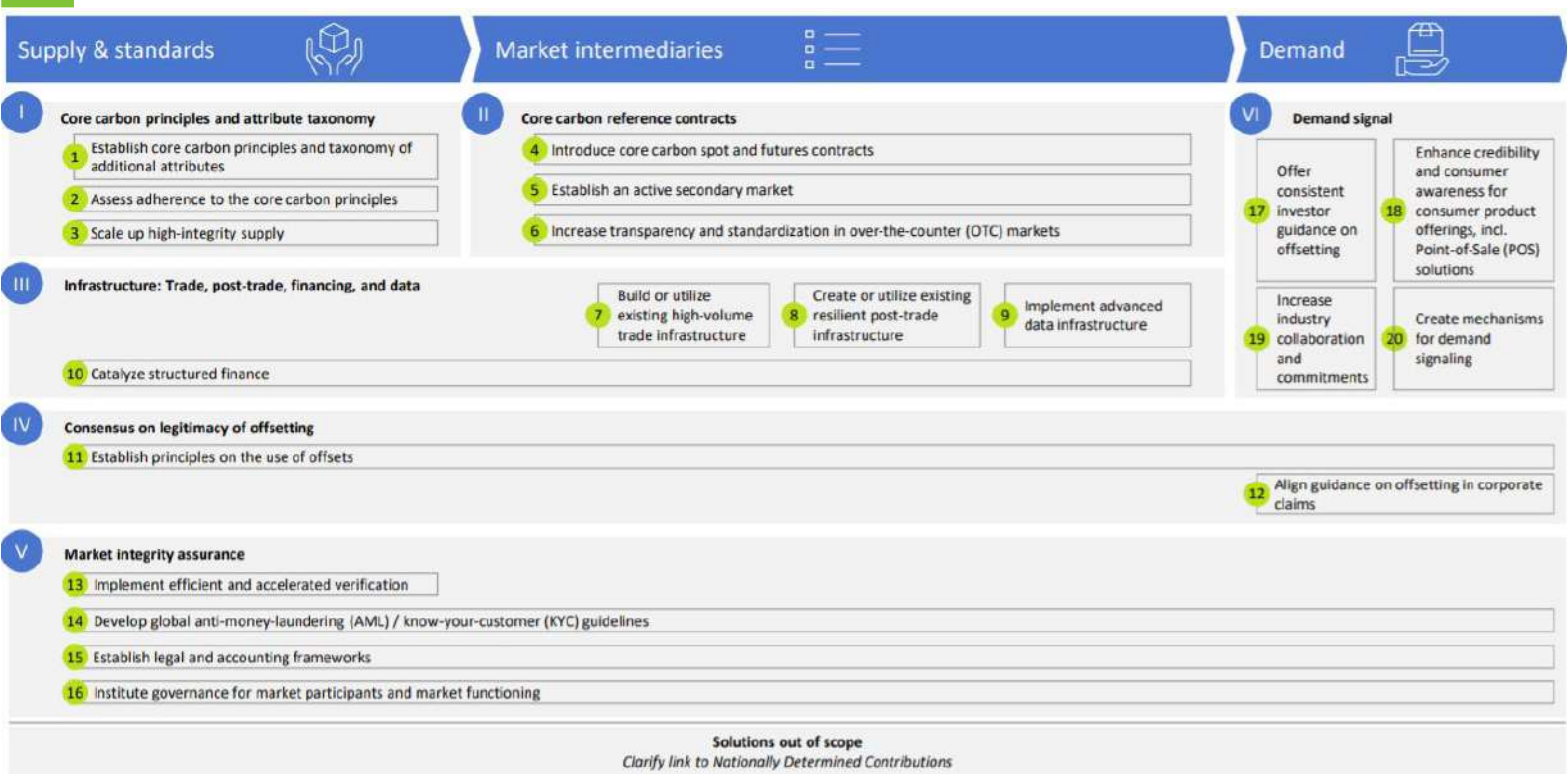


Figure 51: Taskforce on Scaling Voluntary Carbon Markets detailed breakdown for functional requirements of a credible functioning carbon offsets market (TSVCM, 2021)

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Sustainable finance developments and opportunities

The insurer's tripartite role in the financial market

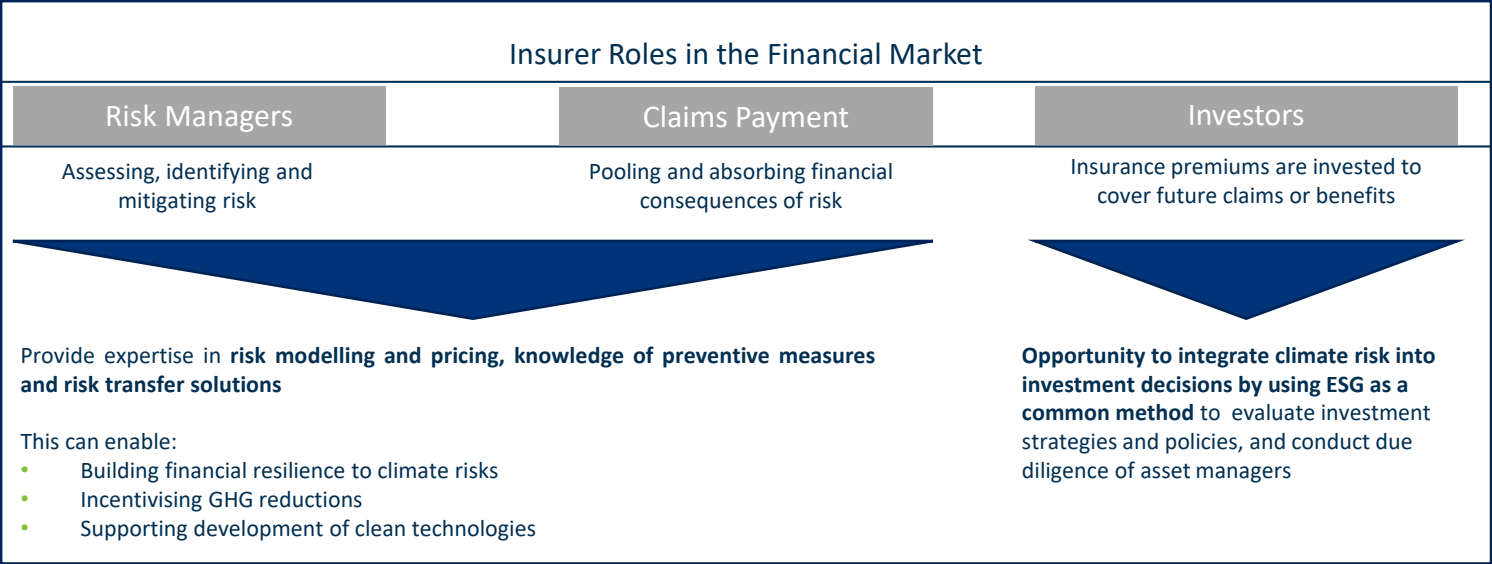
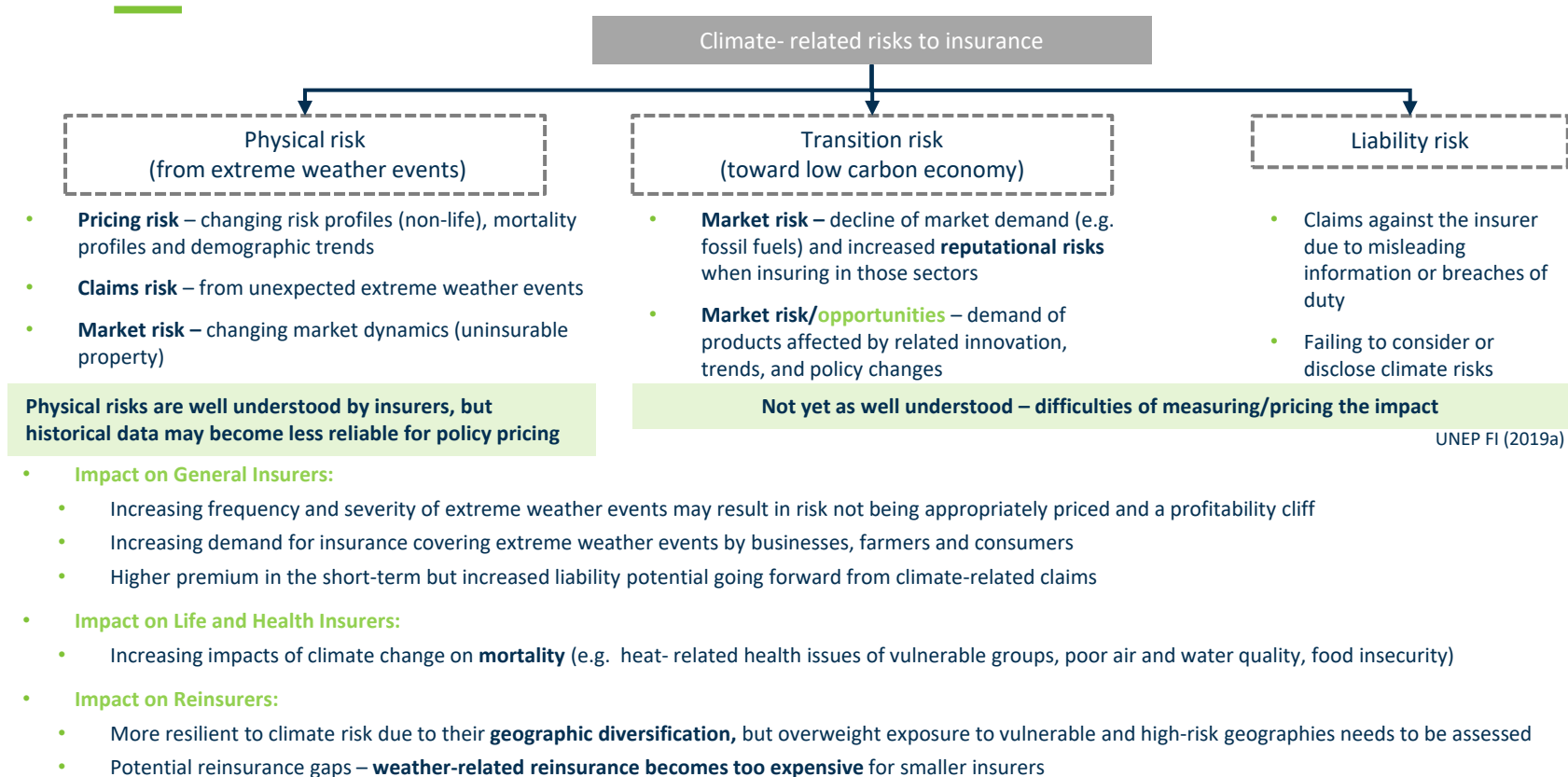


Figure 52: Insurer roles in the financial market and the routes to ESG integration and product development (The Geneva Association, 2018)



Sustainable finance developments and opportunities

How does climate change affect the insurance industry





Sustainable finance developments and opportunities

Product innovation in the insurance sector

Green insurance product can be grouped into 7 main categories:



Renewable Energy Insurance



Business Insurance



Property Insurance



Mobility Insurance



Extreme Weather Insurance



Efficiency and Resource Protection



Financial and Regulatory Risk

Innovations on sustainable insurance products have been observed, as follows:

- **Insuring Low-carbon businesses and facilities**
- **Incentives for use of low emission cars and driving behaviour**
 - Pay-as-you-drive programmes (lower rates when driving less)
 - EV or Hybrid premium discount
 - Alternative fuel premium discount
 - Lower rate for customers with public transportation pass
- **Promote sustainable building practices**
 - Premium discount for LEED certified homes
 - Modernisation insurance – rebuild/upgrade in line with certain environmental standards (e.g. using environmentally-friendly material, energy efficient measures, EPC thresholds)
- **Insurance pricing signals for climate smart behaviours**
 - Favourable insurance prices for implementation of energy efficiency measures, renewable energy infrastructure, and committing to net-zero emissions targets

- Re-use of certain items following a claim (e.g. car body parts or equipment parts)
- Recycling of reclaimed materials (e.g. debris from homeowners or decommissioned facilities)
- **Agricultural risk assessments**
 - (Multiple peril) crop insurance to protect against loss of crops due to natural disasters (e.g. disease, drought, fire, flooding); coverage based on crop yield
 - Weather index insurance to protect against predetermined extreme weather event based on weather index (e.g. rainfall), reducing transaction costs and risks for the insurance company and pass-through to the consumer (e.g. Agriculture PPP Project)
- **Cover environmental pollution liabilities from environmental damages**



Sustainable finance developments and opportunities

How may the insurance sector contribute to SDGs

The insurance industry, in its role as a risk manager and claims payment disburser, directly contributes to the realisation of the following 6 SDGs:

1. Insurers provide a safety net and a financial lifeline for people to rebuild or repurchase the assets and possessions lost in extreme events, without them needing to resort to expensive debt or asset sales and thereby reducing their vulnerability and preventing them from falling back into poverty after these events
2. Insurance provision to the agricultural and food sectors stabilises the farmer's financial security in years of shock or poor yields and enables these sectors to access finance that would not be possible without insurance protection
3. Families and individuals with health insurance and social protection encourages health-care seeking behaviour by bringing down the cost barriers and leads to early detection and treatment of health or medical issues
5. Tailored insurance products for women based on their improved and unique risk profiles ensures more affordable coverage; life insurance pay-outs from family losses enables women to retain family assets and their income earning capacities; and increasing coverage in insurance policies of female reproductive health risks is reducing female mortality rates associated with pregnancy and childbirth
8. Business insurance unlocks SME finance and investment by protecting their assets and frees up their capital for reinvestment in their

businesses following business interruption and extreme weather events

13. Insurance mitigates the financial damages from extreme events on businesses and individuals while complementing climate change coping efforts through insurance pricing signals (GIZ, 2017)

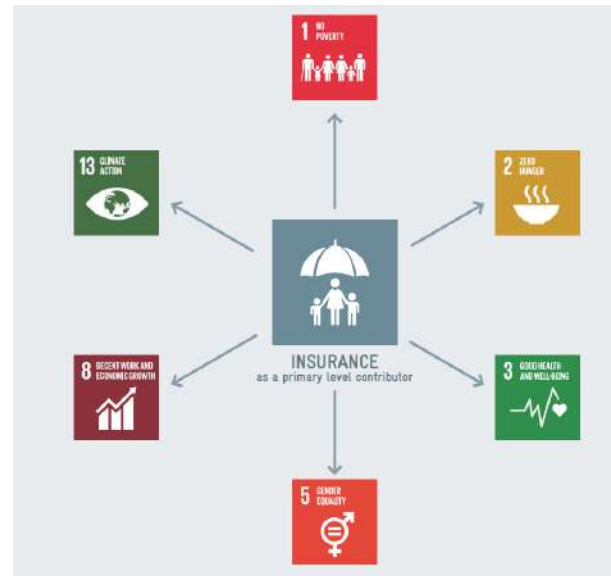


Figure 53: Insurer roles in the financial market and the routes to ESG integration and product development (GIZ, 2017)



Sustainable finance developments and opportunities

Developments and opportunities in the insurance sector

Much work is underway globally from insurance industry regulators to better understand the physical and transition risks created by climate change and how the global insurance industry should stress test and manage these risks regarding their insurance portfolios

Regulators are developing guidance and climate risk assessment resources for their respective markets to ensure that the long-term viability of their national insurance industry is maintained in the wake of increasing business interruption and natural disaster claims as well as the transition risks arising from overweight exposures to climate misaligned companies and investments

In Canada, insurance companies have been seen appointing Chief Climate Change Officers to develop and oversee management policies regarding 'green' and 'brown' investments and pushing for increased ESG integration into the investment decisions (Sustainable Insurance Forum, 2020).

Additionally, as part of the COVID-19 relief facility administered by the Canadian government, prospective companies seeking relief will be required to publish annual climate-related disclosure reports aligned to the TCFD Recommendations – illustrating the power of government incentive and regulatory schemes in steering their industries towards better practices

As can be seen globally, insurance product innovation around climate change and ESG in South Africa for long-term and short-term insurance is likely to be of increasing relevance – especially as South Africa is predicted to suffer severely from climate change impacts in the form of droughts, fires, and flooding which will in turn lead to increased suffering and mortality in vulnerable communities and low-income households.

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Norms, standards and enabling environments

Policies and measures to mainstream sustainable finance

Brazil

Sustainable Finance has been highly promoted and developed by the Brazilian private and public sector over the past decade.



In 2010, the Brazilian government established **tax incentives to promote low interest credits for activities contributing to climate change mitigation** (i.e. Low Carbon Agriculture Plan) which operates by the CMN Resolution 3896/2010 and is implemented by the Brazilian Development Bank (BNDES).



Under the purview of **Banco Central do Brasil (CBC)**, there are several regulations related to **ESG and climate related risks management and disclosure for stakeholders in the financial sector issues as National Monetary Council Resolutions, including:**

- CMN Resolution 4327/2014 on Social and Environmental Responsibility for financial institutions, which has been replicated in the insurance and investment sectors, and requires that all financial institutions and other entities overseen by the CBC to adopt and implement a Policy for Socio-Environmental Responsibility (PRSA) resulting in an action plan, all for which CBC sets out minimum requirements and guidance
- CMN Resolution 4557/2017 requires all financial institutions to implement a structure for continuous and integrated risk management as set out in CMN Res. 4327/2014, which includes E&S risk

- Central Bank's Circular 3846/2017 which concerns the mandatory disclosure of any kind of exposure to social and environmental risks identified in the financial institutions' risk assessment process
- CMN Resolution 3547/2017 on the calculation of internal capital adequacy to ensure to ensure that financial institutions have suitable governance in place to manage risks faced, including environmental and social risks



Brazil's Federation of Banks (FEBRABAN) and Business Council for Sustainable Development (CEBDS) released open access Guidelines for Issuing Green Bonds in Brazil in 2016, including recommendations to participants in the Brazilian fixed-income securities market on the process of issuing green bonds.



The **Brazil Green Finance Initiative**, launched by CBI at the end of 2016, is a public/private partnership organisation that brings together various stakeholders – including industry, pension funds, insurance companies and banks – to scale up green finance solutions and catalyse green investment in the country. The initiative has several working groups studying key challenges and making recommendations to financial sector stakeholders, and remains active. (IDB, 2019).



Drawing from the work to establish the **Brazil Green Finance Initiative**, in 2017 investors representing BRL1.8tn (USD450bn) in assets under management signed a joint **Green Bonds Statement** showing their support for green bonds and outlining actions to promote market growth.

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Key



Commitment to cooperation



Cooperative industry activity



Regulatory or enforcement instrument



Guidance or technical support



Market specifications (voluntary or mandatory)



Financial incentives



Norms, standards and enabling environments

Policies and measures to mainstream sustainable finance



FEBRABAN has promoted the transition to a green financial system. For instance, drafting a **roadmap for implementing TCFD recommendations and developing tools and analyses for better risk management** in 2019, and **developing a climate risk assessment tool implementation guide for Banks** in 2018.



Additionally, Brazil has developed a **voluntary classification (taxonomy) for green bonds**.



Brazil has received support from IDB and participated in the Financial Innovation Lab **to develop a regulation and simplifying processes to issue green bonds**. This initiative has created a dialogue among diverse stakeholders and shared best practices, generating inputs for policy and regulation development. As yet, (IDB, 2019).



GIZ is providing **technical support to the Banco Central do Brasil to strengthen and expand green finance measures** (GFA, 2017).



In 2020, CBC unveiled a 'Sustainability Agenda' plan which seeks to **integrating climate risk and other elements of sustainable finance into the central bank's financial stability work, monetary policy and reserves management**.

Chile



Chile **adopted a Financial Strategy on Climate Change** to contribute to achieving the NDC's goals by enhancing intersectoral financial flows to implement climate actions. The Strategy includes assessing financial flows, designing financial instruments and **creating institutions to facilitate collaboration with international funds**. Moreover, the Strategy aims to align policies to accelerate the transition to a low-carbon economy; enable public-private cooperation and coordination;

and promoting the development of financial instruments (Chile Ministry of Finance, 2019). Significant strategic elements include:

- Mobilising capital flows for through data and information analysis under a coherent framework
- Promoting the design and implementation of green financial instruments and market development
- Strengthening the understanding, capacities and action of the local financial sector regarding climate-related risks and opportunities

The Financial Strategy on Climate Change is a component of the NDC's fifth pillar related to financing. This pillar also entails:

- Carrying out a periodic analysis of public expense on climate change
- Creating institutions to manage the relationship with the Green Climate Fund
- Designing financial instruments enabling the flow towards a low emission and climate resilient economy



The **Public-Private Roundtable on Green Finance** is an initiative led by the Ministry of Finance – with support from IBD, the British Embassy and UNEPFI – with the aim to enhance the integration of climate change as a risk in the relevant assessment across diverse stakeholders. This initiative facilitated the **enactment of a Green Agreement and a Roadmap for Climate Finance**. The Roundtable included the participation of Chile's Central Bank, the Commission for the Financial

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Key



Commitment to cooperation



Cooperative industry activity



Regulatory or enforcement instrument



Guidance or technical support



Market specifications (voluntary or mandatory)



Financial incentives



Norms, standards and enabling environments

Policies and measures to mainstream sustainable finance

Market, the Superintendency for Pensions, the Pension Funds Administrators Association, the Banks and Financial Institutions Association, the Chilean Insurers Association, the Chilean Investment Funds Administrators Association, and the Chilean Mutual Funds Association.



United for Climate Action Alliance aims to promote sustainability across the private sector and contribute to climate change mitigation and adaptation. The initiative brings together the Chamber of Commerce, the Group of Leaders for Climate Change, the Chilean Chapter of UN's Global Compact, the Carbon Disclosure Project and the Confederation of Production and Commerce. The Stock Exchange has shared the **thematic bonds segment** as an alternative for achieving a carbon neutral economy within this alliance.



The **Santiago Stock Exchange has a Sustainability Policy** which entails five priority themes (Corporate Governance, Market, Clients, Team, Environment), as well as the commitments and responsibilities related to ESG.



The Santiago Stock Exchange received a Green Bond Award for introducing **the green bond guidelines** in March 2019.



The **Santiago Stock Exchange adhered in 2017 to the UN Global Compact Pact** and has participated and led several initiatives including Human Rights, and Peace, Justice and solid institutions.



The Commission for the Financial Markets has considered it necessary to create a Task Force for Climate Change to integrate the risks posed by this phenomenon (Ministry of Finance, 2019).

The **Pensions Superintendence amended the Risk Based Supervision**



Process to incorporate climate risk and ESG. Additionally, the Superintendence is **assessing the potential to mandate disclosure on ESG information** (Ministry of Finance, 2019).

The World Bank Partnership for Market Readiness Project supported the design and implementation of **green taxes as carbon pricing instruments** in Chile.

Mexico



The **Mexican Banking Association launched a Sustainability Protocol in 2016**. This Protocol is aligned with the Paris Agreement and refers to international best practices for environmental and social risks management.



In January 2018, the Mexican government **modified the regulations for pension funds**, providing more flexibility for investment decisions and **including a new requirement to implement environmental and social governance criteria for investments**. These modifications also include **a requirement to assess potential exposure to natural disasters of potential investments** (CISL, 2018).



The **Banco de México has identified a series of recommendations and actions to manage environmental, social and climate-related risks and unlock sustainable finance opportunities** in Mexico. These target financial institutions and the regulator, and range from capacity building to developing policies and guidelines for consistent risk management and disclosure, including the **development of a national green taxonomy and mandatory ESG disclosure**.

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Key



Commitment to



cooperation



Cooperative industry



activity



Regulatory or



enforcement instrument



Guidance or technical



support



Market specifications



(voluntary or mandatory)



Financial incentives





Norms, standards and enabling environments

Policies and measures to mainstream sustainable finance



Sustainable finance activities in Mexico have also benefited from **coordinated activity by a voluntary coalition organisation** – the Consejo Consultivo de Finanzas Verdes (CCFV) – a multi-stakeholder financial sector platform created in 2016 in Mexico, with an interest in promoting environmentally impactful investments and projects. The coalition integrates over 300 diverse stakeholders including investors, banks, asset managers and owners, underwriters, consultants, international organisations, and industry associations, and promotes dialogue and awareness to enhance capacities among the players in the ecosystem. The CCFV also aims to promote the green finance market in Mexico contributing to the climate goals and the sustainable development goals. The Group has been active both:

- As an **investor pressure platform** – in 2020 CCFV launched an **engagement campaign requesting listed companies disclose ESG and climate risk information** based on TCFD and the SASB. The request has been signed by institutional investors including pension funds administrators, insurance companies, investment funds and asset managers.



- As a coordinator of technical support and guidance, for instance having led the **development of the Green Bond Principles MX**, which now **define the requirements for listing green bonds** on the Mexican Stock Exchange, including annual reporting commitments for issuers.



Mexico has adopted two carbon pricing mechanisms: **a carbon tax and an Emissions Trading Scheme**. Both instruments aim to promote emissions reductions in the private sector by putting a price on carbon and raising awareness on the impacts and risks of climate change.

Key



Commitment to cooperation



Cooperative industry activity



Regulatory or enforcement instrument



Guidance or technical support



Market specifications (voluntary or mandatory)



Financial incentives

Colombia



Colombia's **National Climate Finance Strategy** (2020) seeks to mobilise financial resources in Colombia to achieve mitigation and adaptation goals, and thus is framed within Colombia's National Climate Change Policy. The strategy aims to promote the development of economic and financial instruments, create and strengthen capacities, manage and ensure access to finance sources, and manage knowledge and information. Specifically, to develop economic and financial instruments, the Strategy outlines the following activities:

- Develop economic instruments (i.e. carbon tax, ETS)
- Promote the development of a green bonds market
- Assess the feasibility for establishing a green investment bank
- Develop the market for climate change insurance



Colombia's government created a Financial Management Committee – within its National Climate Change System (SISCLIMA) – with the aim to develop policy recommendations to ensure a sustainable and scalable provision of climate finance.



Colombia has also established a **Monitoring, Reporting and Verification System for climate finance** that facilitates the identification of public and private funds (both national and international) that are being used to finance mitigation and adaptation actions and measures (DNP, 2021).

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Norms, standards and enabling environments

Policies and measures to mainstream sustainable finance



Under the WorldBank/IFC Sustainable Banking Network (SBN), Colombia developed and published its **Roadmap for Sustainable Finance** in 2017, aimed to establish the market basis and promote strategies for increasing the issuance of green bonds in the country. The roadmap was structured in two phases: creating an enabling market and expanding the market. The Roadmap set out to:

- To create an enabling market; the activities considered were to improve knowledge and awareness across stakeholders; define green investments, identify and establish green portfolios, promote
- The use of existing incentives, strengthen a governance mechanism, securing verification and external review providers, standardize reporting and monitoring processes for green investments, establishing a mechanism for proceeds management, and ensure long-term financing for green portfolios.
- Secondly, to accelerate market growth; the activities encompassed developing case studies, reducing costs and simplifying the process for issuing bonds, creating alternative funds for issuances with low credit ratings, and promoting the secondary market for corporate issuances.



Subsequently, a **Roadmap for developing a Green Bond Market** was developed and published, with a series of market foundations and expansion phase recommendations (E3, PWC and CBI, 2019).



Colombia's Financial Superintendence is **developing a local taxonomy** with support from the Ministry of Finance, the World Bank/IFC, and CBI. In this process they have identified 8 priority sectors to be included in the taxonomy: energy, buildings, transport, IT and communication, AFOLU, industry, water and waste. The taxonomy has also considered

activities that have relevant environmental and economic impacts in the country (i.e. AFOLU) . The taxonomy will include the eligible activities and assets, indicators or selection criteria, and impact indicators, per sector.

Kenya



The **Kenya Bankers Association (KBA)** leads the Sustainable Finance Initiative that **supports the banking sector incorporate Sustainable Finance Principles into their operations and promotes sustainable practices and ESG risks within the banking sector**. The principles provide descriptions of international standards such as the Equator Principles, the Global Compact and the Global Reporting Initiative as examples of international best practice. The principles are endorsed by the Central Bank of Kenya and Capital Markets Authority and are centred on three key priorities:

- Equipping the financial services sector with the best possible results in the field of comprehensive risk management;
- Improving corporate practices, leadership and governance; and
- Supporting market growth and development by fostering a culture of innovation and inclusiveness driven by new technologies.



By KBA's own research, the implementation of sustainable principles has been disparate; and more work is needed to mainstream adoption and implementation practices. KBA introduced the **Sustainable Finance Initiative Capacity Building Programme** to facilitate the integration of the principles to target bank credit risk, operations and business development officers, as well as board directors

Key



Commitment to cooperation



Cooperative industry activity



Regulatory or enforcement instrument



Guidance or technical support



Market specifications (voluntary or mandatory)



Financial incentives

(Continued next slide)



Norms, standards and enabling environments

Policies and measures to mainstream sustainable finance



One of the initiatives aimed at providing solutions to the challenges in developing a green economy in Kenya and into the East Africa region, promoting financial sector innovation, is the **Kenya Green Bond Programme**, which is structured as a partner initiative including KBA, Nairobi Securities Exchange (NSE), CBI, FSD Africa (a market development programme supported by UK DFID), FMO, IFC and WWF (Stockholm Sustainable Finance Centre, 2020). The programme aims to develop a domestic green bond market to enable direct investment into 'greening' 'brown' sectors and align country policies with the Paris Agreement. The Kenya Green Bond Programme is also endorsed Central Bank of Kenya, Capital Markets Authority and National Treasury. The Programme sets out to:



- Research the potential of green bond issuance in Kenya
- **Develop a pipeline of green investments** and engaging with local and international investors
- **Support demonstration green bond issuance** from leading banks and corporates
- Promote green Islamic finance
- Develop a pool of Kenya-based **licensed verifiers**
- Develop a cooperative **fixed income fundraising facility** that would allow smaller banks and corporates to also take advantage of wholesale debt capital markets
- Leverage the Kenya experience to catalyse similar programs across East Africa Community



The programme has also **issued sector reports** within the manufacturing, transport and agriculture sectors to **quantify the investment opportunity** for green investments in Kenya and identify barriers to the issuance of green bonds and to propose solutions for creating bankable projects.



NSE published green bond guidelines issued and provides a **tool for identifying climate-aligned investments** and by providing classification for economic activities recognised as 'green' and thereby setting the foundations for the green bond market. This tool is an adoption of the Climate Bonds Initiative's Taxonomy for eligible green sectors with the exclusion of the Information Technology and Communication sector which is not yet developed but also not listed by the Kenyan guidelines. The guidelines provide disclosure guidance for bonds.



New listing rules for green instruments have been issued by the NSE, specifying the **issuance obligations for products**, such as independent verification, and which contain provisions on the requirements for green bonds and steps needed to issue a green bond.



Kenya's Parliament has approved **tax incentives for green bonds** (SBN, 2019).

Nigeria



Nigeria published its **Sustainable Finance Roadmap** in 2018, with a series of recommendations concerning embedding and scaling up sustainable finance in the country, identifying the banking sector as core, the need for green products and the role of capital markets and the application of non-sovereign and corporate green bonds as a focus.

Key



Commitment to cooperation



Cooperative industry activity



Regulatory or enforcement instrument



Guidance or technical support



Market specifications (voluntary or mandatory)



Financial incentives

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The document goes on to set out annual sustainable finance needs based on economic diversification and sustainable development needs hinged on infrastructure investment and identifies predominance of public finance and international development aid, stating cognisance of the relatively low level of financial inclusion, shortage of alternative capital supplies and scarcity of investment pools, and identifying growth targets for national pension schemes as promising. (UNEP, 2018)



The **Nigerian Sustainable Banking Principles** (NSBP) came into effect in 2012, after the Nigerian Bankers' Committee approved its adoption for the financial sector, alongside implementation guidelines (2014). C. 34 institutions have signed up to the Principles, which are voluntary. Subsequently, the Bankers Committee has also **provided additional sector guidelines** and launched annual sustainability awards. (IFC, 2020)



In 2018, the FMDQ OTC Securities Exchange in partnership with the CBI and FSD Africa launched the Nigerian Green Bond Market Development Programme in partnership with Climate Bonds Initiative to provide a **framework for green finance for the private sector**, which is said to have spurred private green bonds.



The Nigerian Stock Exchange (NSE) **launched a Green Bond Segment** in 2018, for which the Nigeria Securities and Exchange Commission (SEC) **defines the approved categories for use of proceeds** (presently renewable and sustainable energy; clean transportation; sustainable water management; climate change adaption; energy efficiency, sustainable land use; biodiversity conservation; green buildings and others as approved).



In 2019 the **NSE signed a Memorandum of Understanding with Luxembourg Stock Exchange (LuxSE)** to cooperate in **promoting cross-listing and trading of green bonds** in Nigeria and Luxembourg. To date to two sovereign green bonds are listed on the Nigerian Green Bond Segment (as part of a sovereign green bond programme to fund education infrastructure, solar unit distribution, rapid bus transport and afforestation), and two corporate bonds (for renewables development), one of which has been cross-listed to LuxSE. (FMDQ, 2017, Financial Nigeria International Limited, 2020)



The NSE has issued **guidelines to encourage good corporate governance and transparency** among companies and issuers listed on the NSE (the Sustainability Disclosure Guidelines, 2018), and requires ESG reporting on its "Premium Board" since 2019. These Guidelines refer to the **GRI** and materiality processes, make specific mention of ESG and stakeholder inclusiveness, and **provide required performance indicators**. (Sustainable Stock Exchanges initiative, 2019)



While it is not clear that Nigeria has an active index, **all companies listed on the NSE Premium Board are required to participate in a Corporate Governance Rating System (CGRS)** that ranks companies on governance and anti-corruption metrics. (IFC, 2018)

Key



Commitment to cooperation



Cooperative industry activity



Regulatory or enforcement instrument



Guidance or technical support



Market specifications (voluntary or mandatory)



Financial incentives

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Norms, standards and enabling environments

Policies and measures to mainstream sustainable finance

European Union



The EU's **Action Plan on Sustainable Finance** (2018) sets out three objectives:

- Reorient capital flows towards sustainable investment, in order to achieve sustainable and inclusive growth
- Manage financial risks stemming from climate change, environmental degradation and social issues
- Foster transparency and long-termism in financial and economic activity

The European Green Deal Investment Plan (2020) announced that the Commission will establish an EU Green Bond Standard (GBS), which would help to promote the transparency and the integrity of the green bond market. (European Commission, 2020)



The European Commission set up a Technical Expert Group on Sustainable Finance (TEG) to assist it in developing, in line with the Commission's legislative proposals of May 2018:



- An **EU classification system** – the so-called EU Taxonomy – to determine whether an economic activity is environmentally sustainable;
- An **EU Green Bond Standard**;
- **Benchmarks for low-carbon investment strategies**; and

- **Guidance to improve corporate disclosure of climate-related information**



The **EU Taxonomy Regulation entered into force** in July 2020, which established the framework for the EU Taxonomy and sets out the overarching environmental principles and six environmental objectives. processes for adoption in EU regulation have begun.

The Taxonomy Regulation instructed the EU TEG to establish the actual taxonomy itself (the list of aligned economic activities and the specific technical screening criteria), which was delivered in March 2020. Since, the EU TEG has been replaced by a **Platform on Sustainable Finance** which is tasked with advancing taxonomy development for the EU, as the current version is extensive and foundational but covers ostensibly only activities making significant contribution to climate change mitigation and adaptation. (This is a simplification and the detailed documents and reports should be consulted for further information.) The Final Report on the **EU Taxonomy is undergoing final revision subsequent to last series of consultation, to make its way into regulation early in 2021**. The taxonomy and regulation has implications and specifications for financial institutions, and **specifies taxonomic-alignment performance indicators for instruments and products**.



The TEG Report on the **EU Green Bond Standards** (EU-GBS) and ancillary user documents sets out the recommendations regarding the Standard, which is indicated at this time as voluntary and for application within the EU or outside it. The EU-GBS looks to advance specific practices (such as **impact reporting and financial allocation**

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Key



Commitment to cooperation



Cooperative industry activity



Regulatory or enforcement instrument



Guidance or technical support



Market specifications (voluntary or mandatory)



Financial incentives



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reporting), define the requirements for Issuer 's Frameworks, confine the use of proceeds to only those that are taxonomically-aligned and mandate third-party verification of the Framework and "Final Allocation Report". Other TEG recommendations also include registration schemes for approved external reviewers.



The **Investment Plan for Europe** (or the "EU Infrastructure Investment Plan") (2017) set out three pillars:



- The European Fund for Strategic Investments (EFSI), by the European Commission together with the European Investment Bank (EIB) Group, is to provide an EU guarantee to mobilise private investment. At least **40% of EFSI infrastructure and innovation projects will aim to contribute to climate action** in line with the Paris Agreement. EFSI 2.0 also **explicitly targets new sectors**: sustainable agriculture, forestry, fisheries and aquaculture, (European Commission, 2020).

- The European Investment Advisory Hub and the European Investment Project Portal provide technical assistance and visibility of investment opportunities.
- Addressing regulatory barriers to investment and improving the business environment.



In 2020, the **Sustainable Europe Investment Plan** (SEIP) (also called the European Green Deal Investment Plan, EGDIP) was unveiled, which is the strategy to finance the **EU Green Deal**, a set of policy initiatives with the objectives of achieving EU climate neutrality by 2050. It is funded by the EU Budget and supplemented with revenues from the EU Emissions Trading System, as well as looking to attract significant private sector investment.

The EGDIP includes (European Commission, 2020):



- A **Just Transition Mechanism** (JTM) which in turn includes the **Just Transition Fund** for targeted projects in challenged regions, and technical assistance, capacity and access through a Platform.
- An Innovation and Modernisation fund, to support EU transition to climate neutrality in lower-income Member States
- InvestEU, which will provide EU budget guarantees to allow the EIB Group and other implementing partners to invest in more and higher-risk projects and crowd in private investors.



There are several **national and international capital markets** operational in the EU, many of whom **offer and actively market green and sustainability products**.

United Kingdom



United Kingdom (UK)'s **Green Finance Strategy aims to align private sector financial flows with clean, environmentally sustainable and resilient growth and to strengthen the competitiveness** of the UK financial services sector based on the following three-pronged approach (EY 2020):

- Greening Finance: Mainstreaming climate and environmental factors as a financial and strategic imperative
- Financing Green: Mobilising private finance for clean and resilient growth

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Key



Commitment to cooperation



Cooperative industry activity



Regulatory or enforcement instrument



Guidance or technical support



Market specifications (voluntary or mandatory)



Financial incentives





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- Capturing the Opportunity: Cementing UK leadership in green finance



A notable key area of action set under the UK's Green Finance Strategy, is the need to **train the financial workforce in sustainable finance** to support its mainstreaming. (EY Corporate Advisors, 2019)



In January 2016, the UK government partnered with the City of London Corporation to launch the **Green Finance Initiative to promote the UK as the leading global centre for providing green financial services**. The Green Finance Initiative **set up the Green Finance Taskforce (GFTF)** in September 2017 to help deliver the investment needed to meet the UK's Industrial and Clean Growth Strategy. (EY Corporate Advisors, 2019)



The GFTF published key policy recommendations for active green branding, driving demand and supply for green lending products, the government issuing a green sovereign bond and clarity of stakeholder roles which resulted in the establishment of the Green Finance Institute (GFI) in 2019. The GFI convenes and leads sectoral coalitions of global experts, that **identify and unlock barriers to investment towards impactful, real-economy outcomes, to benefit the environment, society, and business** (GFI, 2021).

The PRA, FCA, FRC and TPR – **UK's regulators** – **have published a joint statement on climate change to set out how climate-related financial risks require a coordinated approach** and collective action to address. (Carbon Trust, 2020)

The **Bank of England has stated its commitment** to helping the financial sectors in the UK and abroad to be well-prepared and act as a global leaders in the transformation to a low-carbon economy. (UK DIT,

2019).



The **Bank of England was a founding member of the Central Banks and Supervisors Network for Greening the Financial System (NGFS)**.



From October 2019, occupational **pension schemes in the UK were required to publish their policy on financially material considerations, including those arising from climate change**. This will also require relevant schemes to publish their policies in relation to the stewardship of investments. (Carbon Trust, 2020)

The **Financial Reporting Council recently published the Stewardship Code 2020 to set high stewardship standards for asset owners and asset managers**. (Carbon Trust, 2020)



The **UK Government and The Pensions Regulator have jointly established an industry group to develop TCFD guidance for pension schemes**. The Pensions Regulator expect to consult on this guidance in late 2019 **with a view to putting it on a statutory footing** during 2020 as part of the Governance Code required by the Occupational Pension Schemes (Governance) (Amendment) Regulations 2019. This Pension Schemes Bill is currently in the House of Lords.



The U.K. Government and national standards body (BSI) in collaboration with the U.K. Department for Business, Energy & Industrial Strategy, have issued a set of standards for responsible and sustainable investment management, building on the country's green finance strategy. The standards outline the policies and processes needed to create and embed a responsible approach to money management. The standards were published and the financial services

Key



Commitment to cooperation



Cooperative industry activity



Regulatory or enforcement instrument



Guidance or technical support



Market specifications (voluntary or mandatory)



Financial incentives

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Norms, standards and enabling environments

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industry. Focusing on the practical implementation of policies, the standards set out how money managers can embed their responsible or sustainable investment approach into the investment process and how to report on processes and outcomes. (P&I Online, 2020)



In 2020, the UK Government outlined a 10 point plan to guide and direct the green industrial revolution and position the UK as a global leader in green industries and low carbon economic growth. The key technologies and sectors of the 10 point plan include **offshore wind, green hydrogen, nuclear power, EVs, smart city transport design, green aviation and shipping, energy efficiency, CCUS, and nature based solutions**. All of which are underpinned by unlocking innovative financing mechanisms to drive the innovation and deploy them at scale (BEIS, 2020).



In June 2015, London Stock Exchange (LSE) launched its dedicated green bond segments, **establishing strict admission criteria aligned with ICMA's Green Bonds Principles**. Furthermore, LSE requires issuers to obtain a second party opinion as a condition to listing.



The **London Stock Exchange is looking into transition bonds** as part of the development of its sustainable finance offering in debt capital markets. (EY Corporate Advisors, 2019). In October **2019, LSE launched its Sustainable Bond Market segment** bringing together its green bond segment with new dedicated segments for social and sustainability bonds **as well as the newly-created issuer-level segment for bonds by issuers whose core business is aligned with the green economy** ("pure play" subject to a minimum ninety percent green revenues requirement).



LSE also launched its **"Green Economy Mark"** which recognises companies and investment funds on all segments of the Main Market

and AIM that derive 50% or more of their total annual revenues from products and services that contribute to the global green economy (ICMA 2020).

United States of America



Policies and measures targeting sustainable finance in particular are relatively few and activity is largely market driven, through investor demand for products, and a reported growing focus on ESG matters by companies themselves, major asset managers and banks. Changes are contextualised in the wake of Federal and State policies which promote (or not) low carbon transitions (UNEP, 2016), with uncertainty and Federal and City-level divergence during the recent Trump-administration term. This area may therefore re-accelerate in the coming years and should be monitored.



The New York Stock Exchange is a member of the Sustainable Stock Exchange initiative (SSE), provides informational and price discovery services regarding listings, and **encourages issuers to disclose transparently according to recommended reporting frameworks** (including GRI, SASB and TCFD). It refers to external guidance for further support and alignment. It also identifies investor engagement and networking as means by which it encourages ESG management proactivity and knowledge/practice sharing. (NYSE, 2021, ICE, 2021)



The **Nasdaq Sustainable Bond Market was launched** in July 2015 with a total volume of EUR740 million. The listing criteria are based on the Green and Social Bond Principles. To be eligible to list a bond on the **Nasdaq Sustainable Bond Market**, the bond or the green bond framework must be reviewed by an experienced third party.

Key



Commitment to cooperation



Cooperative industry activity



Regulatory or enforcement instrument



Guidance or technical support



Market specifications (voluntary or mandatory)



Financial incentives

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Norms, standards and enabling environments

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In December 2019, Nasdaq announced the launch of the **Nasdaq Sustainable Bond Network**, a **global, publicly available web-based platform** which aims to increase transparency and accessibility to environmental, social and sustainability bonds globally. The online repository provides issuers of sustainable bonds across the world with a platform to voluntarily publish key information and data regarding their specific bonds, which, in turn, **provides investors with the information they need to compare sustainable bonds** successfully. It thus enhances Nasdaq's Sustainable Bonds Market, allowing investors to source detailed information on sustainable bonds for product due diligence, selection and monitoring based from a centralized and open platform (ICMA 2020).

Green Bonds and green labelled products are not otherwise regulated.



In 2021 (and preceding this), several **internal recommendations** were made within the U.S. Securities and Exchange Commission (SEC) **concerning the regularisation of ESG-related disclosures by financial institutions and markets and standards setting**. In 2010, the SEC noted in an interpretative guidance note, the relevance of disclosure responsibilities by listed companies with respect to climate change risk. **There is presently no disclosure obligations according to the SEC.**



United States' National Association of Insurance Commissioners' (NAIC), an **insurance industry regulator**, formed a **Climate Risk and Resilience Working Group** in 2020.



In September 2020, a subcommittee of the **U.S. Commodity Futures Trading Commission** published a **report on managing climate risks, addressing a series of recommendations to national financial**

regulators and laying out measures that market participants may adopt in order to catalyse climate-related investments. (Cleary Gottlieb, 2020)



Investor and shareholder initiatives like Ceres and Climate Action 100+ have been active in pushing for ESG disclosure and proactivity on climate-related risk disclosure, and engaging with the US SEC, as well as directly with listed companies and financiers.



Activities may be **driven through developments in accounting standards and the work of the likes of SASB and the Climate Disclosure Standards Board (CDSB).**



A state-level example is NY Green Bank, which is a State-sponsored, **specialized financial entity working with the private sector to increase investments into New York's clean energy markets**, creating a more efficient, reliable and sustainable energy system. (greenbank.ny.gov 2020)



Canada's **Minister of Environment and Climate Change and Minister of Finance jointly appointed the Expert Panel on Sustainable Finance** in April 2018 to explore opportunities and challenges facing Canada in this field, and **to present the Government with a set of recommendations to scale and align sustainable finance in Canada** with the country's climate and economic goals. (Canada.ca, 2021)



Canada's Mobilizing Finance for Sustainable Growth report from the Expert Panel on Sustainable Finance sets out a consolidated plan to facilitate sustainable financing, including:

Key



Commitment to cooperation



Cooperative industry activity



Regulatory or enforcement instrument



Guidance or technical support



Market specifications (voluntary or mandatory)



Financial incentives

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Norms, standards and enabling environments

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- **Establishing a Canadian Sustainable Finance Action Council** and a Canadian Centre for Climate Information and Analytics;
- **Embedding climate-related risk into monitoring, regulating, and supervising Canada's financial system;**
- **Expanding Canada's green fixed income market** to promote sustainable investment; and
- **Engaging institutional investors** in financing Canada's future electricity grid (Green Finance Platform, 2020).

The **federal government** is taking steps toward mainstreaming sustainable practices in Canadian financial markets with the decision to **issue its first-ever green bond in 2021 – 22.**



Green and other labelled bond issuance in Australia has seen strong annual growth since 2014, and from a diverse range of issuer types. This growth has largely been **driven by strong investor demand for green products** along with a number of contributing factors, such as improved understanding of green definitions, a common language among market participants, and simplicity, transparency and credibility of products, although much of this comes from international example and not especially from Australian enabling environment developments. **An increase in ESG awareness of issuers and ESG agendas of asset owners has also driven greater market activity.** (CBI, 2020)



In the past few years, **several major Australian banks have declared targets for green lending portfolios.** These targets are expected to boost credit supply for green loans and are expected to increase over time. The green lending criteria applied by some of these banks is regardless of product, so may be applies to either green loans or KPI-linked products. (CBI, 2020)



Innovative structures have emerged, including the creation of new green investment products designed to appeal to investors with different risk appetites, including green and sustainability-linked loans and retail deposit products. Green bond issuers – particularly the **large banks and State Treasury Corporations** – have **used green bonds as a market signal around green policy** and to meet increasing investor demand, tapping the market **to refinance pools of existing eligible assets.** (CBI, 2019)

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Key



Commitment to cooperation



Cooperative industry activity



Regulatory or enforcement instrument



Guidance or technical support



Market specifications (voluntary or mandatory)



Financial incentives



The **Australian Sustainable Finance Initiative (ASFI), launched in March 2019**, brings together leaders spanning Australia's major banks, superannuation funds, insurance companies, governing bodies, and academia **tasked to develop a Sustainable Finance Roadmap, published in 2020.** (Australian Sustainable Finance Initiative, 2020).



The **Australian Sustainable Finance Roadmap was launched in 2020**, and recommended pathways, policies, and frameworks to enable the financial services sector to contribute more systematically to the transition to a more resilient and sustainable economy, consistent with global goals such as the UN Sustainable Development Goals and the Paris Agreement on climate change (Green Finance Platform, 2020). **Near-, medium- and long-term actions are all set to be completed by 2030.**



Norms, standards and enabling environments

Policies and measures to mainstream sustainable finance



Issuance of sovereign and sub-sovereign (SSA) green bonds by state governments have also been active in 2018 and 2019 with issuance from the treasury corporations of Qld and NSW. Victoria has been the first Australian SSA issuer to enter the green bond market in 2016. Follow up from Qld, NSW and the recent QIC bond in August 2019 have had a constructive effect on market awareness and perceptions (CBI 2019).



Neither the Australian Stock Exchange (ASX) or the Sydney Stock Exchange **has a Green/Sustainability Bond Segment**. ASX and Sydney Stock Exchange are **both Sustainable Stock Exchange initiative members**.



ASX does not have specific mandatory ESG listing disclosure requirements, although requires listed companies to publish annually a corporate governance statement that discloses the extent to which the entity has followed the recommendations set by the ASX Corporate Governance Council – which includes that a “listed entity **should disclose whether it has any material exposure** to economic, environmental and social sustainability risks **and, if it does, how it manages or intends to manage those risks.**” (SSE, 2021)



Australian superannuation funds are increasing their local and global activity around climate risk issues, particularly via Climate Action 100+, TCFD reporting and The Investor Agenda. Incorporation of ESG factors into general investment practices and expectations of corporate directions is growing. Green bond specific mandates are being awarded, and global scale funds are becoming more active in the alternative space, seeking increased opportunities for financing and operation of domestic & international infrastructure assets (CBI 2019).



In 2019, the **Australian Securities and Investments Commission (ASIC) published updates to clarify the application of its existing regulatory guidance on the disclosure of climate change related risks and opportunities.**

China



In 2015, the State Council and the Communist Party of China (CPC) Central Committee issued the **Integrated Reform Plan for Promoting Ecological Progress which includes the pathway to establish China's green finance system**. As a next step, the G20 Green Finance Study Group was launched to study and promote green finance development in global level. In March 2016, building a green finance system was identified as a priority as part of the Thirteenth Five-Year Plan for economic and Social Development of the People's Republic of China, which officially **elevated the development of green finance in China as a national strategy**.



In August 2016, seven financial-related commissions and ministries jointly issued the “Guidelines for Establishing the Green Financial System”. These **guidelines set the policy platform for green finance in China, including the official definition of green finance, incentives, disclosures requirements, development plan for green financial products and risk mitigations.** (EY Corporate Advisors, 2019)



In June 2017, the State Council chose the provinces of Zhejiang, Guangdong, Guizhou, Jiangxi and Xinjiang **as green finance pilot zones to explore different development models and aspects of green finances**. In addition to the overall green finance plans and policies,

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Key



Commitment to cooperation



Cooperative industry activity



Regulatory or enforcement instrument



Guidance or technical support



Market specifications (voluntary or mandatory)



Financial incentives



Norms, standards and enabling environments

Policies and measures to mainstream sustainable finance

each pilot zone was allowed to issue their unique strategies. The practical experiences accumulated from those five pilot zones are expected to use as foundation for the promotion of green finance throughout China.



Aligned to these undertakings, a series of **policies regarding the definition of green finance and green bonds was set by the People's Bank of China**. The focus of current regulatory initiatives is focused on bonds.



In 2015, PBoC published the **China Green Bond Endorsed Project Catalogue** which has since been updated (2020 is the most recent version); this is a comprehensive guideline for green bonds aimed at issuers which includes an official list of types of green projects that are eligible for green bond financing. The National Development and Reform Commission in parallel published its Green Bond Issuance Guidelines (2016). The PBoC and NDRC guidelines apply to different borrowing activities, and the PBoC guidance is the more comprehensive. (EY Corporate Advisors, 2019, CBI, 2016).



In 2017, the China Securities Regulatory Commission (CSRC) also developed their own green bond guidelines, as well the National Association of Financial Market Institutional Investors (NAFMII). These four different green bond guidelines differ in application and requirements of the issuer. In all, third party certification is voluntary, though the NDRC guidelines require evaluation by the Regulator. (Zhang, 2020)

Singapore



In 2017, eight ASEAN central banks launched a green-focused **network called Central Banks and Supervisors Network for Greening the Financial System**, which aims to share experience and strategy relate to sustainability development. (Chang, 2019)



Later that year, the **Monetary Authority of Singapore (MAS)** initiated the green bond market by launching the **Green bond Grant Scheme**. It aims to provide support to bond issues to reduce the burden of costs and to encourage undertaking an independent external review (Chang, 2019). The scheme provides up to “100% of any costs incurred by an issuer in relation to the external reviewer’s provision of an independent assessment will be reimbursable, subject to a cap of S\$100,000.”



In 2019, the MAS launched a **Green Finance Action Plan** that set the comprehensive long-term green finance development strategy in Singapore. It includes in the following six areas:

- **Environmental Risk Management Guidelines** across the banking, insurance, and asset management sectors;
- **Grant schemes** to support mainstreaming of green and sustainability linked loans;
- A US\$2 billion Green Investments Program;
- Expansion plans of external reviewers and rating agencies;

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Key



Commitment to cooperation



Cooperative industry activity



Regulatory or enforcement instrument



Guidance or technical support



Market specifications (voluntary or mandatory)



Financial incentives



Norms, standards and enabling environments

Policies and measures to mainstream sustainable finance

- Anchor Centers of Excellence with world-class research institutions and leading universities to contribute Asia-focused climate research and training programs; and
- Green Finance as a key theme in the 2020 fintech Hackcelerator.



The MAS is also partnering with the IFC to accelerate the development and growth of green finance in Asia through capacity building and promoting the application of internationally recognized standards. (EY Corporate Advisors, 2019)



In 2020, The **MAS launched the Green and Sustainability-Linked Loan Grant Scheme (GSLS)**, which will be effective as of 1 January 2021. GSLS aims to support corporates gain green financing by reducing the expense of gaining independent credentials of the loan. The grant also **encourages banks to develop frameworks for green and sustainability-linked loans, especially for SMEs**. MAS will reduce 90% the expenses incurred by banks to develop frameworks specifically targeted at SMEs and individuals, capped at S\$180,000 per framework. (MAS, 2020)



No taxonomy defining sustainable economic activities has been established in Singapore. (EY Corporate Advisors, 2019)

The development of Singapore's **green finance market is mainly** due the issuance of **green loans** which account for 47% of the cumulative volumes (CBI, 2019). Followed by that, the **real estate companies** (including REITS), which with most of the proceeds **targeting certified green buildings**.

Sustainability-linked loans (SLL) are relatively popular in Singapore since these are considered as providing flexibility for firms to apply the use of the loan proceeds, further supported by the GSLS grant scheme.

(MAS, 2020)



MAS is a member of the network of Central Banks and Supervisors for Greening the Financial System (NGFS) and also in the Steering Committee.



MAS is an active member of the Sustainable Insurance Forum (SIF) which is the global leadership group of insurance supervisors and regulators working together to strengthen understanding and responses to sustainability issues. It provides common approaches to solve sustainability challenges faces in the insurance sectors. (EY Corporate Advisors, 2019)

Indonesia



In 2014, the Financial Services Authority (Otoritas Jasa Keuangan), Indonesia (OJK) and the ministry of Environmental and Forestry (KLHK) published a **Sustainable Finance Roadmap for Indonesia**. This roadmap contains a detailed work plan for all financial institutions, under the supervision of OJK, for the period of 2015-2019. This roadmap serves as a reference for green finance development in Indonesia. This roadmap mainly focuses on following three areas (EY Corporate Advisors, 2019):

- Increase the supply of sustainable financing
- Increase the demand for sustainable financing products
- Increase the oversight and coordination of sustainable finance implementation

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Key



Commitment to cooperation



Cooperative industry activity



Regulatory or enforcement instrument



Guidance or technical support



Market specifications (voluntary or mandatory)



Financial incentives



Norms, standards and enabling environments

Policies and measures to mainstream sustainable finance

- Indonesia Government developed *The Republic of Indonesia Green Bond and Green Sukuk Framework*, under which it intends to finance and refinance eligible green projects.

In addition to the sustainable finance roadmap, Indonesia issued rules and regulations that support the operation of sustainable finance, in particular:



- OJK Regulation No 51/2017 on the **Application of Sustainable Finance to Financial Services Institution**, which deals with ESG risk management and sustainability reporting



- OJK Regulation No 60/2017 on **Guidance for Green Bond Issuance** in Indonesia, which also provides a definitive **list of green activities which are eligible for green bond financing** (identified as are business activities and/or other activities aimed at protecting, restoring and/or improving the quality or function of the environment. It also makes external review mandatory and prescribes reporting requirements.

Vietnam

Vietnam's first foray into green bonds was implemented by its Ministry of Finance in 2016 under a trial programme. It undertook one city level and one provincial level bond which were to be applied for particular green projects; it is unclear what challenges were met, but it is noted that not all quality criteria were met and these bonds are therefore not denoted as green bonds.



The State Bank of Vietnam (SBV) has provided definition of eligible green finance by developing **a list of green project categories** through

its Green Project Catalogue.



Subsequently, Vietnam launched its *Bond Market Development Roadmap during 2017-2020, with a Vision Toward 2030* (Prime Minister Decision No. 1191/QĐ-TTg) programme by Prime Minister approval in 2017. It **recommends the adoption of mechanisms and policies for the development of the green bond market**. In addition, a number of other policies have been issued to regulate green bond issuances. Under its specifications, several rules and regulations were launched regarding to the green finance development in Vietnam, governing sovereign and state agency issues, municipal issues, and corporate issues. (EY Corporate Advisors, 2019)



A central directive from SBV was issued, that **provincial branches and credit institutions are to develop “green credit programmes and policies”** to increase the proportion of such financing within their portfolios. **Periodic reporting to SBV on progress is required.**



An *Action Plan of the Banking Sector to Implement the National Strategy on Green Growth towards 2020 (2015)* mandates the **SBV must review and align its operations and targets to align to the strategy**, and to undertake market support activities through awareness and capacity building.



Both the **Hanoi Stock Exchange and the Ho Chi Minh Stock Exchange** have **endorsed TCFD**, and pledged support to climate-related disclosures.

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Key



Commitment to cooperation



Cooperative industry activity



Regulatory or enforcement instrument



Guidance or technical support



Market specifications (voluntary or mandatory)



Financial incentives



Norms, standards and enabling environments

Policies and measures to mainstream sustainable finance



Issued in 2015, *Circular No. 155/TT-BTC on disclosure of information on the securities market* requires **publicly listed companies to report on environmental and social impact** on an annual basis. Amongst others, particular resource intensity disclosures are required, from which Finance Institutions are exempt. The use of GRI is encouraged, for which a Vietnamese version was developed in 2017.



Lastly, *Directive No. 03/CT-NHNN On Promoting Green Credit Growth and Environmental and Social Risks Management in Credit Granting Activities* stipulates that credit institutions **must develop and adopt measures to assess and manage environmental and social risks in lending** activities, and **report periodically to SBV on their environmental and social risk evaluation activities**.

Key



Commitment to cooperation



Cooperative industry activity



Regulatory or enforcement instrument



Guidance or technical support



Market specifications (voluntary or mandatory)



Financial incentives



Norms, standards and enabling environments

Drivers for sustainability risk management in the financial sector

Brazil

- CMN Resolution 4327/2014 **discusses policies and processes for the analysis and management of socioenvironmental risks in institutions under its regulation**. It is flexible regarding the level of ambition of environmental and social policies, **depending on the institution' risks exposure**. Additionally, Resolution 4557/2017 **mandates the implementation of a structure for risk management – including environmental and social risks**
- FEBRABAN established a **Working Group on Climate Risks on 2018**. Since then, it has delivered capacity building courses regarding climate, social and environmental risks, and TCFD. Additionally, they have developed the Climate Risk Sensitivity Assessment Tool, to analyse the sensitivity of the banks' credit portfolio to climate risks.
- **Brazilian Banks are typically signatories of the Equator Principles**. Banco do Brasil, Bradesco, CAIXA Econômica Federal, Banco Votorantim and Itau have submitted their corresponding risk management reports to comply with the Equator Principles.
- **FEBREBAN is a member of the UNEP Finance Initiative** (UNEP FI), and nine Brazilian financial institutions are signatories of the Principles for Responsible Insurance. Likewise, three banks are signatories of the Principles for Responsible Banking, and 48 financial institutions have signed the Principles for Responsible Investment (UNEP FI, 2020).

Chile

- Chile is a **Designated Country by the Equator Principles**.

- Chile is a member of the UNEP Finance Initiative and insurance companies are **adopting the Principles for Sustainable Insurance** (UNEPFI, 2020).
- Santiago's **Stock Exchange has issued a Responsible Investment Guide** which provides information on environmental and social risk management and integrating ESG criteria in investment decisions.

Mexico

- The Mexican Banks Association launched the **Banks Sustainability Protocol** (2016), a voluntary commitment based protocol which **sets all guidelines and requirements related to environmental and social risk management** – from policy development, capacity building to risk appraisal and monitoring. The Protocol requires financial institutions to **undertake a social and environmental due diligence** at the transaction and client level; as well as implementing specific risk management processes for sensitive sectors, including risks within a loan or project. The Protocol promotes the participation and implementation of other sustainable finance initiatives including: Global Compact Act, Equator Principles, UNEPFI, and the Mexican Commission for Sustainable Development in the Private Sector. (IFC, 2019)
- The Mexican Banks Association also launched a **Social and Environmental Risk Analysis Tool** in 2017.
- Mexico is a member of the UNEP Finance Initiative. Two Mexican Banks are signatories of the Principles for Responsible Banking and

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Norms, standards and enabling environments

Drivers for sustainability risk management in the financial sector

- one insurance company is a signatory of the Principles for Sustainable Insurance (UNEPFI, 2020). While **most financial institutions have adhered to the Equator Principles, it is suggested to expand their implementation to other portfolio categories and embed this assessment across all organisations.**
- Despite this, according to a study from the Banco de México, most **analyses related to environmental and social risks from banks, credit institutions and asset managers, are qualitative;** and disclosure is limited. This means that few institutions actually assess the financial exposure created by such risks and thus have a limited understanding of the materiality of environmental risks.
- Most credit institutions **rely mainly on exclusion or sensitive lists to assess social and environmental risks.** Nevertheless few of these have implemented management and control strategies to avoid risks identified, nor track the management and control measures to avoid social and environmental risks once they have disbursed credits.
- As of 2022, the regulation for ESG integration by Mexican pensions funds will go into full force, which obliges pension funds to disclose whether ESG is integrated into the investment process, and how; engage and promote ESG with investees; consider ESG and additional integration methodologies; have a risk management and exposure policy; and define an investment policy that considers ESG and measures ESG performance in the chosen investment vehicles. (Miranda Partners, 2021)

Colombia

- A voluntary initiative from Colombian banks and the Colombian

government was launched, the Green Protocol, first in 2012 and renewed in 2018. The protocol aims to unite efforts to promote sustainable development and work towards environmental conservation and sustainable use of natural resources. The **Protocol draws from international standards** (i.e. Equator Principles, UN Global Compact and IFC Performance Standards), **as well as UNEP Finance Initiative.** It requires banks to have a environmental and social policy established and to monitor risks accordingly. It promotes the development of financial products and services that integrate environmental and social criteria. Banks should also report on the risk management and analyses of loans. The Protocol now includes insurance companies and microfinance institutions. **Asobancaria has the remit to place sanctions on its members who are non-compliant Protocol signatories, but also has the remit to create incentives** for implementing the environmental and social risk management systems of the Protocol – though it's unclear that such measures have been taken as yet.

- In 2016, Asobancaria issued the **General Guidelines for the implementation of environmental and social risk analysis,** requiring banks to implement a formal environmental and social policy, performance standards and tools. Banks should monitor and manage risks accordingly.
- Colombia is a member of the **UNEP Finance Initiative.** Three Colombian banks have adhered to the **Principles for Sustainable Banking** and two insurance companies have adhered to the **Principles for Sustainable Insurance** (UNEPFI, 2020). One commercial (regional) bank is a **signatory to the Equator Principles.**

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Norms, standards and enabling environments

Drivers for sustainability risk management in the financial sector

- Two Colombian **banks have piloted a tool from the Natural Capital Finance Alliance** to identify and assess the exposure to natural capital risks. Due to the relevance of the agriculture sector in Colombia, the tool aims to help banks manage risks derived from environmental degradation.

Kenya

- The Sustainable Finance Initiative's Sustainable Finance Principles and Guidelines prompt signatory financial institutions to formalise ESG policy and encourage institutions to go beyond ESG requirements from local laws and regulations. The Principles state that financial institutions should establish internal processes **to track the environmental and social risks of customers** over time and that banks should actively assess and report on the financial performance effects of environmental and social risks. The principles require environmental and social due diligence at the transaction and consumer level to be carried out and encouraged projects/clients to be categorized according to their environmental and social risk level. However, as acknowledged by KBA, implementation has been fragmentary and inconsistent.
- The Principles also suggest that financial institutions track key departments' training and skills, including the relevance to finance and credit risk operations through the preparation of
 - Front officers;
 - Second defensive lines (risk officers and/or enforcement officers);
 - Environmental and social experts

Nigeria

- The Nigerian Sustainable Banking Principles (NSBP) (2012) are the principle mechanism for ESG risk management integration into the Nigerian financial sector, though these are voluntary.
- ESG integration is also encouraged in listed companies through the NSE Sustainability Disclosure Guidelines (2018).

European Union

- The EU's Action Plan on Financing Sustainable Growth sets out actions aiming to improve how financial institutions manage environmental and climate risks. This remains work in progress.
- As part of this, it is also seeking to introduce regulations that would enhance the ESG transparency of benchmark methodologies and define standards for the methodology of low-carbon benchmarks. (EY 2020)
- The ECB has published guidance on prudent climate-related and environmental risk management and disclosures from the European banks. The banks will conduct a self assessment and develop action plans for environmental risk management and disclosures following which the ECB will benchmark the banks and interrogate the plans for effectiveness and ambition (ECB, 2020).

United Kingdom

- In the UK, the **Prudential Regulation Authority** at Bank of England (BOE) **published supervisory expectations regarding how banks and insurers should monitor and manage financial risks from climate change.**



Norms, standards and enabling environments

Drivers for sustainability risk management in the financial sector

- New legislation (effective from January 2021) published by the FCA will **require listed commercial companies to include a statement in their annual reports as to whether their disclosures are consistent with the recommendations of the TCFD and explain if they are not** (FCA, 2020). Large UK pension funds will also be required to report in line with the TCFD Recommendations from October 2021.
- It is also currently in the UK in 2021 **preparing to run a climate stress testing exercise with banks and insurers** (EY Corporate Advisors, 2019).

United States of America

- The United States' National Association of Insurance Commissioners' (NAIC) Climate Risk and Resilience Working Group was formed in 2020, with the exploratory and engagement objectives as follows (Green Finance Platform 2020):
 - Engage with industry and stakeholders in the U.S. and abroad on climate related risk and resiliency issues.
 - Investigate and recommend measures to reduce risks of climate change related to catastrophic events.
 - Identify insurance and other financial mechanisms to protect infrastructure and reduce exposure to the public.
 - Identify sustainability, resilience and mitigation issues and solutions related to the insurance industry.
 - Evaluate private-public partnerships to improve insurance market capacity related to catastrophe perils.
 - Investigate and receive information regarding the use of modelling by carriers and their reinsurers concerning climate risk.

- Review the impact of climate change on insurers through presentations by interested parties.
- Review innovative insurer solutions to climate risk, including new insurance products through presentations by interested parties.

Canada

In November 2020, the **Bank of Canada and the Office of the Superintendent of Financial Institutions (OSFI)** announced plans for a **pilot project to use climate-change scenarios to better understand the risks to the financial system** related to a transition to a low-carbon economy. A small group of institutions from the banking and insurance sectors will participate voluntarily in the project. The climate-change scenarios to be developed for the project will build on the Bank of Canada's research on climate-related scenario analysis. The project aims to (Green Finance Platform, 2020):

- build the climate scenario analysis capability of authorities and financial institutions, and support the Canadian financial sector in enhancing the disclosure of climate-related risks
- increase authorities' and financial institutions' understanding of the financial sector's potential exposure to risks associated with a transition to a low-carbon economy
- improve authorities' understanding of financial institutions' governance and risk-management practices around climate-related risks and opportunities.

As part of the COVID-19 economic relief stimulus, the Canadian government mandated climate-related disclosures and reporting for companies to be eligible to receive relief funding from the scheme

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Norms, standards and enabling environments

Drivers for sustainability risk management in the financial sector

Australia

- Only relevant to listed companies on the ASX, recommendation 7.4 of the ASX Corporate Governance Council's Principles and Recommendations states that "a listed entity should disclose whether it has any material exposure to economic, environmental and social sustainability risks and, if it does, how it manages or intends to manage those risks". ASX Listing Rule 4.10.3 requires all listed entities to publish annually a corporate governance statement that discloses the extent to which the entity has followed the recommendations set by the ASX Corporate Governance Council during the reporting period. Listed entities that do not follow a particular recommendation, are required to disclose that fact and provide the reasons why ("if not, why not" reporting). (SSE Initiative 2020)
- In 2019, the **Australian Securities and Investments Commission (ASIC)** published updates to clarify the application of its existing regulatory guidance on the disclosure of climate change related risks and opportunities. ASIC has **updated its guidance to**, amongst other things:
 - Incorporate the types of climate change risk developed** by the G20 Financial Stability Board's Taskforce on Climate Related Financial Disclosures (TCFD) **into the list of examples of common risks that may need to be disclosed in a prospectus** (appearing in Table 7 of RG 228);
 - Highlight (in RG 247.66) **climate change as a systemic risk** that could impact an entity's financial prospects for future years and **that may need to be disclosed in an operating and financial review (OFR)**;
 - Reinforce (RG 247.66) that disclosures made outside the OFR (such as under the voluntary TCFD framework or in a sustainability report) should not be inconsistent with disclosures made in the OFR; and
 - Make a minor update (to INFO 203) to **highlight climate change and other risks that may be relevant in determining key assumptions that underly impairment calculations**.
- In 2019, the **Australian Securities and Investments Commission (ASIC)** published updates to clarify the application of its existing regulatory guidance on the disclosure of climate change related risks and opportunities. ASIC has **updated its guidance to**, amongst other things:
 - Incorporate the types of climate change risk developed** by the G20 Financial Stability Board's Taskforce on Climate Related Financial Disclosures (TCFD) **into the list of examples of common risks that may need to be disclosed in a prospectus** (appearing in Table 7 of RG 228);
 - Highlight (in RG 247.66) **climate change as a systemic risk** that could impact an entity's financial prospects for future years and **that may need to be disclosed in an operating and financial review (OFR)**;
 - Reinforce (RG 247.66) that disclosures made outside the OFR (such as under the voluntary TCFD framework or in a sustainability report) should not be inconsistent with disclosures made in the OFR; and
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- Make a minor update (to INFO 203) to **highlight climate change and other risks that may be relevant in determining key assumptions that underly impairment calculations**.

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Norms, standards and enabling environments

Drivers for sustainability risk management in the financial sector

China

- PBoC published *Guidelines for Establishing the Green Financial System* that **lists several areas and actions to support financial institutions to manage environmental risks**;
 - Support and guide banks and other financial institutions to establish a credit management system that conforms to the characteristics of green enterprises and projects.
 - Support banks and other financial institutions to treat environmental and social risks as important drivers in their stress tests for credit risks
 - Enhance the analytical capacities of institutional investors on environmental risks and carbon intensity of their investments, and conduct stress tests of the impact of environmental and climate factors on institutional investors (especially insurance companies).
- In 2019, the Green Finance Committee of Finance Association of China issued the *Environmental Risk Management Manual for China Overseas Investment*. This guidance includes the objective, scope and general guidelines for environmental risk management of China's overseas investment (Greenovation, 2019).

Singapore

- The Monetary Authority of Singapore (MAS) released the *Guidelines on Environmental Risk Management for Banks* in December 2020 that **sets out environmental risk management expectations** for all commercial banks, merchant banks and finance companies. The report mainly focusses on concepts of governance, strategy, risk management and disclosure practices of environmental risk

information. (MAS, 2020)

Indonesia

- POJK No.51/2017 regulation requires Financial Services institutions to prepare a sustainable finance action plan that contains information concerning risk management, including ESG matters

Vietnam

- The *Directive No. 03/CT-NHNN on Promoting Green Credit Growth and Environmental and Social Risk Management in Credit Granting Activities* provides guidance to credit institution to develop and implement an environmental and social risks management system.
- SBV is part of the SBN (Sustainable Banking Networking) which formed with the goals of improved management of environmental, social and governance risks. As a member of SBN, Vietnam can utilize this platform for knowledge sharing and capacity building that improves sustainability risk management practice.



Norms, standards and enabling environments

The drivers for sustainability disclosure in the financial sector

Brazil

Sustainability disclosure is driven by three mechanisms, dealing with ESG risk and/or performance reporting, and all requiring public disclosure approaches, with a regulatory requirement for public reporting and voluntary endorsed guidance concerning ESG performance and climate-change related risk and opportunity management:

- CMN Resolution 4327/2014 under the Banco Central do Brasil that **requires public reporting of environmental and social risks from all financial institutions** under its purview and Central Bank's Circular 3846/2017 which concerns the mandatory disclosure of any kind of exposure to social and environmental risks
- Brazilian Federation of Banks (FEBRABAN) adoption of The Green Protocol, a voluntary management and reporting framework, including a set of ESG indicators to assess the Protocol's impact on Banks
- FEBRABAN's endorsement and adoption of the TCFD Recommendations as a guidance framework for disclosure and reporting commitments by Banks in Brazil. FEBRABAN is implementing an institutional project to support banks adopt TCFD recommendations by encouraging risk monitoring at the portfolio level and voluntary climate-related commitments. Within this project, FEBRABAN has developed a roadmap and a Climate Risks Sensitivity Assessment Tool. As a member of the SBN, FEBRABAN is receiving support from IFC and Canada to transition to a sustainable banking sector

Chile

- The **Commission for the Financial Markets has considered it necessary to create a Task Force for Climate Change** to integrate the risks posed by this phenomenon (Ministry of Finance, 2019).
- The **Pensions Superintendence amended the Risk Based Supervision Process to incorporate climate risk and ESG**. Additionally, the Superintendence is **assessing the potential to mandate disclosure** on ESG information (Ministry of Finance, 2019).
- Santiago's **Stock Exchange has issued a Sustainability Reporting Guide for Issuers** and a set of Recommendations for Strengthening Market Transparency

Mexico

- Disclosure requirements in Mexico are presently mostly voluntary;
 - The Bank's Sustainability Protocol – a voluntary protocol – requires financial institutions to report regularly on the Environmental and social or ESG performance to investors and regulators. It has been suggested that there is an opportunity to improve consistency of reporting and disclosure among financial institutions, through guidelines or templates to standardise these processes.
 - The CCFV – a voluntary coalition of financial actors – issued a request in September 2020, for listed companies to disclose ESG information based on TCFD and SASB, signed by institutional investors including pension funds administrators, insurance companies, investment funds and asset managers.
- As of 2022, regulation will come into force making pensions funds ESG matters' governance, management and disclosure mandatory.

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Norms, standards and enabling environments

The drivers for sustainability disclosure in the financial sector

Colombia

- The Colombian Financial Superintendence is **promoting transparency and information disclosure by supporting TCFD and other international initiatives**; as well as promoting the use of climate data to identify risks in the financial entities. **This remains voluntary.**
- Asobancaria's **Green Protocol requires Banks to report on the implementation and progress regarding environmental and social risks.**
- Colombia's Stock Exchange published **a guide to prepare ESG reports for issuers.**
- The Stock Exchange has also provided a *Good Practices guide for issuing Green Bonds* that **suggest that issuers** should (SFC, 2020). :
 - **Have a sustainability or ESG framework** and management system. This system should facilitate the identification, assessment and tracking of social and environmental risks
 - Prior to issuing a green bond, identify an eligible projects pipeline for at least 50% of the bond's proceeds
 - Related to the use of proceeds, the issuer should refer to an appropriate taxonomy (CBI, EU, ICMA). Likewise, it is recommended that the issuer includes indicators consistent with the Harmonised Framework for impact reporting proposed by ICMA (SFC, 2020).
- The Colombian National Planning Department developed a corporate SDG tracker with support from UNDP to evaluate progress towards the sustainable development goals based on GRI sustainability standards

- The Colombian Climate Asset Disclosure Initiative (CCADI) is a **voluntary initiative** created in 2019 with support from UK BEIS, to **promote climate smart investments by identifying and incorporating climate risk in the investment strategies of Colombian institutional investors.** The initiative has analysed how investors manage and disclose information on climate related risks, to develop recommendations and deliver capacity building events.

Nigeria

- The NSE's Sustainability Disclosure Guidelines (2018) requires ESG reporting from listed companies on its "Premium Board" since 2019, **providing required performance indicators.** (Sustainable Stock Exchanges initiative, 2019)

European Union

- Climate-related financial disclosures are getting increasing attention across the EU. In 2019, the European Commission published guidelines to improve how companies report climate-related information, which is part of its Action Plan on Financing Sustainable Growth. (EY Corporate Advisors, 2019)
- EU law requires multinationals and other large companies to disclose **information on the way they operate and manage social and environmental challenges.** This supports investors, consumers, policy makers and other stakeholders to evaluate non-financial performance of large companies and encourages these companies to develop a responsible approach to business.

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Norms, standards and enabling environments

The drivers for sustainability disclosure in the financial sector

The EU Taxonomy Regulation amends the Non-Financial Disclosure Regulation (Regulation (EU) 2019/2088 of the European Parliament and of the Council of 27 November 2019 **on sustainability-related disclosures in the financial services sector**) to require “financial market participants” (FMPs) to disclose, either:

- information on how, and to what extent, the investments that underlie their financial product support economic activities that meet the four tests for environmental sustainability under the Taxonomy Regulation, or
- for those products that do not invest in taxonomy-compliant activities, a statement that they do not take into account the EU taxonomy.

FMPs are defined in the Disclosure Regulation, and include institutional investors and asset managers. The same goes for the definition of “financial products”: these include funds, portfolio management, insurance-based investment products and pension schemes.

These regulations will apply to all EU FMPs and as for non-EU FMPs, according to a recent FAQ document published by the European Commission and the Technical Expert Group on Sustainable Finance, the disclosure obligations for financial market participants in the Taxonomy Regulation, which build on the respective obligations in the SFDR, **are meant to apply to anyone offering financial products in the EU**, regardless of where the manufacturer of such products is based.

- Directive 2014/95/EU – also called the non-financial reporting directive (NFRD) – lays down the rules on disclosure of non-financial and diversity information by large companies. This directive amends

the accounting directive 2013/34/EU. Companies are required to **include non-financial statements in their annual reports** from 2018 onwards.

- France became the first country to enact **legislation requiring asset owners and asset managers to disclose how they manage climate-related risks and, more broadly, incorporate environmental, social and governance parameters into their investment policy**. The transparency requirement is set out under Article 173 of the country’s Energy Transition for Green Growth Law and is intended both **to improve communication and to make institutional investors more aware of issues and risks** relating to energy transition for green growth. In December 2018, the Institute for Climate Economics (I4CE), a joint initiative established by Caisse des Dépôts and l’Agence Française de Développement, published an overview assessing the application of Article 173 by French insurers after two years of implementation (ICMA 2020).

United Kingdom

- **LSE listed companies are required to report on greenhouse gas emissions, human rights and diversity**. (EY Corporate Advisors, 2019)
- Climate-related financial disclosures are also receiving increasing attention. The U.K. **Government expects all listed companies and large asset owners to be disclosing in line with the TCFD recommendations by 2022**. The U.K. Government is **planning to establish a joint taskforce with regulators to ensure a coordinated**

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Norms, standards and enabling environments

The drivers for sustainability disclosure in the financial sector

approach on climate-related financial issues. The taskforce will also analyse the most effective way to approach disclosure, including the **appropriateness of making the reporting mandatory.** (EY Corporate Advisors, 2019)

- **221 organisations in the UK formally support the Task Force on Climate-related Financial Disclosure Recommendations.** From 2021, pension funds and listed companies will be required to align their reporting with the TCFD recommendations or explain why their reporting is inconsistent with these recommendations (theglobalcity.uk, 2020)
- **557 UK investors signed the UN's Principles of Responsible Investment,** making the UK home to a leading number of firms that commit to sustainable principles. (theglobalcity.uk, 2020)

United States of America

- Despite **increasing pressure from institutional investors**, the **U.S. SEC** has so far been reluctant to adopt ESG-specific guidelines and instead **only requires that disclosure of ESG risks be made if they are "material"**, formally declining to publish any rule-making in the area of ESG in 2020. (Cleary Gottlieb, 2020)
- **Shareholder ESG proposals have continued apace** in 2020, with a renewed focus on the social impact of the pandemic on companies' workforces. During the 2020 proxy season, **social and environmental proposals (focusing in particular on climate change)** continue to outnumber governance/compensation proposals. Among environmental proposals, **the majority relate to climate change** and an increasing number call for concrete action rather than just disclosure. (Cleary Gottlieb, 2020)

Canada

- Under the Canadian National Instrument on Continuous Disclosure Obligations, **companies that are listed on the Toronto Stock Exchange must disclose environmental information**, including disclosing policies on the company's relationship with the environment and the steps taken to implement the policies.
- In addition to the financial statements, listed entities are required to file a management's discussion and analysis (MD&A), which provides investors, analysts, lenders, and other creditors with information to decide whether to continue to invest in or provide loans to a company. There are five key **disclosure requirements** in the National Instrument that relate to environmental matters, including on **environmental risks, trends and uncertainties, environmental liabilities, asset retirement obligation, and financial and operational effects of environmental protection requirements.** (Green Finance Platform, 2020)

Australia

- In 2019, the **Australian Securities and Investments Commission (ASIC)** undertook a review of its regulatory guidance which follows *ASIC Report 593: Climate Risk Disclosure by Australia's Listed Companies*, targeting listed companies, their directors and advisors. **High-level recommendations** set out in REP 593 included to:
 - **adopt a probative and proactive approach to emerging risks, including climate risk;**

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Norms, standards and enabling environments

The drivers for sustainability disclosure in the financial sector

- develop and maintain strong and effective corporate governance which helps in identifying, assessing and managing risk;
- comply with the law where it requires disclosure of material risks; and
- **disclose meaningful and useful climate risk related information to investors – the voluntary framework developed by the TCFD has emerged as the preferred standard in this regard** and ASIC strongly encourages listed companies with material exposure to climate change to consider reporting voluntarily under the TCFD framework.
- This report aligns with the Corporations Act and ASIC's Regulatory Guide 247 and notes that 65% of companies in the ASX 100 index included climate change content (identified by key terms) in their annual reports. (Green Finance Platform, 2020)

China

- Since requirements first published in 2008 for disclosure by listed companies, requirements for disclosure have systematically increased through stock exchanges' regulations; in 2020 – with the In 2008, the Hong Kong Stock Exchange (HKEX) publishing the '*Review of the ESG Reporting and Related Listing Rules*' having followed suite from the Shanghai Stock Exchange (SSE) (2008), the Shenzhen Stock Exchange (SZSE) (2008, and revised 2015), **effectively all listed companies in China must provide annual reports and report ESG performance on an annual basis**, on a "comply or explain" basis. (SSEI, 2020)
- **Annual reporting requirements (or more frequent) is required of all green bonds issuances**, with specifics determined by the applicable bond guideline.

- The Ministry of Environmental Protection and the China Securities Regulatory Commissions have also been cooperating with the view to enforcing disclosure on particular environmental performance by "key polluter" companies.

Singapore

- In 2017, Singapore Exchange Limited (SGX) launched **a sustainability reporting requirement for all listed companies** which took effect for any financial year ending on or after 31 December 2017. The requirement aims to motivate companies to actively monitor and benchmark their sustainability practices. The company's **sustainability report should be released at least once a year and made available on SGXNet** and on the company's website, operating on a "comply or explain" basis and without specific requirements on how to assess materiality. (EY Corporate Advisors, 2019)

Indonesia

- Regulation OJK No.51/2017 requires Financial Services institutions to develop a short term (1-year) and long term (5-years) sustainable finance action plan, and (alongside listed and public companies) to publish a sustainability report on an annual basis that details a sustainability strategy, performance reporting, independent verification, and a **"feedback sheet" as well as a report on actions and responses on prior year "feedback"**. This feedback opportunity is provided to readers of the sustainability report in general.

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Norms, standards and enabling environments

The drivers for sustainability disclosure in the financial sector

Vietnam

- The VSSC's Circular No. 155/TT-BTC on Disclosure of information on the securities market requires publicly listed companies to report on their environmental and social impact on an annual basis. This may be disclosed either in companies' annual reports or in a separate Sustainability Development Report, including the following aspects:
 - Management of raw materials
 - Energy consumption
 - Water consumption
 - Compliance with environmental protection law
 - Policies related to employees
 - Community involvement
 - Green capital market activities under the guidance of the VSSC

Financial services institutions are exempt from reporting on 'management of raw materials', but must report on the other performance measures.

- Ho Chi Minh Stock Exchange and Hanoi Stock Exchange each have ESG listing and reporting requirements and endorsed the TCFD. (EY Corporate Advisors, 2019)



Norms, standards and enabling environments

The creation of regional and national asset classes through Standards

ASEAN

- The **ASEAN Capital Markets Forum (ACMF)** which consists of capital markets regulators from all 10 ASEAN Member State governments with the mandate to promote greater regional connectivity and capital markets integration, developed the **ASEAN Green Bond Standards, ASEAN Social Bond Standards, and ASEAN Sustainability Bond Standards**. These are based respectively on the associated International Capital Market Association (ICMA)'s principles or guidelines for bonds, with key differentiating features:
 - Conformance to the ASEAN standards allows issuers to **label their bonds accordingly as ASEAN Green, Social or Sustainability Bonds**
 - The issuers or issues of these bonds must have a **geographical or economic connection to the ASEAN region**
 - **Identifies ineligible projects and express exclusions**, including fossil-fuel powered generation projects and alcohol, gambling, tobacco and weaponry with a negative social impact
 - **Greater specificity and requirements around accessibility of information, frequency of reporting and external reviews**
- It is argued that this regional specification provides greater transparency, uniformity and consistency in bonds with the label; may reduce investor due diligence; and reduces greenwashing risk.

Mexico

- Though not a standalone asset class, Mexico's CCFV led the **development of the Green Bond Principles MX**, which provide definitions and examples of green assets particular to Brazil. These

principles also **define the requirements for listing green bonds in the Mexican Stock Exchange**, including annual reporting commitments for issuers.

- Mexico is undertaking the development of a taxonomy of green assets which is considered likely to unlock further investment, and is proposed to interact with the GBP MX.

European Union

- The EU Green Bond Standard (EU-GBS) has been recommended by the EU TEG, as a voluntary Standard for the application in or outside the EU for "Use of Proceeds" type debt-based products (it contains specifications for non-EU projects and non-EU issuers). It is founded on the ICMA Green Bond Principles and the Climate Bond Initiative Climate Bond Standard, but includes additional elements by which it purports to address barriers to development – ostensibly by making practice requirements more explicit and requiring greater standardisation and detail. The four core components of the Standard are (EU TEG, 2020):
 - The alignment of the Use-of-Proceeds with the EU Taxonomy;
 - The content of an Issuer Green Bond Framework;
 - The required Allocation and Impact Reporting; and
 - The requirements for external verification by an approved verifier.
- It provides reporting templates and extensive user guidance.

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Norms, standards and enabling environments

The creation of regional and national asset classes through Standards

The EU-GBS is not yet in place, and hinges on: final adoption of the EU Taxonomy Regulations, decision from the European Commission to establish the EU-GBS, and a process for registration and supervision of verifiers to be established.

At such juncture as the EU-GBS becomes available, it would allow Issuers to identify their bonds as being EU-GBS aligned (provided all requirements are met).

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Hydrogen



Hydrogen

South Africa is well positioned for hydrogen production

Hydrogen's role in decarbonising energy

Hydrogen is a flexible chemical energy carrier that can be used for industrial and building heat, power generation, transportation and for chemicals production. The major issues with the uptake of hydrogen currently are the lack of storage and distribution infrastructure to enable the uptake of hydrogen as a fuel or feedstock. Due to hydrogen being the lightest element on earth, it has a high energy per unit mass (120 MJ/kg), three-times that of petrol. This light mass, however, means that hydrogen has a low energy density (MJ/L) which makes the logistics and distribution of hydrogen challenging from an economic (and safety) perspective.

Interest in hydrogen as a vector for renewable energy is growing around the world as companies and policymakers investigate and adopt national strategies for decarbonisation.

The overwhelming majority of hydrogen production currently comes from fossil fuels (or 'grey hydrogen'). Blue' hydrogen is hydrogen that has been made from a fossil fuel such as natural gas, but which captures and stores the carbon emissions that is released in the production process. Blue hydrogen represents 0.3% of total hydrogen production meaning that low carbon hydrogen (that is 'blue' and 'green' combined, 'green' being that produced renewably) accounts for just 0.6% of total current global production. For hydrogen to be considered as an alternative, and sustainable, feedstock into transport and industry, a major shift in the production process needs to be realised towards blue and green hydrogen sources.

Green hydrogen is hydrogen produced from renewable sources and

broadly uses either electrolysis to split water into hydrogen and oxygen, or gasification of biomass.

Hydrogen in South Africa

South Africa finds itself in an exceptional position to revolutionise its own economy and supply green hydrogen (hydrogen produced from renewable energy) to the world as a result of its world-leading solar and wind resources. If South Africa is properly able to harness these resources and combine them with a stimulating investor and regulatory climate, alongside decarbonising broad sectors of its own economy, it is hypothesised that South Africa could become a green energy exporter worldwide (PWC, 2020).

In South Africa, hydrogen's role in the low-carbon industrial economy is largely seen through the application of hydrogen as a fuel and feedstock to decarbonise heavy emitting industries, including heavy road transport applications, heavy duty mining applications, and high-heat applications such as iron and steel manufacturing industries.

In September 2020, South Africa's Department of Science and Innovation (DSI) initiated the development of a national Hydrogen Roadmap. Hydrogen South Africa (HySA), a department under the DSI is charged with addressing hydrogen economy implementation challenges.

Technological and economic hurdles

The business case for green hydrogen hinges on the efficiency and scale of the electrolyser technology applied – being better suited to large-scale applications. The cost and security of electricity are also key factors in the



Hydrogen

Financing the hydrogen economy

viability of green hydrogen's prospects, as is availability of water, and connection to distribution infrastructure (if not applied modularly, or blending into existing natural gas distribution networks). Hence, if green hydrogen is to succeed in displacing conventional fossil-fuels as flexible energy carriers, significant expansion of the renewable energy generation capacity will be needed as well as transportation and distribution infrastructure. These value chain and market connectivity challenges demand consideration.

Financing Hydrogen

Internationally, several countries have announced strategic plans for hydrogen and have developed funds to finance the initial construction of low-carbon hydrogen systems. Below provides a couple of examples where these exist (HSBC, 2020b):

- **Australia:** To finance new hydrogen projects that comply with the country's National Hydrogen Policy, the government has generated a US\$191.5 million fund. This includes promoting hydrogen production, importing export and domestic supply chains.
- **France:** The government has announced a stimulus package of EUR 100 bn, of which EUR 9 bn will be allocated over the next five years to the production of green hydrogen as a renewable energy source.
- **Germany:** The government has launched a US\$10 billion fund to encourage value chains for the production of low-carbon hydrogen and help industries such as steel, transport and agriculture. The fund also aims to support 100 TWh of green hydrogen renewable energy production.

- **UK:** Driving the growth of low carbon hydrogen is part of the UK's Ten Point Plan for a Green Industrial Revolution. This will be supported by a range of measures, including a £240 million Net Zero Hydrogen Fund, and a hydrogen business models (not yet defined) and a revenue mechanism for to bring through private sector investment.

Project finance around the corner

The costs of producing clean hydrogen are still relatively high. However, as the industry matures and prices continue to fall, and as the technology and business risks associated with green hydrogen projects decrease, it is anticipated that project financing will serve as a significant source of funding for hydrogen projects.

Project finance lenders are now consulting with sponsors as they gear up to lend to the hydrogen sector to explore how projects can be organized and financed in the future. For example, in Europe, the European Investment Bank (EIB) has agreed to work with the Hydrogen Council (global CEO-led initiative to develop the hydrogen economy) to identify new ways to finance hydrogen projects. The EIB aims to identify funding gaps for hydrogen projects and to introduce new financial instruments and mentions it could offer companies financing options including corporate loans, project finance, or venture capital debt.

Public sector intervention in the near term

To speed up hydrogen usage and lower unit costs, investments need to be made on a wide scale. Funding programs to help early adopters of hydrogen technology would need to be promoted by governments and the banking sector. Options include long-term off-taker agreements and guarantees where governments foster de-risking strategies.



Hydrogen

Financing the hydrogen economy

To encourage the timely adoption of hydrogen, subsidisation of technology and hydrogen fuel might be also required. Similar proposals to those introduced in Europe to establish an extra fossil fuel levy to be used to subsidize and finance hydrogen have the merit of encouraging the right behaviour. (PWC, 2020).

Options for South Africa

Analysis of more detail actions available for South Africa to encourage investments into the hydrogen economy will be part of the next phase of this project.

This could include :

- Clarification on the taxation of carbon emissions and the taxation of hydrogen manufacturing capacity.
- Offering preferential incentives to green hydrogen production.
- Consideration of the results and recommendations from the Hydrogen Roadmap, once available.
- Further considerations concerning project finance and the need and role for risk reduction mechanisms.



Sustainable Finance for Hydrogen

Plug Power Convertible Green Bond and Bought Equity Deal

About the project:

Plug Power is a leading provider of green hydrogen and zero-emissions fuel cell solutions for low carbon transportation. Plug Power is a listed company on the New York Stock Exchange and has committed to having over 50% of hydrogen supply to be green by 2024 and providing customers with a cost-effective supply of low and zero-carbon hydrogen.

In May 2020, Plug Power published their Green Bond Framework and issued a US\$ 200 mn convertible green bond, the first in the US. Following this, in February 2021 Plug Power concluded the large bought equity deal in the clean technology sector, issuing over 32 million shares to the bookrunner (Morgan Stanley).

These financing instruments will be used to fund organic and acquisitions growth for the company to create a green hydrogen network and become a global leader in the US\$ 10 trn green hydrogen economy.

Project timeline: 2020 – 2025

Actors involved

Public sector entities	Private sector entities	Private sector financiers	DFI or MDB financiers
N/A	Plug Power; SK Group (South Korea); Renault	Morgan Stanley;	N/A

Sustainable finance instruments used:

Convertible Green Bond

The convertible green bond (with a coupon of 3.75%) raised US\$ 212 mn, US\$ 12 million more than initially offered. The use of proceeds from this bond were used to repurchased ~66% of the 5.5% convertible bonds issued in 2018 with the proceeds and for targeted acquisitions in the hydrogen economy to enhance their technologies and offerings.

Proceeds from this transaction were used, in part, to finance the cash portion of the acquisitions of United Hydrogen (one of the largest merchant hydrogen producers in North America) and Giner ELX (a proton exchange membrane electrolysis producer and energy storage service provider).

Plug Power continues to strengthen its presence in Europe – investing in building substantial growth in the electrolyser business and liquid hydrogen economy and deepening its relationships in Europe (incl. Clean Hydrogen Alliance, FCH JU and Minister of Energy), to leverage the European hydrogen funding scheme. These strategic and commercial partnerships that, when coupled with climate change and decarbonisation goals, are accelerating demand and adoption of hydrogen technology in the US and Europe. (Plug Power, 2021)

Plug Power’s business activity was reviewed and confirmed as aligned with those recognised by the Green Bond Principles. The second party opinion provider viewed the development and deployment of hydrogen fuel cells as generating environmental benefits and advancing the UN Sustainable Development Goals, specifically SDG Goals 7 and 9.

Sustainable Finance Instruments

Convertible Green Bond
Bought Equity Deal
(Green Equity)

Social Impact

N/A

Environmental Impact

Increased green hydrogen production target to 500t per day in 2025 and 1,000 t per day by 2028

Expansion of Innovation Centre (New York) to 500 MW of electrolyser production per annum

Total Investment

Bond: US\$ 212 mn
Green Equity: US\$ 2 bn



Sustainable Finance for Hydrogen

Plug Power Convertible Green Bond and Bought Equity Deal

Bought Equity Deal

Proceeds from this transaction, and final closing of the partnership with SK Group, will bring the total cash balance for Plug Power to over US\$ 5 bn. This liquidity positions Plug Power to execute and accelerate its green hydrogen and overall growth strategy, with the key focus areas for the use of proceeds being:

- Accelerate expansion in green hydrogen generation business
- Launch JVs with Renault and SK Group to establish a global footprint
- Continue to expand via partnerships, joint ventures and acquisitions in the hydrogen ecosystem
- Expand customer relationships across all businesses to achieve US\$ 750 mn in gross revenue in 2022

Plug Power's green hydrogen strategy will see the development of the first green hydrogen generation network in the US and continuing expansion of the European operations and networks. (Plug Power, 2021)

Enabling Environment

The global shift toward decarbonisation backed by government financial support and regulation is supporting momentum in the hydrogen industry. For instance, 75 countries representing over half the world's GDP have net zero carbon ambitions and more than 30 have hydrogen-specific strategies. (Hydrogen Council, 2021)

Governments have already pledged more than US\$ 70 bn and included new capacity targets and sector level regulation to support these hydrogen initiatives. Funding for U.S. Hydrogen and Fuel Cell Technologies Office at the Department of Energy was increased by 25% for fiscal year 2020 over the previous year. More resources will be put towards the H2@Scale initiative, a federal program which prioritises RD&D of affordable green hydrogen production, storage, distribution and use.

US House of Representatives recently passed infrastructure legislation that includes beneficial policy and tax incentives for hydrogen infrastructure, fuel cells and zero-emission vehicles.

The EU set a 40 GW electrolyser capacity target for 2030 (up from < 0.1 GW today) and in August of 2020 the European Commission issued a report outlining "a hydrogen strategy for a climate-neutral Europe" in support of the European Green Deal and recovery, growth and jobs. EC also published the Hydrogen Roadmap Europe, stating hydrogen is required for Europe's energy transition.

In the UK, Point 2 of the governments 10 Point Plan for a Green Industrial Revolution is "Driving the Growth of Low carbon Hydrogen". Working alongside partners in industry, the government's aim is for the UK to develop 5 GW of low carbon hydrogen production capacity by 2030. This will be supported by a range of measures, including a £240 million Net-Zero Hydrogen Fund, and detailing hydrogen business models and a revenue mechanism for them to bring through private sector investment.

Lastly, more than 20 countries have announced sales bans on internal combustion engine (ICE) vehicles before 2035.



Sustainable Finance for Hydrogen

Plug Power Convertible Green Bond and Bought Equity Deal

Key Recommendations and Learnings for South Africa

- Clear government commitments and national target setting for hydrogen generation and deployment in short to medium term timeframes signal the direction and confidence in the hydrogen market
- Recognition of green hydrogen distribution and supply for energy storage, electricity generation and low-carbon transportation in green finance taxonomies enables corporates and FIs to raise Green Bonds or green equity to invest in these types of projects.
- The South African banking sector, being the only major bond issuing private sector group in South Africa to date, are more risk averse than the private equity and investment companies and have not had notable appetite for early stage green equity to date, which is the current maturity stage for hydrogen investment. There are two recommendations to address this:
 1. Corporates in South Africa, with higher risk appetite, could look to become more active participants in the bond market through Green and Sustainability Bonds to directly source sustainable finance for organic or acquisitional growth in clean technology sectors such as green hydrogen. These corporates are likely to be those participating directly in green hydrogen economy development and also green hydrogen consumers.
 2. Private equity and investment managers could leverage their investment appraisal expertise and increase their involvement in the South African bond market to finance clean technology ventures and projects in the country on the bonds demand side.
- The role of an investment company, such as Morgan Stanley in the US, to take up the green equity offering is instrumental to unlocking the funding that the technology companies need to expand their business activities and deliver scalable impact. The regulatory restrictions around private equity from asset manager, insurers and pensions funds may limit green equity hydrogen investments for liquidity and solvency reasons; therefore, the role of the JSE (especially the AltX) and regulators in reducing the barriers to listing and the cost and administrative burden for small technology companies in the clean technology space to list their companies is crucial. Increasing the accessibility of the (highly active) South African secondary markets could greatly increase the availability of green equity investments





Sustainable Finance for Hydrogen

The Hydrogen Energy Supply Chain Project (HESC)

Sustainable Finance Instruments

Blended Finance

Social Impact

400 jobs created across the HESC supply chain in Victoria

Environmental Impact

Green hydrogen supplied from HESC will reduce global emissions by 1.8 tCO₂ per year

Total Investment

AUD\$ 500 mn

About the project:

HESC aims to produce and transport clean liquid hydrogen from Australia’s Latrobe Valley in Victoria to Kobe in Japan, demonstrating an end-to-end supply chain between the two countries.

It plans to produce ‘blue’ hydrogen via the gasification of coal with carbon capture and storage. The hydrogen will be for use in mobility (fuel-cell driven cars, trains, trucks, buses and ships), power generation and semiconductors.

HESC is supported financially and operationally by Australian and Japanese governments, as well as industry partners across the value chain, demonstrating political and commercial commitment.

The project will be carried out in two phases:

- 1. Pilot project and delivery of hydrogen to Japan – 2020 to 2021
- 2. Technical reviews and commercialisation – 2020s to 2030s

Project timeline: 2020 – 2030

Actors involved

Public sector entities	Private sector entities	DFI or MDB financiers
Victoria Government; Australia Government; Japan Government	Kawasaki Heavy Industries; Electric Power Development Co.; Iwatani Corporation; Marubeni Corporation; AGL Energy; Sumitomo Corporation; Shell; ENEOS Corporation; Kawasaki Kisen Kaisha	Victoria Government; Australia Government; Japan Government

Sustainable finance instruments used:

The Australian and Victorian government are each investing AUD \$50m in the pilot coal gasification with carbon capture and storage project at Latrobe Valley and the hydrogen liquefaction and loading terminal at the Port of Hastings (HESC, 2021); with the remainder of costs funded by private sector partners and Japanese government.

The main private sector player designing, building and operating the pilot project is Electric Power Development Co (J-Power).

The pilot project will cost around AUD\$ 500 m, with public finance comprising around AUD\$ 150 m and the rest from the private sector through a host of debt and equity instruments.

Enabling Environment

Australia

Australia has mapped out its National Hydrogen Strategy, which aims to position Australia as a global hydrogen exporter. This is substantiated by formalized MOUs between Australia and Japan/South Korea, respectively (KPMG, 2021).

Plans are in place to develop blue and green hydrogen supply for export by 2030. The strategy focuses on developing clusters of large-scale demand at ports and enabling supply chain infrastructure to support large scale hydrogen supply by 2030 (e.g. power lines, pipelines, storage tanks, refuelling stations, ports).





Sustainable Finance for Hydrogen

The Hydrogen Energy Supply Chain Project (HESC)

Japan

Japan introduced its Basic Hydrogen Strategy in 2017 to develop infrastructure to support the development of a large-scale hydrogen economy by 2050. Under this plan, the strategy focuses on strengthening energy security via hydrogen and achieving cost-parity with competing fuels.

The plan also focuses on developing the hydrogen supply chain end-to-end. Specific sectors of focus in the hydrogen roll out include transport, industry, electricity generation. This amounts to nearly 1 million hydrogen powered vehicles and nearly 1,000 refuelling stations by 2030. In the power sector, the plan estimates hydrogen power generation of approximately 1 GW by 2030 (METI, 2017).

To attract private sector actors, a hydrogen project must have a bankable offtake scheme. In the HESC case, the offtaker is Japan's transport and power generation sectors.

An offtaker scheme requires a contractual agreement between the hydrogen producer and distributors with an end-use sector such as a power plant, fertiliser manufacturer (green ammonia), hydrogen refueling network or an industrial or mining corporate.

Mining companies often operate in environments where other energy sources may be expensive, dirty and subject to disruption, making them important potential corporate off-takers.

Key Recommendations and Learnings for South Africa

- In the hydrogen sector, joint investments from private players, regulatory incentives (tax breaks) and clear policy commitments (a hydrogen strategy or plan) contribute to lowering the risks and driving the industry to create and seize opportunities.
- New port developments in Coega, Saldanha and Richards Bay for LPG storage and distribution could be leveraged for transition and blending of green or blue hydrogen fuels for export or the growing domestic gas market.
- Hydrogen blending in the existing Gauteng gas pipeline network for industrial users (Sasol) could support the integration of hydrogen without huge infrastructure changes initially. The use of blue hydrogen from the Mpumalanga coal mines with CCS technology (as in the HESC case) could be explored for supply to this gas network.



Low Carbon Transport



Low-carbon transportation

Decarbonising Transport

Transport in South Africa

South Africa's transport sector accounts for 10.8 % of the country's national greenhouse gas emissions with 91.2 % of the sector emissions coming from road transport. Although it is widely recognized that the decarbonisation of the transport sector is significant, the road to decoupling transport activity from CO₂ emissions is far from clear.

In 2018, the Department of Transport (DoT) launched the Green Transport Strategy (GTS), South Africa's first strategic document that informs and sets out the policy directive of the transport sector. It aims to enable the transport sector to contribute its 'fair share' in national efforts to combat climate change; to promote behavioural changes towards sustainable mobility alternatives through knowledge, education and awareness raising; to promote the low-carbon transition of the sector; to help align and develop policies supporting energy efficiency and emission control measures in all modes of transport.

The DoT has set the target of reducing the carbon emission contribution from 10.8 to 5% by 2050 in line with the country's NDC. However, decarbonisation of the transport industry has barely commenced in South Africa. Further, the limited activity that is taking place is concentrated on incremental improvements to technologies e.g. battery electric vehicles (BEVs).

Primary modes of transport

- **Passenger transport** - A private or company car is favoured over

other modes of travel by about half of the people in the highest income quintile.

- **Freight transport** - Most freight is transported by road in South Africa. As a result, in the final decade, almost half of South Africa's transport-related GHG emissions were due to freight (110 MtCO₂e).
- **Alternative modes of transport**
 - Non-motorised transport
 - Electric vehicles
 - Hydrogen fuel cells
 - Bus Rapid Transport (BRT)
 - Inter-city rail systems (BRT)

Approaches to decarbonise the transport sector

In order to achieve climate objectives, policies aimed at decoupling transport from pollution while also facilitating economic development and meeting the needs for passenger mobility are necessary. Supply and demand-side interventions to shape demand trends and plan for decarbonisation can therefore be seen following two approaches (Climate Transparency, 2020):

1. **Modal Shifting** - The first relates to mobility improvements that lead to a reduction in energy consumption thus meeting the demand for mobility. For example, in order to fulfil the same transport needs, a

Low-carbon transportation

Decarbonising Transport

private car user switches to public, electrified transport. These improvements are correlated with major gains in relation to the transport sector's goals for sustainable growth. Modal switching, combined with urban design that focuses on mobility and accessibility, will lead to the development of public transit networks with low emissions and congestion; and

2. **Fuel Switching** - The second is concerned with improvements in the usage of resources or the transport energy mix, i.e. meeting energy requirements more effectively while producing less emissions. The electrification of bus rapid transit, for instance (BRT).

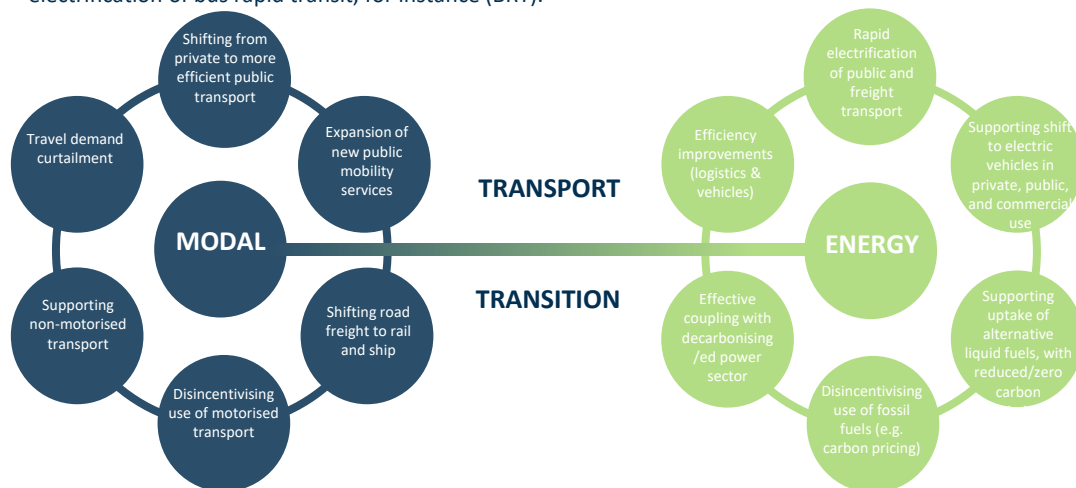


Figure 54: The typical measurements for fuel switching and modal shift levers (Climate Transparency, 2020)



Low-carbon transportation

Decarbonising Transport

Finance mechanisms for low-carbon transport

Financing low-carbon transport often combines multiple financing mechanisms. The number and type of mechanisms appropriate for the financing package of the solution may reflect the type of solution being implemented, the criteria for financing (development of the project, operational costs, technical assistance, etc.), the amount of funds needed, and the number of stakeholders and stakeholders qualified to provide funding. (WBCSD, 2015).

Due to the costly nature of transport investments, public private partnerships are increasingly being used, with most green transportation projects being funded by government investment and bank credit.

This pattern can be changed by integrating the use of green credit, green bonds, green funds, refinancing and other tools. This diversification can allow for the securitisation of long-term and stable funding, reducing the risk of investing in projects with a long payback. This can be strengthened by creating clear revenue models for operations.

As an example of a successful public private partnership is one held between the Gauteng Provincial Government and the Bombela Concession Company with reference to the Gautrain Rapid Rail Link, a 80km rail project developed to ease traffic congestion and facilitate travel in the Johannesburg-Pretoria corridor in South Africa.

A deep dive into the financing of low-carbon transportation will form a part of the next phase of this project.

Table 16. Environmental funding and finance for the transport sector as identified by South Africa’s Green Transport Strategy

Funding stream	Potential market based instruments and sources of funding
Transport oriented funding streams (focusing on public sector funding)	Fuel tax
	Vehicle taxes
	Parking charges
	Road pricing
	Public transport subsidies
Green funding schemes	Grants, loan, transfers
	Clean development mechanism (carbon credits)
	Joint implementation
	Internal emission trading
	Global environmental facility
	Multilateral/bilateral funds
	Green climate fund



Sustainable Finance for low-carbon transportation

Kuala Lumpur Mass Rapid Transit

Sustainable Finance Instruments

Corporate Finance

(equity)

Corporate Bonds

Government Guarantee

Social Impact

130,000 jobs created

Environmental Impact

Public transport use in KL to increase from 17% to 50% by 2020 (expected)

Total Investment

US\$ 12.3 billion

About the project:

The mass rapid transit (MRT) system in greater Kuala Lumpur was the largest infrastructure build-operate-transfer (BOT) project in Malaysia as of 2014 (UNCRD), attracting private investment of \$12.3bn.

In addition to alleviating traffic congestion, the MRT system aimed to significantly improve regional access and coverage, and created more than 130,000 local jobs.

Along with integrated bus services, this line was expected to increase the use of public transport from 17% in 2011 to 50% in 2020. (UNCRD, 2014)

Project timeline: 2012 – 2017 (Phase 1 – ongoing)

Actors involved

Public sector entities	Private sector entities	Private sector financiers	DFI or MDB financiers
Land Public Transport Commissions	Prasarana	Prasarana (Corporate financed)	N/A

Sustainable finance instruments used:

Kuala Lumpur MRT was corporate financed by Prasarana, due to inadequate project cashflows for project finance. The source of the corporate finance was primarily bonds raised on the stock market. These bonds were guaranteed by the Malaysian government to mitigate default risk. Prasarana's bond issuances were 2.8 times oversubscribed with purchases from over 52 local FIs.

Enabling Environment

Malaysia has made use of public-private partnerships (PPPs) since the 1980s to assist with the financing of infrastructural projects and the provision of essential services that the government budget could not support alone.

The government publishes 5-year development plans which outlines the key policy and investment initiatives to receive focus in that period. These focus sectors have included ICT infrastructure, education, healthcare and transportation in the latest editions.

By focusing on strategic sectors or infrastructure needs, private sector receives the regulatory and policy support and certainty to catalyse investment and the government can therefore effectively direct capital to the areas most needed for the economy in that time frame.

To date, the majority of the PPPs have been directed to: the education sector, for construction of education facilities; healthcare facilities and pharmaceuticals supply; ICT infrastructure development; basic housing; and for road and public transport (MRT) projects. As of 2012, the PPP projects undertaken had an estimated value of \$19.3bn (UNCRD, 2014).

Based on the focus sectors of the PPP framework historically, the Malaysian government has prioritised social impact projects, such as healthcare, basic housing and education, in their policy and PPP environment. It is unclear whether these projects made use of Social or Sustainable Bonds to fund them, from either the government or private sector financiers.



Sustainable Finance for low-carbon transportation

Kuala Lumpur Mass Rapid Transit

Key Recommendations and Learnings for South Africa

- Mapping of the most urgent or prioritised sectors for PPP investment in the short, medium, and long term in consultation with private sector corporates and financiers alongside public sector (including DFIs and MDBs) entities and financiers
- Promulgation of sector specific PPP regulations and policies in consultation with all private and public sector actors and commitment to long-term policy and regulatory certainty
- Central to almost all PPPs across sectors and industries is the development of robust and diverse project revenue models (as in the Gautrain project). As part of the PPP regulations and policy development, creating template revenue and cashflow models for specific sectors, again in consultation with private sector actors, can standardise the PPP models and streamline the project development process. These revenue modelling templates should have optionality built-in for variations in capital cost, capital structures and instruments, revenue projections, and procurement mechanisms (BOT, build-own-operate, etc.)
- For low-return projects, such as the MRT project, with insufficient cashflows for project finance, blended finance vehicles with concessionary debt from DFIs, MDBs, and/or Green/Social/Sustainable Bonds and government guarantees to reduce cost of capital and provide contingencies in initial revenue model forecasts
- Increasing involvement of local businesses and associations in the planning, construction and operations phases to leverage private sector investment for transport infrastructure and services is essential. This could take the form of local procurement or ownership criteria, as an example.
- The regulatory framework should be able to give one authority multi-modal decision power and decide between priorities, including between stakeholder requests at the planning stage. An integrated land and transport planning authority equipped with accountability for integration will create and embed interest in the positive development of public transport at the authority level and will advocate for it to Government
- Prioritising integration of new transport projects with existing infrastructure from the outset of developing a system will create a more successful public transport network. Creating integration between lines, modes and commercial development opportunities retrospectively is difficult
- In South Africa, the public transport sector is dominated by the use of mini-bus taxis, a private sector service. Therefore, low-carbon transportation efforts would be misplaced if specific focus is not given to this mode of transport and the associations and corporates involved here such as SA Taxi, Transaction Capital, Toyota SA, and the multitude of taxi associations throughout the country



Sustainable Finance for low-carbon transportation

Zero Emission Bus Rapid Deployment Accelerator (ZEBRA 2.0) – Latin America

Sustainable Finance Instruments

Pay-as-you-save (PAYS)
(On-bill financing)

Social Impact

N/A

Environmental Impact

Procurement of 3,600 electric buses to replace diesel-powered buses

Total Investment

US\$ 1 billion

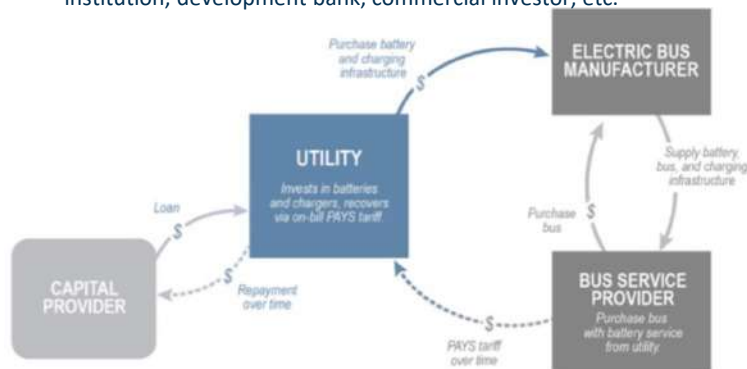
Figure 55: Financial models for ZEBRA 2.0 (Clean Energy Works (2020))

About the project:

ZEBRA 2.0 is an electric bus finance model developed to accelerate investment and uptake of this low-carbon public transport innovation. The countries of impact are: Chile, Brazil, Colombia, Mexico and Peru.

The financial model assumes four key stakeholders for the transaction:

- Utility: Supplies electricity as fuel to the bus service provider; and it can make site-specific investments if its regulators approve such a tariff structure
- Bus Service Provider: Purchases and/or operates buses (could be the transit agency)
- Electric Bus Manufacturer: Sells buses, including batteries and charging equipment
- Capital Provider: Provides debt finance as required, could be a finance institution, development bank, commercial investor, etc.



Project timeline: 2018 - 2022

Actors involved

Public sector entities	Private sector entities	Private sector financiers	DFI or MDB financiers
Global Green Growth Institute (GGGI); C40 Cities	World Resources Institute (WRI) International Council on Clean Transport (ICT); Clean Energy Works; Centro Mario Molina	N/A	Partnerships for Growth (P4G); IFC

Sustainable finance instruments used:

The mechanics of the instrument would work as follows, a bus service provider or operator participating in a utility's PAYS program would pay or finance the same amount of capital as it would for a diesel bus, and it would utilise additional concessional or blended finance to afford the remaining incremental cost of a battery electric bus (BEB).

The utility and the bus service provider agree to terms-of-service that allow the utility to pay for the primary components of the incremental upfront costs of electric buses – namely batteries and charging stations.

The tariff charge persists over the warranted life of the equipment until the utility's costs are recovered, at which point the battery and charging station would be owned by the bus operator.



Sustainable Finance for low-carbon transportation

Zero Emission Bus Rapid Deployment Accelerator (ZEBRA 2.0) – Latin America

The tariffed charge is capped at 95% of the projected annual savings in the first year, yielding a positive cash flow for the operator that is 5% of the estimated annual savings gained by switching to a battery electric bus. Because a tariffed on-bill investment is structured differently than a loan, it allows bus operators to keep the transaction off of their balance sheets and allows the transaction to take place even if counterparties might be considered less than credit worthy, such as emerging cities.

Enabling Environment

The public transport sector may have varying structures that stem from the waves of privatisation and formalisation of transport services (i.e. transit agency, operators, fiduciary agencies (who collect fares from operators)). These multiple layers of financial and operational complexity must be considered when electrifying bus fleets and institutional arrangements will direct how the capital, operating and tariff collection flows are structured.

The PAYS system used in a public transport environment may face regulatory uncertainty as well as market uncertainty since this would be the first case in a new sector for this type of financial instrument. The regulations in many jurisdictions may still classify the PAYS instrument as a loan and the PAYS could be subject to financial regulations rather than strictly utility regulation that govern traditional terms of service agreements (tariffs).

More awareness, training and capacity-building on the ZEBRA model will be necessary to educate and inform key stakeholders on its utility. Once PAYS for low-carbon transport is implemented with a first case, confidence in the PAYS model in public transit would be expected to rise.

Key Challenges:

The requirement to purchase the least cost product or least cost service is an example of outdated procurement policies. In the context of electric mobility technologies, it should be reformed to consider the total cost of ownership of cost-effective technologies to maximize benefits over the lifespan of the technology, not just comparing the initial capital investment.

The lack of solvent bus operators is a key barrier since one of the fundamental assumptions of the PAYS model is that bus operators can afford the cost of purchasing a new diesel bus, through either cash or financing. If the bus operator is a public entity, the solvency and financial standing of this entity needs to be adequate for this investment to be made.

Lack of local supply chain: In Peru, there is not yet a local supply chain or local market for BEB manufacturing and assembly, which also drives up the maintenance cost of the buses. Clean Energy Works (2020)



Sustainable Finance for low-carbon transportation

Zero Emission Bus Rapid Deployment Accelerator (ZEBRA 2.0) – Latin America

Key Recommendations and Learnings for South Africa

- To overcome the lack of solvency or capital from the bus operator, the use of concessionary capital, e.g. through institutions such as the African Development Bank or the Development Bank of South Africa, can be included to be used by the bus operator to cover the remaining incremental Capex.
- Similarly, a reserve fund or credit guarantee, from these same DFIs or government (local or provincial) could be tapped to reduce risk for the utility in the event that transit operators that are operating electric buses do not pay their electricity bill and PAYS tariff.
- A warranty from the battery, bus and charging infrastructure manufacturers is vital to mitigate technology risk and lower the cost of capital to the projects. Regulations on the minimum warrant period and coverage for automobiles and batteries could be enforced here or priority procurement assigned to suppliers with extended warranties.
- PAYS specifically addresses the upfront cost barrier through utility investment and cost recovery by financing the additional Capex for the BEB and the charging equipment through the expected savings in operating expenses for the bus operator. This is essentially an on-bill financing mechanism and because a tariffed on-bill investment is structured differently to a loan, it allows bus operators to keep the transaction off of their balance sheets and allows the transaction to take place even if counterparties might be considered less than credit worthy, such as emerging cities.
- One of the main conclusions is that PAYS for Clean Transport will likely be implemented first where there is an alignment of the following factors: a motivated utility (Eskom, Municipality), solvent bus operators and transit agencies (MyCiti, Rea Vaya), adequate regulatory framework to allow on-bill financing in the public sphere, and ready finance institutions in the form of commercial banks and national and international DFIs.





Sustainable Finance for low-carbon transportation

Gautrain Rapid Rail Link

Sustainable Finance Instruments

Project finance
Development finance
Guarantees

Social Impact

35,000 direct construction jobs and 10,900 direct operational jobs

Environmental Impact

Three to five times increase in energy efficiency compared to cars per persons kilometre

Total Investment

Total of R25bn investment (R21.5bn from public sector and R3.5 bn private sector)

About the programme:

The Gautrain Rapid Rail Link (Gautrain) is high-speed rail system in South Africa linking OR Tambo International Airport, the city Johannesburg and the city Tshwane. It is also the first high-speed rail link in Africa, as well as the largest public-private partnership (PPP) initiative on the continent and consists of 10 stations with 80 km of railway tracks. Established by the provincial government, the project was one of numerous Blue IQ Spatial Development Initiatives to support the economic competitive advantage of the province. Gautrain development was under Treasury Regulation 16 (TR 16) which meant that the Project required specific National Treasury approvals at various stages. At each stage a detailed financial model was required which formed a critical component of a PPP project throughout its life cycle. The Gautrain Management Agency was established in 2006 and is mandated to ensure the sustainable through the implementation of the Concession Agreement which included objectives such as:

- Stimulation of economic growth, local and foreign investment and job creation;
- Reduce travel distance , time and costs; and
- Promote public transport, Tourism, Small, Medium and Micro Enterprise (SMME) and Broad-Based Black Economic Empowerment (BBBEE) development

Project timeline: Construction started in 2007 and rail became operational in 2010

Actors involved

Public sector actors

The responsibilities of the Gautrain Management Agency include matters such as managing the relationship between the province and the Project Company 'Bombela Concession Company' in terms of the PPP contract, managing assets and finances, liaising with all relevant government institutions and interested parties promoting the project, promoting BBBEE development, and integrating the project with other transport services.

Gautrain is also a partnership amongst the three levels of Government and with parastatals including National Department of Transport, the National Treasury's PPP Unit as well as the three Metropolitan Councils of Ekurhuleni, Johannesburg and Tshwane.

Private sector corporates

The Concession Company (Bombela) holds the 20-year concession to design, build, part-finance and operate the Gautrain Rapid Rail Link. Bombela manages the Gauteng Provincial Government interface and implements the PPP governance model.

DFI or MDB financiers

The British Development Agency DFID, the United States Development Agency (USAID) and the German Development Agency the (GIZ) played an important role not only in the establishment of the Gauteng Provincial PPP Unit but also in the mobilisation of the funding for the Gautrain project.

Sustainable finance instruments used:

In totality, the provincial government required R25bn to bring the project to fruition of which approximately R21.5bn came from the provincial government and approximately R3.5bn from the private sector.



Sustainable Finance for low-carbon transportation

Gautrain Rapid Rail Link

National Treasury granted R11.75bn to the Gautrain project while ABSA contributed R9.8m with R4.2bn being contributed from a inter-departmental loan and the remaining amount funded through the provincial Medium Term Expenditure Framework (MTEF) allocation (Netshandama, 2014). Further the province had through the Minimum Required Total Revenue (MRTR) to subsidise the operations of the Bombela Company until a certain level of profitability had been reached.

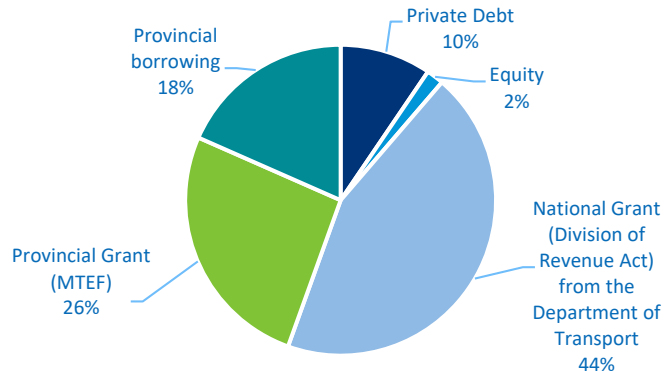


Figure 56: Gautrain Financing sources (Gautrain Management Agency, 2014)

Central to finalising the R4.2bn load agreement between National Treasury and the Provincial Government was sharing the risk between the Mbombela Consortium and the public sector through a patronage

guarantee. The patronage guarantee was the financial mechanism designed to assure the covering the Concessionaire's operating, maintenance and private sector portion of the capital costs or the MRTR.

The number of passengers using the system and the fares they pay is linked to patronage guarantee with the rationale being that the ridership guarantee would decline as fare-box income increases. Once the fare box reached the level where the Bombela Company costs were covered, profits would be shared equality between the provincial government and the Bombela Company (Netshandama, 2014).

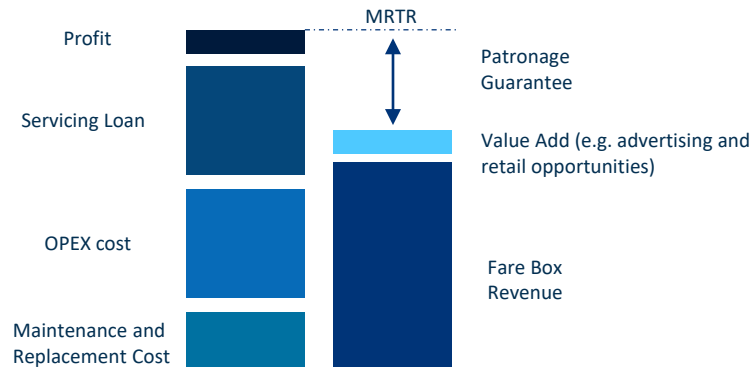


Figure 57: Gautrain funding and risk sharing model (Gautrain Management Agency, 2014)



Sustainable Finance for low-carbon transportation

Gautrain Rapid Rail Link

Enabling Environment

The Gautrain project received significant support from national and provincial departments reflecting strong political leadership and will to increase the competitive advantage of the province and attracting foreign investment for the project. This was further supported by funding provided by National Treasury which played a major part in enabling the project.

The project additionally built socio-economic development (SED) obligations into the Gautrain project which included a commitment by the private sector partners to local job creation, black empowerment, and the employment of historically disadvantaged groups (Thomas, 2013). This helped garner further public and private support for the project and its implementation.

The South African government's broader strategy of pursuing megaprojects in order to facilitate and host mega-events was complimented by pursuing the development of the Gautrain project. As a result significant pressure was placed on completing the first section of the train in time to facilitate travel during the Soccer World Cup in July 2010.

Key Challenges

From the time of pre-feasibility study in 1998 to the opening in 2012, the Gautrain faced many challenges. These include:

- Insufficient human capacity to deal with the financial management workload, particularly the processing of large volumes of payments;
- Public-private partnership challenges in the courts;

- Lack of adequate forecasting mechanisms for cash flow management;
- Lack of knowledge and experience of the financial implications of disputes that arose between Province and the Concessionaire, during the development phase; and
- Complex design and construction challenges due to challenging underground environment.

During the environmental impact assessment process, numerous public hearings were held, many of which were hostile and resulted in negative outcomes. Five court cases were taken against the Gautrain building by separate residential interest groups along the planned road and other land access issue presented barriers to the project (Centre for Public Impact, 2016).

When Gautrain was approved by the government in 2005, the project faced serious opposition from politicians, the media and members of the public. The project was criticized for its multi-billion rand budget, and there was a common opinion that money should have been diverted to current public transport activities and spent in other poverty alleviation and critical social services construction programs. Additionally, while the financial mechanism of the Gautrain was to assure profit to private partners, security of financial benefits to the public sector have been raised and the question of ongoing subsidies remains a challenge.



Sustainable Finance for low-carbon transportation

Gautrain Rapid Rail Link

Key Recommendations and Learnings for South Africa

- To minimize the need for substantial government subsidies, develop robust and diverse project revenue models beyond farebox revenue.
- It is important to establish transparent standard governance frameworks and recommendations on projects with implications for international obligations. This will facilitate the exchange and consolidation of relevant expertise and information and may reduce the possibility of the burgeoning of provincial agencies which create fiscal burdens.
- Additionally, the successful conduct of international engagements necessitates partnerships with the private sector that requires knowledge and skills to manage the needs of the private sector as well as government growth interests.
- It is important to build the requisite expertise and garner the willingness of officials within the wider developmental agenda of both the province and the country to communicate and maintain diplomatic relations, correspondence and responsibilities. A continuous dialogue and institutional mechanisms would help ensure that, in the initiation of international negotiations and programs, all provincial and national priorities are supported and discussed.



Decentralised Renewable Energy



Decentralised renewable energy

Decentralised renewable energy solutions

Decentralised renewable energy in South Africa

Due to the rapid decline in renewable energy prices and developments in battery storage technology, decentralized energy solutions are now becoming a feasible option and could go a long way to alleviating the electricity supply challenges facing South Africa. The shift in this direction has already started, but it could accelerate significantly if different enablers can be created to stimulate the sector.

Regulatory concerns, environmental approvals, and grid-linked agreements allowing independent units to feed surplus energy into the grid remain complex issues that need to be resolved in order to fully unlock the potential of decentralized energy. The growth of the sector has also been limited by funding difficulties and misalignments between developers, customers and funders (HWMA, 2020).

Distribution models are still being refined and investment flows in order to achieve universal access to electricity remain largely insufficient. Off-grid networks, such as mini-grids, play a vital role in addition to grid expansion, and are also deployed more efficiently and at lower comparable costs. (Hivos, 2019).

Financing mechanism for decentralised renewable energy

While the financing needs for decentralised renewable energy vary for the different stakeholders, common elements exist for consumers (and borrowers), namely access to affordable, low-cost financing under favourable terms.

In providing such funding, public financing is likely to play a key role, but given the extent of the investments needed to obtain universal access, these are restricted in scope.

To address the needs of multiple stakeholders, public financing instruments that optimize productivity and efficacy while also catalysing private capital are crucial (Hivos, 2019). The table on the next slide provides the some of the financial instruments funding decentralised renewable energy in Africa.



Decentralised renewable energy

Financial instruments funding decentralised renewable energy

Table 17. Financial instruments funding decentralised renewable energy (Hivos, 2019)

Instrument	Source of finance	intermediaries	Target group
Revolving funds	<ul style="list-style-type: none"> Private foundations and Corporate Social Responsibility (CSR) funding International development organizations' and Development Finance Institutions (DFI) grant funding Government budgets 	<ul style="list-style-type: none"> Community Based Organization (CBO) Local cooperative/ Village energy committee MFIs and local banks 	<ul style="list-style-type: none"> Energy users Energy providers
Concessional debt and credit –enhancement (Guarantees)	<ul style="list-style-type: none"> Private foundations International development organizations DFIs Government budget (including subsidies and tax revenue) 	<ul style="list-style-type: none"> Commercial banks Cooperative banks Micro Finance Institutions (MFIs) Crowdfunding platforms and Organization or platforms that use aggregation 	<ul style="list-style-type: none"> Energy users Energy providers Energy ecosystem actors
Subsidies and tariff concessions	<ul style="list-style-type: none"> National government budget (including subsidies and tax revenue) International development organizations DFIs Private foundations (in rarer cases) 	<ul style="list-style-type: none"> National and local government agencies National, Commercial and Cooperative banks Organizations or platforms that use aggregation Energy providers 	<ul style="list-style-type: none"> Energy users
Aggregation	<ul style="list-style-type: none"> International Development organizations DFIs and Commercial Banks Impact investors and angel investors Debt capital and venture capital funds National Government budgets Private foundations 	<ul style="list-style-type: none"> Financial intermediaries Mandated national agencies 	<ul style="list-style-type: none"> Energy users Energy providers Ecosystem/ enabling environment actors
Results-based financing	<ul style="list-style-type: none"> International development organizations Private foundations 	<ul style="list-style-type: none"> Civil Society Organizations and Non-Governmental Organizations (to coordinate implementation and monitoring) 	<ul style="list-style-type: none"> Energy providers



Decentralised renewable energy

Financial instruments funding decentralised renewable energy

Supply of financial sources

The electricity industry has been increasingly focused on financing for energy-specific projects, with the primary goal of installing gigawatts and megawatts of generating capacity. The table below indicates some examples of decentralised renewable energy funding sources.

A deep dive into the financing of case studies for both utility-scale and decentralised renewable energy opportunities will form a part of the next phase of this project.

Table 18. Sources of decentralised renewable energy finance (Hivos, 2019)

	Domestic	International
Public	<ul style="list-style-type: none"> National and sub-national governments (budgets, including subsidies and taxation), National public banks 	<ul style="list-style-type: none"> Bilateral and multilateral development aid organizations (International development organizations) Development Finance Institutions (including climate finance providers and those financing other development needs)
Private	<ul style="list-style-type: none"> Commercial banks and Cooperative banks Household savings Capital invested directly by entrepreneurs 	<ul style="list-style-type: none"> Private foundations and philanthropies
	<ul style="list-style-type: none"> Impact investors Corporates and project developers Venture capital Crowdfunding 	





Sustainable Finance for decentralised renewable energy

Energise Africa

About the project:

There are a growing number of individual investors around the world who want to use their money to support the SDGs and tackle climate change. Energise Africa is a crowdfunding platform that allows everyday investors in the United Kingdom and beyond to support clean energy projects in Africa. The platform enables African solar businesses to raise funds to bring clean energy to millions of households across the sub-Saharan region via pay-as-you-go payment plans. Energise Africa seeks to harness the enormous untapped potential of new, mission-driven investors and develop innovative financial products to allow the partnership to scale rapidly and meet its ambitious agenda.

Project timeline:

Launched in 2017 – ongoing

Actors involved

Public sector entities	Private sector entities	Private sector financiers	DFI or MDB financiers
UK aid	Virgin unite Energy 4 Impact Lendahand, Ethex	Good Energies Foundation	Partnerships 4 Growth (P4G)

Sustainable finance instruments used:

Energise Africa has received support from UK aid, Virgin Unite and Good Energies Foundation. A range of blended finance approaches have been applied to catalyse investment from the crowd including:

- **Match funding.** This is co-funding contributed while a campaign is live and typically makes up 20% to 50% of the campaign target or offer size. Match funding is deployed by institutional funders to catalyse investment. Match funding may take the first hit in the event of default, however it is generally not marketed as first-loss capital.
- **Match funding that also acts as first-loss.** The match funding deployed also acts as a first-loss by taking the first hit if a borrower defaults. First-loss may reduce risk to investors by subordinating the match funding component of the investment.
- **Investment vouchers for new and existing investors.** Vouchers are issued as coupon codes which can be redeemed during the campaign period. Vouchers can be used to attract new investors by giving a ‘bonus’ investment (e.g. invest £200, get £50 bonus investment), but can also be issued to retain existing investors. Good Energies provided funding for vouchers.
- **A guarantee for first-time investors.** Investor guarantees protect initial investments up to a certain threshold (e.g. protect 100% of the first investment up to £100). While firstloss is applied to the loan principal, investor guarantees protect the individual investment.

Sustainable Finance Instruments

Crowdfunding

Social Impact

450,000 people with access to clean energy

Environmental Impact

4,672 productive-use units employed
Reduced CO₂ emissions by 100,000 tons

Total Investment

£14 million raised
£4 million in loans repayed
2,801 registered investors





Sustainable Finance for decentralised renewable energy

Energise Africa

Sustainable Finance Instruments

Crowdfunding

Social Impact

450,000 people with
access to clean energy

Environmental Impact

4,672 productive-use
units employed

Total Investment

£14 million raised
£4 million in loans repaid
2801 registered investors

Enabling Environment

The launch of Energise Africa demonstrates the capacity of everyday people to contribute to the achievement of SDG 7 – universal energy access – while bridging the financing gaps faced by energy access companies. The success of Energise Africa highlights the critical role of blended finance in catalysing citizen capital investment in the energy access sector. Energise Africa has catalysed over 3 times the total grant funding it received in co-investment.

Our research observations demonstrate that public funding can have the following impact:

- Match funding with first loss improves campaign performance by increasing the number of investments each day.
- Targeted new investor guarantees can significantly increase the number of new investors on a platform.
- New investor guarantees can be used to catalyse smaller individual investments thereby increasing platform accessibility and inclusivity. Our findings demonstrate the importance of an enabling ecosystem in attracting investment from everyday people.

The UK has one of the most enabling, transparent and stable regulatory environments for fintech and alternative finance globally and is the “most benchmarked-against jurisdiction” in the world. In addition to an enabling regulatory environment, the UK Government also offers tax incentives to investors in ‘innovative finance’ products, which currently includes Energise Africa products.

Key Challenges

600 million people in Africa do not have access to electricity and most people are unable to afford the upfront costs of a solar energy system that would provide a sustainable source to power.

Moreover, solar businesses operating in Africa find it difficult to access low cost and affordable working capital because most traditional financial institutions won’t lend or are so risk averse that they can require 125 – 150% collateralization of any loan.

There is an estimated annual US \$2.5 billion shortfall in working capital investment in the continent needed to achieve SDG 7. Access to affordable working capital is the only viable option to bring clean power in the reach of millions of Africans.



Sustainable Finance for decentralised renewable energy

Energise Africa

Key Recommendations and Learnings for South Africa

- A range of blended finance approaches helped lower risk and catalyse crowdfunding investment.
 - Match funding with first loss improves campaign performance by increasing the number of investments each day.
 - Targeted new investor guarantees can significantly increase the number of new investors on a platform.
 - New investor guarantees can be used to catalyse smaller individual investments thereby increasing platform accessibility and inclusivity. The findings demonstrate the importance of an enabling ecosystem in attracting investment from everyday people.
- By partnering with the UK government Energise Africa was able to leverage the UK's enabling, transparent and stable regulatory environments for fintech and alternative finance. In addition to an enabling regulatory environment, the UK Government also offered tax incentives to investors in 'innovative finance' products, which included Energise Africa products.



Utility Scale Renewable Energy



Sustainable Finance for Renewable Energy

Renewable Energy Independent Power Producer Procurement Programme

About the programme:

Sustainable Finance Instruments

Project finance Corporate finance
Corporate bonds
Development finance
Guarantees

Social Impact

52,603 job-years created
Socio-economic development of R1.2bn
Enterprise development contribution of R384m

Environmental Impact

Carbon emission reduction of 50.2 Mton CO₂
Water saving of 59.4m kilolitres
49 461GWh of renewable energy procured since 2013

Total Investment

R209.7bn of which R41.8 billion is from foreign investors and financiers
DMRE (2020)

The Renewable Energy Independent Power Producer Procurement (REIPPP) Programme is a public-procurement program that allows Independent Power Producers (IPPs) to submit competitive bids to design, develop and operate large-scale renewable energy power plants across South Africa. The REIPPP programme was launched as a result of the need and willingness to procure alternative clean energy sources, while at the same time contributing to South Africa's social and economic growth. The need to diversify South Africa's energy mix was conceived in the 1998 White Paper on Energy Policy in South Africa. The 2003 update to this policy underscored the need for both diversification and renewable sources of electricity, in accordance with South Africa's Paris Accord commitments.

In 2010 the Integrated Resource Plan (IRP 2010) was established after many years of policy proposals, review and collaboration with the private sector and lays out multiple goals for energy technology over a 20-year period to 2030. Subsequently, in 2011, the REIPPP programme was launched to effectively implement the vision of IRP 2010 with the target of producing 17,800 megawatts (MW) of electricity from renewable energy sources by 2030. To date, 102 IPP projects have been procured from four bidding round windows, with further windows expected to be announced in the future. In 2019 the then Department of Energy (DOE), now Department of Mineral Resources and Energy published the Integrated Resource Plan 2019 – 2030, which encourages IPPs to bring commission date for new renewables forward from 2025 to 2022 while increasing the annual allocation for large scale corporate power purchased agreements.

The REIPPP programme was structured as a series of steps and closed-bid auctions prompted by the issuance of a combined Request for Qualification and Proposal (RFP). A cumulative quantity of megawatts (MWs) in particular technology categories is made available for each tender or auction. On a comparative basis, compliant bids are then assessed and Preferred Bidder status is awarded within the overall MW allocation to the top rated proposals. The bid evaluation process involves distinct sets of criteria to be adhered to including:

- General criteria – comprising criteria such as participation, maximum capacity available for tender per technology and price caps per technology;
- Qualification criteria – comprising criteria such as structuring of the project, legal evaluation, financial evaluation, technical evaluation, land acquisition, environmental consent and economic development evaluation; and
- Evaluation Criteria – comprising overall scoring

Project timeline: 2011 – 2030 (Round 1- 4 completed, Round 5 anticipated in the near future)

Social design components

Detail economic development criteria and associated outcomes were built into the bidder requirements with economic development points being awarded for the following:



Sustainable Finance for Renewable Energy

Renewable Energy Independent Power Producer Procurement Programme

- Job creation - provision of jobs for citizens, jobs for citizens per MW, jobs for skilled black individuals, jobs for black individuals and jobs for the local community);
- Local content - objective of creating jobs through increased local manufacturing assessed by the value of local content expenditure in relation to all expenditure for the construction of the project;
- Ownership - The REIPPPP aims to direct development to previously marginalised and disadvantaged groups, and communities;
- Management control - focuses on black representation in the project's top management;
- Preferential procurement - It seeks to direct project procurement expenditure towards the priority groups of black people, women and small and emerging enterprises;
- Enterprise development - This requirement focuses on directing funds for the development of enterprises (entrepreneurial capacity and business expertise), particularly those in the local communities; and
- Socio-Economic development - aims to direct funding towards projects that have a positive socio-economic impact, particularly for communities where the project is located

Actors involved

Public sector actors

The Independent Power Producers (IPP) office, composed of the DOE and National Treasury's Public Private Partnership Unit (PPP) run the REIPPPP programme from evaluation to approval of bidders. The National Energy Regulator of South Africa (NERSA) is the designated authority authorised to

issue energy generation licenses while ESKOM Holdings Soc Limited is the sole entity empowered to purchase energy and enter into Power Purchase Agreement (PPA) with IPPs in terms of the REIPPPP programme.

Private sector corporates

Extensive assistance was sought from external transaction advisors for the development and implementation of the REIPPPP programme, with well over 100 representatives from 13 consulting firms providing legal, business, technological or socio-economic and environmental advisory services during the programme.

Private sector financiers

Majority of debt funding has been from commercial banks supplement by pension and insurance funds.

DFI or MDB financiers

Development Finance Institution played a key role in enabling bidders through the provision of debt finance (R27.8bn).

Sustainable finance instruments used:

Project finance (debt and equity) is the most prevalent financing structure. (Since, there has been two distinct instances of a private sector bank refinancing debt via a corporate Green Bond, and a sovereign Green Bond has been promoted as a national opportunity).

One project developer in Round 1 issued a corporate bond valued at R1bn while other funding structures included corporate finance.



Sustainable Finance for Renewable Energy

Renewable Energy Independent Power Producer Procurement Programme

A risk mitigation mechanism that was built into the REIPPP programme is that bidders are required to provide the DOE with a preferred bidder guarantee per MW of contracted capacity for the proposed project. This mechanism is to dis-incentivise bidders from submitting improbable proposals by inexperienced bidders who subsequently struggle to finance and deliver on proposed projects.

Enabling Environment

Through South Africa's voluntary UNFCCC carbon reduction pledges, publications of the IRP 2010, the National Climate Change Response White Paper South Africa and by hosting COP17 and signing a Green Accord with business and other stakeholders in 2011, the government of South Africa committed to transforming its electricity generation in South Africa and thereby increasing pressure to fast-track the rollout of the REIPPP.

A further aspect contributing to an accelerated renewable energy procurement programme was the electricity shortages and power losses 'load shedding' that occurred during that time and the desire to get more grid capacity in the shortest possible period. In addition to this the REIPPP programme has been remarkably transparent mitigating opportunities for corruption together with greater social and economic gains which has helped to enhance political support.

Key Challenges

One of the challenges with such a programme is overcoming the mistrust of private business that sometimes restricts the public-private dialogue.

The DOE IPP management team and the team leaders had extensive experience, PPP expertise, and credibility with both public and private sector stakeholders which helped resolve some of the private sector scepticism. However, this required the appointment of experienced advisors who were able to transfer international best practice into the South Africa context.

In order for this procurement process to continue to be successful, institutional capability will need to be built within a formal institution, preferably a future independent system and market operator.

Additional challenges emerged with regards to some design shortcomings and the size and readiness of the local renewable energy market which was initially overestimated in Round 1. As a result there was limited competition with bids close to the price caps that were specified in the tender. This has since been systematically improved.

Some critics of also argue that the significant upfront administrative requirements and high bid costs of the program have led to higher prices which also served as a bias against Small and Medium Scale Entrepreneurs (Eberhard and Kolker, 2014).





Sustainable Finance for Renewable Energy

Renewable Energy Independent Power Producer Procurement Programme

Key Recommendations and Learnings for South Africa (Eberhard and Naude, 2017)

- The success of South Africa's REIPPPP was facilitated by a well established local financial and banking sector. The SA REIPPP programme has benefited from the assistance of the DFI, not only in terms of initial financing for the program design, but also by debt support for a variety of projects over the bid rounds and as a consequence, great reliance was placed on DFIs for IPP funding. However, It is suggested that governments wishing to introduce renewable energy utility-scale tenders engage similarly with the private sector beforehand and conduct road shows to court potential financiers and discuss their bankability requirements.
- To create a consistent path for renewable energy growth, it is necessary to have a clear roadmap for development in order to draw private investment. Renewable strategy and procurement initiatives should be accompanied by a government pledge to create a wider framework for private sector investment.
- In order to encourage investment in grid-connected renewable energy, a strategy that encourages open tenders or auctions rather than Feed In Tariffs (FITs) may be more successful.
- Policy, legislation, regulations, plans and procurement programmes should be responsive to new challenges as they emerge and should be incrementally improved over time.
- In order to win private sector trust, the procurement team should be adequately trained, competent and credible.
- High-level political support is necessary to authorize and sustain the procurement in such a programme.
- Coordination of government departments is important to the effectiveness of the initiative and additional burdens on these departments should be avoided as much as possible.
- The champion(s) of the procurement program must employ the appropriate number and type of experienced transaction advisers to counsel on program design and execute bid assessments. The requirement to employ advisers will result in a substantial amount of upfront investment. Government could seek financing or loans from Development Finance Institutions (DFIs) for grants to support these costs.



Ecosystem-based Adaptation

Ecosystem-based Adaptation

The role of ecosystem based adaption in South Africa

The role of ecosystem based adaption in South Africa

Healthy ecosystems provide essential ecosystem services such as food, water, fuel and natural medicines, they also help to reduce climate change vulnerability and natural disasters by acting as defensive buffers against threats such as flooding and storms. Furthermore they provide non-material value, including cultural values, a sense of place and identity, and tourism. Consequently, South Africa has developed an Ecosystem Based Adaptation (EbA) Policy to respond to the consequences of climate change, stressing the role of EbA as part of South Africa's overall work programme on climate change adaptation (DEA, 2018a).

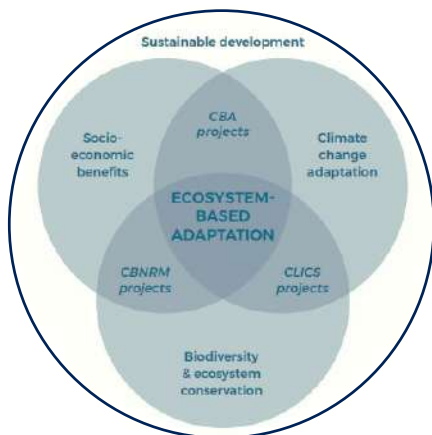


Figure 58: EbA within sustainable development (DEA, 2018b)

The EbA Strategy seeks to combine environmental services and conventional considerations of biodiversity management into approaches to climate change adaptation and specifically stresses the human well-being and adaptation co-benefits of balanced and healthy ecosystems, binding them at all levels of long-term social and economic stability. Furthermore the strategy points to successful collaboration, learning and connectivity among stakeholders in the public and private sector as important components of the EbA Strategy's capability and resource mobilisation. (DEA, 2018a)

However, one of the biggest challenges which limit South Africa's ability to reap the benefit offered by EbA is inadequate financial resources which compromise the ability of institutions in the biodiversity sector to fulfil their mandates and implement EbA projects. (SAIIA, 2019)

Financing EbA

What makes mobilising adaptation private finance challenging is that it is often most needed in non-market sectors or is focused on public goods that benefit many stakeholders (UNEP, 2018). Most often – where it is tackled – it is done so through public finance with the objective of improving the capabilities of multiple players, paying gradual adaptation costs, providing incentives for institutions and investors and taking on uncertainties that would otherwise deter private adaptation finance flows. Given the nature, size and associated costs of adaptation, private financing for adaptation is important, and the mechanisms for doing so are not well understood or employed.



Ecosystem-based Adaptation

Financing EbA

Despite growing innovation in mobilising private sector finance by the actions of MDBs and financial institutions, significant challenges to scaling these approaches remain, including “policies that exacerbate the underpricing of biodiversity; lack of data, measurement, and reporting standards; and issues with biodiversity investment opportunities, which tend to be small scale and non-commercial”. (The World Bank Group, 2020)

Efforts are being made to expand the instruments, actors and approaches through which adaptation finance is delivered as it becomes more apparent that innovative approaches to funding EbA will be needed. Such approaches include (SAIIA, 2019):

- Implementing frameworks for funding focused on alliances with multiple stakeholders;
- Exploring payment for ecosystem services to enable EbA interventions;
- Developing funds to ensure successful long-term financing;
- Implementation of incentive schemes that facilitate implementation of EbA; and
- Partnering with the insurance industry which is versed in the estimation of environmental risks.

UNEP, in collaboration with DEFF and with Support of the Flanders Government is presently implementing a project “Increasing Resilience and Reducing Vulnerabilities of Local Communities to the Effects of Climate

Change through ecosystem based adaptation”. The project expects to publish a guidance note on innovative finance for ecosystem-based adaptation (EBA) in South Africa in April 2021 that provides a broad overview of the status of adaptation finance in South Africa and globally, explores the business models that are suitable for EbA, and proposes an EbA investment framework and suitable financing mechanisms. It is accompanied by:

- 3 business cases for EbA that include an analysis of opportunities, benefits, expected costs, a gap analysis and expected risks;
- A mapping of finance streams that could potentially lend themselves for financing EbA, including an analysis of different finance options and reaching out to finance providers, and case studies of how the funding mechanisms have been applied; and
- A report on the Framework for a small EbA grants facility as a mechanism for mobilising investments for EbA initiatives, focusing on vulnerable communities in rural areas of South Africa, and broadly outlines key principles for operationalizing a potential small grants facility to support EbA initiatives. (UNEP, 2021b)

Readers are encouraged to consult this resource once it is available.

The World Bank Group (2020) report “[Mobilizing Private Finance for Nature](#)” also provides a wealth of insight to “greening finance” and “financing green” for private sector actors, and provides a series of recommendations including concerning the provision of catalytic, concessional capital for biodiversity funds and projects.



Sustainable Finance for ecosystem-based adaptation

The Acumen Resilient Agriculture Fund (ARAF)

Sustainable Finance Instruments

Equity, grants and co-financing

Social Impact

Countries involved are Uganda, Kenya, Nigeria, Ghana

2,100,000 direct beneficiaries

7,900,000 indirect beneficiaries

1.25 million households with increased food and water security, health and wellbeing

Environmental Impact

Climate resilience and economic prospects of project countries enhanced by improved agricultural business practices

Total Investment

Total project value is \$56m

About the project:

The Acumen Resilient Agriculture Fund (ARAF) will improve climate resilience to ensure long-term sustainable increases in agriculture productivity and incomes for smallholder farmers. It will shift the pattern of investment in climate change adaptation activities in Africa from grants to a long-term capital approach, enabling smallholder farmers to respond to climate change more efficiently and effectively. It will support innovative private social entrepreneurs in micro-, small, and medium-sized enterprises (MSMEs) by providing aggregator and digital platform and innovative financial services to smallholder farmers.

Project timeline: 2017 - 2031

Actors involved

Public sector entities	Private sector entities	Private sector financiers	DFI or MDB financiers
Participating Ministries of Finance, Planning and Economic Development, Environment, and National Treasury	Beneficiaries	Acumen Fund, Inc	Green Climate Fund

Sustainable finance instruments used:

Equity, grants and co-financing

Enabling Environment

GCF is showing how it is possible to attract private sector investment in building the climate resilience of smallholder farmers in developing countries. GCF’s anchor investment of USD 23 million in equity in ARAF’s first loss pool is catalytic, as it de-risks the investment for risk-averse private sector investors. GCF’s funding provides protection from what many investors often view as the high risks of financing early-stage agribusinesses and services for small-scale farmers. GCF has also injected USD 3 million into a USD 6 million Technical Assistance Facility to help investee companies build climate adaptive businesses that provide a financial return to ARAF and its investors. Since its first agriculture investment in 2008, Acumen has built a diverse portfolio of pioneer agriculture companies serving those without access to ready finances. GCF’s role in this innovative partnership with Acumen is to boost ARAF’s capital to USD 56 million and incorporate a focus on climate resilience.

GCF has already made four disbursements to this project, totalling USD 4.2 million. The initiative uses grassroots data collecting to regularly survey agribusinesses and smallholders to assess how the rollout of ARAF is affecting their livelihoods and exposure to climate-related risks.

Acumen, a private sector investor, is also an international GCF Accredited Entity.





Sustainable Finance for ecosystem-based adaptation

The Acumen Resilient Agriculture Fund (ARAF)

Key Challenges

The need to move beyond limited grant assistance to enhance agricultural adaptation is obvious. The world’s 2.4 billion smallholder farmers produce 70 percent of the world’s agricultural products and account for over half of the world’s poor. Their weather-dependent livelihoods and lack of social safety nets make them highly vulnerable to climate change, particularly in Sub-Saharan Africa, which is forecast to bear nearly 50 percent of estimated global adaptation costs in terms of health, water supply, agriculture and forestry.

Small scale farmers in Africa experience the lowest crop yields in the world due to limited access to affordable credit, quality inputs, knowledge of the best farming techniques and access to advantageous market prices. The growing impacts of climate change increases the urgency of finding new sources of funding to improve their agricultural practices and climate resilience.

Access to ready credit is often the missing link stopping this from happening.

Sustainable Finance Instruments

Equity, grants and co-financing

Social Impact

Countries involved are Uganda, Kenya, Nigeria, Ghana

2,100,000 direct beneficiaries

7,900,000 indirect beneficiaries

1.25 million households with increased food and water security, health and wellbeing

Environmental Impact

Climate resilience and economic prospects of project countries enhanced by improved agricultural business practices

Total Investment

Total project value is \$56m



Sustainable Finance for ecosystem-based adaptation

The Acumen Resilient Agriculture Fund (ARAF)

Key Recommendations and Learnings for South Africa

- De-risking investments: GCF's anchor investment of USD 23 million in equity in ARAF's first loss pool is catalytic, as it de-risks the investment for risk-averse private sector investors.
- The fund moves from grants to support innovative private social entrepreneurs in micro-, small, and medium-sized enterprises (MSMEs) by providing aggregators and digital platforms, and innovative financial services to smallholder farmers. Through these efforts the fund shifts to a long-term capital approach, enabling smallholder farmers to respond to climate change more efficiently and effectively.
- Supporting accredited entity status for organisations beyond DBSA and SANBI might be a consideration, as might means to work with more regional and international AEs for a diversity of project types which may not suit national AEs.



Sustainable Finance for Green Projects

Netherlands Green Fund Scheme

Sustainable Finance Instruments

Tax credits and tax exemptions
Green Loans

Social Impact

N/A

Environmental Impact

6,000 green projects funded;
1,700 wind turbines;
1,700 km² of woods and nature conservation preserved;
1/3 greenhouses brought up to best practice standard

Total Investment

€7.3 billion

About the project:

The Dutch Green Funds Scheme (GFS) is a tax incentive instrument used by the Dutch government to encourage environmentally friendly initiatives. Investing in the Green Funds means that individual investors lend their money to banks, at a lower interest rate, compensated by a tax incentive (environmental tax credit). I.e., the consumer provides money and receives below average returns, which are ameliorated by the available tax deduction. The green banks can then offer cheaper loans to environmental projects and thereby improve their financial situation.

The ministries receive applications for planned projects to be certified as 'green' according to their ministerial criteria and assessed projects that are certified as 'green' are then eligible for the scheme.

Actors involved

Public sector entities	Private sector entities	Private sector financiers
Housing, Spatial Planning and the Environment Ministry; Ministry of Finance; Agriculture, Nature and Foods Quality Ministry; Transport, Public Works and Water Management Ministry	Utilities; Energy developers; Agricultural companies; Infrastructure developers; Construction companies	ABN AMRO Groenbank; ASN Groenprojectenfonds; Fortis Groenbank; Fortis Groen Fonds; ING Groenbank; Nationaal Groenfond; Rabo Groen Bank; Triodos Groenfond; Association of Investors for Sustainable Development (Private Households)

Sustainable finance instruments used:

All projects supported by the GFS have to provide an immediate and substantial environmental benefit, e.g. sustainable activities in agriculture, energy, construction, transport, etc. Loans from green funds may not account for the full amount of the project; on average, they are only 75 percent of the total costs.

Banks that participate in this program are called green intermediaries; the Ministry of Finance decides whether or not an intermediary qualifies as green. To qualify as green, the intermediary, or fund, must allocate 70% of assets to green projects. For risk mitigation purposes, green intermediaries can allocate at most 30% of their green fund's portfolio to non-green projects.

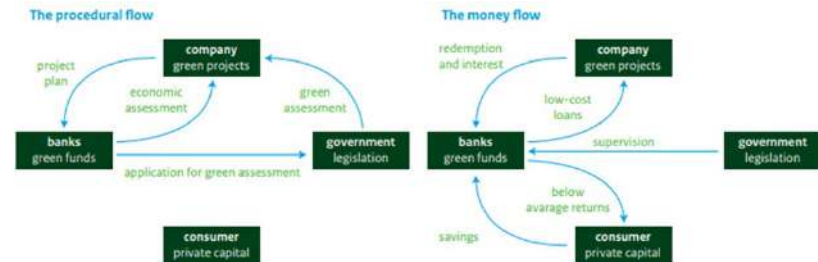


Figure 59: Financing and institutional structure of the GFS (VROM, 2010)



Sustainable Finance for Green Projects

Netherlands Green Fund Scheme

Enabling Environment:

The GFS is an excellent example of leveraging private sector FIs experience in project due diligence and loan and credit extension capabilities in conjunction with innovative regulatory reforms to unlock billions of Euros in green finance for a myriad of projects.

Private households have a considerable treasury of cash that is deposited with FIs in the form of cash deposits, savings accounts, endowment policies, retirement annuities, among others. The GFS successfully tapped into this pool of funding by introducing a tax incentive to offset the reduced interest that can be expected to create an equivalent return for these individuals.

Capacity building in government ministries and departments is needed for them to successfully assess and certify 'green' project applications submitted by the banking sector. Training and upskilling personnel to provide this crucial step and introduce a labelling and certification scheme for eligible projects is essential to ensure a steady and sizeable pipeline of eligible projects.

The inclination and appetite of private households and individuals will need to be present to drive the uptake of the green banking offering that will ultimately finance these projects, and this needs to be fostered from all forms of education in the country to entrench a mindset of sustainability.

The GFS did result in reduced tax collection for the government; however, it has been estimated that every Euro that the Dutch government invests via the GFS (i.e. every Euro of tax income loss) provides 40 Euros from the private sector for investment in green projects (Thornely *et al.*, 2011).

Key Challenges

The tax credit and tax incentive of the GFS was directed at private households specifically. What the policy gains in its specificity and narrow focus—a discrete and manageable program attractive to many individual private investors—it loses in scalability by excluding other potential investors, projects, and funding mechanisms.

The projects could only access the finance from the banks participating in the programme through soft loans and there was no facilities available for equity or other finance instruments to these projects.

Knowledge of the scheme among general public was noted as being inadequate to attract the level of private capital needed to push the country towards a fully sustainable trajectory. Further promotional activity and awareness raising was needed to increase uptake from individuals.

The ceiling value (50,000 Euro), up to which savings are tax free, was perceived as being too low

The GFS, being fundamentally a tax regime, required substantial changes to the tax system which was noted as being arduous and threatened the attractiveness of the scheme before being reconciled and resolved.



Sustainable Finance for Green Projects

Netherlands Green Fund Scheme

Key Recommendations and Learnings for South Africa

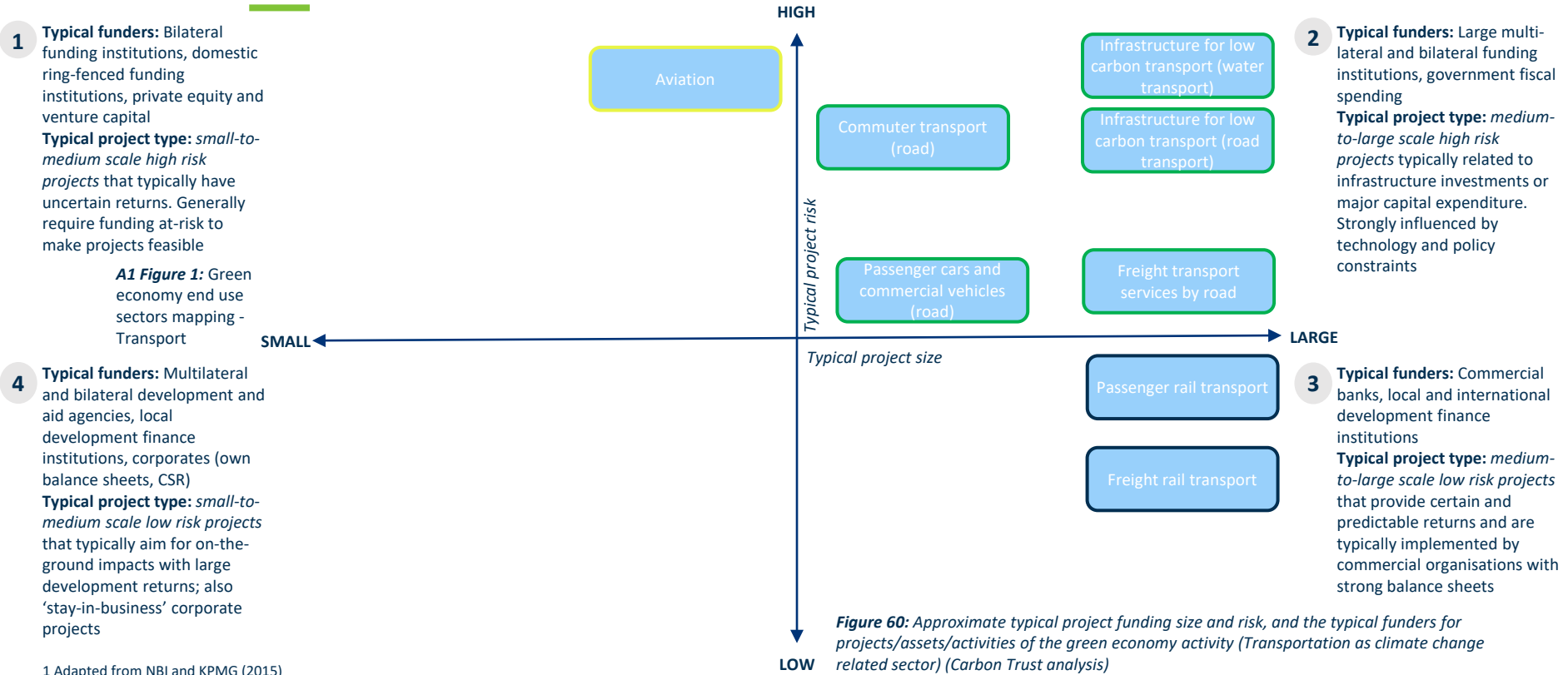
- Confidence: Schemes like the GFS arrangement are based on trust. Individuals invest their savings and companies enter into long-term obligations with the banks. As soon as they lose confidence in the scheme or the scheme rules and structures are amended, consumers withdraw and companies and banks show no further interest in green financing. Tax policy consistency and certainty are therefore of the utmost importance when implementing these types of schemes.
- Innovation: The project criteria in the Green Project Scheme are always stricter than current legal standards. Continuing performance improvements are achieved by continually raising the bar for green projects. Promulgation of the South African Green Finance Taxonomy would be required for a system such as this to be implemented so that the banking sector and ministries conducting project assessments and certification can use this taxonomy to label eligible projects.
- Involvement of the banking sector: The banking sector is an obvious intermediary between individual investors, companies and organisations developing green projects. The volume of investment and the pipeline of eligible projects has to reach a certain level. Once a critical mass has been achieved, the system is self-perpetuating and there is both supply-push from green project developers and demand-pull from individuals and banks seeking to fund green projects. To get this critical mass there needs to be market liberalisation, correct tax incentive levels, endorsement from major institutions and ministries, and sufficient skills to deliver the projects.
- Positive effects: Because the scheme makes them active participants, consumers are more involved in achieving national environmental objectives. The capital they invest enhances the banks' corporate social responsibility, which gradually filters through to their approach to corporate management. Banks develop new green financial products, and ensure that green capital is deployed by actively searching for green projects. As a result, green projects are easier to finance, and innovative and environmentally benign solutions gain access to the market.

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<i>Annexure 2: Focus on the norms and standards in transition finance</i>	<u>pp. 129</u>
<i>Annexure 3: Focus on sustainable finance and the just transition</i>	<u>pp. 137</u>
<i>Annexure 4: International developments in carbon offsets as finance instruments</i>	<u>pp. 156</u>
<i>Annexure 5: Overview of the relevance of sustainable finance in the insurance industry</i>	<u>pp. 162</u>
<i>Annexure 6: Enabling environment countries study</i>	<u>pp. 168</u>
<i>Annexure 7: Cases studies of sustainable finance for green economy applications</i>	<u>pp. 201</u>
<i>Annexure 8: South African green economy end uses mapping to capital and risk/size</i>	<u>pp. 245</u>
<i>Annexure 9: South African end-uses mapping to financial instruments</i>	<u>pp. 255</u>
<i>Annexure 10: Universe of Methods analysis framework and short-listing</i>	<u>pp. 272</u>
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<i>Annexure 12: Listing of sustainable finance initiatives</i>	<u>pp. 328</u>



Green economy end use sectors mapping

Approximation of the typical project funding size and typical risk associated¹ with major projects/technologies in the main projects/assets/economic activities of the draft Green Finance Taxonomy²

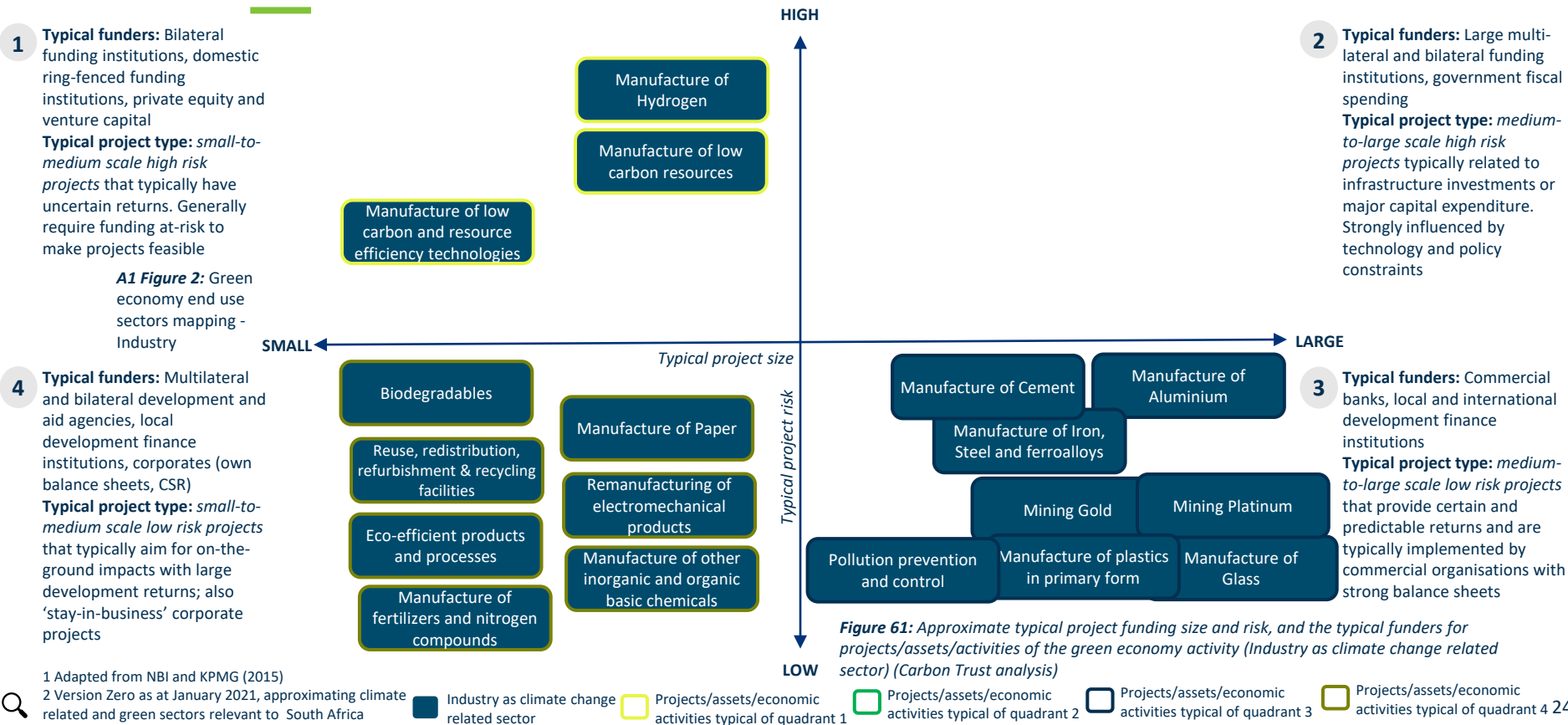


1 Adapted from NBI and KPMG (2015)
2 Version Zero as at January 2021, approximating climate related and green sectors relevant to South Africa



Green economy end use sectors mapping

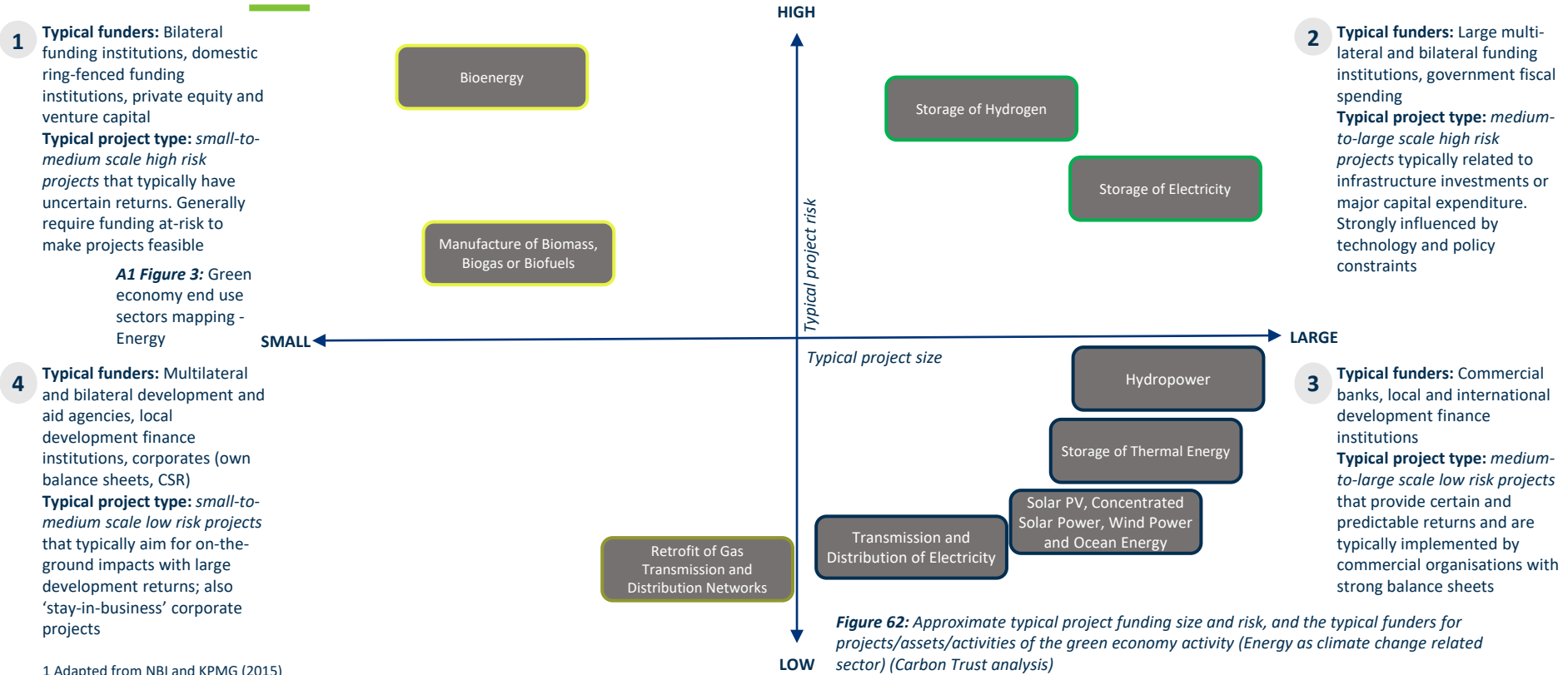
Approximation of the typical project funding size and typical risk associated¹ with major projects/technologies in the main projects/assets/economic activities of the draft Green Finance Taxonomy²





Green economy end use sectors mapping

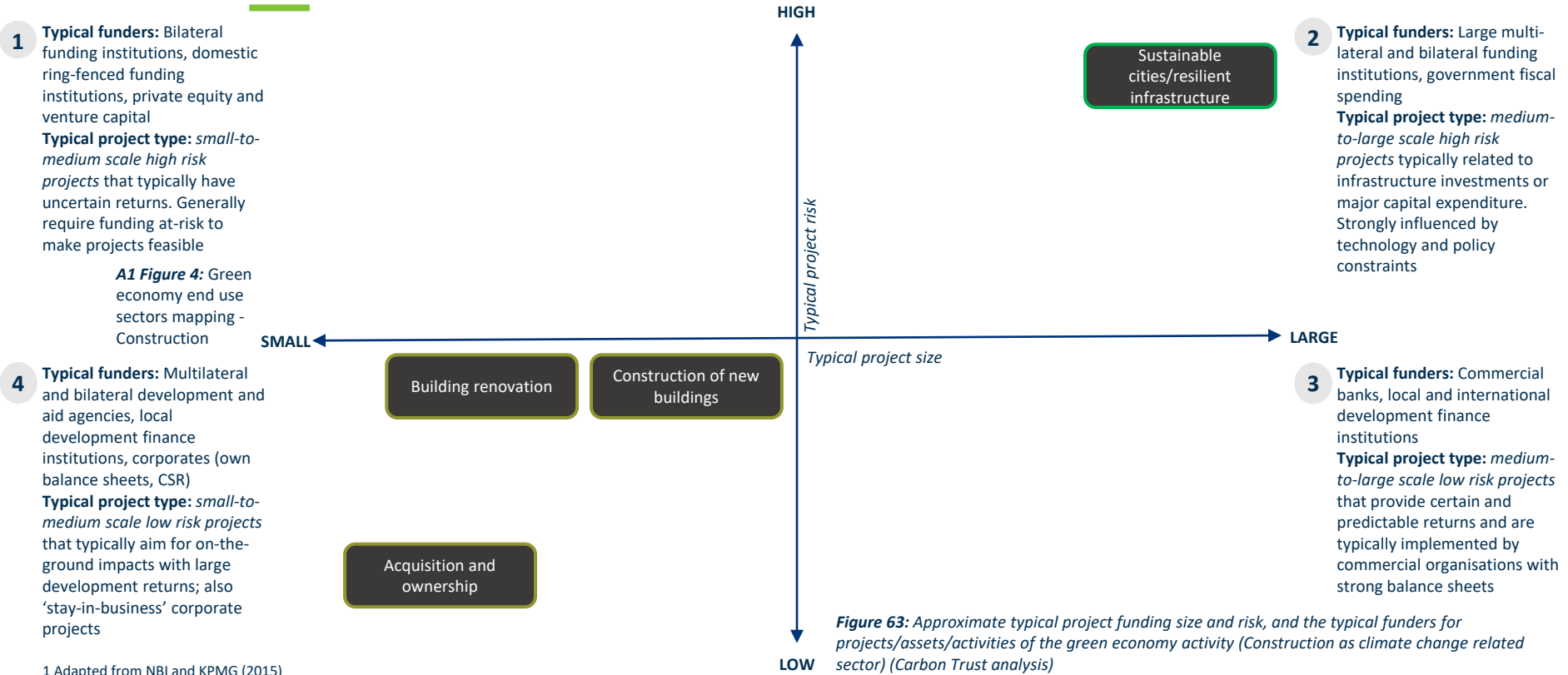
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Green economy end use sectors mapping

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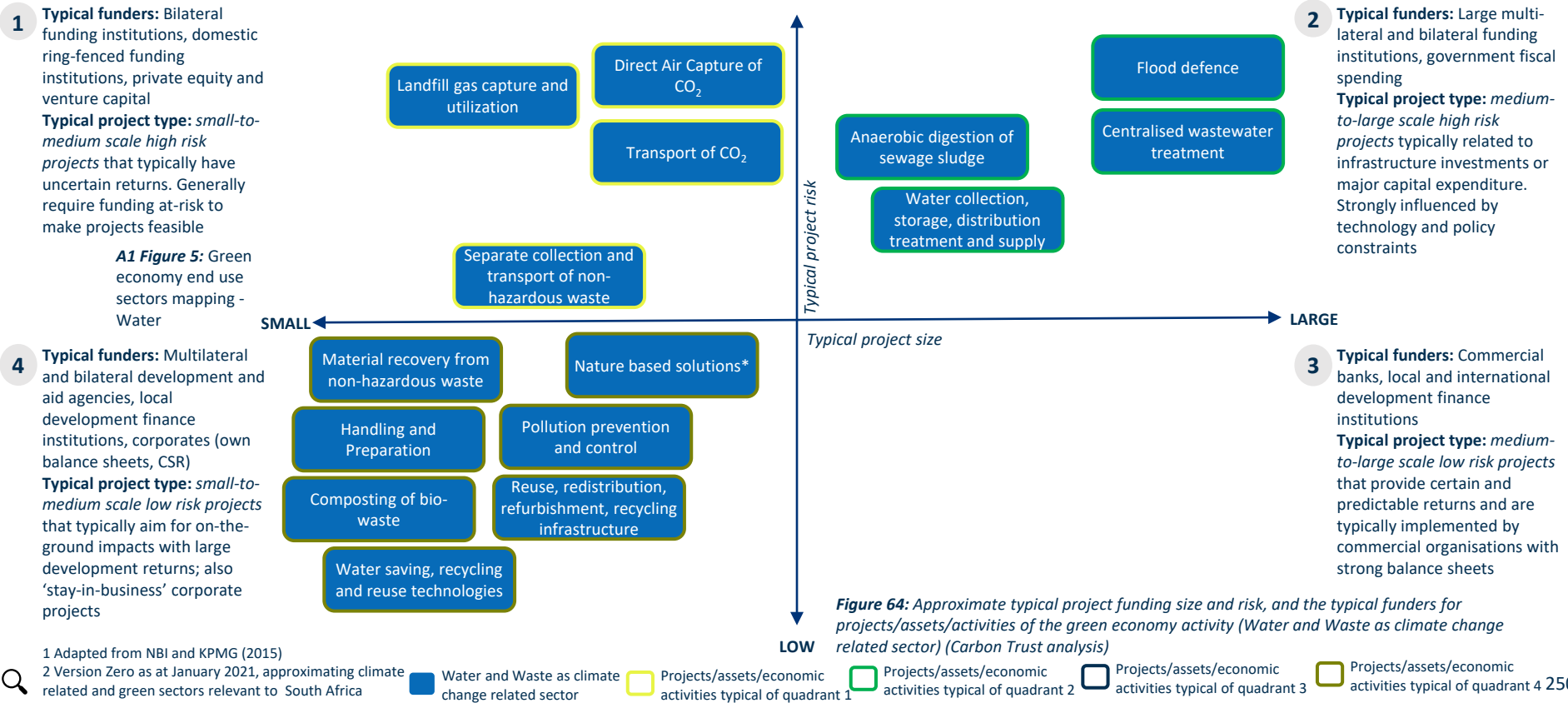
■ Construction as climate change related sector □ Projects/assets/economic activities typical of quadrant 1 □ Projects/assets/economic activities typical of quadrant 2 □ Projects/assets/economic activities typical of quadrant 3 □ Projects/assets/economic activities typical of quadrant 4





Green economy end use sectors mapping

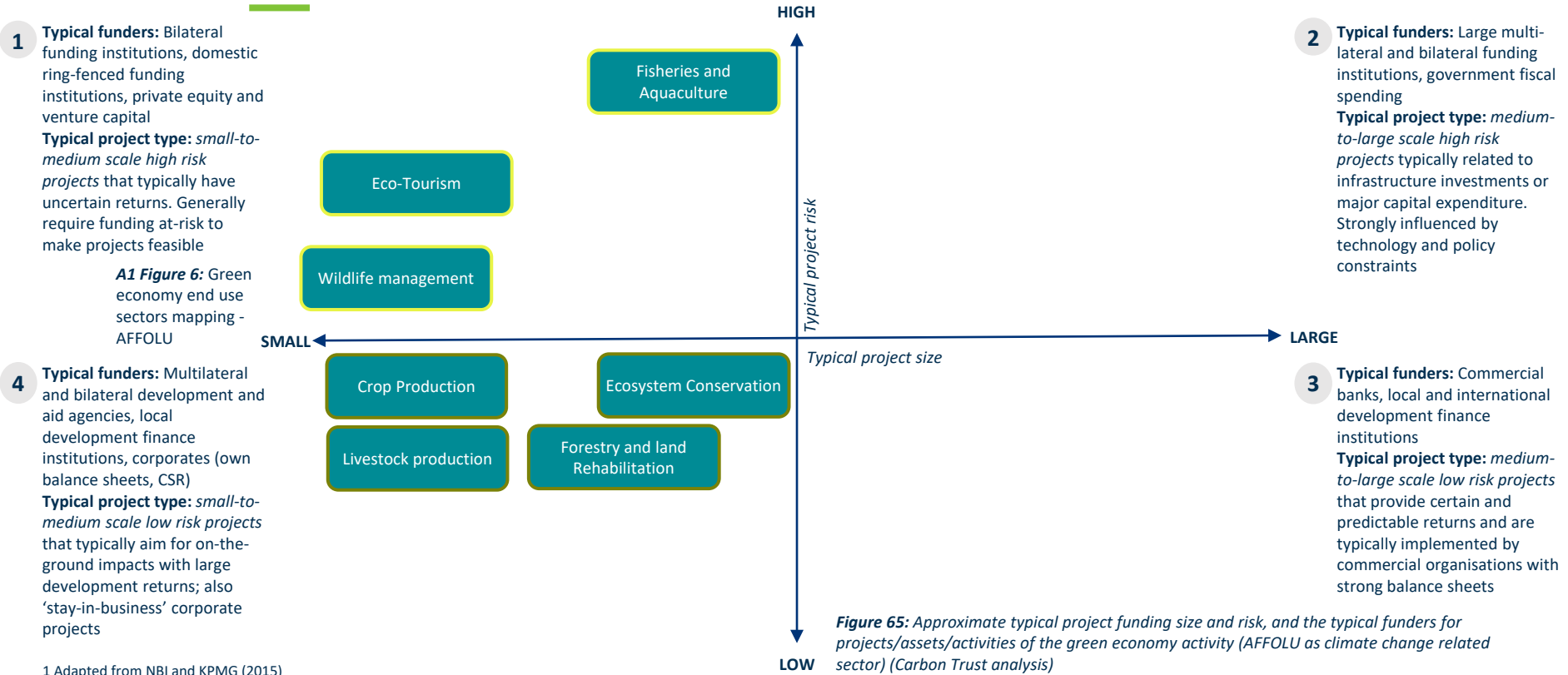
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Green economy end use sectors mapping

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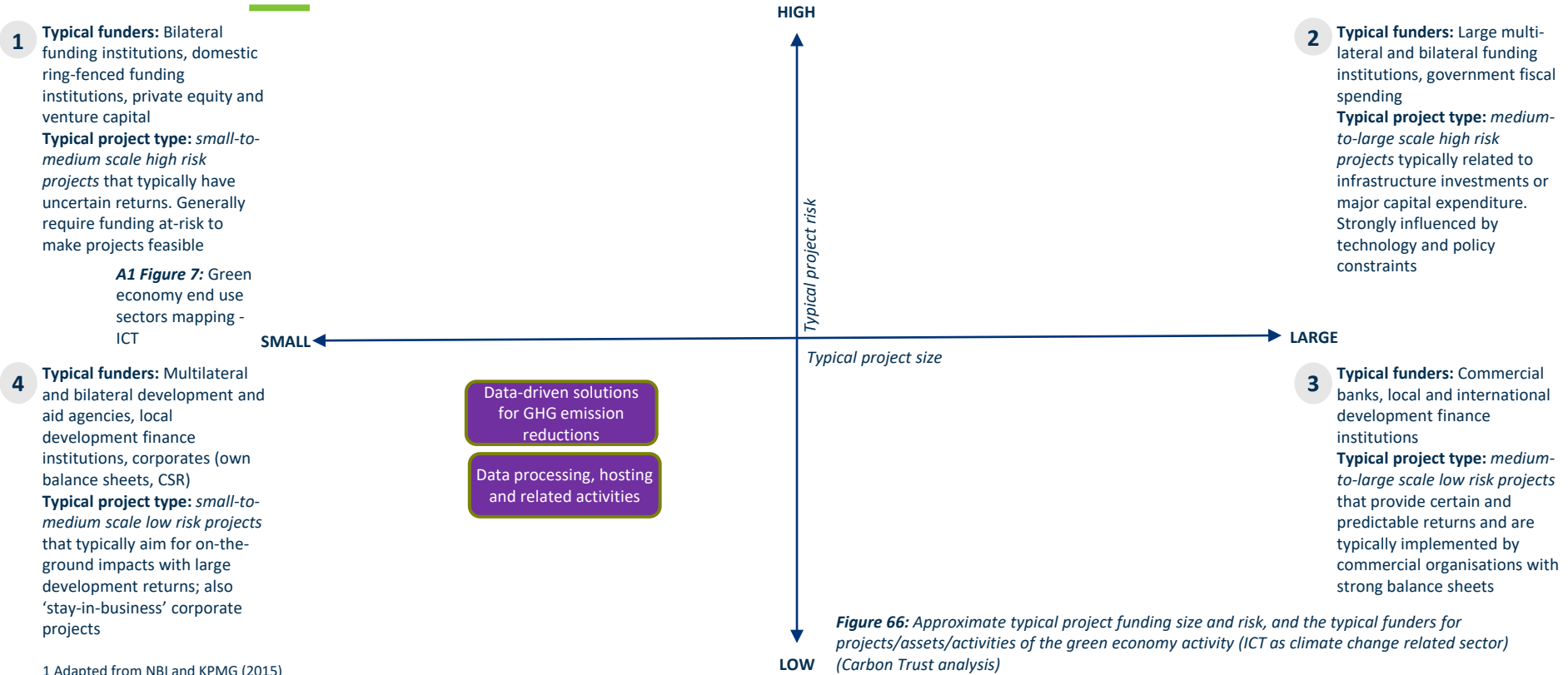
■ AFFOLU as climate change related sector □ Projects/assets/economic activities typical of quadrant 1 □ Projects/assets/economic activities typical of quadrant 2 □ Projects/assets/economic activities typical of quadrant 3 □ Projects/assets/economic activities typical of quadrant 4

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Green economy end use sectors mapping

Approximation of the typical project funding size and typical risk associated¹ with major projects/technologies in the main projects/assets/economic activities of the draft Green Finance Taxonomy²

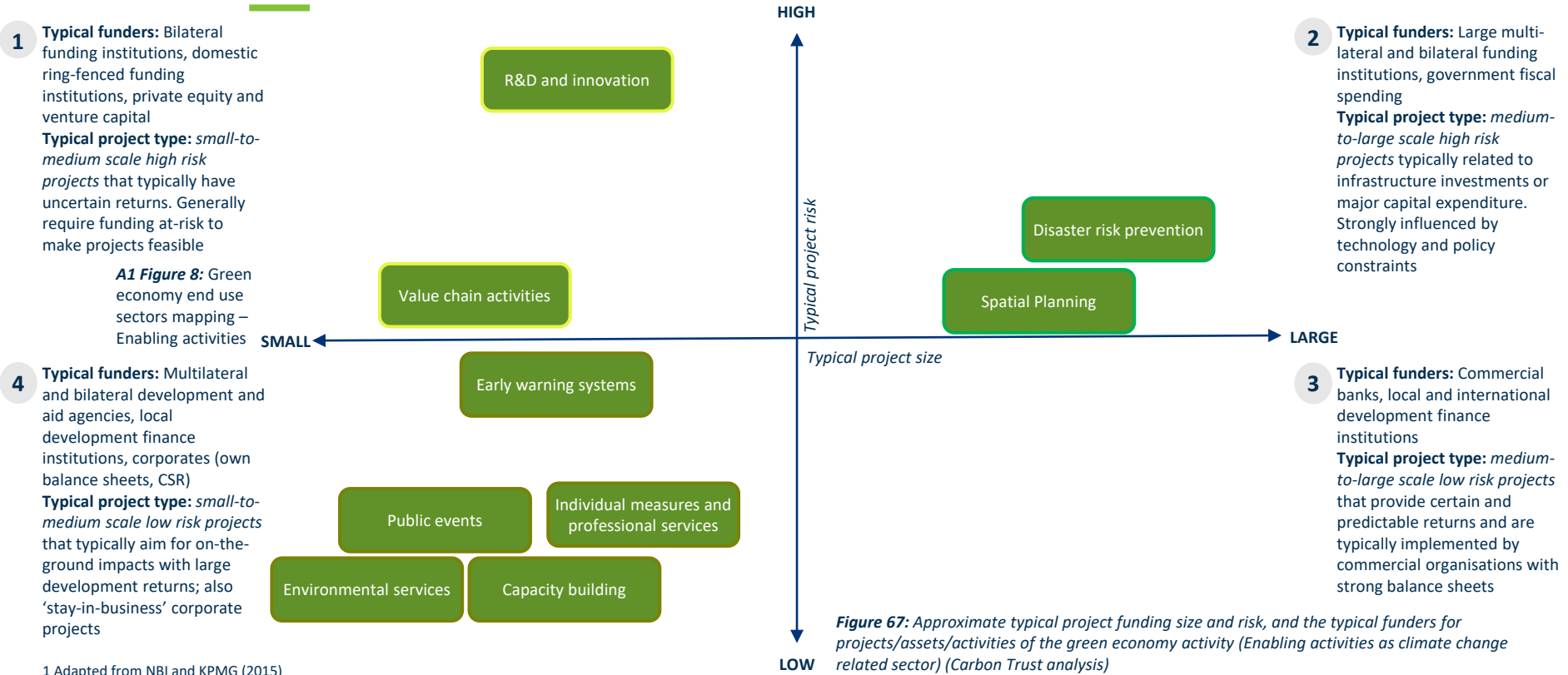


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Green economy end use sectors mapping

Approximation of the typical project funding size and typical risk associated¹ with major projects/technologies in the main projects/assets/economic activities of the draft Green Finance Taxonomy²



1 Adapted from NBI and KPMG (2015)
 2 Version Zero as at January 2021, approximating climate related and green sectors relevant to South Africa

■ Enabling activities as climate change related ■ Projects/assets/economic activities typical of quadrant 1 ■ Projects/assets/economic activities typical of quadrant 2 ■ Projects/assets/economic activities typical of quadrant 3 ■ Projects/assets/economic activities typical of quadrant 4

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Green economy end use sectors mapping

Approximation of the typical project funding size and typical risk associated¹ with major projects/technologies in the main projects/assets/economic activities of the draft Green Finance Taxonomy²

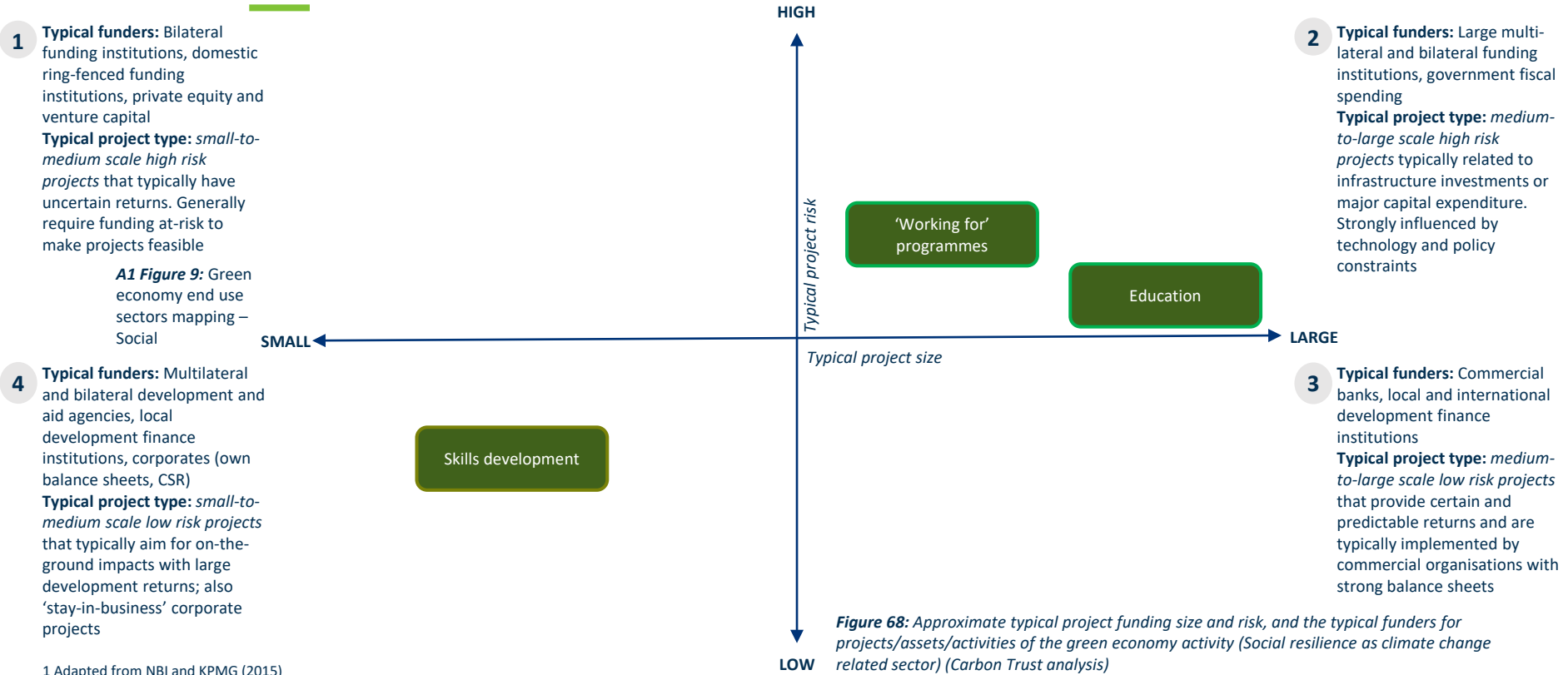


Figure 68: Approximate typical project funding size and risk, and the typical funders for projects/assets/activities of the green economy activity (Social resilience as climate change related sector) (Carbon Trust analysis)

1 Adapted from NBI and KPMG (2015)
 2 Version Zero as at January 2021, approximating climate related and green sectors relevant to South Africa

■ Social resilience as climate change related sector ■ Projects/assets/economic activities typical of quadrant 1 ■ Projects/assets/economic activities typical of quadrant 2 ■ Projects/assets/economic activities typical of quadrant 3 ■ Projects/assets/economic activities typical of quadrant 4

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<i>Annexure 6: Enabling environment countries study</i>	<u>pp. 168</u>
<i>Annexure 7: Cases studies of sustainable finance for green economy applications</i>	<u>pp. 201</u>
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Linking green finance instruments to end-uses

The determination of the finance instrument applied to an end-use is a factor of the maturity of the technology and infrastructure and the size and scale of the project. *(Please refer to the Annexures for detailed analysis.)*

Table 19. SF instruments and associated end-uses identified most applicable, ranked by approx. catalytic potential of instrument and significance of end-use impact

Instrument	End-Use markets with applicability for the financial instrument
Blended Finance (public and private multi-instrument finance structures)	<ul style="list-style-type: none"> Hydrogen (and hydrogen-product) manufacture, distribution and storage Low-carbon resources (green ammonia, green methanol, carbon capture, utilisation and storage (CCUS) products) Low-carbon transportation infrastructure (non-motorised, EV and hydrogen refuelling) Climate resilience and adaptation infrastructure Low-carbon manufacturing and industry-specific technologies Renewable energy projects, including bioenergy, and energy storage Direct air capture of CO₂
Guarantees	<ul style="list-style-type: none"> Hydrogen (and hydrogen-product) manufacture, distribution and storage Low-carbon resources (green ammonia, green methanol) Climate resilience and adaptation infrastructure Low-carbon manufacturing and industry-specific technologies Renewable energy projects and energy storage
Private Equity / Venture Capital	<ul style="list-style-type: none"> Hydrogen (and hydrogen-product) manufacture, distribution and storage Low-carbon resources (green ammonia, green methanol, carbon capture, utilisation and storage (CCUS) products) Low-carbon manufacturing and industry-specific technologies Direct air capture of CO₂ Low-carbon transportation infrastructure (non-motorised, EV and hydrogen refuelling)
Project Finance	<ul style="list-style-type: none"> Water supply, treatment, saving and pollution control infrastructure Freight and passenger transportation infrastructure (rail, land, ports) Hydropower projects Renewable energy projects (solar PV, wind, mature bioenergy) Electricity and gas transmission and distribution infrastructure

Instruments with high potential for catalysing a wide variety and scale of innovative technologies and infrastructure projects

Instruments with more niched applications or typically supporting mature, proven technologies and large infrastructure projects



Linking green finance instruments to end-uses

The determination of the finance instrument applied to an end-use is a factor of the maturity of the technology and infrastructure and the size and scale of the project (continued)

Table 19. SF instruments and associated end-uses identified most applicable, ranked by approx. catalytic potential of instrument and significance of end-use impact (continued)

Instruments with high potential for catalysing a wide variety and scale of innovative technologies and infrastructure projects

Instruments with more niched applications or typically supporting mature, proven technologies and large infrastructure projects

Instrument	End-Use markets with applicability for the financial instrument
KPI-linked, Green, Social and Sustainability Loans and Bonds	<ul style="list-style-type: none"> • Pollution prevention and control • Hydropower projects • Renewable energy projects (primary financing) • Water supply, treatment, saving and wastewater purification infrastructure • Green building acquisitions and renovations • Low-carbon mining and heavy industries' transition • Low-carbon manufacturing and industry-specific technologies • Low-carbon passenger and freight transportation vehicles • Agriculture, forestry, aquaculture and land-use • Solid waste collection, transport and processing • Social projects (education, healthcare, affordable housing and skills development)
Listed green Equity	<ul style="list-style-type: none"> • Sustainable city infrastructure • Renewable energy projects and energy storage • Low-carbon mining and industries transition • Water supply, treatment, saving and pollution control infrastructure • Low-carbon manufacturing and industry-specific technologies • Low-carbon resources (carbon capture, utilisation and storage (CCUS) products) • Port and rail infrastructure projects • Green building construction and acquisitions • ICT and telecommunications infrastructure



Linking green finance instruments to end-uses

The determination of the finance instrument applied to an end-use is a factor of the maturity of the technology and infrastructure and the size and scale of the project (continued 1)

Table 19. SF instruments and associated end-uses identified most applicable, ranked by approx. catalytic potential of instrument and significance of end-use impact *(continued)*

Instruments with high potential for catalysing a wide variety and scale of innovative technologies and infrastructure projects

Instruments with more niched applications or typically supporting mature, proven technologies and large infrastructure projects

Instrument	End-Use markets with applicability for the financial instrument
Green, Social and Sustainability Bonds (Use of Proceeds)	<ul style="list-style-type: none"> • Pollution prevention and control • Renewable energy projects (refinancing and primary financing) • Water supply, treatment, saving and wastewater purification infrastructure • Low-carbon mining and industries transition • Low-carbon manufacturing and industry-specific technologies • Low-carbon passenger and freight transportation infrastructure • Agriculture, forestry, aquaculture and land-use • Solid waste collection, transport and processing • Social projects (education, healthcare, affordable housing and skills development)
Grants	<ul style="list-style-type: none"> • Hydrogen (and hydrogen-product) manufacture, distribution and storage • Low-carbon mining and industries transition (from public and private actors) • Direct air capture of CO₂ • Agriculture, forestry, aquaculture and land-use • Climate resilience and adaptation infrastructure
Carbon Offsets	<ul style="list-style-type: none"> • Nature-based solutions • Ecosystem conservation • Forestry (non-commercial) and land rehabilitation • Wildlife management










Linking green finance instruments to end-uses

Green finance instruments linked to development and demonstration phase end-uses (TRL 5-7)¹

Table 20: Analysis of end-uses with instruments and most directly related sustainable finance instruments, actors, considerations and enhancement opportunities

Development and Demonstration Phase				
End-Uses and Technology	Applicable Finance Instruments	Typical Finance Structures and Considerations	Types of Actors Involved	Recommendations for Enhancement
<div>Low carbon transport infrastructure</div> <div>Hydrogen manufacture, distribution and storage</div> <div>Manufacture of low carbon resources</div>	<div></div> <div></div> <div></div>	<ul style="list-style-type: none">Green hydrogen is a burgeoning resource that could proliferate into electricity generation, energy storage, low-carbon transportation and logistics, industrial heating, and fertiliser and petroleum production. Currently, there is no merchant market for hydrogen due to the cost of hydrogen relative to natural gas feedstocks historically and the infrastructure needed to transport and store the green hydrogen.The key for successfully project financing green hydrogen and low-carbon resources linked to hydrogen (green ammonia, green methanol) is to establish long-term, fixed price offtaker contracts for the produced resources through PPAs, industrial supply contracts or guaranteed volume contracts. With long-term offtaker contracts in place with power generators, shipping companies, fertiliser manufacturers or industrial companies, commercial debt and equity for the green hydrogen project can be sourced as the business risks are minimised and the technology risks are known and improving rapidlyHydrogen and low-carbon resources (green ammonia, green methanol) are limited by the concurrent deployment of supportive infrastructure, as has been seen with EVs and the need for charging infrastructure. Industry, in the form of shipping companies, heavy-duty vehicle manufacturers, industrial companies and power utilities, has been reluctant to transition their products and operations to these low-carbon resources without sufficient infrastructure, such as pipelines, refuelling stations, and storage facilities, being deployed and financed by government and other private actors (Crouch, 2020)This has meant that hydrogen projects to date have mainly been developed on the offtaker’s premise due to the difficulties and infrastructural limitations in transporting and storing green hydrogenThe electrolyser and fuel-cell technology used to produce hydrogen is advancing to commercialisation rapidly and the technology risks are similarly reducing rapidly which has seen global hydrogen technology companies being able to attract commercial equity and debt finance following the development, concessionary debt, grants and guarantees that were needed when the technology was still developingNippon Yusen Kaisha (NYK), a Japanese shipping company, in May of 2018 issued the industry’s first green bond for LNG ship financing and in December of 2018 raised a 2 billion yen green loan to build a green-methanol fuelled ship from the Taiyo Life Insurance Company (NYK, 2018)Yara, a global fertiliser manufacturer, in July 2019 secured a US\$ 1.1 billion KPI-linked loan which carried a reduced rate of interest provided the company meets the stipulated 10% carbon intensity reduction by 2025 (Brown, 2019)	<ul style="list-style-type: none">Technology DevelopersNational TreasuriesDFIsMDBsVenture CapitalistsInsurance CompaniesCommercial BanksCorporates (industrial companies and power utilities)	<ul style="list-style-type: none">Green hydrogen and its related products have been recognised as a promising and important resource in the transition of the South African economy to a low-carbon economy. The success of venture capital being provided via a Section 12J investment company to technology developer Hydrox Holdings for the production of green hydrogen using PGM-linked electrolysers demonstrates the sustainable financing potential that these 12J regulations can enable (Creamer, 2021)The role of blended finance for hydrogen and low-carbon resource infrastructure is paramount for derisking these capital intensive investments to attract private sector actors, particularly the insurance, banking and pension funds sectors as the South African government does not have the capacity to fund this infrastructure need in isolationCreating a conducive regulatory and policy environment, in the form of a PPP framework, incentives or tax (fuel levy) reductions and streamlined permitting and approvals systems, for domestic and export hydrogen markets in South Africa is essential to accelerate the proliferation of this nascent industryThe successes of the South African special economic zones (SEZs) for the automotive sector in attracting major investment into production capacity should be emulated for hydrogen through the Platinum Valley Corridor programme using mechanisms such as reduce corporation tax, export credits, local supplier efforts, education and skills training programmes (apprenticeships) and long-term policy certaintySecuritisation and pooling of illiquid infrastructure projects and investment vehicles into finance instruments that can be traded on stock exchanges (JSE) through exchange traded funds (ETFs) or unit trusts would improve the suitability of these investments to industries such as the insurance and pension fund industry, with liquidity requirements, and reduce the exposure risk through diversification of the projects

¹Technology Readiness Levels (TRL) rank and order technologies from 1-9 with 1 being immature (idea or observation) and 9 being mature (proven and commercialised)



Linking green finance instruments to end-uses

Green finance instruments linked to development and demonstration phase end-uses (TRL 5-7)¹ (continued)

Table 20: Analysis of end-uses with instruments and most directly related sustainable finance instruments, actors, considerations and enhancement opportunities (continued)

Development and Demonstration Phase				
End-Uses and Technology	Applicable Finance Instruments	Typical Finance Structures and Considerations	Types of Actors Involved	Recommendations for Enhancement
<div><div>Nature based solutions</div><div>Ecosystem Conservation</div><div>Forestry and Land Rehabilitation</div><div>Wildlife management</div></div>		<ul style="list-style-type: none">The rising importance of carbon credits as governments globally implement carbon taxation, emissions capping and trading schemes, and nationally determined contributions (NDCs) is driving the sophistication and utilisation of carbon offsets as a sustainable finance instrument for nature-based solutions, rehabilitation projects and reforestation projectsCarbon offset developers, in partnership with agricultural, forestry, and tourism entities, design the carbon offsetting project, measure the baseline stored carbon of that land or project and then implement the carbon sequestration activities which sequester carbon from the atmosphere. The volumes of carbon sequestration are then validated and certified by independent bodies and this volume of carbon is then priced and ‘sold’ to companies and individuals seeking verified carbon credits for their activities to offset their carbon emissions.Carbon offsets therefore monetise and compensate these entities for their services and activities that would otherwise not have offered returns that would attract the needed investment to get them startedBiochar, which utilises agricultural, forestry and biomass waste streams to create carbon-rich soil conditioners which are reintroduced into the soil where the carbon is then sequestered has been flagged as a carbon credit technology that could be well suited to financing via carbon offsetsLand rehabilitation projects, particularly land used for mining, can be financed using carbon offsets to reduce the financial burden of environmental remediation for the mining companies whilst ensuring ongoing community activity and income streams from the carbon credits associated with the land rehabilitation projectAll verified carbon offset projects are logged on registries that account the carbon credits for each projects so as not to double-count the carbon sequestration from projects and reputable carbon offset projects listed on national registries may be able to be transferred to other registries provided the regulations allow international trading of these carbon offsets	<ul style="list-style-type: none">Agriculture, Forestry and Tourism OrganisationsCarbon Offset DevelopersCertification and Verification BodiesGovernment Carbon Registries and Accounting SystemsCorporates (buyers of carbon credits)Financial Institutions (buyers of carbon credits)	<ul style="list-style-type: none">The development and implementation of the South African carbon tax regime is expected to drive the demand for reputable carbon offsets in South Africa going forwardThe role of mining companies operating in South Africa to seek carbon financing through carbon offset projects could both reduce the environmental remediation burden, as prescribed by law, while reducing their carbon tax liability through credible carbon credit generationIntegration and entrenchment of social co-benefits into carbon offset development and carbon credit purchasing decisions is critical to realising the full potential of these projects and for tapping into Social and Sustainability Bonds to fund the development of these carbon offset projects. Corporates and financial institutions considering the procurement of carbon offsets should develop carbon offset procurement principles and policies which detail the social impacts and the type of carbon offset projects that are eligible to ensure alignment with their wider corporate social responsibility strategiesWildlife management, such as game reserves and conservation areas, are abundant in South Africa and the use of verified carbon offsets to generate additional revenue for owners of these investments and to ensure the sustainability of these ecosystem conservation activities into the future could be considerable



Key

Blended Finance

Project Finance

Use of Proceeds Bonds

Performance linked loans and bonds

Guarantees

Private Equity / Venture Capital

Carbon Offsets

Grants

Listed Green Equity

Social resilience as climate change related sector

Enabling activities as climate change related sector

ICT as climate change related sector

AFFOLU as climate change related sector

Water and Waste as climate change related sector

Construction as climate change related sector

Energy as climate change related sector

Industry as climate change related sector

Transportation as climate change related sector








¹Technology Readiness Levels (TRL) rank and order technologies from 1-9 with 1 being immature (idea or observation) and 9 being mature (proven and commercialised)



Linking green finance instruments to end-uses

Green finance instruments linked to development and demonstration phase end-uses (TRL 5-7)¹ (continued)

Table 20: Analysis of end-uses with instruments and most directly related sustainable finance instruments, actors, considerations and enhancement opportunities (continued)

Development and Demonstration Phase				
End-Uses and Technology	Applicable Finance Instruments	Typical Finance Structures and Considerations	Types of Actors Involved	Recommendations for Enhancement
Sustainable cities/resilient infrastructure	      	<ul style="list-style-type: none">For cities to transition to a more sustainable operating model, a range of interventions are required ranging from the construction of mature infrastructure such as wastewater treatment facilities and motorised transport networks to novel technologies such as hydrogen generation and distribution infrastructure and urban/indoor food systemsThe less proven technologies and the infrastructure with less robust or known revenue models typically rely more on MDBs and DFIs for concessionary debt to fund these projects, some of which may require government guarantees and credit risk instruments to attract investmentCities and countries that allow private sector participation through build-own-operate or PPAs and long-term supply contracts have seen construction and infrastructure companies, listed and private equity companies and private sector FIs investing in sustainable infrastructure such as water ad waste water facilities and renewable energy projects through loans, bonds and equity instruments via project finance vehiclesMunicipalities globally have raised green bonds for water infrastructure, low carbon transportation (Cape Town), and renewable energy projects as the technologies underpinning these projects are known and the risks are manageable (long-term offtaker agreements and contracts) (Z/Yen & Long Finance, 2015)Cities have also been able to effectively finance energy efficiency retrofits through energy performance contracts (EPC) or on-bill energy efficiency financing.EPCs and water performance contracts involve energy service companies (ESCOs) or water service companies that guarantee the energy savings from the implementation of energy or water efficiency interventions over the duration of the contract. The ESCOs then seek loans themselves from commercial banks and other financiers or provide on-bill financing to the end-user to develop and implement the interventionThe structure of on-bill financing with utilities typically involves the utility providing the building owner with capital and the energy savings from the project are paid to the utility keeping the utility bills to the building owner steady until the capital is repaid, after which the building owner enjoys the energy saving benefitsIn South Africa, the 12L Tax Allowance for organisations to claim a tax deduction (R95c/KWh saved) for the efficient use of energy and for investing in modern energy efficient equipment for 12-months following implementation has been an effective mechanism to drive the uptake of energy efficiency measure from corporates around the country (Eskom, 2017)	<ul style="list-style-type: none">Municipalities and Metropolitan Government EntitiesESCOsDFIsMDBsCommercial BanksListed and Unlisted Equity CompaniesCorporates	<ul style="list-style-type: none">Development of conducive regulatory and PPP frameworks that rely upon blended finance vehicles to reduce the risk of nascent technologies and infrastructure using government or DFI/MDB guarantees alongside equity and commercial debt from technology developers, private equity companies and venture capital providersLiberalisation of infrastructure regulations and reduction of permitting and approvals to allow private sector participation for proven technologies and sustainable infrastructure such as renewable energy projects, distributed electricity generation and waste recycling facilities has been demonstrated to improve the resilience of citiesSouth Africa’s large equity market in the form of infrastructure funds, listed infrastructure equity companies (GAIA, Hulisani), pension funds (PIC, GEPP, Allan Gray etc.), and listed/unlisted insurance companies could provide a major source of infrastructure funding with a range of risk appetites and long-term investment profilesThe continued and increasing use of 12J investments in South Africa for sustainable city infrastructure could attract private equity with high risk appetite to finance novel technologies and emerging innovations such as wastewater facilities with biogas generation, and hydrogen production and distributionAdaptation and resilience building infrastructure could tap into the National Treasury capital allocations for social infrastructure capital or through Social and Sustainability Bonds at a national, provincial or municipal level, provided the entity issuing the bond has sufficient creditworthinessMore collaboration between city-level authorities and government entities, international MDBs and DFIs and local DFIs (IDC) for concessionary finance for discrete sustainable infrastructure projects should be sought to reduce finance costsSecuritisation and pooling of illiquid infrastructure projects and investment vehicles into finance instruments that can be traded on stock exchanges (JSE) through exchange traded funds (ETFs) or unit trusts would improve the suitability of these investments to industries such as the insurance and pension fund industry, with liquidity requirements, and reduce the exposure risk through diversification of the projects





¹Technology Readiness Levels (TRL) rank and order technologies from 1-9 with 1 being immature (idea or observation) and 9 being mature (proven and commercialised)



Linking green finance instruments to end-uses

Green finance instruments linked to pre-commercial deployment phase end-uses (TRL 7-9)¹

Table 20: Analysis of end-uses with instruments and most directly related sustainable finance instruments, actors, considerations and enhancement opportunities (continued)

Pre-Commercial Deployment Phase				
End-Uses and Technology	Applicable Finance Instruments	Typical Finance Structures and Considerations	Types of Actors Involved	Recommendations for Enhancement
Transport of CO ₂	   	<ul style="list-style-type: none">CO₂ transportation has been driven largely by the oil and gas sector for enhanced oil recovery (EOR) whereby CO₂ is injected into oil wells to improve the oil yield from those wells while sequestering that CO₂ underground – although this is still supporting a fossil fuel industry and would receive a 0% green classification by Thomas Reuters in their loan market methodology (IFC, 2017)Financing CO₂ transportation for EOR has been consolidated with the oil and gas production projects using project and corporate finance mechanisms to raise debt and equity from private investors and FIs. Most of the CO₂ EOR capacity (70%) to date is in the United States and uses natural CO₂ versus anthropogenic CO₂ which has no climatic benefit (McGlade, 2019)The US Government and selected US oil and gas companies have been funding anthropogenic CO₂ EOR projects in Wyoming and Texas and research into the sustainability of this activity for CO₂ sequestration. Most of the CO₂ transportation and sequestration for EOR sources CO₂ from oil and gas processing facilities and is then piped to nearby oil wells for EOR (CCS Browser, n.d.)Industrial gas companies such as Air Liquide capture CO₂ from industrial processes such as ammonia and natural gas processing which they then purify, compress, liquify or freeze CO₂ and transport it for use in the food and beverage sector or to manufacture dry ice for cooling. These end-uses are typically financed on balance sheet (corporate financing) using commercial debt and equity as these are large industrial companies with access to a range of investors and instruments for this purpose	<ul style="list-style-type: none">Government Departments (energy)Corporate (oil and gas, food and beverage, industrial gas)Private EquityCommercial Banks	<ul style="list-style-type: none">The future of CO₂ EOR is uncertain and highly linked to the price of oil to make the projects bankable and viable, as well as having the negative linkages to the fossil fuel industry which may disqualify these end-uses from green finance taxonomiesThat said, the US provides a good example of how policy incentives could be used to incentivise CO₂ capture and utilisation. The US section 45Q tax credit has been amended to provide a tax reduction of US\$ 35/tCO₂ for 12 years for CO₂ stored in EOR operations which has improved the business case for anthropogenic CO₂ EOR and sequestration (McGlade, 2019)Further focus, coordination and promotion on industrial symbiosis to reduce waste streams (CO₂) and utilise CO₂ as a resource which can be transported to other facilities and end-uses through compression, pipelines, liquefaction or dry ice applications could monetise these waste streams effectively

Key

 Blended Finance

 Project Finance

 Use of Proceeds Bonds

 Performance linked loans and bonds

 Guarantees

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 Carbon Offsets

 Grants

 Listed Green Equity

 Social resilience as climate change related sector

 Enabling activities as climate change related sector

 ICT as climate change related sector

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Linking green finance instruments to end-uses

Green finance instruments linked to pre-commercial deployment phase end-uses (TRL 7-9)¹ (continued)

Table 20: Analysis of end-uses with instruments and most directly related sustainable finance instruments, actors, considerations and enhancement opportunities (continued)

Pre-Commercial Deployment Phase				
End-Uses and Technology	Applicable Finance Instruments	Typical Finance Structures and Considerations	Types of Actors Involved	Recommendations for Enhancement
<div>Bioenergy and Manufacture of Biomass, Biogas or Biofuels</div> <div>Composting of bio-waste</div> <div>Landfill gas capture and utilisation</div> <div>Anaerobic digestion of sewage sludge</div>		<ul style="list-style-type: none">Bioenergy projects come in a range of sizes and utilise a variety of technologies including anaerobic digestion of livestock manure and sewerage, landfill gas (from municipal solid organic waste), agricultural and forestry waste for power generation, and dedicated biofuel crop production.Biogas, biofuels (sugar cane bioethanol) and combined heat and power (CHP) technology is fairly mature and uses components such as boilers, generators, and heat exchangers that are used in other thermal and power applications which has meant that there are projects in commercial application for these end-uses globally, and especially in Brazil for bioethanol production.In South Africa, bioenergy projects such as landfill gas capture and utilisation (New Horizons Energy, Energ-G-Systems), biogas (Uilenkraal Dairy, Bronkhorspruit Biogas Plant, Cape Dairy Biogas Plant, Distell biogas) and biomass (Mkuze biomass project) have been successfully developed by the private sector through the REIPPPP or through private offtaker agreements. These projects were funded using blended finance and project finance mechanisms (Greencape 2017)These South African examples have seen the energy developers provide equity finance to the project, as well as innovations around rent-to-own and private PPAs with the agriculture and industrial partners who’s waste stream has been utilised to generate power. Public DFIs such as the IDC, PIC and Norfund have provided debt and equity to these bioenergy projects in South Africa, and the agriculture and industrial partners have also invested equity in these projects in many cases	<ul style="list-style-type: none">Local and International DFIsEnergy DevelopersCorporates and Agriculture OrganisationsAsset Managers	<ul style="list-style-type: none">The major concern and limitation with bioenergy is the security of supply for PPAs and industrial biogas supply contracts. Seasonality of agricultural waste streams has been a limiting factor for agricultural bioenergy uptake; however, the livestock (beef) agricultural and wastewater sectors offer more reliable bioenergy supply and project financing biogas and bioenergy projects as done in the Western Cape whereby agricultural organisations partner with the energy developer through project finance vehicles should be enhanced. This can be done through the development of standardised project finance templates and offtaker contracts that could be used by these organisations to streamline due diligence and knowledge deficits between the parties involvedRegulatory changes in South Africa allowing municipalities to procure electricity from IPPs is a positive step to allow cities to utilise their landfill sites for power and heat generation, as has been done in Johannesburg under the REIPPPP. The role of insurance providers in these PPA contracts between bioenergy developers and the municipality will be pertinent to ensure risk is managed appropriately to attract the needed investmentConcurrently, entering into PPPs for the development of biogas plants at existing wastewater treatment plants and mandating future wastewater treatment facilities to integrated bioenergy generation could enhance and leverage existing infrastructure without the government needing to indebt itself further for these capital projectsSecuritisation and pooling of illiquid infrastructure projects and investment vehicles into finance instruments that can be traded on stock exchanges (JSE) through exchange traded funds (ETFs) or unit trusts would improve the suitability of these investments to industries such as the insurance and pension fund industry, with liquidity requirements, and reduce the exposure risk through diversification of the projects



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Linking green finance instruments to end-uses


Green finance instruments linked to pre-commercial deployment phase end-uses (TRL 7-9)¹ (continued 1)


Table 20: Analysis of end-uses with instruments and most directly related sustainable finance instruments, actors, considerations and enhancement opportunities (continued)


Pre-Commercial Deployment Phase				
End-Uses and Technology	Applicable Finance Instruments	Typical Finance Structures and Considerations	Types of Actors Involved	Recommendations for Enhancement
Remanufacturing of electromechanical products	        	<ul style="list-style-type: none">Industrial end-uses such as manufacturing of metals, chemicals, cement and recycling and remanufacturing facilities are noted as being difficult to abate sectors as the cost of decarbonisation and the technology risk is highEach sector has a suit of technologies that are at early stages of development, such as hydrogen-fuelled iron reduction for steel making, cement manufacture using CO₂ as a feedstock, bioplastics manufacturing etc., and which have required R&D grants, guarantees and concessionary funding from public (DFIs, government bodies) and private (industry corporates) actors alongside sweat equity from the technology developers and blended finance in the form of public grants and venture capital (for more established technologies) (NRG Cosia, 2019)The commoditisation of CO₂ from industrial end-uses has received increasing focus in recent years as carbon capture and utilisation (CCU) offers cross-cutting decarbonisation opportunities in the metals and materials, plastics, fuels and chemicals (urea, methanol), and concrete and building materials sectors. There are a host of technology companies that are innovating CCU technologies in the US, Canada and the UK to make fossil-fuel product substitutes that use CO₂ from industrial activities as a feedstock, most of which have been financed by venture capitalThe low hanging fruit for industrial end-use decarbonisation, such as energy efficiency measures and renewable energy projects, which use more mature, proven technologies can be financed using commercial project finance mechanisms with a combination of bonds, loans and equity (for listed industrial corporates)	<ul style="list-style-type: none">International DFIsMDBsTechnology DevelopersCorporatesVenture CapitalistsPrivate Equity	<ul style="list-style-type: none">Research and development networks and collaborative platforms in the respective end-use sectors have been an effective mechanism to share the cost of technology commercialisation between corporates, technology developers and investors which all stand to benefit from the commercialisation of decarbonisation technologies in their respective industries but who do not want to bear the risk of failure alone. These networks and collaborations could take the form of an accelerator model whereby industry actors provide grants into a pool for research, pilot project testing and scale-up demonstrations to reduce technology risk and commercialise select technologiesCertification and labelling schemes, such as Responsible Steel, are effective in making a market for low-carbon products that have been manufactured using low-carbon technologies and practices. There are clear benefits of these certification and labelling schemes for the certified corporates, in terms of reputation and recognition of their superior products and their ability to charge a premium for their low-carbon certified products, while customers benefit from the knowledge that their products are independently certified as a low-carbon, responsible choiceThe use of blended finance vehicles for early stage technology investment whereby government actors and international DFIs and MDBs offer guarantees and credit risk instruments to reduce technology and business risks and catalyse private sector equity (venture capitalists) and debt (green loans or KPI-linked loans) to these projectsRegulatory recognition of low-carbon alternatives, especially regarding synthetic fuels manufactured using captured CO₂ has been flagged as a major constraint to proliferation and speaks to the need for conducive regulatory environment especially regarding new technologies displacing fossil-fuelled technologies that need to be differentiated as low-carbon alternatives
Reuse, redistribution, refurbishment & recycling facilities				
Manufacture of Cement				
Manufacture of Iron, Steel, Aluminium and Ferroalloys				
Manufacture of plastics in primary form				
Manufacture of fertilizers and nitrogen compounds				
Manufacture of other inorganic and organic basic chemicals				




 Blended Finance

 Project Finance


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 Guarantees


 Private Equity / Venture Capital

 Carbon Offsets


 Grants


 Listed Green Equity


 Social resilience as climate change related sector

 Enabling activities as climate change related sector


 ICT as climate change related sector

 AFFOLU as climate change related sector

 Water and Waste as climate change related sector

 Construction as climate change related sector

 Energy as climate change related sector

 Industry as climate change related sector

 Transportation as climate change related sector






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Linking green finance instruments to end-uses


Green finance instruments linked to commercialisation and diffusion phase end-uses (TRL 9+)¹


Table 20: Analysis of end-uses with instruments and most directly related sustainable finance instruments, actors, considerations and enhancement opportunities (continued)


Commercialisation and Diffusion Phase				
End-Uses and Technology	Applicable Finance Instruments	Typical Finance Structures and Considerations	Types of Actors Involved	Recommendations for Enhancement
Direct Air Capture of CO ₂	  	<ul style="list-style-type: none">Direct air capture of CO₂ (DAC) is a relatively new technological development for sequestering CO₂ from the atmosphere for use in industry (for drink carbonation) or for EORThere are three leading companies developing this technology: Global Thermostat (USA), Carbon Engineering (Canada), and Climeworks (Europe) with 15 sites currently in operation in Europe, USA, and CanadaThese companies have been financed by private FIs (Goldman Sachs, Zurich Cantonal Bank), public DFIs (EU Horizon 20, U.S. and Canadian Department of Energy), private equity companies, venture capitalists, and industrial and mining corporates (BHP, Occidental Petroleum, Chevron) (Bipartisan Policy Center, 2019)As such, blended financing mechanisms have been used to finance this technology to date which has incorporated equity, grants, loans and venture capital from an array of private and public actors which has enabled the pilot projects to be developed and to demonstrate the efficacy of the technology	<ul style="list-style-type: none">Private Equity CompaniesDFIsVenture CapitalistsCorporates (private mining and resources companies)Commercial Banks	<ul style="list-style-type: none">Being at early commercialisation phase and poised for growth in future, blended financing has been a successful sustainable finance mechanism for DAC to manage the technology risk while being cognisant of the business opportunities of commercialising CO₂ as a resourceEmulating the US 45Q tax credits, providing US\$ 35 per tonne of CO₂ used in enhanced oil recovery and USD 50 per tonne for CO₂ storage, is key to incentivising the uptake of this technology at larger scalesThe provision of fuel credits or tax breaks for synthetic fuels made using captured CO₂ as a feedstock versus fossil fuels, as in the California Low Carbon Fuel Credit of US\$ 180/tCO₂, provides fuel manufacturers with a strong incentive to transition to low-carbon fuel alternativesCertification and labelling schemes could be effective in making a market for DAC products that have been manufactured using captured carbon. There are clear benefits of these certification and labelling schemes for the certified corporates, in terms of reputation and recognition of their superior products and their ability to charge a premium for their low-carbon certified products, while customers benefit from the knowledge that their products are independently certified as a low-carbon, responsible choice
<div>Reuse, redistribution, refurbishment, recycling infrastructure</div> <div>Separate collection and transport of non-hazardous waste</div> <div>Material recovery from non-hazardous waste</div>	 	<ul style="list-style-type: none">The waste sector in South Africa is serviced by private and public entities. Municipalities are constitutionally mandated to collect and process household waste, but not commercial or industrial waste. The waste collection is either done by the government entities themselves or through appointed private sector companies. The recycling sector and infrastructure is largely developed and financed by private sector actors. The recyclable waste collection in South Africa is also largely driven by informal waste management services that divert recyclables away from landfills for sale to recycling facilities around the countryThe private sector actors involved in the collection and processing of recyclable, non-recyclable and hazardous waste fund this infrastructure from their balance sheets and through loans from private sector financiersThe financing models applicable for non-recyclable waste and hazardous waste collection rely on service payments from municipalities, corporates and other entities for these services to compensate the waste collection and processing company for the costs associated with these activities and allowing a margin for profitThe financing model for recyclable materials is split between collection and processing fees to the households, commercial and industrial customers and the revenues from the sale of the reusable recycled products (glass, paper, plastic etc.) (Greencape, 2020a)	<ul style="list-style-type: none">Corporates (waste management companies, commercial and industrial companies)Commercial BanksMunicipal Government Entities	<ul style="list-style-type: none">The use of results-based financing (RBF) for waste management services has been noted by the World Bank as being an effective instrument in improving the sustainability of waste collection and processing practices globally. From their case studies, RBF, as concessionary loans, in-kind financing (vehicle provision), and grants were extended to waste management companies and waste generators (households, commercial and industrial companies) with the proviso that these entities adhere to recycling separation and processing practices and that they perform according to stipulated conditions of best practice. Communities were compensated if they separated their organics and recyclable waste effectively to enable maximum composting or bioenergy applications and recycling and reuse of the waste (World Bank, 2014)Deposit-refund schemes have been employed with great success globally as a means to reduce waste to landfill and the reuse of glass and plastic particularly. These schemes should be supported and endorsed beyond the food and beverage sectors to include beauty, cosmetics, household products and the hospitality sectorPromotion of circularity in the commercial and industrial sectors, particularly metals, plastics, and construction sectors through certification and labelling schemes that recognise and incentivise the reuse of materials for their lower carbon and improved environmental credentials


Key


 Blended Finance


 Project Finance


 Use of Proceeds Bonds


 Performance linked loans and bonds


 Guarantees


 Private Equity / Venture Capital


 Carbon Offsets


 Grants


 Listed Green Equity


 Social resilience as climate change related sector


 Enabling activities as climate change related sector


 ICT as climate change related sector


 AFFOLU as climate change related sector

 Water and Waste as climate change related sector

 Construction as climate change related sector

 Energy as climate change related sector

 Industry as climate change related sector

 Transportation as climate change related sector

¹Technology Readiness Levels (TRL) rank and order technologies from 1-9 with 1 being immature (idea or observation) and 9 being mature (proven and commercialised)



Linking green finance instruments to end-uses

Green finance instruments linked to commercialisation and diffusion phase end-uses (TRL 9+)¹ (continued 1)

Table 20: Analysis of end-uses with instruments and most directly related sustainable finance instruments, actors, considerations and enhancement opportunities (continued)

Commercialisation and Diffusion Phase				
End-Uses and Technology	Applicable Finance Instruments	Typical Finance Structures and Considerations	Types of Actors Involved	Recommendations for Enhancement
<div>Crop Production</div> <div>Livestock production</div> <div>Fisheries and Aquaculture</div> <div>Eco-Tourism</div>		<ul style="list-style-type: none">MDBs and international DFIs have been the major financiers and supporters of climate change adaptation activities in the agriculture, aquaculture, forestry and land-use sectorsTypical end-use activities financed in these sectors include innovations and alterations to tillage and irrigation systems, agricultural and livestock waste collection and sustainable use, organic farming practice uptake, fertiliser reduction and improved manure management, integrated farming systems, and maximising soil carbon retention techniques (biochar)MDB finance to these end-uses (agriculture, aquaculture, forestry and land-use) reached US\$ 1.7 bn in 2019, almost all of which was for adaptation activities and in the form of grants or investment loans (AfDB <i>et al.</i>, 2019).According to the CBI, approximately US\$ 329 worth of certified green bonds or agribusiness receivables certificates have been issued for projects and activities in the agriculture and forestry sectors to date, all from government entities with the exception of the receivables certificate raised by Rizoma Agro and EcoAgro in Brazil which are a private farming entity and agricultural financier, respectively (CBI, 2020).	<ul style="list-style-type: none">International DFIs (52% of public adaptation financing)MDBsNational Government TreasurySOEs	<ul style="list-style-type: none">Although financial flows towards these end-uses has been centred on adaptation projects which better prepare the organisations and populations dependent on these activities for the impacts of climate change, there is considerable room for mitigation activities particularly in the livestock (cattle, sheep, and goat) and aquaculture farming to mitigate against methane emissions and fishery depletion, respectivelyThe nature of the livestock and agriculture sectors in South Africa, being lead by larger (consolidated), commercial farming organisations lends itself to the issuance of private-sector driven green bonds for investing in more sustainable farming practices which could be deployed alongside the grant and concessionary loan finance that the international DFIs and MDBs have been issuing to these sectors globallyThe success of the South African abalone industry in recent years with cultivated abalone should be considered for tackling issues around conservation, poaching and sustainable aquaculture. Commercial abalone farmers in South Africa have reduced pressure on wild abalone stocks which have been decimated by poaching over the years while developing a burgeoning export industry. Farmed abalone in South Africa has been certified as ‘Green’ on the WWF SASSI list and with appropriate regulatory environment, such as permitting, approvals, tariffs, domestic supply restrictions and labelling requirements, being developed in the form of the aquaculture bill, investments into sustainable aquaculture could be unlocked (Antoni, 2018)
Enabling activities	<p>Enabling activities, identified in the South African green finance taxonomy (GFT) as a critical sector for realising the developmental needs required to transition to a more sustainable and resilient economy, are very diverse and nebulous. These enabling activities include policy and regulatory mechanisms and regimes that are supportive of sustainable finance flows as well as the research and development and capacity building efforts that underpin almost all of the other end-use sectors. For this handbook, analysis across a particular instrument utilised to drive enabling activities was not determined to be value-adding in isolation and is spoken to in the recommendations and financing mechanisms pertinent and applicable to the other sectors to which enabling activities are central. As such the sustainable finance instruments used for enabling activities supporting climate change related sectors is not explored in isolation.</p>			



Key

Blended Finance

Project Finance

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Guarantees

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Construction as climate change related sector

Energy as climate change related sector

Industry as climate change related sector

Transportation as climate change related sector

¹Technology Readiness Levels (TRL) rank and order technologies from 1-9 with 1 being immature (idea or observation) and 9 being mature (proven and commercialised)



Linking green finance instruments to end-uses

Green finance instruments linked to commercialisation and diffusion phase end-uses (TRL 9+)¹ (continued 2)

Table 20: Analysis of end-uses with instruments and most directly related sustainable finance instruments, actors, considerations and enhancement opportunities (continued)

Commercialisation and Diffusion Phase				
End-Uses and Technology	Applicable Finance Instruments	Typical Finance Structures and Considerations	Types of Actors Involved	Recommendations for Enhancement
<div>Passenger rail transport</div> <div>Freight rail transport</div> <div>Road transport infrastructure</div>		<ul style="list-style-type: none">In South Africa, the road infrastructure is financed by the South African National Roads Agency SOC Limited (SANRAL), provincial government, local government and metropolitan regimesThe South African rail infrastructure is financed and controlled by the Passenger Rail Agency of South Africa (PRASA) and Transnet for passenger transport and freight transport, respectivelyThese public entities issue tenders for the private developers to construct the road infrastructure which are then ceded to these public bodies to operateThe national treasury, therefore, through capital spending and transfers, largely funded by government issued bonds or off government balance sheets, to the provincial and local government authorities, SANRAL, Transnet and PRASA for development and maintenance of the road and rail networksThe City of Cape Town in 2017 raised the country’s first Green Bond certified to the Climate Bonds Initiative standard and the use of the bond proceeds was earmarked for low carbon transportation (electric bus procurement) among other things (City of Cape Town, 2017)South Africa’s freight rail networks are dominated (60% of freight rail volume) by the Sishen-Saldanha rail line for iron ore exports and the Ermelo – Richards Bay line for coal exports from these harbours (Barrow, 2012). The latter freights coal to the Richards Bay Coal Terminal which is a privately owned facility which was project financed mainly through equity by the major mining companies in South Africa	<ul style="list-style-type: none">National Government Treasury (South Africa)Provincial, Local and Metropolitan Government EntitiesTransnetPRASASANRAL	<ul style="list-style-type: none">Funding issues and limitations on additional bond raising capacity of South African state entities will require finance provision from the private sector for the rail and road infrastructure projects in futureThe successes of the Gautrain passenger rail PPP project in Gauteng province for attracting private equity and debt to rail infrastructure should be emulated for passenger rail projects across the country. The key successes include: the concession for private sector participation for construction and operation over 20 years; the revenue guarantees provided by the government if ridership was below expectations; the allowable internal rate of return (18%) for the project which balances the interests of the project developer with the need for affordable, low carbon transport from the users; dynamic financial model creation during tendering to accurately track project expenditure and costs with required revenues and ride fees (though disconnect between the consultants developing the financial models and the entities executing the project should be refined) (GMA, 2016).Investment into EV lanes, charging infrastructure or hydrogen refilling station should be coordinated with industry players and car makers active in the country; however, consideration should be equally given to public commuter transport systems and non-motorised infrastructure (specifically safety concerns in South Africa) to alleviate congestion in cities
<div>Passenger cars and commercial vehicles (road)</div> <div>Low carbon road freight transportation</div>		<ul style="list-style-type: none">Personal and commercial vehicle finance for EVs, hydrogen, liquified natural gas (LNG) and hybrid vehicles have typically used vehicle loans (from commercial banks) or direct purchases from company balance sheetsIn order for EVs, hydrogen, LNG and hybrid vehicles to be taken up, there needs to be sufficient infrastructure in the form of charging stations and refuelling stations; however, this infrastructure is dependent on a critical mass of these vehicles being purchased to warrant private sector investment into this infrastructureGlobally, subsidies provided by governments for low-carbon vehicles combined with carbon taxes for fossil-fuelled vehicles (as in South Africa) act as market instruments to pull demand towards low carbon options	<ul style="list-style-type: none">CorporatesCommercial BanksIndividuals	<ul style="list-style-type: none">Industrial partnerships such as the partnership between Renergen (a LNG producer in South Africa) and Total for developing LNG corridors along South Africa’s major highways (N1 and N3) to drive uptake of LNG refrigerated trucks transporting freight between the major metros are key to increasing demand for these commercial vehicles (Liedtke, 2020)Innovations in vehicle finance for EV leasing models and concessional finance for low-carbon vehicles should be combined with government market incentives (subsidies) and taxation to improve the economics for low-carbon vehicle purchasesInterest-free loans for businesses purchasing electric vehicles, as seen in Scotland, could greatly improve uptake of low carbon vehicles. To foster public buy-in and alleviate cost burden on government these loans could be financed by carbon tax to be revenue neutral for the government.Securitisation and pooling of illiquid infrastructure projects and investment vehicles into finance instruments that can be traded on stock exchanges (JSE) through exchange traded funds (ETFs) or unit trusts would improve the suitability of these investments to industries such as the insurance and pension fund industry, with liquidity requirements, and reduce the exposure risk through diversification of the projects







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Linking green finance instruments to end-uses

Green finance instruments linked to commercialisation and diffusion phase end-uses (TRL 9+)¹ (continued 3)

Table 20: Analysis of end-uses with instruments and most directly related sustainable finance instruments, actors, considerations and enhancement opportunities (continued)

Commercialisation and Diffusion Phase				
End-Uses and Technology	Applicable Finance Instruments	Typical Finance Structures and Considerations	Types of Actors Involved	Recommendations for Enhancement
<div>Eco-efficient products and processes</div> <div>Manufacture of low carbon and resource efficiency technologies</div> <div>Low-carbon mining</div>	     	<ul style="list-style-type: none">Global finance flows to climate change mitigation activities have been dominated by low-carbon transportation, renewable energy technologies and energy efficiency since 2015. The public financiers have increased funding to low-carbon transport since 2015 while private sector investment has favoured renewable energy technologies (85% of private sector climate finance in 2017/2018) due to the bankability and relative maturity of solar PV, wind and hydropower technologies (CPI, 2019).Low-carbon technologies, including carbon capture and storage and more industry specific innovations that revolutionise the manufacturing or processing activities, accounted for just 0.3% of public and private financing in 2017/2018 and is primarily due to the immaturity of these technologies or innovations and their high risk attributes which dissuades particularly commercial finance from flowing to them (CPI, 2019). Public grants and concessionary debt has typically flowed to these technologies, though at much lesser volumes.The migration to more energy efficient, low-waste, and low-carbon manufacturing and mining has been driven more at an organisation level than a project level. Meaning that the mining or manufacturing organisations have typically sought debt (loans and bonds to a lesser degree) and equity (corporate) financing from commercial financiers to fund the deployment of renewable energy or energy efficiency interventions at their sites. Though these loans and bonds were not necessarily ringfenced to these green investmentsDecarbonising a mine facilities completely would require interventions that range from more mature, low risk technologies (solar PV installation or an energy efficiency intervention) with known bankability to more high-risk, novel technologies that are yet to have proven bankability. As such, the former end-uses are financed off-balance sheet (due to their shorter payback times and improved ROIs) typically using debt or equity (if it is a listed entity). The latter have not been taken up to the level needed and require concessionary finance and risk reduction instruments such as guarantees and insurance products to deploy at scale	<ul style="list-style-type: none">Commercial BanksCorporates (mining and industrial conglomerates)MDBsDFIs (local and international)Energy DevelopersImpact Investors (low-carbon and resource efficiency technologies)Venture Capitalists (low-carbon and resource efficiency technologies)Asset Managers and Pension Funds (equity financing)	<ul style="list-style-type: none">DFIs and MDBs have tended to finance renewable energy and low-carbon projects in conjunction with governmental programmes or capital investment schemes using project finance mechanisms. There could be considerable potential for DFIs and MDBs to work with major corporates in the mining and industrial sectors to fund ‘low-hanging fruit’ projects, such as renewable energy and energy efficiency, at their sites which are bankable and lower risk especially if financing the corporate (against their balance-sheet) with strict provisions and explicit allocations in the financing conditions for sustainability outcomesEquity investors such as asset managers, pension funds and public DFIs (PIC, IDC) should apply shareholder pressure on their mining and industrial investees to pursue decarbonisation projects and actively participate in the investee’s bond or equity issuances for these decarbonisation projectsThe use of blended finance for more novel, higher risk low carbon and resource efficiency technologies, with concessionary debt, equity and grants from public financiers alongside ringfenced commercial finance to the implementing corporate (mining or industrial company), could unlock more financing opportunities to bolster uptake of these technologies. For example, equity investment in Kell South Africa, a technology provider that has developed a process for beneficiating platinum minerals using 82% less energy, by the IDC (public financier), Sedibelo Platinum Mines (private corporate) and Lifezone (equity company) and demonstrated at the Sedibelo site shows how blended finance can crowd-in further investment for unproven technologies (Creamer, 2020).

Key

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 Grants

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 Enabling activities as climate change related sector

 ICT as climate change related sector

 AFFOLU as climate change related sector

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 Construction as climate change related sector

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 Industry as climate change related sector

 Transportation as climate change related sector













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Linking green finance instruments to end-uses

Green finance instruments linked to commercialisation and diffusion phase end-uses (TRL 9+)¹ (continued 4)

Table 20: Analysis of end-uses with instruments and most directly related sustainable finance instruments, actors, considerations and enhancement opportunities (continued)

Commercialisation and Diffusion Phase				
End-Uses and Technology	Applicable Finance Instruments	Typical Finance Structures and Considerations	Types of Actors Involved	Recommendations for Enhancement
<div>Solar PV, Concentrated Solar Power, Wind Power and Ocean Energy</div> <div>Storage of Thermal Energy and Electricity</div>	       	<ul style="list-style-type: none">In recent years, solar PV and onshore wind energy projects have seen mass uptake globally and project finance involving commercial debt and equity from banking and corporate actors is typicalMore novel technologies such as ocean power, thermal energy storage and offshore wind are more reliant on venture capital and blended finance structures currentlyIn South Africa, the REIPPPP demonstrated the appetite of both local and international financiers and project developers to invest debt and equity into the projects via project finance structures. A key factor in the success of the programme was the government guarantees provided to developers via the sole offtaker (Eskom)Internationally, in economies with shallower financial markets than South Africa, the role of MDBs, DFIIs and state or sub-state entities in the provision of concessional debt and equity for these projects is key to get projects cost competitive using blended finance structuresThe use of Green Bonds for refinancing renewable energy projects has been seen by South African banking institutions	<ul style="list-style-type: none">Commercial BanksMDBsDFIs (local and international)International Energy DevelopersImpact InvestorsVenture CapitalistsState Utilities/DevelopersAsset ManagersInfrastructure Funds	<ul style="list-style-type: none">The REIPPPP has been recognised as a successful example of a PPP framework underpinned by competitive tendering, private sector participation and good procurement governance (keeping the procurement decisions independent from government, parastatals or private sector actors which may have biases or agendas) and design (incorporating social and localisation criteria in the bidding process) which should be emulated in other sectors and end-use marketsEnhancing the uptake of novel technologies such as thermal (and chemical) storage and ocean energy will require blended finance innovations utilising risk accepting venture capital with insurance instruments, government grants and guarantees to reduce the risk profile and attract financiers who are inherently risk averse until these traditional financiers are comfortable with the technology and business risks
<div>Transmission and Distribution of Electricity</div> <div>Retrofit of Gas Transmission and Distribution Networks</div>	   	<ul style="list-style-type: none">A few models exist for financing transmission and distribution models depending on the market structure of the country, ie. If private sector can participate in this infrastructure development, and similarly for gas networksIn many African countries, including South Africa, the transmission and distribution market is nationalised and private sector (including DFIIs and MDBs) participation would be limited to loans or bonds to the national treasury or the state utilities, though this was often not completely ringfenced to transmission and distribution infrastructure fundingComplete privatisation, as in the UK enables complete private sector involvement for new and existing infrastructure with regulated tariffs or revenues allowed by the regulator an mandated grid performance and open access to all power users on equal basisIndependent Power Transmission (IPTs) models have used competitive auctions to select the most cost-effective project developers to build-own-operate this infrastructure over 25+ years, again mandating equal and open access to all power users (World Bank, 2017)Electricity and gas transmission and distribution are capital intensive, low-margin but low-risk projects that have typically been project funded by consortia of utilities, commercial banks and infrastructure investment funds in privatised marketsIn government controlled markets, the SOEs or utilities would self-finance the electricity and gas transmission and distribution infrastructure from their balance sheets or rely on budget allocations from the national treasury to finance these capital projects	<ul style="list-style-type: none">National TreasuryState Utilities/DevelopersMDBsDFIIs (local and international)Asset ManagersInfrastructure FundsCommercial Banks	<ul style="list-style-type: none">The returns profile of transmission and distribution infrastructure, being consistent cash flows over long timeframes, is well-suited to the investment profiles of pension funds and the insurance industryLiberalising the electricity market for private sector participation has shown to be an effective mechanism to crowd-in private sector capital especially for countries looking to increase allocations for renewable energy project that often have higher transmission and distribution requirements due to the smaller project size and remoteness of these projectsDevelopment of transmission and distribution infrastructure which gives priority access or feed-in to renewable energy generators, as in Germany for their electricity infrastructure, would open up green financing opportunities, particularly for Green Bonds, for this infrastructure alongside the renewable energy project investment as these elements are dependent on each otherGovernment regulation, on tariff and revenue, grid performance, user equality, and low-carbon feed-in thresholds (e.g. renewable electricity or hydrogen blending) for private transmission and distribution entities is essential to ensure competitive and high quality infrastructure that is impartial and provides this basic service to even the more remote and less profitable power users

¹Technology Readiness Levels (TRL) rank and order technologies from 1-9 with 1 being immature (idea or observation) and 9 being mature (proven and commercialised)



Linking green finance instruments to end-uses

Green finance instruments linked to commercialisation and diffusion phase end-uses (TRL 9+)¹ (continued 5)

Table 20: Analysis of end-uses with instruments and most directly related sustainable finance instruments, actors, considerations and enhancement opportunities (continued)

Commercialisation and Diffusion Phase				
End-Uses and Technology	Applicable Finance Instruments	Typical Finance Structures and Considerations	Types of Actors Involved	Recommendations for Enhancement
<div>Building renovation</div>		<ul style="list-style-type: none">Building renovations in the residential, commercial and industrial sector are typically financed through loans and mortgages which are collateralised by the land and property to reduce the risk for the lender and reduce the cost of capital for the building ownersBuilding renovations and improvements often encounter issues with let properties as the owners are not liable for the utility costs (electricity and water) but the tenants have no capital in the property and are not long-term investors in the property	Multilateral and bilateral development institutions, local development finance institutions, corporates (own balance sheet)	<ul style="list-style-type: none">Innovations with on-bill financing, wherein the building owners lend money at concessional rates from the utility provider or banking institutions for energy efficiency interventions that reduce utility costs. The premise is for the building owner to keep ‘bill neutrality’ as the cost of the loan is compensated by the reduced utility cost from electricity savings
<div>Construction of new buildings</div> <div>Building acquisition and ownership</div>		<ul style="list-style-type: none">The South Africa Workforce Housing Fund, established in 2008, with equity investors including the Government Employee Pensions Fund (GEPF), DBSA, PIC and other private equity companies invested into 35 housing projects providing 28,000 units in South Africa for low-income and middle-income housing worth over R8.6 bnThe IFC have similarly invested over US\$ 20 mil in the International Housing Solutions funds which supply equity alongside real estate developer’s capital for low-cost but energy efficient and Green Star SA or EDGE certified properties by the Green Building Council of South AfricaSouth African commercial banks (Nedbank and Old Mutual) have also been involved in providing loans to EDGE certified building projects developed by South African real estate developers (IFC,2017)In 2020, ABSA and Balwin Properties (a listed property developer) co-developed the country’s first green mortgage product for EDGE certified properties giving purchasers a reduced interest rate on their mortgage (GBCSA, 2020)	<ul style="list-style-type: none">Commercial BanksInternational DFIsAsset Managers and Private Equity CompaniesCorporates (construction and real estate companies)Green Building Council of South Africa (GBCSA)	<ul style="list-style-type: none">Linkage of the EDGE certification scheme with international standards such as the GRESB, ICMA and the CBI means that this certification can be used by financiers as a building sustainability gauge across the residential and commercial sectorsRollout of green mortgages for buildings constructed with EDGE certification should be done by all leading commercial home loan providers in South Africa at discounted ratesUtilising Green Bonds for real estate and housing project financing would reduce the cost of capital for developers and FIs lending or putting equity into these developmentsImproved reporting and disclosures of social metrics for real estate projects such as jobs created, local community ownership, portion of units targeting low-income earners would open up social financing avenues



Key

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Industry as climate change related sector

Transportation as climate change related sector















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Linking green finance instruments to end-uses


Green finance instruments linked to mass diffusion phase end-uses


Table 20: Analysis of end-uses with instruments and most directly related sustainable finance instruments, actors, considerations and enhancement opportunities (continued)


Mass Diffusion Phase				
End-Uses and Technology	Applicable Finance Instruments	Typical Finance Structures and Considerations	Types of Actors Involved	Recommendations for Enhancement
<div>Water Pollution prevention and control</div> <div>Water Handling and Preparation</div> <div>Water collection, storage, distribution treatment and supply</div> <div>Centralised wastewater treatment</div> <div>Water saving, recycling and reuse technologies</div>	     	<ul style="list-style-type: none">South African government has been central to water infrastructure planning, development, financing and operation, with lesser private sector participation to dateGovernment financed water infrastructure from treasury reserves relying on tax revenues to subsidise water tariffs that are marginal (not cost reflective) due to water being a public good and dispensations for free basic water provisionInternational water infrastructure finance structures are tapping private sector financiers (banks, investment and insurance companies) and pension funds using private-public partnerships (PPPs), blended finance (using both commercial and concessional debt and equity) and project finance modelsIn developed countries, corporates and institutional investors are participating in water infrastructure projects through debt, bonds, and equity (impact investing)Water infrastructure finance models, like other infrastructure projects, exhibit high upfront capital with cash flows over long time periods which are more suited to insurance and pension funds liability and payment profiles (World Water Council. 2018)	<ul style="list-style-type: none">National Government Treasury (South Africa)MDBsDFIsInstitutional Investors (Asset managers, insurance companies)Pension FundsCorporates (to a lesser degree)State Utilities/Developers	<ul style="list-style-type: none">Development of conducive PPP regulations and execution models to facilitate and crowd-in private sector capital for water infrastructure projectsCost-reflective tariffs structures building in provision for free basic water service provision to improve bankabilityBlended finance models, whereby governments could play a revenue or cash flow guarantee function to catalyse commercial debt from local FIs (banks and insurers) and equity from project developers (construction companies) alongside cheap concessional finance available from international financiers (MDBs and DFIs)Potential to tap international Social and Sustainability Bond market for project finance due to the strong social linkage associated with water collection, supply, recycling, and treatment
<div>Hydropower</div>	   	<ul style="list-style-type: none">Hydropower projects require major capital investments that many emerging countries are unable to finance from government (treasury) budgets alone, requiring loans, blended and project finance from local and international financiersElectricity as a basic service and fundamental pillar in any economy requires local and foreign DFIs, MDBs, commercial banks and equity partners in the form of the project developers (either private or public utilities) to finance these projectsIn many instances, especially low-income and high risk countries, government guarantees are often required to improve the bankability of the projects (Markkanen & Braeckman, 2019)	<ul style="list-style-type: none">MDBsInternational and Local DFIsCommercial BanksState Utilities/DevelopersNational government	<ul style="list-style-type: none">Development of conducive PPP regulations and execution models to facilitate and crowd-in private sector capital for hydropower projectsCost-reflective electricity tariff structures to attract private capitalHydropower projects, with inherent social and environmental issues, should be viewed with caution by governments as a renewable energy supply option and particular consideration should be given to improving the co-benefits and social impacts of the project for use of Social and Sustainability Bonds
<div>Pollution prevention and control</div>		<ul style="list-style-type: none">South African pollution legislation (National Environmental Management Act (NEMA), Air Quality Act, National Water Act, Waste Act etc.) is aligned to ‘polluter pays principles’ whereby companies contravening the pollution thresholds due to accident or ongoing operations are required to finance the remediation and curtailment of the pollution to within prescribed levelsDepending on the nature and size of the pollution event, companies may finance pollution prevention and control projects from their treasuries or balance sheets or may look to take out a loan to finance these projects if insufficient funds are at hand	<ul style="list-style-type: none">CorporatesCommercial banksLocal and international DFIs (depending on the size and nature of the pollution)	<ul style="list-style-type: none">South Africa could stand to benefit from more market-based approaches to pollution prevention and controlCommand and control approaches (such as the polluter pays principle) enforce minimum pollution standard adherence; whereas market-based approaches in the form of incentives, tax deductions, pollution reduction credits, subsidies (concessional loans or grants), deposit-refund schemes (for glass, paper and plastic waste especially) (EPA, n.d.)
<div>Data processing, hosting and related activities</div>	  	<ul style="list-style-type: none">The ICT sector in South Africa has, since the semi-privatisation of Telkom, been financed and driven by the private sector with the government regulating data prices and auctioning data spectrum to the private sector (listed) companiesData processing, hosting and related infrastructure has been financed mainly by private companies using corporate finance (a blend of debt and equity) and loans from banking institutions, such as the latest data centre developed by Teraco in Johannesburg that was debt financed with a loan from ABSA Bank (Teraco, 2021)	<ul style="list-style-type: none">CorporatesLocal Financial Institutions (banks, investment companies, asset managers)International DFIs	<ul style="list-style-type: none">Private sector led ICT infrastructure tends to nucleate around urban nodes where demand for data processing, hosting and other cloud services is high, leaving rural and less industrious areas with less infrastructureGovernment regulations, incentives (zoning, tax relief) and blended financing (from government fiscus and infrastructure capital) should be used to drive ICT infrastructure rollout in peri-urban and rural areas


 Blended Finance


 Project Finance


 Use of Proceeds Bonds


 Performance linked loans and bonds


 Guarantees


 Private Equity / Venture Capital


 Carbon Offsets


 Grants


 Listed Green Equity


 Social resilience as climate change related sector


 Enabling activities as climate change related sector


 ICT as climate change related sector


 AFFOLU as climate change related sector

 Water and Waste as climate change related sector

 Construction as climate change related sector

 Energy as climate change related sector

 Industry as climate change related sector

 Transportation as climate change related sector

¹Technology Readiness Levels (TRL) rank and order technologies from 1-9 with 1 being immature (idea or observation) and 9 being mature (proven and commercialised)

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Table 21: A comprehensive (but not exhaustive) list of sustainable finance principles, frameworks, methodologies and tools for mainstreaming and driving ESG risks, opportunities, impacts and ESG management approaches into financial institutions and organisations globally

Methods	Current industry uptake	Endorsement	Relevance to South African sustainable finance context	ESG management process addressed by the principle, methodology, framework or tool					Primary Indicator	Comment	Shortlisted
				Commitments & Target Setting	Strategy and Action Planning	Scenario and Risk Analysis	Reporting and Metrics	Independent verification, validation or certification			
PRINCIPLES											
Equator Principles	Wide spread	Wide spread	High		✓	✓	✓	✓	◆	For projects \$10m and upwards	
UNEP FI Principles for Responsible Investment (PRI)	Wide Spread	Wide spread	High	✓	✓	✓	✓	✓	◆	Broad governing framework for all organisation types to apply and engrain ESG considerations into their management processes and a signatory function to ensure and monitor compliance	
Poseidon Principles	Niched	Wide spread	Low		✓		✓		●	Consistent with and supportive of the TCFD Recommendations, UNEP FI Principles for Responsible Banking, and Climate Bonds Initiative particularly as it relates to financing and finance activities in the shipping industry. Not especially relevant to SA due to limited involvement of SA financiers in global shipping finance; however, still relevant and endorsed for global sustainable shipping finance system	
UNEP FI Principles for Responsible Banking	Wide spread	Wide spread	High	✓	✓	✓	✓		◆	Specifically targeting banking institutions with major global buy-in and cross-cutting endorsement for and reference to other standards and methodologies to be used for implementation, such as SBT as a tool to ensure alignment with the Paris Agreements	
UNEP FI PSI	Wide spread	Wide spread	High	✓	✓	✓	✓		◆	Specifically targeting insurance institutions with broad governance and risk management principles. Developing guidance materials for the insurance industry for incorporating ESG risk and devising solutions for improved ESG management, particular to the insurance industry	
ICMA Green Bond Principles	Wide spread	Wide spread	High				✓	✓	● ◆	Focus on the use of proceeds and intend to increase capital allocation in environmentally sustainable projects	
ICMA Sustainable Bond Guidelines	Wide spread	Wide spread	High				✓	✓	● ◆ +	Proceeds will be applied to finance or re-finance a combination of both Green and Social Projects.	
LMA, APLMA, LSTA Sustainability Linked Loan Principles	Wide spread	Wide spread	High	✓			✓	✓	● ◆ +	Focused in measuring Key Performance Indicators (KPIs) and assessing against predefined Sustainability Performance Targets (SPTs), not use of proceeds.	
ICMA Social Bond Principles	Wide spread	Wide spread	High				✓	✓	+	Use of proceeds bonds that raise funds for projects that address or mitigate a specific social issue and/or seek to achieve positive social outcomes	



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				Commitments & Target Setting	Strategy and Action Planning	Scenario and Risk Analysis	Reporting and Metrics	Independent verification, validation or certification			
IFC Operating Principles for Impact Management	Emerging	Selective	Medium	✓	✓	✓	✓	✓	◆	Investor-focused ESG integration principles that speak to impact and risk measurement and reporting as well as strategic intentions. Buy-in is still niched given the recency of publication (2019) but uptake potential exists	
FRAMEWORKS											
Task Force on Climate-related Financial Disclosures (TCFD)	Wide spread	Wide spread	High	✓	✓	✓	✓		●	Widely referenced as a disclosure standard for organisations to align themselves	
Task Force on Nature-related Financial Disclosures (TNFD)	Wide spread	Wide spread	High				✓		●	Will be developed in 2021, and tested early in 2022 before being made available worldwide	
IIGCC Net Zero Investment Framework	Wide spread	Wide spread	High	✓	✓	✓	✓	✓*	●	Identifies components of a net zero investment strategy, aligned to PRI and TCFD management processes and risk assessment, with principles to guide the management process effectively. *Verification by an independent third party is recommended but not mandated	
EU Green Finance Taxonomy	Emerging	Niched	Medium			✓	✓		●	Gives effect to the implementation of the European Green Deal by defining sustainable assets using a common language that can be applied by the finance sector. The soon to be released South African Green Finance Taxonomy, which draws largely from the EU Green Finance Taxonomy would be the more relevant taxonomy framework to use in South Africa	
FAST-Infra	Wide spread	Wide spread			✓	✓	✓	✓	◆	FAST-Infra will provide a suitable framework around an ambitious financing platform for sustainable infrastructure. It is currently still under development but it is paving the way for sustainable infrastructure taxonomy, governance and investment platforms to drive private sector participation in emerging market infrastructure investment	
Climate Action in Financial Institutions	Niched	Wide spread		✓	✓	✓	✓		●	Primarily supported and taken up by development banks, multilateral banks and developed country commercial banks as a knowledge dissemination and climate mainstreaming initiative that largely endorses the objectives of the TCFD, PRI, and effected by the GRI, risk assessment tools and target setting methodologies which have all been shortlisted and give effect to this framework	



Key

Most applicable to Banks Most applicable to Investors Most applicable to Insurers Widely applicable to the financial sector Overarching/contextual ESG applicability Climate change specific applicability Social specific applicability



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				Commitments & Target Setting	Strategy and Action Planning	Scenario and Risk Analysis	Reporting and Metrics	Independent verification, validation or certification			
FRAMEWORKS											
Investor Agenda	Wide spread	Wide spread		✓	✓	✓	✓		●	The Investor Agenda has been founded by leading organisations such as the CDP, IIGCC, PRI and UNEP FI to assist and monitor climate-related actions taken by global investors and asset firms. It references TCFD, Net Zero Investment Framework, the SBTi, and the CDP as means by which these organisations have approached climate change. It is therefore not a framework or methodology in itself and rather endorses, supports and monitors action using the referenced initiatives	
Natural, Social and Human Capital Protocols	Emerging	Wide spread	High		✓	✓			●+	These protocols enable organisations to identify, measure and value their direct and indirect impacts and dependencies on natural and social capital which can then be used for effective decision making and strategising	
CDSB	Wide spread	Wide spread	Medium	✓	✓	✓	✓	✓	●	Comprehensive environmental reporting standards for all organisations and developed to be aligned with other relevant and international reporting standards	
Comprehensive Climate-related Reporting System	TBD	Wide spread	High	✓	✓	✓	✓	✓*	●	<u>Prototype</u> developed for a comprehensive and integrated climate accounting and reporting framework and standard and driven by the CDP, CDSB, GRI, IIRC and SASB. This framework will streamline and incorporate the reporting and disclosure standards and climate governance systems of all of the CDP, CDSB, GRI, IIRC and SASB. This should be watched closely and may pave the way for a common, global climate accounting and disclosure system	
UNEP FI TCFD pilots	Wide spread	TBD		✓	✓	✓	✓		●	Ongoing pilot to include TCFD in the insurance sector. Results from the pilot will inform recommendations and suitability for South Africa	



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METHODOLOGIES AND TOOLS											
ESG Integration Techniques	Wide spread	Selective	High			✓	✓		◆	ESG integration refers to screening, selection, themed and impact investing, and corporate and stakeholder actions. These techniques use heterogenous assessment criteria and inclusion/exclusion requirements but are implemented globally with a strong focus on risk management, investment goals and shareholder pressure	
Science-based Targets (SBT) for Financial Institutions	Emerging	Wide spread	High	✓			✓	✓	●	Widely endorsed, Paris Agreement aligned climate target setting and reporting initiative with development underway for the finance sector. The SBTi also provides a validation function on the target setting to ensure quality of compliance.	
Water Risk Filter	Wide spread	Wide spread	High	✓	✓	✓	✓		●+	Water Valuation provides a basis to not only unpack water-related value, but also begin to link value with water risk and water stewardship	
Global Reporting Initiative (GRI) and SASB collaboration	Wide spread	Wide spread	High	✓	✓	✓	✓	✓*	◆	Accepted as global standard for sustainability reporting and comprehensively covers reporting metrics, governance and management approaches that organisations must follow. *External assurance is advised but not required	
Pairs Agreement Climate Transition Assessment (PACTA)	Wide spread	Wide spread	High	✓		✓			●	Extensively used and simply to operate tool for assessing climate risk exposure and alignment with the Paris Agreement using globally developed technology scenarios and roadmaps for high emitting sectors	
Partnership for Carbon Accounting Financials (PCAF)	Wide spread	Wide spread	High	✓	✓	✓	✓		●	Methodology to assess and disclose GHG emissions in loans and investment portfolios. Being endorsed as the global standard for carbon accounting for investment portfolios	
IRIS+ & GRI Impact Toolkit (GIIN)	Wide spread	Wide spread	High	✓		✓	✓		◆	Globally recognised tool for measuring, managing, and optimising environmental and social impact from investing activities. Strong interlinkage with other ESG standards and principles and allows reporting against SDGs in a harmonised manner	





Methods to integrating sustainable financing

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				Commitments & Target Setting	Strategy and Action Planning	Scenario and Risk Analysis	Reporting and Metrics	Independent verification, validation or certification			
METHODOLOGIES AND TOOLS											
TPI Tool	Wide spread	Wide spread	High	✓	✓	✓	✓		●	A comprehensive climate assessment tool that ranks organisations according to their climate impact and risk and management approaches. Also provides an industry benchmarking and scoring system to assess the management quality and carbon performance of companies in a variety of sectors	
Climate Safe Learning Lab	Niched	Selective	Low		✓				●	Goal: By 2025 bank lending in North America and Europe aligned with the goal of staying well below a 2°C global temperature increase. Integration and uptake of strategic frameworks and principles also aligned to 2°C global temperature increase (PCAF, TCFD, GRI) will have the same effect	
Banking Environment Initiative	Wide spread	Selective	High		✓				●+	Their taxonomy is guided by Green Bond and Social Bond Principles, Climate Bonds Initiative, and alignment with the UN SDGs. Integration and uptake of the Green and Social Bond Principles and overarching strategic frameworks and principles will give effect to this initiative in SA	
ENCORE	Wide spread	Wide spread	Medium		✓	✓	✓		●	Helping the financial sector and other partners work together to reduce and manage the risks of environmental impacts and dependencies. It is a carried out with banks in Colombia, Peru, and South Africa and the Natural Capital Finance Alliance is working on broadening this work to other geographies and types of financial institutions.	
Drought Stress Testing	Niched	Wide spread	Low			✓			●	From NCFA - The environmental stress testing framework is highly versatile and could be extended in a number of ways. Within the current framework, additional countries or industry sectors could be considered and it could also examine multi-country scenarios where drought affects multiple countries. The Tool incorporates five drought scenarios for Brazil, China, Mexico and United States to account for direct and indirect impacts of drought	
The Clean Development Mechanism	Wide Spread	Wide Spread	?		✓	✓	✓	✓	●	Allows a country with an emission-reduction or emission-limitation commitment under the Kyoto Protocol to implement an emission-reduction project in developing countries. CDM project registrations from January 2021 will be ‘provisional’ until there is agreement and confirmation on the rules for verified carbon credits and trading between countries. The CDM has come under scrutiny for ensuring the principle of additionality in the carbon credit projects and has thus not been shortlisted for analysis further	
European Trading Scheme	Wide Spread	Selective	Low				✓		●	Cornerstone of the EU's policy to combat climate change and its key tool for reducing greenhouse gas emissions cost-effectively. It is the world's first major carbon market and remains the biggest one.	



Key

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Methods to integrating sustainable financing

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Table 21: A comprehensive (but not exhaustive) list of sustainable finance principles, frameworks, methodologies and tools for mainstreaming and driving ESG risks, opportunities, impacts and ESG management approaches into financial institutions and organisations globally (*continued*)

Methods	Current industry uptake	Endorsement	Relevance to South African sustainable finance context	ESG management process addressed by the principle, methodology, framework or tool					Primary Indicator	Comment	Shortlisted
				Commitments & Target Setting	Strategy and Action Planning	Scenario and Risk Analysis	Reporting and Metrics	Independent verification, validation or certification			
METHODOLOGIES AND TOOLS											
Climate Bonds Standard (CBS) and Certification Scheme	Wide spread	Wide spread	High				✓	✓	●	The CBS and Certification Scheme offers climate bond issuers a robust and reputable methodology to follow for aligning their climate bond issuance framework and certifying the use of proceeds according to their criteria	
Climate Disclosure Project (CDP) for Financial Services Sector	Wide spread	Wide spread	High	✓	✓	✓	✓	✓	●	Database and reporting platform for FIs (cities and states on the wider platform) that are consistent with the TCFD and PCAF. Remit includes climate change, water security and forestry	
Corporate Bonds Water Credit Risk Tool	Wide spread	Wide spread	Medium			✓			●	To integrate financial risk exposure to water scarcity into standard financial models used to assess the credit strengths of corporates across water-intensive sectors including power utilities, beverages and mining. Methodological flaws were noted and additional revisions and improvements are needed to improve the utility of this tool for industry actors	
MSCI SDG Alignment Tool	Emerging	Limited	Medium			✓			●+	The MSCI SDG Alignment Tool enables investors to see how their potential (mainly listed company) investments have performed against the 17 SDGs and is in essence a screening and risk assessment tool for investors to monitor investee company activities but does not place commitments, disclosure or strategic action requirements on the investors or the investee companies	





Methods to integrating sustainable financing

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				Commitments & Target Setting	Strategy and Action Planning	Scenario and Risk Analysis	Reporting and Metrics	Independent verification, validation or certification			
REGULATIONS, LAWS AND CODES											
Article 173 of France’s Law on Energy Transition	Niched	Wide spread	Low	✓	✓	✓	✓		◆	Makes use of the PACTA tool for assessing company asset risk exposure and alignment to Paris Agreement aligned technology futures. Not shortlisted as the PACTA tool which the law references for compliance is shortlisted and has more bearing for South African institutions than the French law which is niched to the French legal system	
Code for Responsible Investing in SA (CRISA)	Niched	Wide spread	High		✓		✓		◆	The purpose of CRISA is to form part of an effective governance framework in South Africa and has been in place since 2011. It expresses the need for institutions to consider ESG issues in their investing approach in a similar manner to the principles and frameworks such as the PRI, TCFD Recommendations, the PSI, and the Equator Principles	
Green Finance Certification Scheme (Hong Kong)	Niched	Wide spread	Low				✓	✓	●	Hong Kong focused certification scheme. Makes reference to international standards such as the UNFCCC, Green Bond Principles and ISO Standards for enactment and effect, therefore shortlisting of the principles and standards underpinning this scheme was favoured	



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- ◆

 Overarching/contextual ESG applicability
- Climate change specific applicability
- +

 Social specific applicability



Methods to integrating sustainable financing

Scanning and organising the available methods

Table 22: Other voluntary frameworks, initiatives, and networks aimed at the financial sector with a focus on ESG, SDG, and responsible investment practices, management, strategy and disclosures

Framework, Initiative or Network	Link to Resources	Framework, Initiative or Network	Link to Resources
BankTrack Human Rights Benchmark	Link	InfluenceMap (including FinanceMap)	Link
B Impact Assessment (B Lab)	Link	Insure Our Future Insurance Scorecard	Link
Center for Climate-Aligned Finance (Rocky Mountain Institute)	Link	Net Zero Finance Tracker (in development)	Link
Climate Finance Leadership Initiative	Link	Net-Zero Insurance Underwriting Alliance	In development
Climate Safe Lending Network	Link	Responsible Asset Allocator Initiative	Link
Collective Commitment to Climate Action	Link	Real Impact Tracker	Link
Fair Finance International (Oxfam)	Link	ShareAction recent Rankings: Banks, Asset managers, Pension funds and Insurance companies	Link
Financing the Transition to a Net Zero Future (World Economic Forum)	Link	Sustainable Development Investments Asset Owner Platform	Link
Forests & Finance Bank Policy Matrix	Link	Sustainable Development Goals Impact Standards (United National Development Programme)	Link
Future-Fit Business Benchmark	Link	Sustainable Finance League Tables (Refinitiv)	Link
Global Alliance for Banking on Values	Link	Sustainable Finance Report 2019: Sustainable Banking in ASEAN (World Wildlife Fund)	Link
Impact Management Project’s Dimensions of Impact and Impact Classes (ABC for investors)	Link	The Test of Corporate Purpose Initiative	Link
IMVO Convenanten	Link	Universal Standards for Social Performance Management	Link



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Methods to integrating sustainable financing

Overview and analysis of methods: Equator Principles (1)

Equator Principles		Framework
What is the focus and purpose of the Method?	The Equator Principles are an industry benchmark for determining, assessing and managing environmental and social risks and impacts relating to the development and construction large infrastructure and industrial projects. The Equator Principles detail 10 overarching elements which organisations financing these projects need to align and adhere to for membership to the Equator Principles Financial Institutions (EPFI)	
What are the constituents and requirements of implementing the methodology?	In order to fulfil the requirements of the Equator Principles, financial institutions (FIs) need to assess the environmental and social risks and magnitude of impact associated with the infrastructure or industrial project. These assessments must be done in accordance with the Designated Country laws, IFC Environmental and Social Performance Standards and the GHG Protocol for standardisation. The project developers will also be expected to develop and implement environmental and social management systems and plans to mitigate the risk and impact of more adverse project throughout its operating life, which should be independently reviewed and validated. Implementation of the Equator Principles requires FIs, such as the commercial banks, development banks (none of which are members currently), state-owned enterprises, infrastructure funds, and corporates that extend loans for infrastructure and industrial projects, to obtain membership to the Equator Principles and become an EPFI that enforces and applies the Equator Principles to their infrastructure and industrial projects. The Equator Principles are designed for projects greater than US\$10 million, but considering power purchasing parity (PPP) this threshold could be adjusted to South African context to for example R100 million projects.	
Applicable standards	IFC Sustainability Performance Standards (2012)	
Link to Method resources	https://equator-principles.com/documents-resources/	
Benefits and detractors of the Method	<ul style="list-style-type: none"> • External, independent review of environmental and social assessments required for detrimental projects • Inclusion of climate risk and social (gender, culture etc.) impact in the project impact assessment • Large global uptake and endorsement for major projects • Wide applicability to all sectors and industries for major projects 	<ul style="list-style-type: none"> • Niche application to large industrial and infrastructure projects



Methods to integrating sustainable financing

Overview and analysis of methods: Equator Principles (2)

Equator Principles		Framework
What are the drivers/mechanisms by which the Method enforces the integration and delivery of sustainable finance within an organisation?	<p>The Equator Principles place the onus on the EPFI, which are currently three South African commercial banks, to ensure that the projects they are financing are socially responsible and reflects sound environmental management practices. This places compliance and enforcement responsibility for the projects on the EPFIs that are signatories to the Equator Principles, which is a sound means of delivering sustainable financing as the source of finance has authority to enforce compliance from the client. To enforce the Equator Principles on their finance projects the financial institutions (EPFIs) need to have sufficient capacity and knowledge regarding environmental and social risks and impacts and the principles themselves to regulate and monitor compliance by the project developers, which would drive these organisations to systematically embed social and environmental risk and impact considerations into their financing activities through recruitment of specialised personnel or training of financing personnel on environmental and social risk and impacts.</p> <p>The requirement for projects that may have significant and potentially detrimental social and environmental impacts to have independent and expert review of their environmental and social assessments will also drive the quality and rigour of these assessments from the project developers and the EPFIs financing the projects.</p>	
What enabling environment mechanisms are affecting international Method implementation?	<ul style="list-style-type: none"> The membership credentials of the Equator Principles and the designation of 'EPFIs' gives external recognition to organisations applying these principles and stakeholder pressure from peoples affected by these projects urge financiers and project developers to adhere to Equator Principles as a best practice. The requirement for projects that may have significant and potentially detrimental social and environmental impacts to have independent and expert review of their environmental and social assessments is also driving the quality and rigour of these assessments from the project developers and the EPFIs financing the projects. 	
What are potential drivers that could be considered in South Africa for increased effective implementation?	<ul style="list-style-type: none"> Implementation of a project size threshold (R100 million), above which any infrastructure or industrial project in South Africa would need to be aligned with the Equator Principles Government mandate that all state-driven, by Transnet, Eskom, SANRAL etc., projects over R100 million to be compliant with the Equator Principles Infrastructure funds and infrastructure investment programmes (such as the COVID-19 recovery stimulus) in South Africa could require compliance with the Equator Principles in order to be eligible for government funding Development bank buy-in to the Equator Principles, due to the prominent role of development bank finance for infrastructure and industrial development in South Africa 	



Methods to integrating sustainable financing

Overview and analysis of methods: UN Principles for Responsible Investment (PRI) (1)

UN PRI		Framework
What is the focus and purpose of the Method?	The UN PRI is a ubiquitous, globally endorsed set of principles detailing how investors should incorporate ESG issues and considerations into their management and operations. The focus is therefore on broad environmental, social and governance issues and the management processes, actions and commitments that the signatory organisations have implemented to address these ESG issues. Any organisation can become a signatory to the UN PRI which makes it a universal, company-focused initiative.	
What are the constituents and requirements of implementing the methodology?	The PRI requires organisations seeking to become signatories, and maintain this status, to entrench the six principles into their operations through a series of commitments, actions, disclosures and on-going reporting. The PRI defines minimum investor requirements which concern the investor's 'Strategy and Governance' and their 'Investment & Stewardship Policy'. Investors are required to complete PRI modules on these two broad themes which details their ESG commitments, management systems, risk management and reporting metrics. Additionally, signatories are required to report annually on these ESG matters, which reports are assessed by the PRI (PRI, 2021). The implementation of the PRI in South Africa has largely already been underway as institutional investors have individually voluntarily become signatories to the PRI. Organisations such as the Public Investment Corporation (PIC), Allan Gray, Coronation, Eskom Pension and Provident Fund, Government Employees Pension Fund, Discovery and Sanlam are a few of the major South African financial institutions who have become signatories to the PRI. This private-sector driven implementation should be encouraged and maintained.	
Applicable standards	ICGN Global Stewardship Principles, TCFD Recommendations, OECD Responsible Business Conduct for Institutional Investors recommendations, UK Climate Financial Risk Forum Disclosure report, Global Real Estate Sustainability Benchmark (GRESB), PAS 7341:2020, IFC Sustainability Performance Standards, EU Green Bond Standard, ICMA Standard	
Link to Method resources	https://www.unpri.org/signatories/signatory-resources	
Benefits and detractors of the Method	<ul style="list-style-type: none"> Review of annual submissions by PRI assessors ensures complete and ongoing compliance with the principles Signatory status provides recognition and an enforcement mechanism if organisations adherence falters Globally and universally applicable to organisations Strong alignment and integration with other global standards and frameworks 	<ul style="list-style-type: none"> Does not define an exact methodology but is a overarching ESG approach and thus relies on standards and tools to give it effect



Methods to integrating sustainable financing

Overview and analysis of methods: UN Principles for Responsible Investment (PRI) (2)

UN PRI		Framework
What are the drivers/mechanisms by which the Method enforces the integration and delivery of sustainable finance within an organisation?	<p>PRI, being directed at the investing company and institutional investors, enforces ESG consideration at the funding source. It effectively directs the large finance pools that lie in these organisations towards more environmental and socially responsible and risk-optimised assets. In turn, and in order to still be able to access these large institutional finance pools, assets (particularly companies) will adapt and improve their ESG credentials to meet these investor requirements.</p> <p>The PRI is not explicit in outlining the ESG impact and risk quantification methodologies and metrics to be used by companies but rather details the management process and the structures of how ESG impact, risk and opportunity is to be entrenched in the organisation, leaving the metrics and methodologies at their discretion.</p> <p>PRI sets the tone at the highest level, being agnostic on the standards or tools used to implement ESG consideration into the organizational management process, leaving that up to the organisation to determine. The PRI therefore lays the ESG management approach that organisations entrench at management level and which then flows down, through the use of country and application specific standards, to the day-to-day operations and investment decisions of the organisation.</p>	
What enabling environment mechanisms are affecting international Method implementation?	<ul style="list-style-type: none"> PRI is aligned to other investor initiatives and Methods such as the UNEP Finance Initiative, TCFD and the UN Global Compact which drives the integration and harmonisation of these ESG investing initiatives if taken up by a critical mass of asset and fund managers. The status of being a signatories to the PRI gives international recognition for organisations and has driven uptake and endorsement of the PRI globally The allowance of the PRI for signatory organisations to incorporate ESG standards, tools and methodologies that are suitable and familiar to them makes the PRI universally applicable 	
What are potential drivers that could be considered in South Africa for increased effective implementation?	<ul style="list-style-type: none"> The notable uptake and endorsement of the PRI by South African institutions to date illustrates that there already exists an enabling environment for these principles, to some degree, which is driven by the global recognition and universal applicability of the PRI Implementation can be improved by building on the existing codes and regulations such as the CRISA (Principle 1) and the Regulation 28 for retirement, pension and provident funds which require ESG factors to be considered when making investment decisions. Entrenching the PRI explicitly into codes and regulations for asset and investment managers would show clear commitment to ESG investing by the South African government and give direction to the industry regarding the key procedures and processes to be followed to be considered as an ESG investor. 	



Methods to integrating sustainable financing

Overview and analysis of methods: Net Zero Investment Framework (1)

Net Zero Investment Framework		Framework
What is the focus and purpose of the Method?	The IIGC Net Zero Investment Framework seeks to enact the Paris Agreement goals by providing asset owners and asset managers with practical guidance for the implementation of globally accepted and common management approaches and methodologies that would allow them to invest in a manner consistent with the 1.5°C climate targets and achieve net zero emissions by 2050. The framework is targeted at a strategic level and thus guides the investment strategies and decisions made by asset managers and asset owners to be consistent with the Paris Agreement goals, working in a coordinated manner with tools such as the SBTi for target setting and TPI for assessing performance and transition risks.	
What are the constituents and requirements of implementing the methodology?	There are 5 key components that are recommended to be incorporated into the asset manager's or asset owner's management strategy: governance and strategy, target setting, asset allocation, asset class alignment, and advocacy and engagement. The implementation of these 5 key components is guided by the fundamental principles, being: impact, rigour, practicality, accessibility, and accountability. The framework mandates action on undertaking climate risk assessments to reduce exposure to stranded and polluting assets, to adopt an iterative process of continual monitoring and review, and to set objectives and targets that are consistent with Paris Agreement goals to limit warming to 1.5°C. The framework emphasises that the use of carbon offsets in achieving these goals should be limited, and decarbonization should be driven by mitigation action in the underlying assets as a priority. The framework is quite explicit in terms of how the targets should be structured (a % of revenue or capex from AUM allocated to climate solutions, as an example), how to assess assets in terms of climate risk and performance including a list of criteria to assess the assets against, and details suggestions for the reporting metrics to be used when assessing the asset portfolio. The coverage of the framework extends to many asset types including sovereign bonds, fixed income, equity, real estate	
Applicable standards	Germanwatch Climate Change Performance Index, TCFD Recommendations, Transition Pathway Initiative (TPI) tool, SBTi science-based targets, Climate Action 100+ Benchmark, Carbon Risk Real Estate Monitor	
Link to Method resources	https://www.iigcc.org/download/net-zero-investment-framework-consultation/?wpdmdl=3602&masterkey=5f270ef146677	
Benefits and detractors of the Method	<ul style="list-style-type: none"> Provides high level, strategic guidance and detailed, action-specific recommendations for alignment References and promotes the use of credible standards and methodologies for implementation Applicable to many asset types and finance instruments 	<ul style="list-style-type: none"> No signatory or compliance database function to ensure and monitor compliance



Methods to integrating sustainable financing

Overview and analysis of methods: Net Zero Investment Framework (2)

Net Zero Investment Framework		Framework
What are the drivers/mechanisms by which the Method enforces the integration and delivery of sustainable finance within an organisation?	<ul style="list-style-type: none"> Clearly details the management approach to net zero investing which institutionalises climate factors in the asset manager and asset owners operations Advocates ambitious (net zero by 2050) target setting from the asset manager and asset owner and monitoring and reporting against these targets to assess progress Directs the asset portfolio and asset allocations away from assets lacking climate targets and governance systems, misaligned to a low carbon future, and not investing in climate solutions and towards progressive, ambitious assets Explicit about which standard and methodologies the asset managers and asset owners should be implementing and using for their management approach, target setting, investment strategy and risk assessments 	
What enabling environment mechanisms are affecting international Method implementation?	<ul style="list-style-type: none"> Key and strategic partnerships and alignment with internationally accepted and endorsed standards and methodologies such as the TCFD, Climate Action 100+, European Climate Foundation and the TPI Developed by 70 major investors globally to be suitable for the investment community through extensive consultation and ideation, with uptake from investors representing \$16 trillion in AUM Balanced guidance between management processes and governance systems and targeted and explicit actions that need to be undertaken which makes the framework comprehensive and straightforward to understand and implement 	
What are potential drivers that could be considered in South Africa for increased effective implementation?	<ul style="list-style-type: none"> Getting buy-in and uptake from the major asset managers and owners in South Africa, from the public (PIC) and private sectors (Allan Gray, Coronation), would send a clear signal to the wider investment industry on the direction of travel for asset manager and ownership in the country Sovereign bond allocations by the SARB in line with the IIGCC Net Zero Investment Framework guidance for sovereign bond issuance could allow for South African Treasury to tap into this growing source of debt finance while pushing the government institutions and regulatory bodies to increase the ambition of their climate targets and provide demonstrable actions concerning climate change. 	



Methods to integrating sustainable financing

Overview and analysis of methods: UNEP FI Principles for Responsible Banking (1)

UNEP FI Principles for Responsible Banking		Framework
What is the focus and purpose of the Method?	The main goal for these principles is to align the management and governance of banking institutions globally with the objectives of the Paris Agreement and the SDGs by providing actionable guidance on how these institutions can achieve this. The focus of the principles is on the approach and strategy of the signatory banks, their internal and external engagements and their target setting and accountability. These principles therefore focus on a broad range of social and environmental issues and do not prescribe weighting or focus to any one issue, and are therefore seen as overarching guidance principles supported by a host of standards and methodologies to enact these principles (UNEP FI, 2019).	
What are the constituents and requirements of implementing the methodology?	There are 6 principle outlined in this framework addressing: strategy alignment to the SDG and Paris Agreement; social and environmental impact and risks; clients and customer responsibility; stakeholder consultation and engagement; governance and target setting; and transparency and accountability in implementing these principles. The banking institutions can become signatories to the UNEP FI by declaring their commitment to the principles, setting targets for which they are accountable and reporting on their performance, impacts and progress regarding their environmental and social issues. These principles outline practical implementation steps for banking institutions in applying these principles and direct signatories to standards and methodologies that can be used in applying the principles. A host of examples and knowledge building resources are also shared to improve the compliance and impact of these principles in application.	
Applicable standards	SDG Compass, SBTi science-based targets, Paris Agreement Capital Transition Assessment (PACTA), ISO 14097, GRI Standards, IFC Performance Standards, AA1000, ISEAL Standards, Sustainable Banking Assessment (SUSBA) tool, SASB financial sector standards, Equator Principles, CDP, WWF water risk filter,	
Link to Method resources	https://www.unepfi.org/publications/principles-for-responsible-banking/	
Benefits and detractors of the Method	<ul style="list-style-type: none"> References and promotes the use of an array of credible standards and methodologies for implementation Signatory function to ensure and monitor compliance Practical steps and useful resources provided for fulfilling the principle objectives Considerable uptake and endorsement globally with major banking institutions implementing the principles, including South African banks 	<ul style="list-style-type: none"> Niched to banking institutions



Methods to integrating sustainable financing

Overview and analysis of methods: UNEP FI Principles for Responsible Banking (2)

UNEP FI Principles for Responsible Banking		Framework
What are the drivers/mechanisms by which the Method enforces the integration and delivery of sustainable finance within an organisation?	<ul style="list-style-type: none"> Clearly details the management approach for responsible banking which entrenches the SDGs and climate goals into the fabric of these banking organisation Requires target setting and reporting on progress against these targets from the implementing banks, which are then assessed by the assurance providers to the bank and the UNEP FI for quality control Clearly recommends the use of risk and impact assessment tools and methods to assist banking institutions in their management approach, impact and risk measurement, stakeholder engagement and target setting 	
What enabling environment mechanisms are affecting international Method implementation?	<ul style="list-style-type: none"> Widely endorsed and active signatory platform for global banking institutions which gives external recognition to banking institutions applying these principles A critical mass of support, 132 banks across 49 countries with US\$ 47 trillion in assets, has been reached which catalyses further adoption of the principles by national banking institutions Growing investor pressure and stakeholder activism on the role of finance and financiers to transform global business activities towards more socially and environmentally responsible practices and progress the transition to a lower carbon global economy 	
What are potential drivers that could be considered in South Africa for increased effective implementation?	<ul style="list-style-type: none"> Major banking institutions in South Africa have already voluntarily applied these principles, including Standard Bank, Firststrand, Nedbank, ABSA, Land Bank, and Investec, which shows the effectiveness of investor pressure and stakeholder activism in driving increased social and environmental responsibility from these institutions Explicit reference and endorsement by regulators and the FSCA to the tools and standards recommended by the UNEP FI Principles for Responsible Banking would drive consistence and harmonisation in the South African banking sector 	



Methods to integrating sustainable financing

Overview and analysis of methods: UNEP FI Principles for Sustainable Insurance (PSI) (1)

UNEP FI Principles for Sustainable Insurance		Framework
What is the focus and purpose of the Method?	The UNEP PSI recognises the changing dynamics of the risk landscape for insurers as climate change is inducing unprecedented social and environmental issues, and the need for insurers to start systematically addressing this changing risk landscape for the betterment of society. Therefore, the focus of the PSI is to outline a strategic approach that insurers can adopt to identify, assess, manage and monitor risks and opportunities associated with the ESG issues that are affecting their entire value chain. In doing so, the PSI seeks to reduce these ESG risks, develop innovative solutions to capture opportunities, improve the performance of the insurance industry and create a more sustainable insurance industry as a whole.	
What are the constituents and requirements of implementing the methodology?	<p>The PSI requires potential signatories to adhere to four key principles that influence their strategy and governance systems, their reporting systems and their engagements with their value chain and ecosystem. The principles required for PSI implementation are as follows:</p> <ol style="list-style-type: none"> 1. Embedding ESG issues into decision making through actioning demonstratable ESG consideration in risk management, claims management, sales and marketing, investment management, service delivery and the overarching company strategy 2. Coordination with clients and business partners, including suppliers and reinsurers, on ESG awareness and risk management through increased dialogue, knowledge and tool sharing, and procurement criteria to further the insurance ecosystem adoption of sustainable principles 3. Government, regulator and industry body collaboration to devise regulations and legal frameworks addressing ESG risk management and facilitate dialogue, research and expertise in ESG risk management and transfer 4. Accountability and transparency in ESG disclosures and reporting to assess, measure and monitor an organisation's progress in integrating ESG into their business practices (UNEP FI, 2012) <p>Insurers can voluntarily apply to become a signatory which then commits them to the implementation of these principles and requires annual public disclosures to be made to the UNEP FI on the progress and performance of the signatory organisation on these principles.</p>	
Applicable standards	TCFD Recommendations, PSI ESG Guide for Non-Life Insurance, PSI Underwriting ESG risks in non-life insurance business	
Link to Method resources	https://www.unepfi.org/psi/category/publications/	
Benefits and detractors of the Method	<ul style="list-style-type: none"> Targeted framework for the insurance industry with tailored recommendations and suitability for the industry Signatory function to ensure and monitor compliance Global leader and effective 'gold standard' for ESG integration into insurance 	<ul style="list-style-type: none"> Not explicit on risk methodologies and tools to use, though progress is being made to guide insurers on ESG risk management



Methods to integrating sustainable financing

Overview and analysis of methods: UNEP FI Principles for Sustainable Insurance (PSI) (2)

UNEP FI Principles for Sustainable Insurance		Framework
What are the drivers/mechanisms by which the Method enforces the integration and delivery of sustainable finance within an organisation?	<ul style="list-style-type: none"> The PSI changes the reporting and governance systems of the insurer by outlining annual disclosure requirements that must be submitted to the UNEP FI to remain a signatory Encourages fundamental change in the risk assessment and management systems of the insurer and the wider insurance industry Mandates demonstrated action in value chain engagement and collaboration which spurs the insurers to pool resources, put pressure on suppliers, and change customer behaviour and practices to integrate ESG considerations in their activities 	
What enabling environment mechanisms are affecting international Method implementation?	<ul style="list-style-type: none"> The increasing severity and frequency of catastrophic events such as floods, droughts, fires and cyclones as a result of climate change and the devastating environmental, economic and social effects of these events is driving the need for incorporation and better management of these ESG risks in the insurance industry to fundamentally protect their business interests Stakeholder pressures on financiers, which the insurance industry has a significant position in as investors, to consider ESG metrics and performance in their investments 	
What are potential drivers that could be considered in South Africa for increased effective implementation?	<ul style="list-style-type: none"> The FSCA could be a fundamental driver in the uptake of the PSI by South African insurers by making explicit reference to it and declaring support for insurers to become signatories to the PSI With long-term business insurance for major facilities often reinsured to global insurers, getting South African insurers to adopt and then pressure and support their reinsurance partners to adhere to the PSIs would be fundamental in achieving the goals of the PSI 	



Methods to integrating sustainable financing

Overview and analysis of methods: TCFD (1)

Task Force on Climate-related Financial Disclosures		Framework
What is the focus and purpose of the Method?	The TCFD has developed recommendations for voluntary and consistent climate-related financial disclosures between organisations of all types and across all sectors to promote more informed investment, credit, and insurance underwriting decisions. The focus of the TCFD is on the management approach centered around common areas of climate change-related governance, strategy, risk and reporting.	
What are the constituents and requirements of implementing the methodology?	The TCFD outlines 11 key disclosures centred round climate-related risks and opportunities in these four thematic areas, meaning that organisations are required to disclose how their operations are currently assessing, measuring and managing climate risks and how the organisation plans to adapt to these risks and capture any opportunities that would come about under a low-carbon future. The TCFD is not a risk assessment tools but a framework. It requires an institutional commitment to systematically develop the capacity to affect the TCFD recommendations and incorporate the recommendations into every day practice. For many organisation, this requires an amendment and formalisation of existing practices and processes.	
Applicable standards	WRI and WBCSD (2011) GHG Protocol, SASB, GRI, CDSB, PCAF.	
Link to Method resources	https://www.fsb-tcfd.org/publications/	
Benefits and detractors of the Method	<ul style="list-style-type: none"> No subscription fees Applicable as a management construct to all organisation types Major international endorsement and uptake Growing body of structured and specific guidance materials for standardisation of application 	<ul style="list-style-type: none"> No particular monitoring oversight to the implementation approach and veracity of results
What are the drivers/mechanisms by which the Method enforces the integration and delivery of sustainable finance within an organisation?	<p>The TCFD, as a reporting and disclosure framework, is a primary driver of sustainable finance by encouraging strategic consideration of climate change related risks and opportunities and driving for transparency on these matters, by (i) financial sector actors in terms of their respective fiduciary responsibility; and (ii) investees in terms of their proactivity in mitigating and adapting to climate change.</p> <p>The TCFD by its design is applicable to all organisations and sectors so as to drive depth of climate-related governance and disclosure as far as possible. The TCFD recommends for non-financial information to be disclosed alongside the financial disclosures as a standard practice for listed companies, enabling investors to identify leading companies and selectively invest in organisations that have assessed their climate change vulnerabilities and are actively pursuing opportunities and activities that reduce their risks and ensure long-term value for themselves and their investors.</p> <p>Through its global reach and universality, the TCFD drives standardisation in the climate management approach of organisations which gives comparability (and benchmarking) capability and improves the transparency of non-financial reporting for the benefit of all investors.</p>	



Methods to integrating sustainable financing

Overview and analysis of methods: TCFD (2)

Task Force on Climate-related Financial Disclosures		Framework
What enabling environment mechanisms are affecting international Method implementation?	<ul style="list-style-type: none"> The TCFD does not have a signatory or membership base that monitors and verifies compliance with the disclosure requirements and is a purely voluntary framework for how organisations should approach climate risks and disclose climate impacts. Its adoption to date is largely driven either through proactivity of individual organisations, through investor pressure on the issue of climate change risk management brought to bear, and stakeholder activism. Recently TCFD reporting is becoming mandatory as part of regulation (UK). In some international jurisdictions (the EU climate disclosure guidelines), the implementation of TCFD recommendations is being entrenched in national guidance beyond the current endorsement from global NGOs and investment bodies such as the UNGC, PRI, and CDP, among others 	
What are potential drivers that could be considered in South Africa for increased effective implementation?	<ul style="list-style-type: none"> The TCFD framework receiving official support and endorsement from the JSE and alternative stock exchanges in the country would cement the uptake of these disclosures from the countries largest organisations, particularly due to the suitability of the framework for listed organisations. The JSE (by means of the King Code (IV), CRISA and the IFRS codes and regulation explicitly speak to climate change risk and opportunity management, but don't explicit particular approaches. These would benefit from explicit mention or endorsement of the TCFD. At a state level, requiring state-owned enterprises seeking government guarantees, loans, and grants to integrate TCFD framework reporting into their existing reporting systems could be used as a mechanism to monitor and track government sustainable finance flows and prioritise government funding to climate-resilient organisations. Endorsement and integration of the TCFD framework into the South African industry regulators, such as the FSCA, Prudential Authority, for non-listed organisations would encourage uptake in the wider private sector in South Africa. Consider an regulatory oversight function for the implementation veracity and reporting undertaken by financial institutions. 	





Methods to integrating sustainable financing

Overview and analysis of methods: CDSB Framework (1)

CDSB Framework		Framework
What is the focus and purpose of the Method?	The CDSB Framework sets out a high level approach for organisations to report their environmental information in their reporting systems. The environmental topics included in the framework include natural capital dependencies, environmental impacts, risks and opportunities, management strategies and governance, and environmental targets committed to by the organisation. The Framework has been designed to be aligned with other climate-related frameworks and methodologies such as the TCFD Recommendations, PRI, and the GRI Standards. Due to the CDSB Framework guiding environmental governance and impact disclosures in existing organisational reporting systems, it is particularly applicable to listed companies that are mandated to make public disclosures in annual reports.	
What are the constituents and requirements of implementing the methodology?	The CDSB Framework, as with financial reporting standards, are underpinned by a set of principles that organisations should incorporate into their reporting systems in order to genuinely align with the CDSB Framework. These principles stipulate that organisations should: be reporting all material and relevant environmental impacts and risks; disclose environmental information faithfully, clearly and understandably; integrate environmental reporting with financial (mandatory) reporting; have consistent and comparable disclosures between periods; produce verifiable disclosures; and have forward looking environmental disclosures (targets and projections) (CDSB, 2019). In addition to these reporting principles, organisations seeking alignment to the CDSB Framework need to demonstrate that they have reported their environmental and climate change disclosures in accordance with the Reporting Requirements, of which there are 12. These Reporting Requirements stipulate the organisation's actions and activities regarding environmental impacts, policies and strategies, risks and opportunities and the reporting procedures, boundaries and assurance undertaken to ensure rigour and consistency.	
Applicable standards	N/A	
Link to Method resources	https://www.cdsb.net/what-we-do/reporting-frameworks	
Benefits and detractors of the Method	<ul style="list-style-type: none"> Alignment with principles and frameworks such as the TCFD Recommendations, GRI and PRI Specific Reporting Requirements and general guiding principles for environmental and climate impact, risk and opportunity management and disclosures Wide uptake globally and in South Africa by listed companies Requirement for assurance to be given to the environmental disclosures 	<ul style="list-style-type: none"> Does not include reporting requirements for social impacts, risks and opportunities, and strategy As a reporting framework uptake has been limited to mainly listed companies



Methods to integrating sustainable financing

Overview and analysis of methods: CDSB Framework (2)

CDSB Framework		Framework
What are the drivers/mechanisms by which the Method enforces the integration and delivery of sustainable finance within an organisation?	<ul style="list-style-type: none"> Specific Reporting Requirements that mandate the organisation's activity and action regarding climate impact measurement, risk and opportunity assessment, and environmental governance to be standardised and harmonised between companies The CDSB Framework, by outlining environmental and climate reporting alongside the financial reporting, enables FIs and the investment community to determine the level of environmental and climate impact and ambition in their portfolio of companies and can rest assured that if an investee is CDSB-aligned that there are management systems in place and targets set to reduce climate impact and risk exposure Institutionalisation of climate targets within the organisation and tracking of performance against these targets with each reporting period 	
What enabling environment mechanisms are affecting international Method implementation?	<ul style="list-style-type: none"> The global push for comparable and consistent sustainability reporting between organisations, industries and geographies which drives the uptake of standard reporting frameworks such as the CDSB Framework Increasing shareholder and stakeholder scrutiny of organisations' disclosures and reporting regarding sustainability impacts, initiatives and actions underway to mitigate and manage those impacts Sustainability reporting by listed companies on global stock exchanges looking for a common language on how to report on sustainability matters The allowance for and alignment with the use of measurement standards and methodologies (such as the GRI and TCFD Recommendations) in fulfilling the Reporting Requirements expands the applicability and universality of the CDSB Framework which in turn drives the uptake of the CDSB Framework 	
What are potential drivers that could be considered in South Africa for increased effective implementation?	<ul style="list-style-type: none"> Endorsement from South Africa's stock exchanges to mandate sustainability reporting, aligned to CDSB Framework, on an annual basis for all listed companies Requirements for non-listed organisations to disclose ESG impacts according to the CDSB Framework in their annual communications with industry bodies such as the FSCA ESG integration by asset managers and investment institutions which filter companies based on alignment with the CDSB Framework would represent a demand-pull driver for climate disclosures and reporting according to the CDSB Framework and in turn the TCFD Recommendations, GRI and PRI 	



Methods to integrating sustainable financing

Overview and analysis of methods: Natural, Social and Human Capital Protocol (1)

Natural, Social and Human Capital Protocol		Framework
What is the focus and purpose of the Method?	The Capitals Coalition devised the Natural Capital Protocol and the Social and Human Capital Protocol to enable organisations to identify, measure and value their direct and indirect impacts and dependencies on natural, social and human capital using an internationally standardised framework. The Protocols are applicable within any business sector, to organisations of all sizes and in all geographies. The Protocols are also applicable at multiple organisational levels and scopes, for example at a product, project or organizational level (Natural Capital Coalition, 2016).	
What are the constituents and requirements of implementing the methodology?	<p>The Protocols build on existing tools, guidelines, methodologies and frameworks to identify, measure and value natural, social and human capital and as such is a high level framework that is underpinned by more niched Methods with the intent to inform decision making and risk management based on natural and social impacts and dependencies.</p> <p>A Toolkit is provided which provides a comprehensive set of tools, methodologies and guidelines that organisations can use to identify and assess their natural and social impacts and the risks and opportunities associated with the dependency on these natural and social capitals. Organisations can use the tools, methodologies and guidelines to measure and value their natural and social impact and dependencies.</p> <p>The Natural, Social and Human Capital Protocols are underpinned by the principles of: Relevance, Rigor, Replicability, and Consistency and outline four stages of implementation from the organisation: Frame (the motivation for impact and dependency valuation and assessment), Scope (the objectives, boundaries and indicators to be measured), Measure and Value (the impact, dependencies and value of the natural, social and human capitals), and Apply (the interpretation and decision making strategy based on the impact, dependencies and value) (Natural Capital Coalition, 2016).</p>	
Applicable standards	GRI Standards, SASB Standards, GHG Protocol, ISO 14001	
Link to Method resources	https://naturalcapitalcoalition.org/natural-capital-protocol/ and https://social-human-capital.org/protocol/	
Benefits and detractors of the Method	<ul style="list-style-type: none"> Niched, high-level framework for identifying, measuring and particularly valuing natural, social and human capital for organisations Underpinned by widely accepted standards, frameworks, tools and methodologies Database of useful tools to measure and value natural, social and human capital that can be used in the Protocols Agnostic on the metrics, measurement and valuation approaches improves universal applicability and uptake potential globally 	<ul style="list-style-type: none"> No signatory or compliance enforcement system No limitations on the methodologies, metrics and measurement approaches negates comparability between organisations



Methods to integrating sustainable financing

Overview and analysis of methods: Natural, Social and Human Capital Protocol (2)

Natural, Social and Human Capital Protocol		Framework
What are the drivers/mechanisms by which the Method enforces the integration and delivery of sustainable finance within an organisation?	<ul style="list-style-type: none"> The Protocols outline the key stages to measure and value natural, social and human capital and the dependency (risk) on these capitals, which gives structure to the approach to managing these capitals By introducing the value of the natural, social and human capitals to the organisation, decision making and financial management based on this information will be altered for the better in the organisation Recommendations on the standards and methodologies that can be used by an organisation to adopt the Protocols entrenches wider ESG management systems in the organisation For an FI, whose investees and underlying assets implement the Natural, Social and Human Protocols, portfolio optimisation and decision making on finance flows to organisations with lower value at risk can be done 	
What enabling environment mechanisms are affecting international Method implementation?	<ul style="list-style-type: none"> Stakeholder activism and increasing transparency requirements on organisations globally are driving up the ambition and integration of the natural, social and human capitals in the decision making and management systems of organisations globally Natural and social capital destruction and damage from poor governance and business practices has highlighted the reliance of all organisations on ecosystem functions, biodiversity and community health and prosperity for their sustainability 	
What are potential drivers that could be considered in South Africa for increased effective implementation?	<ul style="list-style-type: none"> Specific focus on forward looking dependencies and the collective value at risk for the natural, social and human capitals in South Africa at South African investment conventions, summits and indabas would drive organisations to internally look at these capitals and their dependencies on them for their sustainability Recommendation, endorsement and incentivisation of the GRI and SASB Standards uptake and CDP disclosures for all large South African organisations would harmonise and catalyse uptake of forward looking and decision making frameworks such as the Natural, Social and Human Capital Protocols 	



Methods to integrating sustainable financing

Overview and analysis of methods: Finance to Accelerate the Sustainable Transition-Infrastructure (FAST-Infra) (1)

FAST-Infra (Under development)		Framework
What is the focus and purpose of the Method?	FAST-Infra aims to accelerate the flow of private investment to sustainable infrastructure in developing countries and close the trillion dollar sustainable infrastructure investment gap, by transforming sustainable infrastructure into a mainstream, liquid asset class. FAST-Infra proposes to do this by devising a harmonised, globally applicable labelling system for infrastructure assets that are recognised as sustainable assets and developing platforms and systems that enable FIs to finance and refinance these projects in a manner that reduces the risks, transaction costs and improves the liquidity to attract more private finance. This labelling system will have underlying standards, governance and reporting requirements to ensure that the infrastructure projects are designed and executed according to best practice and that the investors of such projects can be assured of their positive environmental and social impacts as a result of the project.	
What are the constituents and requirements of implementing the methodology?	<p>FAST-Infra's labelling system will span across the infrastructure project's life cycle from preparation to decommissioning and will constitute screening mechanisms to exclude projects with deleterious environmental and social impacts, governance requirements to ensure sound project management practices that give investor confidence, and impact reporting requirements to monitor and disclose ESG impacts that the investors will need to assess.</p> <p>FAST-Infra draws on the work of the Green, Social and Sustainability Bond Principles, the Equator Principles, Green Loan Principles and asset taxonomy frameworks such as the EU Green Finance Taxonomy and the project developers would therefore need to ensure alignment to these standards and frameworks for eligibility for the FAST-Infra labelling system (CPI, 2020). There are four dimensions of sustainability for the underlying projects: environmental, social, governance, and adaptation and resilience (to climate change) and each dimension has a set of criteria with underlying sustainability indicators that are used to filter and assess the sustainability of potential infrastructure projects.</p> <p>In addition to the labelling system, FAST-Infra is piloting: a securitisation platform to streamline project finance due diligence and investment terms across languages and geographies; an offtake or revenue guarantee mechanism to improve the bankability of infrastructure projects in emerging countries where utilities and developers may have poor credit ratings which scuppers the power purchase agreements or use agreements and stalls implementation; an open-sourced managed co-lending portfolio programme as a syndication tool to bring IFC investor partners to finance infrastructure projects using a blend of private and development bank financing mechanisms; and a sustainable financing facility for national development banks, as these FIs have local knowledge and take on construction and currency risks that commercial or private lenders may not, so that IFC multilateral development banks can lend to these national development banks for specific sustainable infrastructure projects.</p>	
Applicable standards	IFC Sustainability Performance Standards, GRESB Standards, BREEAM, Institute for Sustainable Infrastructure (ISI), Global Infrastructure Basel (GIB)	
Link to Method resources	https://www.climatepolicyinitiative.org/fast-infra/	



Methods to integrating sustainable financing

Overview and analysis of methods: Finance to Accelerate the Sustainable Transition-Infrastructure (FAST-Infra) (2)

FAST-Infra (Under development)		Framework
Benefits and detractors of the Method	<ul style="list-style-type: none"> Builds on and aligns with major sustainable finance frameworks and standards that are ubiquitously applied globally Could drive sustainable infrastructure particularly in developing countries, such as South Africa, with great infrastructure needs Increasing infrastructure finance liquidity could greatly increase private sector participation and unlock major finance flows to sustainable infrastructure 	<ul style="list-style-type: none"> Still being developed, expecting launch Q2 2021
What are the drivers/mechanisms by which the Method enforces the integration and delivery of sustainable finance within an organisation?	<ul style="list-style-type: none"> FIs can use the labelling system to quickly identify sustainable assets to invest in and gives direct access to these projects via the proposed investment platforms The project developers and utilities, in order to have projects labelled as eligible by the FAST-Infra, may need to adopt and comply with global sustainable finance frameworks and standards such as the IFC Sustainability Performance Standards, Equator Principles and the Bond Principles, which would improve their governance and management systems to entrench ESG systematically Improving the liquidity and access for infrastructure projects using the platforms, programmes and facilities being piloted currently by FAST-Infra could substantially influence the investment and asset selection processes in private FIs globally 	
What enabling environment mechanisms are affecting international Method implementation?	<ul style="list-style-type: none"> The need for infrastructure investment in developing countries to improve the welfare and livelihoods of their citizens and meet their economic potential is driving infrastructure finance globally Investor and stakeholder scrutiny on major projects is driving the uptake and demand for impact and risk assessment and reporting (labelling) systems to ensure societal welfare and alignment with a below 2°C scenario is considered in these long-lived projects to avoid stranded assets 	
What are potential drivers that could be considered in South Africa for increased effective implementation?	<ul style="list-style-type: none"> Partnership of the national and regional development banks (Land Bank, DBSA), commercial banks and asset managers (including the PIC, IDC, and pension funds) in South Africa with the IFC on their platforms and programmes that may commence from the successful pilot programmes Wide spread endorsement and uptake of the labelling system by South African construction companies (WBHO, Raubex, Aveng, etc.) and infrastructure developers (Eskom and Transnet) to tap into sustainable financing from major multilateral development banks as a result of FAST-Infra 	



Methods to integrating sustainable financing

Overview and analysis of methods: SBTi Science-based Targets (1)

SBTi Science-based Targets		Methodology
What is the focus and purpose of the Method?	The SBTi has developed science-based target setting criteria and procedures that institutions (primarily companies) can set to declare their commitment to transitioning to a low-carbon and Paris Agreement consistent (well below 2°C) future. By setting a science-based target and publicly declaring and disclosing this target it send a strong signal that the organisation has (1) assessed their GHG emissions impacts and (2) commits to reducing these emissions in line with scientific requirements to limit warming to less than 2°C. The focus is therefore on getting official commitment from organisations to decarbonise their operations and then tracking their progress on this commitment through annual reporting.	
What are the constituents and requirements of implementing the methodology?	The SBTi provides explicit target setting criteria that must be adhered to for the commitment to be validated and accepted by the SBTi. Broadly, science-based target setting follows a five-step process of commitment (letter of intent), development of emissions reduction target (using the GHG protocol and sectoral decarbonization approaches or absolute reduction consistent with Paris Agreement targets), submitting the target to the SBTi for validation, communicating the set targets with stakeholders, and then reporting on progress against these targets annually. The SBTi is currently developing guidance specific to the finance sector and will allows all FIs to set science-based targets to align their lending and investment activities with the Paris Agreement. This finance sector guidance details how emissions targets should be set for the various finance instrument/product type including equity, loans, bonds, project finance, mortgages, and real estate (SBTi, 2020).	
Applicable standards	WRI and WBCSD (2011) GHG Protocol, Partnership for Carbon Accounting Financials (PCAF)	
Link to Method resources	https://sciencebasedtargets.org/resources/legacy/2020/10/Financial-Sector-Science-Based-Targets-Guidance-Pilot-Version.pdf	
Benefits and detractors of the Method	<ul style="list-style-type: none"> Wide spread uptake and commitments made from a myriad of companies globally Sector-specific criteria and requirements are being developed for the finance sector Validation and oversight from the SBTi which ensures strict compliance 	<ul style="list-style-type: none"> Only GHG emissions based commitments are included and therefore not covering social, governance or non-emissions based environmental targets
What are the drivers/mechanisms by which the Method enforces the integration and delivery of sustainable finance within an organisation?	<ul style="list-style-type: none"> These science-based targets publicly commit organisations to their targets and locks in timeframes and absolute emissions values that the company must actively pursue For FIs under the new finance sector guidance, one method requires FIs to drive their investees and borrowers to commit to science-based targets so that 100% of the the portfolio asessed under this method has set science-based targets by 2040 (SBTi, 2020) The SBTi guidance for the finance sector is explicit about phasing out coal investments from a FI's investment or borrowing portfolio by 2030 and immediately ceasing all financial or other support to coal companies (deriving more than 5% of their revenues) that are building new coal infrastructure or investing in new or additional thermal coal expansion, mining, production, utilization (i.e., combustion), retrofitting, or acquiring of coal assets (SBTi, 2020). This materially changes the management and composition of a FI's portfolio 	



Methods to integrating sustainable financing

Overview and analysis of methods: SBTi Science-based Targets (2)

SBTi Science-based Targets		Methodology
What enabling environment mechanisms are affecting international Method implementation?	<ul style="list-style-type: none"> Partnerships with major organisations such as the UNGC, World Resources Institute (WRI), WWF and the CDP with endorsement and recommendations from these bodies for organisations and FI to set and commit to science-based targets Growing acceptance and coalescence around the importance of limiting global warming to below 2°C is driving the implementation of emissions targets that are aligned to these trajectories Stakeholder activism and increasing transparency requirements on organisations globally are driving up the ambition and non-financial disclosures from organisations and misaligned, incremental commitments are no longer being accepted as sufficient New frameworks, like the IIGCC Net Zero Investment Framework, reference SBT as indicators for Paris aligned investments. 	
What are potential drivers that could be considered in South Africa for increased effective implementation?	<ul style="list-style-type: none"> Improving the recognition for and incentivising organisations to make science-based emissions targets will boost the willingness of organisations to take up these voluntary commitments Mandating finance sector actors to disclose and evaluate their portfolio of investees and borrowers for Paris Agreement alignment and GHG emissions intensities would improve the transparency of the sector and drive investment flows to low carbon assets and facilitate SBT setting for FIs 	

Methods to integrating sustainable financing

Overview and analysis of methods: ESG Integration Techniques (1)

ESG Integration Techniques		Methodology
What is the focus and purpose of the Method?	<p>There are various techniques that investors use to integrate ESG issues into their investment strategies. The simplest and starting point for most investors is ESG screening. The purpose of positive screening is to actively select assets that are environmentally and socially risk optimised, demonstrate adequate governance practices, and are positioned to contribute to and benefit from a shift towards a more climate friendly future. Another technique used by investors for ESG integration is shareholder engagement, stewardship and voting, whereby the investor, as a FI, takes an active stance on applying pressure on poor performing assets. A more specialised form of ESG integration is themed investments and impact investing, wherein the investors only invest in certain assets (renewable energy projects/companies) that have positive environmental and social outcomes or the primary investment objective is not to maximise shareholder returns but a defined, positive environmental or social impact.</p>	
What are the constituents and requirements of implementing the methodology?	<p>There are currently numerous methodologies and requirements that are used by investment managers, investors and ratings agencies for ESG integration, making it largely unstandardised and unharmonised but also widely implemented. Common requirements used by institutions for including and excluding assets are to avoid certain sectors such as weaponry, alcohol, tobacco, gambling and fossil fuel intensive industries such as coal mining and coal-fired electricity generation. Shareholder engagement and stewardship could take the form of voting against inconsistent remuneration or governance policies by the asset at AGMs, voicing the need for improved climate and social disclosures (such as CEO pay relative to lowest earning employees), and steering the asset's operational strategy if misaligned to best practice and low carbon trajectories. FIs typically develop and screen according to ESG thresholds and ratings systems which rank assets according to their social, environmental and governance impacts, risks and management practices (MSCI, 2020). Themed investments may screen investments to a very narrow selection of assets such as renewable energy companies (with a threshold on fossil-fuel power generation assets in underlying investments), agriculture projects, or education organisations. Impact investing platforms and funds place specific mandates on the underlying assets to address or positively contribute to issues such as education, food security, nature conservation, and water use and quality. Impact investing prioritises ESG impact and reporting as equal or central to shareholder financial returns. In South Africa, the implementation of ESG integration will likely follow the global implementation – being driven by investor demand and delivered by the asset and fund managers (including pension fund managers) who offer these products and services.</p>	
Applicable standards	Varied and dependent on jurisdiction and investment organisation, e.g. MSCI ESG Ratings Methodology	
Link to Method resources	https://www.unpri.org/investment-tools/an-introduction-to-responsible-investment and https://www.unpri.org/investment-tools/thematic-and-impact-investing	
Benefits and detractors of the Method	<ul style="list-style-type: none"> Widely practiced and adopted by global investment firms and FIs Directs huge volumes of finance away from industries and assets with poor ESG performance and towards strong performers Relatively easy to implement once thresholds, benchmarks, criteria and objectives for integration are determined Versatile and demand-led Method that can be applied to any sector, country and organisation 	<ul style="list-style-type: none"> South Africa being inherently extractive industry and carbon intensive industry based would struggle with broad sectoral exclusions (coal, mining etc.) Issues harmonising ESG integration techniques between FIs and jurisdictions. For example, tobacco assets may be excluded due to detrimental health by one FI but included due to socio-economic and sound ESG practices by another

Methods to integrating sustainable financing

Overview and analysis of methods: ESG Integration Techniques (2)

ESG Integration Techniques		Methodology
What are the drivers/mechanisms by which the Method enforces the integration and delivery of sustainable finance within an organisation?	<ul style="list-style-type: none"> Thematic and impact investing techniques fundamentally drive sustainability and positive ESG impact within the investment organisation by restricting and mandating ESG into the investment selection and decision making criteria ESG screening, by excluding contentious and low-performing assets from consideration and bringing to the fore assets with strong ESG performance, directs the finance flows from investors and FIs ESG screening requires FIs to fundamentally change their asset evaluation criteria and investment decision making systems Investor appetite for ESG integration techniques drives FIs and investment houses seeking to attract investor capital towards incorporating ESG into their ethos and investment selection process. This appetite for ESG screening therefore drives uptake and implementation into these FIs Shareholder engagement, stewardship and activism instructs how the investor and the investee interact and leverages the power that the investor has to enact ESG integration into the investees operational and managerial approaches 	
What enabling environment mechanisms are affecting international Method implementation?	<ul style="list-style-type: none"> ESG integration has accelerated and proliferated globally (and to a lesser degree in South Africa) in an organic manner, being driven mostly by investor demand. Increasingly stringent non-financial information disclosure requirements from global stock exchanges and regulators has driven the uptake of ESG integration techniques such as ESG screening Recognition of the role of asset owners and asset managers to play a more active role in the management approach and governance systems of their underlying assets has driven asset owners and asset managers to define their agenda and push this agenda on the underlying assets Pressure and competition between FIs for investor capital is driving FIs to adopt ESG integration into their investment decisions 	
What are potential drivers that could be considered in South Africa for increased effective implementation?	<ul style="list-style-type: none"> CRISA's Principle 1 outlines the responsibility of institutional investors to consider sustainability factors and risks in their investment decisions, which lays the foundation for effective ESG screening methodologies to be built upon. CRISA is not explicit in the methodologies to consider sustainability factors and risks and engaging with institutional investors on agreeing a common ESG ratings and risk system could greatly improve the credibility, uptake and efficacy of ESG investing in South Africa. Seeking standardisation and harmonisation of the screening and ESG integration systems is a key enabler for ensuring that investors know how their investment portfolios have been composed and how the underlying assets have been assessed for environmental and social impact and risk. Government and regulatory support, with extensive stakeholder engagement, as to the ESG screening disclosure requirements, thresholds and standards used would improve the harmonisation of ESG screening in South Africa. Corporate governance failures from companies in South Africa such as Steinhoff, Tongaat, EOH, Eskom, PRASA and SAA have driven the need for improved management and governance systems and the role of the investment institutions in these companies to take a more active role in their strategy and management 	



Methods to integrating sustainable financing

Overview and analysis of methods: Global Reporting Initiative (GRI) Standards and Sustainability Accounting Standards Board (SASB) collaboration (1)

Global Reporting Initiative (GRI) Standards and Sustainability Accounting Standards Board (SASB) collaboration		Methodology
What is the focus and purpose of the Method?	<p>The GRI standards were created to be a common language for organisations of all types (state-owned, private, NGOs, SMEs etc.) to report on their sustainability impacts in a consistent and credible manner. The SASB has similarly, in 2018, developed and published a set of 77 Industry Standards that outline industry-specific sustainability reporting metrics and topics. In this sense, the GRI and SASB Standards can be viewed as the equivalent of the IFRS for non-financial reporting as it outlines how organisations that are compliant are to measure and report on their sustainability performance to ensure comparability and consistency between organisations and indeed between countries by reporting the same topics and using the same metrics. These two global sustainability reporting standards have developed a collaboration workplan to streamline the reporting effort for organisations aligning and reporting on both sets of standards. This workplan will see case studies, guidance resources and communication materials to assist organisations with concurrently GRI Standards and SASB Standards reporting.</p>	
What are the constituents and requirements of implementing the methodology?	<p>The GRI standards are a comprehensive set of requirements that explicitly advise organisations to follow when reporting on their sustainability performance. The GRI has explicitly detailed three Universal Standards and 34 Topic Standards (disclosures and approaches) that organisations need to report on in their annual sustainability reporting communications and submit to be GRI Standard compliant. The Universal Standards outline the GRI reporting principles for content and quality, the organisation's processes and governance structures, and their management approach for material (significant) topics such as water, emissions, employment, human rights, biodiversity etc. Under the Universal Standards, the organisation outlines their climate and social impact strategies, their sustainability commitments and their governance mechanisms to address ESG impacts and risks for the topics that are material to them.</p> <p>The Topic Standards refer to specific ESG categories as Economic (GRI 200), Environmental (GRI 300), and Social (GRI 400), with the disclosure requirements and metrics for each sub-category underneath these categories.</p> <p>The SASB Standards are industry-specific with disclosure and reporting requirements developed specifically for the Financials industry, and for various institutions in the Financials industry, such as asset managers, banking institutions, insurance companies, stocks and security exchanges, and other financiers. These tailored reporting standards give further clarity and pointed guidance for these companies to report their sustainability and ESG information coherently and comprehensively.</p>	
Applicable standards	GRI standards and SASB Standards	
Link to Method resources	https://www.globalreporting.org/standards/ and https://www.sasb.org/standards/download/	
Benefits and detractors of the Method	<ul style="list-style-type: none"> Both standard sets are comprehensive and explicit Universally applicable to organisations of all types and from all geographies and many sectors GRI Database of submitted sustainability reports that investors can use to assess potential investments Recommendation for external assurance to enhance credibility Development underway for collaboration and alignment of the GRI and SASB Standards to streamline reporting and compliance 	<ul style="list-style-type: none"> Topics not explicitly mentioned will not be covered or reported, although topics listed are extensive Mainly taken up by listed entities that are reporting sustainability performance, less so for unlisted organisations potentially due to administrative burden



Methods to integrating sustainable financing

Overview and analysis of methods: Global Reporting Initiative (GRI) Standards and Sustainability Accounting Standards Board (SASB) collaboration (2)

Global Reporting Initiative (GRI) Standards and Sustainability Accounting Standards Board (SASB) collaboration		Methodology
What are the drivers/mechanisms by which the Method enforces the integration and delivery of sustainable finance within an organisation?	<ul style="list-style-type: none"> These standards fundamentally change how the organisation measures and reports on their activities and mandates consistent and extensive reporting of non-financial data which can be viewed by the public (under the GRI) The SASB Standards provide industry and Financials sector-specific sustainability impact and reporting requirements which explicitly direct FIs on their ESG disclosures For compliance under both the GRI and SASB standards, the ESG management approach of an organisation is required to be detailed which therefore requires entrenchment of ESG management in the organisation's operational and management systems rather than being a bolt-on reporting requirement Institutionalisation of climate and social targets within the organisation and tracking of performance against these targets with each reporting period 	
What enabling environment mechanisms are affecting international Method implementation?	<ul style="list-style-type: none"> The global push for comparable and consistent sustainability reporting between organisations, industries and geographies which drives the uptake of standard reporting systems such as the GRI Standards and the SASB and has resulted in these reporting frameworks devising a collaboration workplan to better integrate and streamline ESG reporting according to these two sets of standards to reduce their reporting burdens Increasing shareholder and stakeholder scrutiny of organisations' disclosures and reporting regarding sustainability impacts, initiatives and actions underway to mitigate and manage those impacts Sustainability reporting by listed companies on global stock exchanges looking for a common language on how to report on sustainability (environmental and social) matters in line with TCFD recommendations. Internationally, 4,446 organisations have reported using GRI standards, 28 of which are South African companies as of December 2020 	
What are potential drivers that could be considered in South Africa for increased effective implementation?	<ul style="list-style-type: none"> Endorsement from South Africa's stock exchanges to mandate sustainability reporting inline with TCFD recommendations based on GRI and SASB Standards, on an annual basis for all listed companies Requirements for non-listed organisations to disclose ESG impacts according to the SASB or GRI Standards in their annual communications with industry bodies such as the FSCA Sectoral guidance and recommendation by South African regulators and government agencies for compliance with the SASB Standard for the Financials Sector and the GRI Sector Standards, including: Coal, Agriculture and Fishing, and others as they become available from the GRI 	



Methods to integrating sustainable financing

Overview and analysis of methods: ICMA Sustainability-Linked Bond Principles (SLBP) (1)

ICMA Sustainability-Linked Bond Principles		Methodology
What is the focus and purpose of the Method?	Sustainability-Linked Bonds (SLBs) are a debt-based instrument that aim to drive the issuers of this debt towards improved ESG performance as a mandated requirement and prerequisite of being awarded this debt. Key to the issuance and impact of SLBs is transparent and credible reporting from the bond issuer on their ESG targets and the progress against these targets in the subsequent years following the issuance of the debt. Sustainability-Linked Bonds incentivise (through favourable debt conditions) the issuer's achievement of material, quantitative, pre-determined, ambitious, regularly monitored and externally verified sustainability objectives through Key Performance Indicators (KPIs) and Sustainability Performance Targets ("SPT") (ICMA, 2020b).	
What are the constituents and requirements of implementing the methodology?	<p>The issuer of a SLB is required by the SLBP to align to five core components: KPI selection; setting of Sustainability Performance Targets (SPTs); the bond characteristics and conditions relative to the KPIs and SPTs; reporting on performance; and verification. This is the key difference to the Green Bond Principles (BGP), the Social Bond Principles (SBP), and the Sustainability Bond Guidelines (SBG) which all outline the requirements for the use and management of the proceeds of the bond; whereas an SLB is not prescriptive on the use of proceeds but rather on the bond issuer's achievement of predefined targets and KPIs.</p> <p>The KPIs and SPTs, which are calibrated to the KPIs, can be determined by the issuer but should be aligned to the issuer's core sustainability and business strategy and need to be quantifiable, material, verifiable, of high strategic significance to the issuer's current and future activities, and ideally be metrics that are being reported by the issuer prior to issuance of the SLB. This therefore places emphasis on the issuer using accredited and consistent methodologies for measuring the KPIs and on getting the performance against the SPTs verified by a capable third-party. Similarly, the SPTs should be ambitious (aligned to accepted benchmarks and trajectories such as the Paris Agreement targets or science-based targets), measurable (against a KPI baseline), consistent, and over a predefined timeline. The principles detail fallback mechanisms that should be put in place as contingencies and to adjust for trigger events and unknown but impactful changes to their business environment that should be incorporated into the bond conditions, alongside the performance-based conditions that underpin the issuance fundamentally. Under the reporting component, the SLBP require at least annual reporting of KPIs against SPTs and require external verification and assurance of these disclosures by a qualified third-party (ICMA, 2020b).</p>	
Applicable standards	N/A	
Link to Method resources	https://www.icmagroup.org/sustainable-finance/the-principles-guidelines-and-handbooks/sustainability-linked-bond-principles-slbp	
Benefits and detractors of the Method	<ul style="list-style-type: none"> Independent verification of sustainability performance is required for alignment with the SLBP Tying of debt characteristics to the achievement of sustainability targets aligns interests of stakeholders and the issuer effectively Detailed set of requirements for SLBP alignment which improves veracity and consistency between organisation 	<ul style="list-style-type: none"> Niched to debt instruments



Methods to integrating sustainable financing

Overview and analysis of methods: ICMA Sustainability-Linked Bond Principles (SLBP) (2)

ICMA Sustainability-Linked Bond Principles		Methodology
What are the drivers/mechanisms by which the Method enforces the integration and delivery of sustainable finance within an organisation?	<ul style="list-style-type: none"> The mandating of sustainability target setting using quantifiable and relevant KPIs forces the organisation to develop (if not done already) and report against their sustainability performance in order to benefit from favourable debt conditions – driving the ESG ambitions throughout the organisation Explicit and public disclosures that must be verified, as required by the SLBP, drive improved reporting transparency in the organisation and the credibility of their sustainability performance claims Tying of debt characteristics such as the interest paid (most common) or the timeframe for repayment to sustainability performance intrinsically aligns business interests with ESG and stakeholder interests 	
What enabling environment mechanisms are affecting international Method implementation?	<ul style="list-style-type: none"> The evolving role of financial instruments, such as bonds and debt instruments, as a driver for improved ESG integration and consideration is seeing global surges in products and institutions using specifically-developed instruments such as SLBs The search for affordable financing by companies and governments globally and the increasing availability of concessionary finance in the form of ESG-linked finance is driving up demand for these products Stakeholder activism and investor pressure to improve ESG reporting and transparency and take demonstrable action on ESG KPIs is spurring on the uptake of these independently verified products 	
What are potential drivers that could be considered in South Africa for increased effective implementation?	<ul style="list-style-type: none"> Tapping into ESG-linked finance products such as SLBs could be a pivotal source of finance for South African state institutions such as Eskom, Transnet, Passenger Rail Agency of South Africa (PRASA), South African National Parks (SANPARKS), and National Treasury while contributing to the achievement of the presidential climate commitments and National Development Plan (NDP) goals The mining industry seeking to transition from fossil fuels and coal-fired electricity, improve water use practices and enhance health and safety performance could be particularly well suited to SLBs to finance this transition South Africa's well-established capital markets, with endorsement and support mechanisms from regulators and legislation (and the SARB), could position ESG-linked debt as a growing share of debt issued nationally The JSE expressly referencing and endorsing the ICMA Principles for debt issuances is a strong driver for uptake of these principles and standards in South Africa 	



Methods to integrating sustainable financing

Overview and analysis of methods: ICMA Green Bond Principles (GBP) (1)

ICMA Green Bond Principles (GBP)		Methodology
What is the focus and purpose of the Method?	The GBP govern the issuance, use and management of proceeds from bonds by promoting transparency, disclosure and reporting from the issuer. The GBP provide high-level categories for eligible Green Projects which can be financed by the proceeds of the bond, and how the issuer should go about selecting and evaluating the Green Projects and reporting on the use and management of the proceeds. The proceeds raised from a Green Bond can be used to finance or re-finance, in part or in full, new and/or existing Green Projects (ICMA, 2018). The GBP are voluntary guidelines that give assurance to investors and the public that the bond issuer has used the proceeds of the bond to finance projects that have positive environmental impacts that are measurable and which are reported by the issuer in fulfilling the GBP requirements.	
What are the constituents and requirements of implementing the methodology?	<p>The GBP require the issuer to consider four key components to be aligned to these principles, namely: the use of the bond proceeds; Green Project evaluation and selection; the management of the bond proceeds; and reporting on the disbursements of the proceeds and the environmental impacts of the financed project. Green Projects that can utilise the bond proceeds should provide measurable, positive impact on climate change mitigation, climate change adaptation, natural resource conservation, biodiversity conservation, and pollution prevention and control. The issuer should then clearly communicate what the environmental objectives are for the project (and the positioning of this in the issuer's environmental objectives), into which category (as above) their project/s fall, and the inclusion/exclusion criteria used by the issuer in allocating the bond proceeds.</p> <p>The proceeds from the Green Bond should be ring-fenced and tracked appropriately and the issuer should demonstrate sufficient internal governance mechanisms to ensure the proceeds are managed accordingly. Under the reporting component, the issuer is required to annually disclose the drawdown of the proceeds to which projects and the details of the financed projects, including the amounts to which projects and the expected environmental impacts of these projects. As part of the annual reporting, issuers should disclose their impact measurement methodologies and assumptions and baselines to improve the transparency of the disclosures (ICMA, 2018). Finally, external, independent review is recommended by the GBP.</p>	
Applicable standards	N/A	
Link to Method resources	https://www.icmagroup.org/sustainable-finance/the-principles-guidelines-and-handbooks/green-bond-principles-gbp	
Benefits and detractors of the Method	<ul style="list-style-type: none"> Independent validation and verification is recommended for improved veracity Explicit guidelines on the types of projects that can be financed and Green Project selection Detailed proceed management systems prescribed to ensure traceability and transparency of proceeds Annual reporting on environmental impacts from financing activities and recommended public disclosures 	<ul style="list-style-type: none"> Niched to debt instruments



Methods to integrating sustainable financing

Overview and analysis of methods: ICMA Green Bond Principles (GBP) (2)

ICMA Green Bond Principles (GBP)		Methodology
What are the drivers/mechanisms by which the Method enforces the integration and delivery of sustainable finance within an organisation?	<ul style="list-style-type: none"> The GBP drives FIs towards harmonised and consistent debt financing practices which requires these FIs to develop and implement mechanisms for green project evaluation, impact measurement and fund management that may not have existed prior to alignment with the GBP Explicit reporting requirements drive increased transparency and non-financial disclosures from the FIs to be aligned with the GBP Mandated obligations to direct finance towards certain project types fundamentally alters the investment portfolios of the FIs taking up Green Bonds towards environmentally positive assets with low climate and transition risks 	
What enabling environment mechanisms are affecting international Method implementation?	<ul style="list-style-type: none"> The evolving role of financial instruments, such as bonds and debt instruments, as a driver for improved ESG integration and consideration is seeing global surges in products and institutions using specifically-developed instruments such as Green Bonds The search for affordable financing by companies and governments globally and the increasing availability of concessionary finance in the form of climate-linked finance is driving up demand for these products Stakeholder activism and investor pressure to improve ESG reporting and transparency and take demonstrable action on ESG KPIs is spurring on the uptake of these independently verified products 	
What are potential drivers that could be considered in South Africa for increased effective implementation?	<ul style="list-style-type: none"> Tapping into climate-linked finance products such as SLBs could be a pivotal source of finance for South African state institutions such as Eskom, Transnet, Passenger Rail Agency of South Africa (PRASA), South African National Parks (SANPARKS), and National Treasury while contributing to the achievement of the presidential climate commitments The mining industry seeking to transition from fossil fuels and coal-fired electricity, improve water use practices and reduce environmental impacts from waste could be particularly well suited to Green Bonds to finance this transition South African banking institutions looking to position themselves as contributing to a cleaner, lower carbon economy would see great benefit in aligning their debt issuances with internationally accredited guidelines such as the ICMA GBP The JSE expressly referencing and endorsing the ICMA Principles for debt issuances is a strong driver for uptake of these principles and standards in South Africa 	



Methods to integrating sustainable financing

Overview and analysis of methods: ICMA Social Bond Principles (SBP) (1)

ICMA Social Bond Principles (SBP)		Methodology
What is the focus and purpose of the Method?	The SBP is closely aligned with the GBP in terms of governing the issuance, use and management of proceeds from bonds by promoting transparency, disclosure and reporting from the issuer. The proceeds raised from a Social Bond can be used to finance or re-finance, in part or in full, new and/or existing Social Projects as defined by ICMA in the SBP (ICMA, 2018). The target beneficiaries from these Social Projects are expected to be people living in poverty, marginalised groups, unemployed and undereducated people, women, people with disabilities, and vulnerable populations such as the elderly and the young – all of which are key issues in South Africa.	
What are the constituents and requirements of implementing the methodology?	The GBP require the issuer to consider four key components to be aligned to these principles, namely: the use of the bond proceeds; Social Project evaluation and selection; the management of the bond proceeds; and reporting on the disbursements of the proceeds and social impacts of the financed project. Defining and categorising Social Projects has proved to be more difficult than Green Projects, but typically includes projects that contribute positively to affordable infrastructure, health, education, affordable housing, employment generation in vulnerable areas (Just Transition), food security and general socio-economic advancement (ICMA, 2020a). As with the GBP, the proceeds from the Social Bond should be ring-fenced and tracked appropriately and the issuer should demonstrate sufficient internal governance mechanisms to ensure the proceeds are managed accordingly. Under the reporting component, the issuer is required to annually disclose the drawdown of the proceeds to which projects and the details of the financed projects, including the amounts to which projects and the expected social impacts of these projects. As part of the annual reporting, issuers should disclose their impact measurement methodologies and assumptions and baselines to improve the transparency of the disclosures (ICMA, 2018). Finally, external, independent review is also recommended by the SBP.	
Applicable standards	N/A	
Link to Method resources	https://www.icmagroup.org/sustainable-finance/the-principles-guidelines-and-handbooks/social-bond-principles-sbp	



Methods to integrating sustainable financing

Overview and analysis of methods: ICMA Social Bond Principles (SBP) (2)

ICMA Social Bond Principles (SBP)		Methodology
What are the drivers/mechanisms by which the Method enforces the integration and delivery of sustainable finance within an organisation?	<ul style="list-style-type: none"> The SBP drives FIs towards harmonised and consistent debt financing practices which requires these FIs to develop and implement mechanisms for social project evaluation, impact measurement and fund management that may not have existed prior to alignment with the SBP Explicit reporting requirements drive increased transparency and non-financial disclosures from the FIs to be aligned with the SBP Mandated obligations to direct finance towards certain project types fundamentally alters the investment portfolios of the FIs taking up Social Bonds towards socially positive assets that address health, poverty, inequality, gender and other social issues 	
What enabling environment mechanisms are affecting international Method implementation?	<ul style="list-style-type: none"> The evolving role of financial instruments, such as bonds and debt instruments, as a driver for improved ESG integration and consideration is seeing global surges in products and institutions using specifically-developed instruments such as Social Bonds The search for affordable financing by companies and governments globally and the increasing availability of concessionary finance in the form of ESG-linked finance is driving up demand for these products, though social bonds are lagging the growth of Green Bonds globally Stakeholder activism and investor pressure to improve ESG reporting and transparency and take demonstrable action on social KPIs is spurring on the uptake of these independently verified products 	
What are potential drivers that could be considered in South Africa for increased effective implementation?	<ul style="list-style-type: none"> South African banking institutions looking to position themselves as socio-economic champions and drivers of social justice would see great benefit in aligning their debt issuances with internationally accredited guidelines such as the ICMA SBP Prolific private-sector education and healthcare infrastructure that typically addresses wealthier citizens could be effectively driven towards addressing the needs of the majority and the poor and vulnerable using SBP to finance these institutions Alignment and coordination between banking sector issuance's of Social Bonds, the mandated social spending from programmes such as the REIPPPP, and Skills Development Levy contributions from institutions in areas vulnerable to the Just Transition for (re)training and future-proof education objectives The JSE expressly referencing and endorsing the ICMA Principles for debt issuances is a strong driver for uptake of these principles and standards in South Africa 	

Methods to integrating sustainable financing

Overview and analysis of methods: Climate Bonds Standard (CBS) and Certification Scheme (1)

Climate Bonds Standard (CBS) and Certification Scheme		Methodology
What is the focus and purpose of the Method?	The CBS is similar in structure to the ICMA Green Bond Principles, but is more explicit and robust in directing bond and loan issuers on their management and use of proceeds. The Certification scheme, through Approved Verifiers, gives an additional layer of credibility to the enforcement of the CBS requirements and the database of the certification scheme provides investors and the wider public with a knowledge bank of the verified sustainable debt (bonds and loans) finance flows globally.	
What are the constituents and requirements of implementing the methodology?	<p>The CBS has a predefined, extensive taxonomy of climate projects in the energy, transport, water, buildings, land use and marine, industry, waste pollution and control and ICT sectors with explicit guidance on the thresholds and criteria for which these projects will be eligible for financing to be certified by the Climate Bonds Initiative (CBI, 2021). The Climate Bonds Initiative is also working on expanding the coverage of the framework to include more sectors and give Paris Agreement aligned thresholds and criteria for financing assets in this expanding range of sectors.</p> <p>The CBS outlines the requirements that the bond or loan issuer must satisfy pre-issuances (Pre-Issuance Requirements), which covers the demonstration and proof that there are robust internal controls and tracking mechanisms to ensure the use and management of the bond or loan proceeds is in accordance with best practice. Additionally, there are Post-Issuance Requirements which again monitor and direct the use and management of the bond or loan proceeds and the reporting systems of the issuer for conformance with the standard. As with the ICMA Bond Principles, the CBS details requirements for the proceeds from the Climate Bond to be ring-fenced and tracked appropriately and the issuer should demonstrate sufficient internal governance mechanisms to ensure the proceeds are managed accordingly. For CBS aligned reporting, the issuer is required to annually disclose the allocation of the proceeds to the financed assets, the proof of the assets ongoing eligibility as an eligible asset, and the impact reporting to quantify the positive climate impact from the finance activity. As part of the project and asset selection and the impact performance reporting, issuers should disclose their methodologies and assumptions and baselines to improve the transparency of the disclosures (CBI, 2019).</p>	
Applicable standards	N/A	
Link to Method resources	https://www.climatebonds.net/climate-bonds-standard-v3	
Benefits and detractors of the Method	<ul style="list-style-type: none"> Highly robust climate debt financing standards and certification scheme with global recognition and uptake Certified climate bond and loan database to track sustainable finance flows globally Independent verification mandated to give further credibility to the debt instruments used Comprehensive and expanding asset and project taxonomy covering key environmental challenges in South Africa such as water, energy, resource use and ecosystem protection 	<ul style="list-style-type: none"> Additional cost burden of certification to CBS Scope currently only covers climate related debt financing



Methods to integrating sustainable financing

Overview and analysis of methods: Climate Bonds Standard (CBS) and Certification Scheme (2)

Climate Bonds Standard (CBS) and Certification Scheme		Methodology
What are the drivers/mechanisms by which the Method enforces the integration and delivery of sustainable finance within an organisation?	<ul style="list-style-type: none"> The CBS drives FIs towards harmonised and consistent debt financing practices which requires these FIs to develop and implement mechanisms for climate project evaluation, impact measurement and fund management that may not have existed prior to certification with the CBS Explicit reporting requirements drive increased transparency and non-financial disclosures from the FIs to be aligned with the CBS Mandated obligations to direct finance towards certain project types fundamentally alters the investment portfolios of the FIs taking up Climate Bonds towards environmentally positive assets with low climate and transition risks 	
What enabling environment mechanisms are affecting international Method implementation?	<ul style="list-style-type: none"> The evolving role of financial instruments, such as bonds and debt instruments, as a driver for improved ESG integration and consideration is seeing global surges in products and institutions using specifically-developed instruments such as Green Bonds The search for affordable financing by companies and governments globally and the increasing availability of concessionary finance in the form of climate-linked finance is driving up demand for these products Stakeholder activism and investor pressure to improve ESG reporting and transparency and take demonstrable action on ESG KPIs is spurring on the uptake of these independently verified products 	
What are potential drivers that could be considered in South Africa for increased effective implementation?	<ul style="list-style-type: none"> Tapping into climate-linked finance products such as Climate Bonds could be a pivotal source of finance for South African state institutions such as Eskom, Transnet, Passenger Rail Agency of South Africa (PRASA), South African National Parks (SANPARKS), and National Treasury while contributing to the achievement of the presidential climate commitments The mining industry seeking to transition from fossil fuels and coal-fired electricity, improve water use practices and reduce environmental impacts from waste could be particularly well suited to Climate Bonds to finance this transition South African banking institutions looking to position themselves as contributing to a cleaner, lower carbon economy would see great benefit in aligning their debt issuances with internationally accredited standards and certification schemes such as the CBS The JSE expressly recognising and accepting Climate Bonds certified to the CBS, as has been done with the ICMA Principles, would drive uptake of this robust and accredited debt finance standard, especially following uptake by institutions such as Nedbank for their inaugural renewable energy bond in 2019 	



Methods to integrating sustainable financing

Overview and analysis of methods: Climate Disclosure Project (CDP) (1)

Climate Disclosure Project (CDP)		Methodology
What is the focus and purpose of the Method?	The CDP is a platform where companies, cities, states and regions can disclose their climate change, forests and water security information using the guidelines and questionnaires that have been developed by the CDP. These questionnaire and guidelines have been developed to be aligned to and consistent with the TCFD, PCAF, and the GHG Protocol, meaning that in addition to disclosing climate impact according to the standardised metrics and procedures, the users also detail their governance, risk management and target setting disclosures on the platform as a consolidated repository. The CDP requires users to enter their information annually and recommends for independent verification of the submitted information. Additionally, the CDP provides a scoring system based on the submissions received which enables investors and stakeholders to quickly rank and compare companies based on their climate disclosures (CDP, 2021).	
What are the constituents and requirements of implementing the methodology?	The CDP has developed a comprehensive set of guidelines and climate disclosure templates that the user must complete and submit to the CDP. There are three types of questionnaires on the CDP: climate change, forests, and water security. Each questionnaire covers the overarching disclosures of the organisation's impacts, risks and opportunities, governance and management, strategy, target setting and the verification procedures for climate change, forests and water security. The CDP has published specific guidance and methodologies for the Financial Services Sector, which explicitly explains how financial institutions should calculate their investment portfolio GHG emission impacts using a variety of techniques and formulae (CDP, 2021a).	
Applicable standards	WRI and WBCSD (2011) GHG Protocol, PCAF	
Link to Method resources	https://www.cdp.net/en/guidance	
Benefits and detractors of the Method	<ul style="list-style-type: none"> Central repository and scoring platform of disclosures from over 9,600 companies globally Strong alignment with TCFD Recommendations and carbon accounting standards Detailed and explicit guidelines and reporting templates which improves comparability and consistency between companies Specific Financial Services Sector guidance for portfolio impact determination Inclusion of water security disclosures give the CDP additional relevance in SA 	<ul style="list-style-type: none"> Does not include social impact, governance, risk and targets disclosures



Methods to integrating sustainable financing

Overview and analysis of methods: Climate Disclosure Project (CDP) (2)

Climate Disclosure Project (CDP)		Methodology
What are the drivers/mechanisms by which the Method enforces the integration and delivery of sustainable finance within an organisation?	<ul style="list-style-type: none"> The CDP platform essentially enforces the TCFD Recommendations as organisations looking to disclose according to the CDP questionnaires would not be able to do so without embedding the TCFD Recommendations beforehand, as the questions are tailored to the TCFD Recommendations Being a publicly viewable platform, there is a reputational risk for not following through on the commitments and disclosures made on the CDP website as stakeholders can hold organisations to account from their disclosures The CDP for Financial Services Sector prescribes methodologies that FIs should be using for portfolio GHG emissions reporting and therefore improves the harmonisation of portfolio emissions impact reporting 	
What enabling environment mechanisms are affecting international Method implementation?	<ul style="list-style-type: none"> Stakeholder pressure on organisations to improve their disclosure transparency and make public their commitments has driven the success of the CDP in getting global endorsement and uptake Full alignment with the TCFD Recommendations has made the CDP platform an effective 'implementation' arm of the TCFD Investor positive and negative ESG screening uptake has driven the use of the CDP platform as a ESG scoring system when selecting companies for investments 	
What are potential drivers that could be considered in South Africa for increased effective implementation?	<ul style="list-style-type: none"> The prioritisation of CDP A-listed companies for green bonds and green loans, concessionary finance and negative screening of companies not disclosing on the CDP platform from private and public asset managers and investment houses Governmental procurement systems that require CDP disclosures as part of the tendering requirements for major (>R100 million) contracts JSE sustainability index referencing and tracking listed-company and listed security according to CDP disclosures 	



Methods to integrating sustainable financing

Overview and analysis of methods: Partnership for Carbon Accounting Financials (PCAF) (1)

Partnership for Carbon Accounting Financials (PCAF)		Methodology
What is the focus and purpose of the Method?	PCAF, being an industry-led initiative, has seen substantial uptake by FIs globally for measuring and reporting GHG emissions from financing activities. PCAF is especially designed to account for the GHG emissions associated with investment instruments such as listed and unlisted equity and bonds, business loans, project finance, real estate, mortgages and motor vehicle loans. PCAF is underpinned by the GHG Protocol for robust GHG emissions accounting, and enables FIs to measure their financed emissions which can be used for assessing climate-related risks (as per the TCFD Recommendations), disclosing portfolio emissions on CDP, and setting science-based targets (SBTs) (PCAF, 2020). While the GRI Standards and SASB Standards concern general sustainability measurement and reporting for organisations, and the SASB for Financials sector providing more pointed requirements for FIs, PCAF is being widely adopted as the measurement and reporting standards for FIs to measure their GHG impacts and risks.	
What are the constituents and requirements of implementing the methodology?	<p>PCAF details a comprehensive set of requirements and principles that are to be followed by a FI looking to measure and report their financed GHG emissions. PCAF, in addition to stipulating methodologies for accounting financed emissions for the various asset classes and financial instruments, specifically mentions the use of the calculated portfolio emissions in setting organisational goals to mitigate risk exposure and drive alignment of the investment activities and financial flows with the Paris Agreement objectives.</p> <p>PCAF carbon accounting and reporting is based on the principles of recognition (measuring all relevant GHG emissions in the portfolio), measurement (using consistent and harmonised methodologies stipulated by PCAF), attribution (apportioning asset emissions fairly to the financiers), data quality, and disclosure (for transparent and publicly viewable climate information) (PCAF, 2020a). An FI looking to align themselves to PCAF can find information and guidance on exactly how to measure GHG emissions from their finance activities, with calculation methods based on their type of finance provided (project, corporate, or consumer), control approach (equity, operational or financial control approaches), instruments (equity, loans, debt) or the asset class (listed companies, real estate, projects, private companies).</p> <p>PCAF does not mandate third-party verification explicitly for conformance with the standards, but does give an indication of the data quality score when calculating the GHG emissions for the various investment activities which ranks verified investee or borrowee emissions data as the highest quality data score for use by the FI.</p>	
Applicable standards	WRI and WBCSD (2011) GHG Protocol	
Link to Method resources	https://carbonaccountingfinancials.com/standard#the-global-ghg-accounting-and-reporting-standard-for-the-financial-industry	
Benefits and detractors of the Method	<ul style="list-style-type: none"> Widely endorsed and adopted standard for GHG emissions reporting for FIs globally Specific methodologies designed for assessing portfolio and investment activity emissions that are harmonised to the GHG Protocol Usability and direct compatibility with the SBTi, TCFD Recommendations for metrics and reporting and CDP Disclosures Database of committed organisations with optional disclosures of financed emissions 	<ul style="list-style-type: none"> Does not include social reporting methodologies for FIs Third party verification not mandated



Methods to integrating sustainable financing

Overview and analysis of methods: Partnership for Carbon Accounting Financials (PCAF) (2)

Partnership for Carbon Accounting Financials (PCAF)		Methodology
What are the drivers/mechanisms by which the Method enforces the integration and delivery of sustainable finance within an organisation?	<ul style="list-style-type: none"> Comprehensive and specific GHG emissions methodologies provided by PCAF enables FIs to measure and report emissions using standardised and harmonised calculation approaches and metrics Understanding the emissions intensities across the portfolio allows the FI to map and manage finance flows to highly carbon intensive companies/sectors/geographies which could guide the investment strategy going forward Integration and compatibility of the PCAF reporting standards with CDP, SBT and TCFD Recommendations streamlines the inclination for FIs to implement and disclose according to these frameworks and methodologies The PCAF database of committed organisations and optionality to include their financed emissions on the PCAF website enhances transparency and sustainability reporting 	
What enabling environment mechanisms are affecting international Method implementation?	<ul style="list-style-type: none"> The global need for standardised financed GHG emissions methodologies that enables FIs investment activities to be compared and scrutinised spurred the development of the PCAF standards Increasing regulations regarding non-financial reporting requirements and investor pressure to disclose climate impacts and Paris Agreement alignment has driven the sustainability reporting momentum globally Stakeholder interest and activism has applied pressure on organisations to make their financed emissions inventories publicly visible to enhance transparency and drive ambition 	
What are potential drivers that could be considered in South Africa for increased effective implementation?	<ul style="list-style-type: none"> PCAF has been implemented and committed to by two South African FIs, namely FirstRand and Investec, showing potential for uptake in the private sector Further support and pressure for non-financial disclosures on platforms like the CDP, JSE will drive the uptake of a standardised GHG emissions measurement methodology such as PCAF Requirement for large asset owners, banks and insurers to disclose their financed emissions according to PCAF to the FSCA or other regulators would drive uptake of this harmonised GHG emissions reporting standard 	



Methods to integrating sustainable financing

Overview and analysis of methods: PACTA (1)

Paris Agreement Capital Transition Assessment		Tool
What is the focus and purpose of the Method?	PACTA is fundamentally a climate scenario analysis tool that enables the users of its tools, banking and investment institutions, to measure the alignment of financial portfolios with climate scenarios developed by leading organisations and to analyse specific companies in terms of their climate risk exposure. The PACTA tool is able to measure the risk and alignment of an equities, corporate bonds and corporate loans in an investment portfolio using their unique identification numbers and public information on the technologies and assets held by those corporations.	
What are the constituents and requirements of implementing the methodology?	The PACTA tools are free-to-use toolbox that investors can enter their portfolio data into, such as their asset's International Securities Identification Number (ISIN) number, the market value of the asset and the currency corresponding to the market value, in a CSV format and upload their portfolios to the PACTA database to view their portfolio's climate risk exposure. The Climate Scenario Analysis tool makes use of the technology roadmaps and forecasts devised by organisations such as the IEA, IPCC, Greenpeace and the Bloomberg New Energy Finance (BNEF) to assess the transition risks (not physical risks) that an organisation's investment portfolio could be exposed to as the world transitions towards a 1.75°C, 2°C or a range of other, less ambitious scenarios. The PACTA tool assesses the investor's asset, as listed equities, corporate bonds or corporate loans, exposure to high- and low-carbon technologies across 7 climate-relevant sectors, including power, fossil fuel production, shipping, cement, steel, aviation and automotive. The tool is then able to approximate, using current and 5-year production plans and GHG emissions intensities for these assets, the portfolio's relative exposure to the economic activities that are impacted by the transition to a low-carbon economy over a 5-year time horizon (2DII, 2020).	
Applicable standards	N/A	
Link to Method resources	https://www.transitionmonitor.com/toolbox/	
Benefits and detractors of the Method	<ul style="list-style-type: none"> Free-to-use toolbox that allows all investor types to estimate their climate transition risks and alignment with the Paris Agreement targets Coverage of 8 carbon intensive sectors responsible for 75% of CO₂ emissions in the global economy (2DII, 2020) Specific tool developed for banking institutions to assess corporate lending climate risks 	<ul style="list-style-type: none"> Only climate change orientated and therefore not covering social, governance or non-emissions based environmental metrics



Methods to integrating sustainable financing

Overview and analysis of methods: PACTA (2)

Paris Agreement Capital Transition Assessment		Tool
What are the drivers/mechanisms by which the Method enforces the integration and delivery of sustainable finance within an organisation?	<ul style="list-style-type: none"> PACTA illustrates the alignment of an investors assets to a low carbon future and the transition risk that it could be exposed to under a 1.75°C or 2°C future which could prompt investment allocation changes and direct financing flows from investment institutions and banks The Climate Pledge Database and PACTA Company Reports repositories allow FIs to actively view and select which companies they invest in based on their climate targets and their low carbon technology uptake strategies 	
What enabling environment mechanisms are affecting international Method implementation?	<ul style="list-style-type: none"> PACTA, as a tool and methodology for risk assessment for any investment institution, is effective at actioning the TCFD recommendations for transition risk analysis and has been used to conduct over 10,000 climate risk and alignment tests to date Promulgation of Article 173 of France's Law on Energy Transition for Green Growth and the upcoming EU climate disclosure requirements require tools such as the PACTA tool to estimate their transition risk exposures Proactive government institutions and supervisory institutions have undertaken risk assessments for US\$ 14 trillion in assets 	
What are potential drivers that could be considered in South Africa for increased effective implementation?	<ul style="list-style-type: none"> Requiring publication and disclosures of South African investment firms banks, and governmental FIs, on climate transition risk using the PACTA tool based on their asset portfolios would drive industry awareness of fund's and investment houses' misalignment with Paris Agreement targets and exposure to climate risks A study into the South African financial sector's alignment with climate goals, emulating the Swiss study representing 80% of their market and conducted in 2020 with support from the Swiss Federal Office, could be initiated by the South African Department of Environment, Forestry and Fisheries or the National Business Initiative (NBI) 	



Methods to integrating sustainable financing

Overview and analysis of methods: WWF Water Risk Filter (1)

WWF Water Risk Filter		Tool
What is the focus and purpose of the Method?	The Water Risk Filter has been developed to specifically assist organisations to assess and response to water risks in numerous geographies around the world, with South Africa included. The risks assessed include physical, regulatory and reputational risks for the organisation based on their locations. The WWF is busy expanding the offerings of the Water Risk Filter to include water opportunities and bankable water solutions that organisations could look to implement to mitigate their water risks that have been identified by the tool (WWF, 2020). The Water Risk Filter website also provides a database of tools and approaches that organisations can use to value their water use and security. Additionally, the WWF is developing the Water and Value (WAVE) Tool to measure how water risks translate into present and future financial impact for the organisation.	
What are the constituents and requirements of implementing the methodology?	<p>The WWF has collected water security and water risk information from around the world and this tool enables a user to enter their data and asses both basin (location) and operational water risk exposure, as well as analyse the results through various visualisations at the portfolio or site level. The organisation inputs their asset locations and proprietary water use and quality information which the tool then uses to determine the physical, regulatory and reputational water risk exposure of the organisation's assets. The tool allows the organisation to input portfolio-level data to agglomerate the water risks to a portfolio level whilst also enabling the organisation to view acute, location or asset specific water risks (WWF, 2020).</p> <p>In addition to the risk assessment and the soon-to-be-released WAVE Tool (measuring the value at risk for the organisation), the Water Risk Filter provides recommendations on responding to and managing the water risks identified, drawing on the WWFs knowledge and expertise on water stewardship. These response recommendations include generic and targeted actions that the organisation could consider to address their water risks.</p> <p>Lastly, the Water Risk Filter provides water target setting guidance based on their specific water risk profile and geographic distribution.</p>	
Applicable standards	N/A	
Link to Method resources	https://waterriskfilter.panda.org/	
Benefits and detractors of the Method	<ul style="list-style-type: none"> Water-specific risk assessment and mitigation tool Global relevance with wide geographic risk coverage on water scarcity, regulations and quality Enables portfolio-level water risk assessment for FIs to assess their exposure 	<ul style="list-style-type: none"> Financial impact and science-based water target setting resources are still under development currently



Methods to integrating sustainable financing

Overview and analysis of methods: WWF Water Risk Filter (2)

WWF Water Risk Filter		Tool
What are the drivers/mechanisms by which the Method enforces the integration and delivery of sustainable finance within an organisation?	<ul style="list-style-type: none"> Allows organisations to identify their physical, regulatory and reputational water risks across their portfolio and organisation Provision of tailored and generic water risk responses by the Water Risk Tool builds capacity in the organisation to address water risks systematically and according to best practice Could be used by FIs to direct investment and finance flows for water-intensive projects or activities according to the geographies that have higher water risks 	
What enabling environment mechanisms are affecting international Method implementation?	<ul style="list-style-type: none"> Increasingly catastrophic and severe water-related events induced by Climate change, such as flooding and droughts are driving investors and companies to start thinking about the value at risk for their operations in water scarce and vulnerable regions CDP disclosures on water security are mainstreaming the consideration and reporting of water-related impacts and risks for organisations globally, which drives the demand for tools such as the Water Risk Filter to illustrate these water risks 	
What are potential drivers that could be considered in South Africa for increased effective implementation?	<ul style="list-style-type: none"> Water-intensive industries such as mining, thermal power generation and certain industries could be encouraged to map and understand their water risk exposure, using a tool such as the Water Risk Filter, especially as this tool has developed a country profile specific to South Africa Climate change impacts such as the progressive drying trend in the western parts of South Africa will drive the importance of water risk and the financial impacts of these risks to organisations operating in these areas Buy-in from the insurance industry regarding business interruption risk as a result of water security issues would bolster the uptake of tools measuring risk, such as the Water Risk Filter, by the insurance sector to better understand their value at risk in this regard 	



Methods to integrating sustainable financing

Overview and analysis of methods: Transition Pathway Initiative (TPI) Tool (1)

TPI Tool		Tool
What is the focus and purpose of the Method?	The TPI aims to determine what the transition to a low carbon global economy, aligned with a well below 2°C scenario, requires from each sector and the companies thereunder as well as assessing the readiness and strategic preparedness of companies for a low carbon transition. The TPI Tool provides open-access data on emissions intensive companies and sectors globally and gives investors knowledge on the climate management and strategy positions of these companies to use for their investment decisions.	
What are the constituents and requirements of implementing the methodology?	<p>The TPI Tool assesses companies, as potential investment recipients for investment institutions, based on their management quality (governance and management systems, targets and risk strategies) and their carbon performance (their Scope 1, 2, and 3 GHG emissions relative to their industry benchmark or peers) (TPI, 2019). The TPI Tool uses publicly available information on companies globally, such as integrated and sustainability reports, FTSE Russell data, CDP disclosures or TCFD disclosures, to assess the management quality and carbon performance of the companies and publishes the 'scores' on the TPI website.</p> <p>Companies are given a management quality rating based on the TPI Tool framework which tracks the progress of companies between Level 0 (unaware and not acknowledging climate change) and Level 4 (strategically assessing and integrating climate risks and opportunities into management approach) (TPI, 2019). It tracks the management quality by assessing the company's performance against 19 set questions relating to their climate governance, reporting and management strategies.</p> <p>The carbon performance assessment in the TPI Tool looks as the Sectoral Decarbonisation Approach (SDA), in accordance with Paris Agreement projections, for the company's specific sector and compares this benchmark to the company's emissions performance and targets to assess alignment with these trajectories.</p>	
Applicable standards	GRI Standards, CDSB Standards	
Link to Method resources	https://www.transitionpathwayinitiative.org/sectors	
Benefits and detractors of the Method	<ul style="list-style-type: none"> Paris Agreement aligned GHG emissions assessment tool to identify companies that are prepared and aligned to a low carbon future Industry and company benchmarking database to compare and scrutinise companies based on their climate governance, reporting and management Aligned to GRI Standards, CDSB Standards, TCFD Recommendations, PRI and underpins the CA100+ initiative Global endorsement and major uptake from investment institutions and asset managers 	<ul style="list-style-type: none"> No social impact, management and governance assessment in the TPI Tool Limited to mainly listed companies making public disclosures



Methods to integrating sustainable financing

Overview and analysis of methods: Transition Pathway Initiative (TPI) Tool (2)

TPI Tool		Tool
What are the drivers/mechanisms by which the Method enforces the integration and delivery of sustainable finance within an organisation?	<ul style="list-style-type: none"> Many investment managers and asset owners that are looking to integrate ESG into their investment decisions are using the TPI company data to construct their portfolios and as a positive or negative screening system for inclusion in their portfolio, e.g. TPI level 4 companies will be included and TPI Level 0 companies cannot make it onto the portfolio Companies registering with the TPI will need to demonstrate action and initiative to move up the management quality levels and can view their carbon performance relative to their peers, which drives competition and climate action from these organisations 	
What enabling environment mechanisms are affecting international Method implementation?	<ul style="list-style-type: none"> TPI is the data provider for the Climate Action 100+ initiative and as this grows in uptake and prevalence globally so too does the importance of the TPI as a data tool underpinning this benchmark Growth of the FTSE Russell initiative reporting environmental, social and governance controls and performance of over 4,100 companies to date is providing the necessary company data for the TPI to develop the TPI Tool and expand the sample set for sector and industry benchmarks 	
What are potential drivers that could be considered in South Africa for increased effective implementation?	<ul style="list-style-type: none"> ESG integration from major asset owners and investment managers, from the private and public sectors, can use the TPI as a screening tool to include and exclude companies based on their carbon performance and management quality Endorsement and integration of the TCFD Recommendations, GRI and CDSB Standards and PRI into the JSE and South African industry regulators, such as the FSCA, Prudential Authority would provide a gateway to improved climate reporting which would allow the TPI to benchmark and assess South African companies and give South African investors insight into the climate readiness of South African listed companies 	



Methods to integrating sustainable financing

Overview and analysis of methods: Exploring Natural Capital Opportunities, Risks and Exposure (ENCORE) (1)

Exploring Natural Capital Opportunities, Risks and Exposure (ENCORE)		Tool
What is the focus and purpose of the Method?	<p>ENCORE is a tool to help organisations better understand the impact of environmental change on the economy. It does so through mapping and visualising the environmental impacts and dependencies of a myriad of sectors through an interactive, online platform. The premise of the tool is on the goods and services that are provided by the natural world (ecosystem services) that businesses from all sectors are either directly or indirectly reliant on to conduct their business activities, which in turn represents a business risk should these ecosystem services and natural assets become degraded or damaged.</p> <p>The ENCORE tool has therefore been designed to assist FIs in answering:</p> <p>“Am I influencing biodiversity through my investment or lending portfolio?</p> <p>Am I harming or building the resilience of biodiversity with my investments?</p> <p>Is my portfolio in alignment with global/regional biodiversity targets and how much so?” (NCFA, 2021)</p>	
What are the constituents and requirements of implementing the methodology?	<p>The user is able to interact with the ENCORE tool to specify the sector and production processes that are applicable to them, or their portfolio exposures to the various sectors and production processes. From these inputs, the tool has modelled the natural capital dependencies and impacts from the business activities associated with that sector or production processes.</p> <p>The natural capital dependencies for the user’s businesses or portfolios are mapped according to ecosystem services or natural assets which allows the user to see how material the risks are for their current activities and their dependence on the water, atmosphere, habitats, soil and biodiversity for their business activities. This therefore depicts the physical risks that the organisation or portfolio could be exposed to in the future.</p> <p>Similarly, their natural capital impacts are mapped according to ecosystem services or natural assets, which shows the user organisation’s disturbances and deleterious contributions to the natural systems in which they operate. These could be representative of the transition risks that the organisation or asset owner might have based on their business activities and the geographies in which they operate.</p>	
Applicable standards	N/A	
Link to Method resources	https://encore.naturalcapital.finance/en/explore	
Benefits and detractors of the Method	<ul style="list-style-type: none"> • Rapid and visual illustration of portfolio and asset physical and transition risks • Free to use interactive tool that maps natural capital dependencies and impacts for user-specific risk analysis • Coverage of water, air, habitat, ecosystem services, pollution control, and natural resources as a comprehensive tool 	<ul style="list-style-type: none"> • No social risk assessment and mapping possible



Methods to integrating sustainable financing

Overview and analysis of methods: Exploring Natural Capital Opportunities, Risks and Exposure (ENCORE) (2)

Exploring Natural Capital Opportunities, Risks and Exposure (ENCORE)		Tool
What are the drivers/mechanisms by which the Method enforces the integration and delivery of sustainable finance within an organisation?	<ul style="list-style-type: none"> Users are able to see sector and geography specific natural capital risks and impacts that their portfolio of investments are exposed to, which is a key decision making and investment allocation knowledge source for FIs The dualistic depiction of impact and dependencies allows organisations to assess their physical and transition risks using the tool Inclusion of ecosystem services, biodiversity, habitat and natural resource indicators give this tool further scope than the tools currently available which predominantly focus on GHG emissions and carbon target setting. 	
What enabling environment mechanisms are affecting international Method implementation?	<ul style="list-style-type: none"> Increasingly catastrophic and severe natural disaster events induced by climate change and the anthropogenic degradation of natural capital such as land use change, marine ecosystems and pollution are driving investors and companies to start thinking about the value at risk for their operations. Tools such as ENCORE bring the natural capital damage and degradation to light and meet the demand for this information Increasing recognition of the vital roles that ecosystem services and natural assets play for societal welfare and for economic prosperity has spurred on the demand for better management and consideration of these natural capitals 	
What are potential drivers that could be considered in South Africa for increased effective implementation?	<ul style="list-style-type: none"> South African FIs should be encouraged, through regulatory and voluntary systems, to map their dependencies and impacts according to the geographies where they are exposed in South Africa and to report on these dependencies and impacts to understand a market-level natural capital risk perspective for the country Consideration of sectoral natural capital dependencies and impacts using the ENCORE tool should be brought into the economic zoning (special economic zones) and infrastructure development discussions and developments to ensure long-lived assets that show high natural capital dependencies and/or impact are distributed (and regulated) accordingly around the country 	



Methods to integrating sustainable financing

Overview and analysis of methods: IRIS+ & GIIN Impact Toolkit

IRIS+ and the GIIN Impact Toolkit		Tool
What is the focus and purpose of the Method?	<p>IRIS+ has been developed by the GIIN as an online, open-access platform and system for measuring, managing, and optimising an organisation or investment portfolio's environmental and social impacts. The IRIS+ impact investing standards are underpinned by a set of taxonomies and metrics which are harmonised with internationally accepted ESG, SDG and impact investing frameworks and principles.</p> <p>The standardised and harmonised impact measurement, management and reporting metrics and the linkages of these metrics to the SDGs give the IRIS+ platform wide spread usability and greatly improves the transparency of disclosures that are informed by the platform. Additionally, the GIIN Impact Toolkit is an invaluable source of ESG, SDG and impact investment tools, methodologies and useful resources that investors and financial institutions can utilise to improve their management approach, reporting and knowledge base on these topics. The toolkit is easily navigated for the user to find the data, tools, methods or guidance needed and provides a central repository for an abundance of resources which greatly reduces the difficulty in identifying and locating the appropriate tools to use.</p>	
What are the constituents and requirements of implementing the methodology?	<p>Investor and organisations can register with IRIS+ to measure and manage their portfolio or business impacts using the standardised set of metrics, indicators, standards and information fields. This has two functions 1) it harmonises the impact measurement and reporting between users and 2) makes the impact identification and quantification easier for organisations new to impact, ESG and SDG reporting.</p> <p>IRIS+ details five dimensions of impact measurement, management and reporting that the users of the tool use to understand what the impacts are and the magnitude of the impacts; who the impacts affect; how much and how many stakeholders are impacted; what the contributions and efforts from the investor or organisation are; and the risk factors and likelihood of alternate outcomes from current understandings (GIIN, 2019).</p> <p>The Toolkit does not place any specific requirements on the users but is rather a repository of data, tools, methodologies and resources that financial actors can use for their ESG and SDG risk, impact and opportunity measurement, management and reporting purposes.</p>	
Applicable standards	GRI, WRI and WBCSD (2011) GHG Protocol, IFRS, Integrated Reporting <IR>.	
Link to Method resources	https://iris.thegiin.org/ & https://impacttoolkit.thegiin.org/	
Benefits and detractors of the Method	<ul style="list-style-type: none"> Comprehensive set of indicators and metrics for ESG and SDG risks and impacts, including target setting linked to these impacts Harmonisation of impact measurement and reporting standards with international principles, frameworks and methodologies Widely applicable to all types of investors and FIs Open-access (free to use) platform and guidance resources are readily available Integration of commitments against selected impact metrics Allows for measurement, management and optimisation of environmental and social risks and impacts 	<ul style="list-style-type: none"> Does not mandate independent verification of impacts measured and reported



Methods to integrating sustainable financing

Overview and analysis of methods: IRIS+ & GIIN Impact Toolkit (2)

IRIS+ & GIIN Impact Toolkit		Tool
What are the drivers/mechanisms by which the Method enforces the integration and delivery of sustainable finance within an organisation?	<ul style="list-style-type: none"> Allows the investor or FI to map, understand and compare positive and negative environmental and social impacts across investments through a standardised platform The integration of target and objective setting against the measured impacts and risks drives performance monitoring and accountability with explicit reference to the timeframes for achievement The provision of reporting and communication templates harmonises and reduces the complexity of impact disclosures while reducing the occurrence of stakeholder critique and pushback from inadequate or misaligned communications The five dimensions of impact framework developed by IRIS+ enables investors and FIs to develop an holistic approach to ESG and SDG impact and risk measurement, management and reporting 	
What enabling environment mechanisms are affecting international Method implementation?	<ul style="list-style-type: none"> The global need for standardised financed GHG emissions methodologies that enables FIs investment activities to be compared and scrutinised spurred the development of impact measurement standards Increasing regulations regarding non-financial reporting requirements and investor pressure to disclose ESG impacts has driven the sustainability reporting momentum globally, which in turn drives demand for standardised reporting methods and systems upon which these disclosures are based Stakeholder interest and activism has applied pressure on investors and FIs to quantify and commit to improving their positive contributions to the communities and environments in which they operate, which again drives demand for platforms such as IRIS+ as a tool for doing this The need for industry (banking, insurance, mining etc.) specific tools, data and indicators which are applicable and pertinent to their unique operating environment has seen the proliferation of a plethora of tools, methods, indicators and resources that enable impact measurement and reporting for these sectors. The need for a central location for these resources which can be easily navigated is driving the use of the GIIN Impact Toolkit 	
What are potential drivers that could be considered in South Africa for increased effective implementation?	<ul style="list-style-type: none"> South African FIs and investors are actively seeking impact measurement, management and reporting systems that will allow them, with ease, to quantify and disclose their impacts, risks and opportunities. The use of an open-access platform such as IRIS+ could provide this exact solution to develop the skills and capacity of South African FIs to pioneer ESG and SDG impact reporting and management South African FIs have noted a lack of a common language, standardised classification and difficulty in monitoring the impact of investments as regards their ESG and SDG impacts. The IRIS+ standards provide a harmonised, standardised metric set and management approach to impact investing and ESG impacts that should appeal to this need The overwhelming number of methodologies, tools and resources for ESG and SDG integration can be off-putting and dissuading for organisations new to ESG and sustainable finance in general. Pointing FIs looking to start their ESG and impact investing journey towards the GIIN Impact Toolkit to find pertinent and useful resources for their exact needs would be a great benefit and could negate inaction 	

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International initiatives

International sustainable finance initiatives

Table 23: International sustainable finance initiatives

International initiative name	Initiative leads	Description
<i>Global Sustainable Finance Council (GSFC)</i>	ICMA, EBF, EMF-ECBC, GFMA, IIF, ISDA, LMA, WFE	The Global Sustainable Finance Council (GSFC) was created in 2017 (originally as the Global Green Finance Council) to bring together key global and regional associations and other stakeholders involved in green and sustainable financing. The industry joined forces to coordinate efforts to promote sustainable finance, facilitate cross-fertilisation between related markets and asset classes, and with the ambition to act as a representative counterparty to the official sector on sustainable finance policy matters.
<i>The Loan Principles (GLP & SLLP)</i>	APLMA, LMA, LSTA	In March 2018 the LMA, together with the APLMA, launched the Green Loan Principles (GLP) with the support of the International Capital Market Association (ICMA). The GLP aim to create a high-level framework of market standards and guidelines, providing a consistent methodology for use across the wholesale green loan market. In March 2019 the LMA, together with the APLMA and LSTA, launched the Sustainability Linked Loan Principles (SLLP) with the support of the International Capital Market Association (ICMA). The sustainability linked loan product is a dynamic and innovative product that enables lenders to incentivise improvements in the borrower's sustainability profile by aligning loan terms (for example, margins) to the borrower's performance against ambitious, pre-determined sustainability performance targets.
<i>Network of Central Banks and Supervisors for Greening the Financial System (NGFS)</i>	NGFS consists of 83 members and 13 observers	The Network's purpose is to help strengthen global response to meet the goals of the Paris agreement, and to enhance the role of the financial system to better manage risks and mobilise capital for green and low-carbon investments in the broader context of environmentally sustainable development.
<i>G20 Sustainable Finance Study Group</i>	G20 members	The objective of the G20 Green Finance Study Group (GFSG) is to "identify institutional and market barriers to green finance, and based on country experiences, develop options on how to enhance the ability of the financial system to mobilize private capital for green investment".



International initiatives

International sustainable finance initiatives

Table 23: International sustainable finance initiatives (*continued*)

International initiative name	Initiative leads	Description
<i>Green Bond Pledge</i>	Climate Bonds Initiative, Mission 2020, CDP, Ceres, Citizens Climate Lobby, California Governor's Office, California Treasurer's Office, Global Optimism, NRDC, The Climate Group	The Green Bond Pledge is a joint initiative developed and designed by international climate finance and environmental groups. The Green Bond Pledge is a simple declaration with broad and far-reaching impact. All bonds that finance long-term infrastructure and capital projects need to address environmental impact and climate risk.
<i>Task Force on Climate Related Financial Disclosures (TCFD)</i>	31 members from across the G20	The Financial Stability Board created the Task Force on Climate-related Financial Disclosures (TCFD) to improve and increase reporting of climate-related financial information. The work and recommendations of the TCFD will help companies understand what financial markets want from disclosure in order to measure and respond to climate change risks, and align their disclosures with investors' needs.
<i>Sustainable Banking Network (SBN)</i>	United Nations, UN Global Compact, UNEP Finance Initiative, PRI	The Sustainable Banking Network (SBN) is a unique, voluntary community of financial sector regulatory agencies and banking associations from emerging markets committed to advancing sustainable finance in line with international good practice. It is a platform for knowledge sharing and capacity building that facilitates the mobilization of practical support for members to design and implement national sustainable finance policies and principles. The 41 member-countries represent US\$43 trillion (86 percent) of the total banking assets in emerging markets.



International initiatives

International sustainable finance initiatives

Table 23: International sustainable finance initiatives (*continued*)

International initiative name	Initiative leads	Description
<i>Sustainable Stock Exchanges Initiative (SSE)</i>	The SSE initiative is a UN Partnership Programme organised by UNCTAD, the UN Global Compact, UNEP FI and the PRI.	Launched in 2009 by the UN Secretary General, the SSE's mission is to provide a global platform for exploring how exchanges, in collaboration with investors, companies (issuers), regulators, policymakers and relevant international organizations, can enhance performance on ESG (environmental, social and corporate governance) issues and encourage sustainable investment, including the financing of the UN Sustainable Development Goals. The SSE seeks to achieve this mission through an integrated programme of conducting evidence-based policy analysis, facilitating a network and forum for multi-stakeholder consensus-building, and providing technical assistance and advisory services.
<i>Global Investors for Sustainable Development Alliance (GISD)</i>	United Nations Department of Economic and Social Affairs	The Global Investors for Sustainable Development (GISD) Alliance is made up of 30 CEOs, recognized leaders of major financial institutions and corporations spanning all the regions of the world. The focus of the Alliance is to deliver concrete solutions to scale-up long-term finance and investment in sustainable development.
<i>International Platform on Sustainable Finance (IPSF)</i>	European Union launched together with relevant authorities of Argentina, Canada, Chile, China, India, Kenya and Morocco	In 2019, the European Union launched together with relevant authorities of Argentina, Canada, Chile, China, India, Kenya and Morocco the IPSF. The ultimate objective of the IPSF is to scale up the mobilisation of private capital towards environmentally sustainable investments. The IPSF offers a multilateral forum of dialogue between policymakers that are in charge of developing sustainable finance regulatory measures to help investors identify and seize sustainable investment opportunities that truly contribute to climate and environmental objectives.



International initiatives

International sustainable finance initiatives

Table 23: International sustainable finance initiatives *(continued)*

International initiative name	Initiative leads	Description
<i>Coalition of Finance Ministers for Climate Action (Helsinki Principles)</i>	World Bank Group	The Helsinki Principles are designed to support Finance Ministers in sharing best practices and experiences on financial management policies for low-carbon and climate-resilient growth. The Coalition will help countries mobilise and align the finance needed to implement national climate action plans; establish best practices; and factor climate risks and vulnerabilities into members’ economic planning.
<i>Sustainable Insurance Forum</i>	IAIS, UNEP, UNDP	The Sustainable Insurance Forum (SIF) is a network of leading insurance supervisors and regulators that seek to strengthen their understanding of and responses to sustainability issues for the business of insurance. It acts as a global platform for knowledge sharing, research and collective action.
<i>30 by 30 zero</i>	IFC, World Bank, GIZ, RENAC	IFC’s 30 by 30 zero Program helps the banking sector increase climate-related lending to 30 percent with zero or near zero coal exposure by 2030. To reach this goal, IFC harnesses the financial sector to scale up private sector financing for climate mitigation and adaptation projects in line with NDC targets, working with regional and local financial institutions to strengthen their role as aggregators of climate financing for domestic economies by growing the climate share in their lending portfolios.





Regional initiatives

Regional sustainable finance initiatives

Table 24: Regional sustainable finance initiatives

Regional initiative name	Initiative leads	Description
Regional interventions in North Africa and sub-Saharan Africa		
<i>Marrakech Pledge</i>	Moroccan Capital Market Authority (AMMC)	The Pledge is a coalition of Africa Capital Market Regulators and Exchanges who commit to foster Green Capital Markets in Africa by scaling-up green market-based finance
<i>Eastern Africa Alliance on Carbon Markets and Climate Finance</i>	East African Development Bank, Uganda	Launched in 2019, the coalition of East African member countries aims to enhance and strengthen the use of carbon market approaches (Article 6 of the Paris Agreement) to increase climate finance for implementation of the country Nationally Determined Contributions (NDC's) within the region
<i>West African Alliance on Carbon and Markets Climate Finance</i>	Enda Energie, Senegal	In 2017 the sub-regional initiative established in existing initiations to promote sub-regional cooperation and build institutional capacity for long-term engagement with international carbon markets and climate finance under the framework of the Paris Agreement
Regional interventions in UK, USA, Canada and Australia		
<i>Corporate Forum on Sustainable Finance</i>	22 European companies	In January 2019, sixteen European companies (EDF, EDP, ENEL, ENGIE, Ferrovie Dello Stato Italiana, Iberdrola, Icade, Ørsted, RATP, SNCF Réseau, Société du Grand Paris, SSE, Tennet, Terna, Tideway, Vasakronan) joined to set up the Corporate Forum on Sustainable Finance ("the Forum"). The Forum, designed as a permanent network to exchange views and ideas, brings together dynamic "Green Issuers" committed to upholding and developing sustainable finance as a critical tool to fight climate change and to foster a more sustainable and responsible society.



Regional initiatives

Regional sustainable finance initiatives

Table 24: Regional sustainable finance initiatives (*continued*)

Regional initiative name	Initiative leads	Description
Regional interventions in Latin America		
<i>Green Finance for Latin America and the Caribbean</i>	IDB and IDB Invest, in cooperation with the Latin American Association of Development Financing Institutions (ALIDE)	The platform was created to promote sustainable instruments for development through the knowledge exchange of green finance among public sector players, financial institutions of the private sector and players of the financial market.
<i>Green Bond Transparency Platform</i>	IDB	The goal of the platform is to increase transparency and comparability, helping attract new investors to the region and providing a greater level of confidence to existing investors
<i>Latin American Association of Financial Institutions for Development (ALIDE)</i>	Peru	The Association aims to promote knowledge and information exchange to Foster economic and social development in Latin America and the Caribbean. ALIDE hosts technical forums, capacity building, and technical assistance to promote collaboration, business opportunities and financial cooperation among its members.
<i>Pacific Alliance Working Group on Environment and Green Growth</i>	Chile, Colombia, Mexico, Peru	The Pacific Alliance in collaboration with the British government have organised a series of Green Finance Conferences to promote the dialogue and knowledge sharing among members of the Alliance.



Regional initiatives

Regional sustainable finance initiatives

Table 24: Regional sustainable finance initiatives (*continued*)

Regional initiative name	Initiative leads	Description
Regional interventions in ASEAN and China		
<i>ASEAN Ccapital Markets Forum (ACMF) Initiative</i>	ASEAN Finance Ministers	The primary responsibility of the ACMF is to develop a deep, liquid and integrated regional capital market. ACMF adopts a pragmatic approach in implementing its capital market initiatives whereby member countries opt-in to join the initiatives based on their market readiness.
<i>ASEAN Green Bond Standards</i>	ASEAN Capital Markets Forum (ACMF)	The Standards issued in 2017, revised in October 2018, were developed based on the Green Bond Principles (GBP) tailored to meet the needs and commitment of ASEAN. The Standards label is to be used only for issuers and projects in the region and specifically excludes fossil fuel related projects.
<i>ASEAN Social Bond Standards(SBS)</i>	ASEAN Capital Markets Forum (ACMF)	The ASEAN SBS intend to enhance transparency, consistency and uniformity of ASEAN Social Bonds which will also contribute to the development of a new asset class, reduce due diligence cost and help investors to make informed investment decisions.
<i>ASEAN Sustainability Bond Standards(SUS)</i>	ASEAN Capital Markets Forum (ACMF)	The ASEAN SUS intends to provide guidance on the issuance of ASEAN Sustainability Bonds. It were developed based on the International Capital Market Association (ICMA)'s Sustainability Bond Guidelines
<i>Asian Bond Markets Initiatives(ABMI)</i>	ASEAN and the People's Republic of China, Japan, and the Republic of Korea	The initiative is to strengthen financial stability and reduce the region's vulnerability to the sudden reversal of capital flows. It focus on supporting the growth of the local green bond markets in ASEAN.

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Carbon Trust Africa (Pty) Ltd is a company wholly owned by Carbon Trust, registered in the Republic of South Africa registration number 2016/398205/07, with its registered office at Lynnwood Bridge Office Park, 4 Daventry Street, Lynnwood Manor, Gauteng 0081, and physically located at Unit 14, Network Space, Ground Floor, Block B, Corobay Corner, 169 Corobay Avenue, Menlyn, Pretoria, 0081, South Africa.

Published in the South Africa: 2021.

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