2025 DEVELOPING THE SOUTH AFRICAN CARBON CREDIT MARKET

Consultation Document

national treasury

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GLOSSARY

BIS	Bank for International Settlements
CDM	Clean Development Mechanism
COAS	Carbon Offset Administration System
COP29	2024 United Nations Climate Change Conference
CSD	Central Securities Depository
DEE	Department of Electricity and Energy
DFFE	Department of Forestry, Fisheries and the Environment
DMRE	Department of Mineral Resources & Energy
ELOA	Extended Letter of Approval
ESG	Environmental, Social, and Governance
FAIS	Financial Advisory and Intermediary Services (Act)
FM Act	Financial Markets Act
FSCA	Financial Sector Conduct Authority
FSR Act	Financial Sector Regulation Act
GHG	Greenhouse Gas
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit
GS	Gold Standard
IOSCO	International Organization of Securities Commissions
ISO	International Organization for Standardization
ITMO	Internationally Transferred Mitigation Outcomes
IETA	International Emissions Trading Association
JSE	Johannesburg Stock Exchange [29]
KYC	Know Your Customer
LOA	Letter of Approval
NDC	Nationally Determined Contribution
NT	National Treasury
PACM	Paris Agreement Crediting Mechanism
RE	Renewable Energy
SANAS	South African National Accreditation System
SARB	South African Reserve Bank
SARS	South African Revenue Service
UN	United Nations

VCM	Voluntary Carbon Market
VCS	Verified Carbon Standard
VVB	Validation and Verification Body

EXECUTIVE SUMMARY OF THE PAPER

South Africa has committed to reducing carbon emissions. The country has adopted a market-based strategy, setting a notable international precedent. Market-based economic instruments, such as the carbon tax introduced in 2019, have incentivised businesses to reduce carbon emissions by imposing financial penalties on greenhouse gas emissions.

Carbon offsets are an important part of the carbon tax framework and support the market-based strategy. This consultation paper outlines steps to improve the carbon tax offset market with the objective of assisting companies to reduce their emissions.

Following the publication of the Phase 2 Carbon Tax Discussion Paper and the announcements made in the 2025 Budget, there is increasing certainty regarding the path for the carbon tax. This provides a basis for taking forward work on developing a robust complementary carbon market.

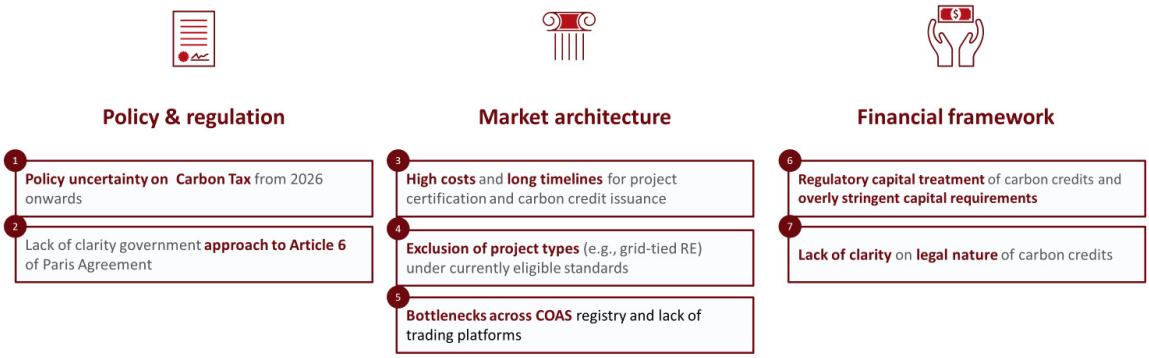
This consultation paper highlights several challenges that hinder the effective operation of the South African carbon market, both in the voluntary and compliance sectors. These challenges encompass policy and regulation, market architecture, and the financial regulatory framework.

SEVEN PRIORITY "PAIN POINTS"

From an initial benchmarking exercise and feedback conducted through interviews, these challenges can be distilled into a set of seven "pain points", summarised in Figure 1. This is by no means an exhaustive list. Moreover, the consultation paper does highlight other areas, but these are particular issues that can be relatively easily addressed in a short space of time and will bring the largest impact to unlocking the market.

Industry feedback is sought on whether these are indeed the most pressing areas of concern. In addition, the consultation was carried out prior to National Treasury providing more clarity on the carbon tax. It is expected that this will reduce significant uncertainty in the years ahead.

Figure 1: Top seven pain points in the South African carbon market from market benchmarking



The following are the “pain points”.

The first two relate to policy and regulation:

1. **Policy-related uncertainties.** At the time of the initial benchmarking, there was a lack of clarity on offset allowances and the overall carbon price trajectory, particularly beyond 2030. These uncertainties can impact the long-term planning and investment decisions of market participants. That said, significant guidance has been given by National Treasury on the path forward for the carbon price.

   In November 2024, the Carbon Tax Discussion Paper on phase 2 of the carbon tax was published for public comment. After considering stakeholder comments, government proposed to increase the carbon offset allowance by 5 percentage points from 1 January 2026. The allowance will increase to 10 per cent for fugitive and process emissions, and to 15 per cent for combustion emissions. The budget stated that future allowance increases may be considered in response to changes in the carbon market and associated standards.

   Policy uncertainty also relates to market conduct. Carbon credits markets are exposed to similar market misconducts and fraud as seen in financial and securities markets, e.g. opacity in price dissemination, misinformation on integrity of underlying assets, price manipulation, money laundering, cyberattacks, etc. The viability of the market would be determined by fair market rules and the capacity to enforce them.

2. **International negotiations remain contentious**. While there was significant progress in the most recent round of negotiations, elections have changed the environment significantly. There is lack of clarity around exactly how all governments will now approach Article 6 of the Paris Accord will create some uncertainty. However, South Africa remains committed to the intention of the accord and will not waver from the path.

   The following three relate to concerns raised by stakeholders on market architecture:

3. **The process of project certification and issuance of carbon credits is burdened by high costs and prolonged timelines**. There are significant expenses associated with project design document development and knowledge transfer. Interviewees have indicated that reliance on international validation and verification bodies amplifies these costs, as there are no domestic ISO-accredited validation and verification bodies. The South African National Accreditation System (SANAS) is not accredited by the ISO International Accreditation Forum on the relevant Carbon ISOs, and therefore cannot accredit domestic validation and verification bodies.

   Additionally, certification costs are high as only external independent carbon certification entities (Verra, Gold Standard) are authorised for the domestic carbon tax offset market. All these factors pose a significant barrier for many (especially smaller) projects, limiting the available supply of carbon credits. This is worsened by the limited familiarity project developers and financiers have of the certification process. Progress has been made through the Carbon Tax Discussion Paper which identifies the need for the development of a domestic offset standard, as well as the publication by the DMRE of framework for the approval of domestic standards (2022). The full implementation of these measures would significantly address stakeholder concerns.

4. **Certain project types, like grid-tied renewable energy (RE), are excluded under standards currently eligible on the domestic carbon tax offset market[1].** External independent standards (carbon certification entities) recognized by South Africa for certifying carbon tax offsets, such as the Verra and Gold Standard, place restrictions on specific projects, like grid-tied Renewable Energy, due to concerns about their additionality in middle income and developed markets (see Box)[2]. South Africa has unique conditions, such as dominant electricity generation from coal powered plants that could only be decommissioned with substantial investments in renewable energy generation capacity (see charts below), which make such projects genuinely additional and valuable in its context. Project developers face challenges in generating credits for certain projects, even when there is compelling evidence demonstrating their additionality, permanence, and non-leakage characteristics.

5. **The lack of a scalable registry for carbon markets overall – compliant and voluntary market - and limited trading market infrastructure** present challenges. The market architecture for registries and trading venues is very fragmented within and between the domestic and the international markets, and there is no clarity on the policy direction. Decisions need to be made on the number or consolidation of Registries by market segments and their functionalities for the carbon offset market, for Article 6, and for voluntary carbon markets.

   The only existing registry is for the carbon tax offset market, the Carbon Offset Administration System (COAS). The aim of the COAS is to enable the Department of Mineral Resources and Energy (now the Department of Electricity and Energy), as the administrator of the carbon tax offset system, to approve eligible carbon offset projects and carbon offsets. (This paper refers to offsets are a particular 'species' of credit that can be allowed to reduce a company's carbon tax liability.) The system does not cater for trading of carbon credits, this activity takes place outside the system. Therefore, the COAS does not meet the minimum requirements under the Financial Markets Act for either a central securities depository or a trade repository. Neither is it intended to.

   This paper recommends creating an 'opt-in' system, of allowing existing financial market infrastructure to be utilised for trading, clearing and settlement of carbon credits. For trading purposes, a clear legal structure (either allowing carbon credits would improve tradability.

   The remaining two pain points relate to the financial framework:

6. **The regulatory capital treatment of carbon credits is burdened by stringent capital requirements**. According to the Basel regulatory framework, banks are obliged to hold capital equivalent to 60% of the value of carbon credits on their balance sheets. This requirement makes carbon credit trading capital-intensive. Similar onerous capital requirements are imposed on insurers while other financial institutions are prohibited or heavily restricted from investing in carbon credits. The regulatory capital treatment discourages the accumulation of

[1] VERRA is currently considering an expanded scope for renewable energy projects and proposed updates to the methodology ACM0002 Grid connected electricity generation from renewable sources. An update to the VCS rules has also been proposed and would expand eligibility of grid connected renewable energy projects in the VCS programme to low, lower-middle, and upper middle income countries. See www.verra.org 26 June 2025 post " Why renewable energy projects still need climate finance"

[2] https://verra.org/wp-content/uploads/2019/04/VCS-v4-Revision-to-Scope-of-VCS-Program.pdf and https://globalgoals.goldstandard.org/standards/202_V1.4_AR-Renewable-Energy-Activity-Requirements.pdf

significant numbers of carbon credits and penalizes the trading of these credits for financial institutions. This current treatment is especially onerous for the compliance market, where the liability is a kin to a sovereign instrument which attract a zero capital risk weighting.

7. **There is a lack of clarity regarding the regulatory nature of carbon credits.** Interviewees highlighted that the specific regulatory classification of carbon remains uncertain. A carbon credit could be likened to a 'commodity' and, at present, does not qualify as a ‘security’ or ‘financial instrument’ (for example, shares, derivatives etc.) or 'financial product' (participatory interest in a collective investment scheme, insurance policy, etc.) under South African financial sector laws. However, the trading of carbon credits may be better suited for formalised financial markets which are subject to, and regulated by, South Africa's financial sector laws and financial sector regulators (including the Prudential Authority and Financial Sector Conduct Authority). In this regard, it is proposed that financial sector laws are amended or regulations issued with the effect of treating carbon credits as unlisted securities under the Financial Markets Act. The inclusion of carbon credits within the financial sector would bring greater clarity to its legal nature, as well as provide greater regulatory intervention and supervision.

   This will also support clarity regarding carbon credits’ accounting, tax, regulatory reporting, and exchange control treatment. Unlisted securities are well established in these areas and this will reduce uncertainties act as barriers that hinder the involvement of financial intermediaries in the market, thereby restricting both trading and financing activities.

SUMMARY OF RECOMMENDATIONS

The following are the key recommendations:

1. **Defining the Legal Nature of Carbon Credits**

   - **Clear Legal Status**: Offer legislative clarity on the legal attributes of carbon credits, confirming their intangible, incorporeal status and enabling ownership and transferability.
   - **Alignment with Financial Sector Requirements**: Recognise carbon credits as capable of forming part of recognised financial instruments, aiding banks and financial intermediaries to conserve less regulatory capital when holding or trading them.

2. Reforming the Registry Architecture

- **Transforming COAS**: Revisit the design and operation of the Carbon Offset Administration System to reduce bottlenecks and provide robust functionality for listing, transferring, and retiring offsets. This includes:
  - Improving processing speeds and reducing manual intervention.
  - Enhancing security protocols and user support.
  - Enabling a clearer link between compliance and voluntary markets (and potentially Article 6 credits).

- **Specialised ITMO/Article 6 Repository**: Consider dedicating COAS or another improved national system to track and approve credits as ITMOs in line with Article 6.2 of the Paris Agreement.

- **Promoting Interoperability**: Ensure domestic registries can operate with international crediting standards and central securities depositories, improving cross-border liquidity and trading.

3. Introducing Appropriate Standards & Local Capacity

- **Local Crediting Standards**: Develop cost-effective certification standards tailored to South African conditions, reducing reliance on purely international methodologies that may exclude viable local project types.

- **Accredited Validation and Verification Bodies**: Empower the South African National Accreditation System (SANAS) to accredit local validators and verifiers, lowering certification costs and delays for project developers.

4. Adjusting Financial Market Regulation

- **Enhanced Role of Financial Regulators**: Encourage active oversight by financial sector regulators (e.g., the Financial Sector Conduct Authority) to strengthen market integrity, improve transparency, and protect participants.

- **Regulatory Capital Requirements:** Engage with international standard setters (such as the Bank for International Settlements) to lower risk weightings for carbon credits, encouraging banks to participate without incurring disproportionate capital charges.

- **Classification of Carbon Credits**: Treat carbon credits as “unlisted securities” under the Financial Markets Act, thereby allowing over-the-counter trading, clearing, and settlement through regulated infrastructure. This approach aims to:
  - Facilitate broader financing for carbon projects, including participation from banks and asset managers.
  - Enable optional listing for greater visibility while still permitting off-exchange transactions.

5. **Developing an Exchange Control Framework**

- **Cross-Border Transfers:** Establish clear exchange control provisions for voluntary carbon credits, enabling South African and international entities to invest, trade, and hedge carbon credit positions without undue administrative barriers.
- **Harmonised Regulatory Approach**: Ensure consistency in how carbon credits or associated derivatives—such as futures and options—fall within existing exchange control rules.

6. **Ensuring Market Integrity and Efficiency**

- **Market Architecture Alignment:** Align new carbon market developments with established principles from the financial sector, including fair access, transparent price discovery, robust clearing, and settlement processes.
- **Encouraging Domestic and International Participation:** Foster an environment where both domestic and international participants can trade carbon credits, benefiting from sufficient liquidity and robust governance.

7. **Linking to Broader Climate Policy Objectives**

- **Carbon Tax Discussion Paper Coordination**: Coordinate these recommendations with the ongoing carbon tax policy process, ensuring consistency in offset rules and compliance obligations.
- **Supporting Nationally Determined Contribution (NDC)**: Use a well-regulated carbon market to meet South Africa's emission reduction commitments under the Paris Agreement and secure international recognition for high-integrity credits.
- **Overall**, the paper's recommendations seek to modernise carbon credit infrastructure, clarify legal and financial regulations, and stimulate investment in South Africa's low-carbon projects. By reinforcing policy certainty, reducing administrative barriers, and enhancing the role of financial institutions and regulatory bodies, these reforms aim to develop a resilient and high-integrity secondary market for carbon credits.

STAKEHOLDER QUESTIONS

Stakeholders are encouraged to provide feedback on the Consultation Document by filling in an online questionnaire.

This is available here: https://forms.office.com/r/dfUdeeu5Ee

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1 INTRODUCTION

South Africa aims to develop its domestic carbon markets as a one of a series of tools to mobilise finance to decarbonise the national economy. The financial sector, as both financier and intermediary, is critical to developing sizable, scalable efficient and reliable carbon markets, and consequently there is a need to formulate and implement policies and regulations that support the development and integrity of carbon markets, in the context of the financial markets, in a proportionate and incremental manner. This consultation paper identifies the main "pain points" preventing growth in the South African domestic carbon markets from this financial markets' integrity perspective and proposes various means to develop the carbon markets, utilising financial markets approaches.

Well-functioning carbon markets can accelerate decarbonisation and lower the aggregate cost of economy-wide greenhouse gas (GHG) mitigation, including by providing flexibility for how, when and where such mitigation is achieved. Typically, mitigation in the markets occurs through project activities that reduce, avoid, or remove GHG emissions. Carbon markets incentivise investment in existing, innovative and scalable solutions and project activities that can help to deliver and accelerate near-term mitigation, while simultaneously realising a range of other environmental, social and/or economic co-benefits.[3]

Carbon markets are one component of global efforts to combat climate change and part of the fabric of the multi-lateral climate change legal regime, implemented under the auspices of the United Nations (UN) and most prominently through the Paris Agreement. At the United Nations Climate Change Conference (COP29) held in Baku, Azerbaijan, from 11 to 22 November 2024 country Parties to the Paris Agreement, including South Africa, achieved significant progress towards establishing a global architecture for carbon markets under Article of the Paris Agreement. Article 6 provides a framework for country Parties to pursue voluntary cooperation in the implementation of their Nationally Determined Contributions (NDCs), to allow for higher mitigation ambition and to promote sustainable development. Article 6 includes the potential for an international carbon market and (implied) impetus for domestic carbon pricing.[4]

Article 6.2 provides a basis for bilateral or plurilateral voluntary cooperation among countries, which potentially offers flexibility to reduce GHG emissions from a variety of processes, mechanisms, and standards. Article 6.4 has become the basis for the Paris Agreement Crediting Mechanism (PACM), the objective, operation and administration of which is similar to that of the (now concluded) Clean Development Mechanism (CDM).[5] The intersection/interaction between Articles 6.2 and 6.4 offers

[3] JP Morgan Chase & Co. (2023) Carbon Market Principles: Our approach to strengthening the carbon market to scale decarbonisation solution. JP Morgan Chase & Co.

[4] Articles 6(2) to 6(4), read together, while not being explicit in this regard are widely interpreted as facilitating future global carbon markets/domestic carbon pricing. See for example: A practical guide to understanding carbon markets under Article 6 of the Paris Agreement — Global Green Growth Institute.

[5] The CDM was a flexible mechanism under Article 12 of the Kyoto Protocol which provided the framework for the generation of carbon credits (called Certified Emission Reductions) by mitigation projects in located developing countries. Amon the CDM's objectives was the establishment and financing of project activities in developing countries through developed country investment, and the conclusion of carbon credit transactions between the relevant developing country and developed country entities. The carbon credits could be used by developed countries as contributions towards

important potential for supporting the establishment of domestic carbon financing structures. This is partly because international cooperation in implementing NDCs under Article 6.2 will take the form of exchange (between countries) of Internationally Transferred Mitigatoin Outcomes (ITMOs), and Article 6.4 incentivises a higher degree of national state control over local carbon markets/financing (and their international contact points) than was the case under the CDM. This means that there is greater impetus for governments to intervene into their domestic carbon market transactions and into carbon financing than in earlier incarnations of the carbon market.[6]

INTERNATIONALLY TRANSFERRED MITIGATION OUTCOMES

An ITMO is a unit of GHG emission reduction or removal that is transferred from one country Party to another to help meet their respective NDCs. Article 6.2 enables country Parties to engage in voluntary cooperative approaches by transferring these mitigation outcomes across borders. The key features of ITMOs include:

- Quantification in metric tonnes of CO_2 equivalent.
- Authorization by both the host and acquiring countries.
- Corresponding adjustments to national GHG inventories to prevent double counting.
- Alignment with sustainable development and environmental integrity principles.

ITMOs are intended as the building blocks of a decentralized carbon market under the Paris Agreement, allowing countries to collaborate more flexibly and cost-effectively in achieving global climate goals

Overall, the COP29 outcome on Article 6 represents significant progress towards operationalising global carbon markets and includes provisions that seek to ensure environmental integrity and transparency, and which aim to prevent double-counting of mitigation outcomes, e.g., of GHG emission reductions. To participate in Article 6.2, country Parties require access to an electronic registry to transact and track ITMOs, and the registry can be managed either nationally, privately or by the UN (the UN-managed registry is designed for use by countries with limited capacity or resources to develop their own national registries). [7] The solution at COP29 was a dual-tier system, in that the primary function of the registry would be to track ITMOs, but it would also include an optional UN-managed service for issuing and trading credits. This solution meets the needs of countries requiring additional functionality while addressing concerns about avoiding any implied UN endorsement of Article 6.2 trades.[8]

The evolving Article 6 architecture has the potential to channel substantial climate and carbon finance to developing nations. Success will, however, depend on rigorous implementation of the rules and ongoing efforts to address the concerns of environmental integrity, double-counting and transparency, in a globally consistent and fair and equitable manner.

achieving their national mitigation objectives under the Kyoto Protocol, and to supplement their own domestic mitigation actions.

[6] See African Climate Wire, “Developing countries adopt proactive stance on future carbon markets”, Developing countries adopt proactive stance on future carbon markets - African Climate Wire.

[7] The Nature Conservancy, “Key Takeaways on Article 6 at COP29”, November 2024, page 4.

[8] The Nature Conservancy, “Key Takeaways on Article 6 at COP29”, November 2024, page 4.

This consultation paper proceeds from the proposition that it is desirable to see a high-integrity domestic carbon market develop in South Africa, which can facilitate the mobilisation of resources to support decarbonisation. This paper highlights two current areas of concern:

- Firstly, and given the relative nascence of the domestic market (notwithstanding South African having been an early leader in CDM project conceptualisation and development), uncertainty arising from missing definitions and lack of carbon markets policy and regulations, especially from a financial markets perspective.
- Secondly, a lack of well-functioning infrastructure for the market to operate efficiently and in a reliable way.

Unlocking a deep and well-functioning carbon market self-evidently requires a "market", i.e., a system that would *inter alia* match buyers and sellers of carbon assets, and which would include mechanisms to support the financial and regulatory integrity of transactions. Consequently, the underlying theme of this consultation paper is a proposition on the design elements of such a system. This consultation paper proposes the establishment of a process that facilitates interactions and trading in two dimensions, namely between the domestic voluntary and compliance carbon markets, and between the domestic and international compliance and voluntary markets.

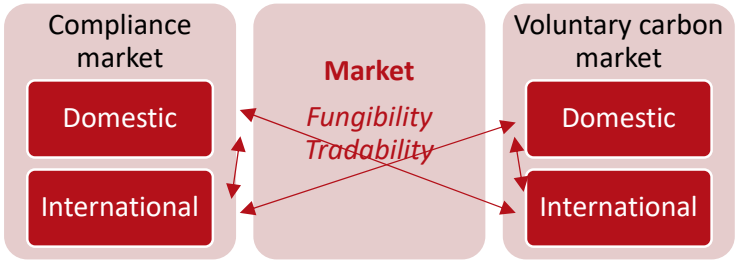
TERMINOLOGY IN THIS DOCUMENT

Henceforth, for convenience and because of regulatory usage in the South African carbon tax legal regime, this consultation paper uses the terms:

"**carbon credit**" to refer to a GHG/carbon-based intangible asset that represents the avoidance, reduction, or sequestration of one tonne of Carbon Dioxide equivalent (1tCO2e) that has been issued by a carbon standard, and

"**carbon offset**" to refer to a carbon credit that has been issued by an international standard and which is also eligible, under the Carbon Offsets Regulations, for listing on the Carbon Offset Administration System (COAS) and which, once listed, can be used by carbon taxpayers to reduce their carbon tax liability in accordance with the Carbon Tax Act's offset allowance.

Figure 2: Stylised marketplace for diverse carbon credits



To create a viable market for carbon credits, at least two key objectives need to be met: *viz.*, carbon credits should be both *fungible* and *tradable*. These are distinct but mutually inter-related concepts:

- *Fungibility* refers to the equivalence and/or interchangeability of one carbon credit with another, meaning they are identical in their financial value and environmental/regulatory function regardless of their origin or characteristics. This is not fully realised, as yet, although there has been progress towards some level of international harmonisation. For example, it is conceptually possible to argue that a carbon credit representing $1tCO_2e$ avoided by a forestry project is equivalent to/interchangeable with another credit representing $1tCO_2e$ avoided/reduced by a renewable energy project, provided that both projects meet the same standards. Despite this apparent equivalence and/or interchangeability various factors might operate to differentiate the carbon credits from the two projects. The market has limits to its fungibility (e.g., differentiating factors on pricing include sector, vintage year, co-benefits, buyers' appetite).
- *Tradability*, on the other hand, relates to the ability to buy, sell, or transfer carbon credits within and across markets. The requires appropriate levels of interoperability between registries and between markets.

While fungibility ensures uniformity and ease of exchange, tradability reflects the market infrastructure, rules, and systems that facilitate transactions. Fungibility is often a pre-condition for tradability and fungible carbon credits tend to be more attractive in the market because they offer a diversity of applications. While non-fungible credits may still be tradable their unique attributes (which render them non-fungible) could affect their pricing and market appeal and make it difficult to create efficient market infrastructures due to lack of economies of scale (e.g., for carbon credits that do not appeal to a particular market or market segment).

Full tradability, however, has not yet been achieved, particularly not in South Africa.

This consultation paper highlights various constraints on carbon credit trading (both over-the-counter trading and through, for example, on more formalised multilateral trading platforms), including (non-exhaustive):

- supply of carbon credits being below potential, which is in turn partly due to lack of financing, policy and regulatory uncertainty; and
- market infrastructure (such as the Carbon Offset Administration System, or COAS) is insufficient to cater for an expanding carbon market

Interviews with market participants across the board found that carbon credits can be difficult to trade. Tradability will allow for increased market finance for the mitigation projects that generate carbon credits and potentially support a shift towards net zero within the national economy. Other factors that were highlighted by market participants include the need for (summary of various responses, not necessarily consistent across market participants): policy and regulatory certainty (including the legal definition and tax and accounting treatment of carbon credits), an improved financial and regulatory ecosystem, domestic validation and verification bodies, domestic standards, a reliable and efficient registry and market-trading architecture.

This consultation paper was developed under the auspices of a technical team from the World Bank, by gathering information and perspectives from a combination of 18 interviews across the South

African carbon market value chain, desktop research and data analysis. Stakeholders interviewed included government departments, financiers, buyers, verification/accreditation bodies, trading platforms, and project developers. Desktop research includes reports from the World Bank and other key stakeholders, registries such as those relating to the CDM, the Verified Carbon Standard (VCS) and the Gold Standard, government documents such as the national GHG inventory,[9] draft and current policy documentation such as the *Draft Framework for the Approval of Domestic Carbon Standards* and the *Draft South African Article 6 Framework*, and legislative and regulatory instruments such as the Carbon Tax Act (No. 15 of 2019) and the Carbon Offsets Regulations.[10] Data from the registries and reports listed above were used to analyse the supply and demand dynamics in the South African market and inform possible steps to enhance the functioning of South African carbon markets.

Detailed inputs to this consultation paper were made by a consulting team from BCG, a market architecture team led by South African banks, and using legal opinions from Webber Wenzel/Climate Legal and the International Emissions Trading Association (IETA).

This consultation paper outlines:

- the supply and demand dynamics of the South African domestic carbon market,
- policies and regulation currently governing the market, and
- areas for intervention and suggested potential levers to unlock the market's most pressing bottlenecks.

[9] See, for example: Minister George publishes the 9th National Greenhouse Gas Inventory Report | Department of Forestry, Fisheries and the Environment.

[10] GN 1556 of 29 November 2019: Regulations on carbon offsets under section 19 of the Act (Government Gazette No. 42873) (as amended)

2 CARBON MARKETS IN SOUTH AFRICA

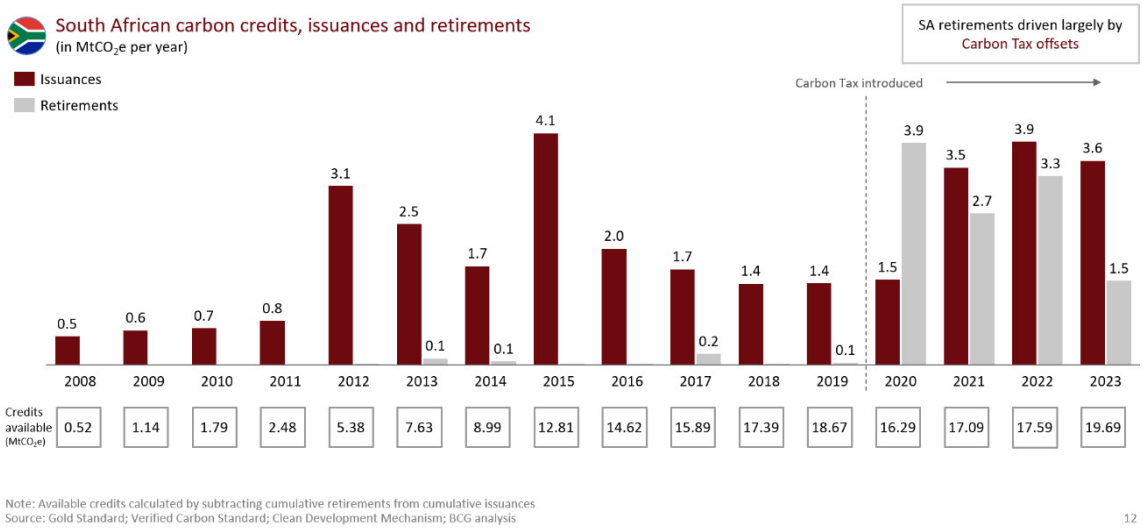
2.1 SOUTH AFRICA SUPPLY AND DEMAND DYNAMICS

2.1.1 SOUTH AFRICAN SUPPLY

Since 2008, 33MtCO_2e of carbon credits have been originated and issued in South Africa (~3 MtCO_2e/year), ~14 MtCO_2e of which has been retired. Most of these carbon credits (~26 MtCO_2e) were issued under the CDM, and 7 MtCO_2e were issued under international voluntary carbon standards, such as the VCS and the Gold Standard. There was a build-up of available carbon credits between approximately 2008 and 2019 before a substantial increase in retirements following the operationalisation of the carbon offset allowance of the Carbon Tax Act, which permits the use of carbon offsets to limit a taxpayer's carbon tax liability. The vast majority of the ~14 MtCO_2e of the retired volume (95%+) has been retired since 2020 to offset tax liability carbon offset allowance.

Figure 3: South African carbon credit issuance and retirements

There was a build-up of available carbon credits between approximately 2008 and 2019, before a substantial increase in retirements following the operationalisation of the carbon offsets allowance of the Carbon Tax Act



Note: Available credits calculated by subtracting cumulative retirements from cumulative issuances
Source: Gold Standard; Verified Carbon Standard; Clean Development Mechanism; BCG analysis

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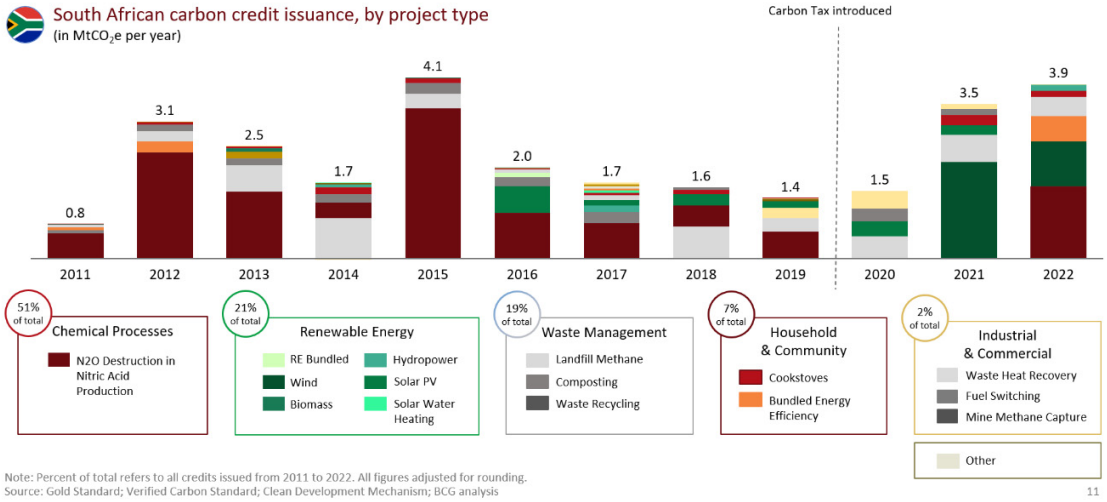
Source: BCG (2024)

Of the full volume of carbon credits issued in South Africa since 2011, 72% are from tech-based projects with 51% of these deriving from chemical processes and 21% from renewable energy projects. The limited number of carbon credits generated through nature-based projects is primarily driven by South Africa's geography and climate.

Figure 4: South African carbon credit issuances by project type

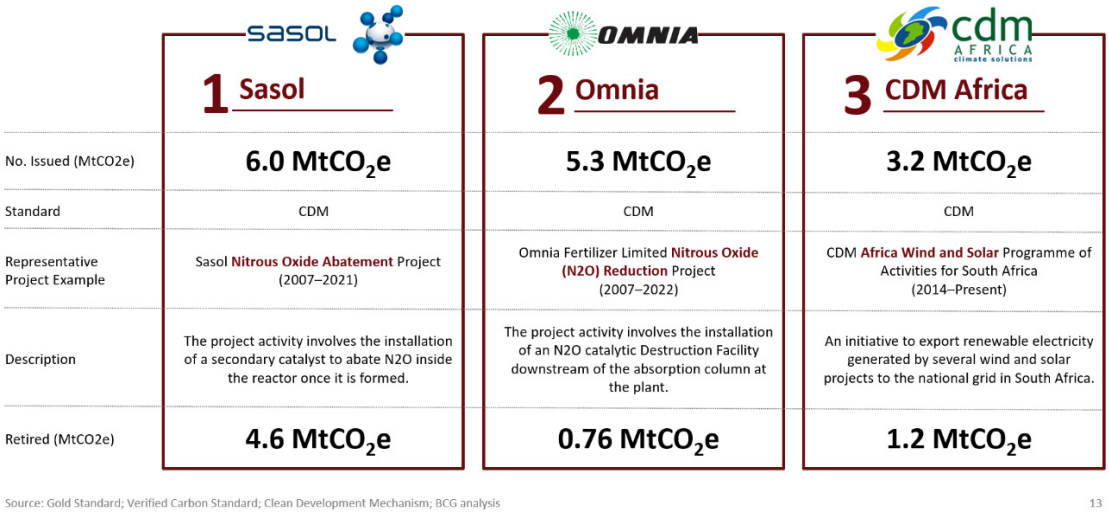
Since 2011, 72% of SA-originated credits are from Chemical process and renewable energy



Source: BCG (2024)

Historically, the largest South African carbon credit developers are Sasol, Omnia and CDM Africa. Combined, they are responsible for ~15MtCO_2e (45%) of the 33MtCO_2e of carbon credits issued, to date. Sasol and Omnia have primarily produced carbon credits through chemical process projects (Nitrous Oxide Abatement/Reduction) while CDM Africa has created most of its credits through renewable energy projects (wind and solar).

Figure 5: Key developers in the South African carbon market



Source: BCG (2024)

2.1.2 COMPLIANCE DEMAND

Compliance demand in the South African market is driven by the offset allowance legislated within the Carbon Tax Act (2019) which provides that a carbon taxpayer may reduce the amount in respect of the carbon tax for which the taxpayer is liable in respect of a tax period by utilising carbon offsets. In practice "carbon offsets" means carbon credits that have been issued by an international standard and which are also eligible, under the Carbon Offsets Regulations, for listing as carbon offsets on the Carbon Offset Administration System (COAS). Once listed such offsets can be used by carbon taxpayers to reduce their carbon tax liability in accordance with the Carbon Tax Act's offset allowance.

A NOTE ON ELIGIBILITY OF CARBON CREDITS AS CARBON OFFSETS

A carbon credit has "eligibility" for "listing" as a carbon offset on COAS, for the purposes of carbon tax, if the carbon credit meets a set of minimum criteria in terms of the Carbon Offsets Regulations. The Carbon Offsets Regulations define "listing" to mean that a carbon credit is "entered into" COAS pursuant to an administrative process prescribed in the Regulations.

The Carbon Offsets Regulations do not define the qualities of "eligibility" of carbon credits for listing as carbon offsets. Rather, Part II of the Regulations is entitled "Eligibility" (although the title itself does not specify what is "eligible") and provides that an offset (meaning an avoidance, reduction or sequestration of Carbon Dioxide Equivalent (CO_2e) emissions from an approved project) "must be allowed to a taxpayer", i.e., the offset may be used to limit a carbon tax liability (the quality of eligibility), if that offset is from an approved project:

- that is carried on in South Africa on or after 1 June 2019,
- from an activity that is not subject to carbon tax, and
- where approved projects existed prior to 1 June 2019:

If the project activity became subject to carbon tax from 1 June 2019, then the offsets generated before this date are eligible if they are used in the first phase of the carbon tax, noting that:

- the first phase of the carbon tax was initially extended from its original period of 1 June 2019 to 31 December 2022 to conclude on 31 December 2025, making offsets eligible until 31 July 2026 which is the final date for submission of the annual carbon tax return, and
- a recent announcement in the Budget Review 2025 extends the utilisation of such offsets until 31 December 2028 although this extended period of eligibility will need to be confirmed via a formal amendment to the Regulations,[1] and

If the project activity did not become subject to carbon tax from 1 June 2019, then the offsets are eligible for the period of their initial crediting period (of registration as approved projects), including initial crediting periods lasting for a stipulated amount of time without the possibility of extension, and such extension of the initial crediting period as may be permissible for approved projects.

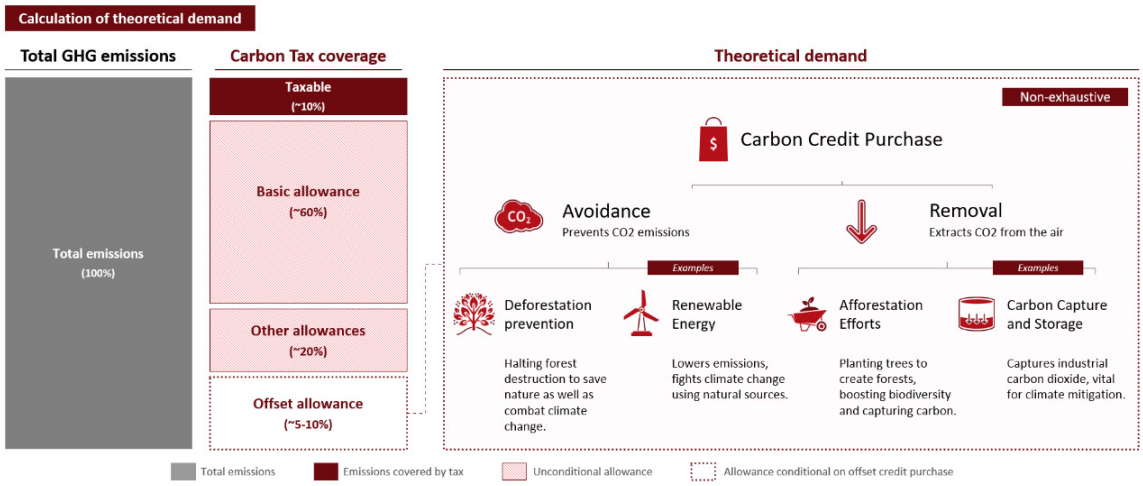
"Approved projects" are project activities registered under the CDM, the VCS, the Gold Standard, and an approved domestic carbon standard.

It is anticipated that the Regulations will be amended to add the Article 6(4) or the Paris Agreement Crediting Mechanism (PACM[11]) as a carbon standard in respect of which an "approved project" can be registered.

Examples of avoidance project types include deforestation prevention and renewable energy while removal project types include afforestation and carbon capture, and reduction projects include activities in the waste management and sustainable agriculture sectors. In South Africa, only credits certified through international standards are eligible to offset carbon tax liability, specifically Verra, Gold Standard, and legacy Clean Development Mechanism certified projects, although it is anticipated that these typically exclude grid-connected electricity generation using hydropower, wind, solar, geothermal, electricity generation using combustion of biomass or lower carbon fossil fuels (e.g., replacing coal-fired power with gas) or installation and/or replacement of power lines.

[11] In South Africa we have been referring to the Article 6(4) mechanism. This is now being referred to as PACM internationally.

Figure 6: Compliance demand is determined by the offset allowance.



Source: South African Carbon Tax Act 15 of 2019; International Monetary Fund 16

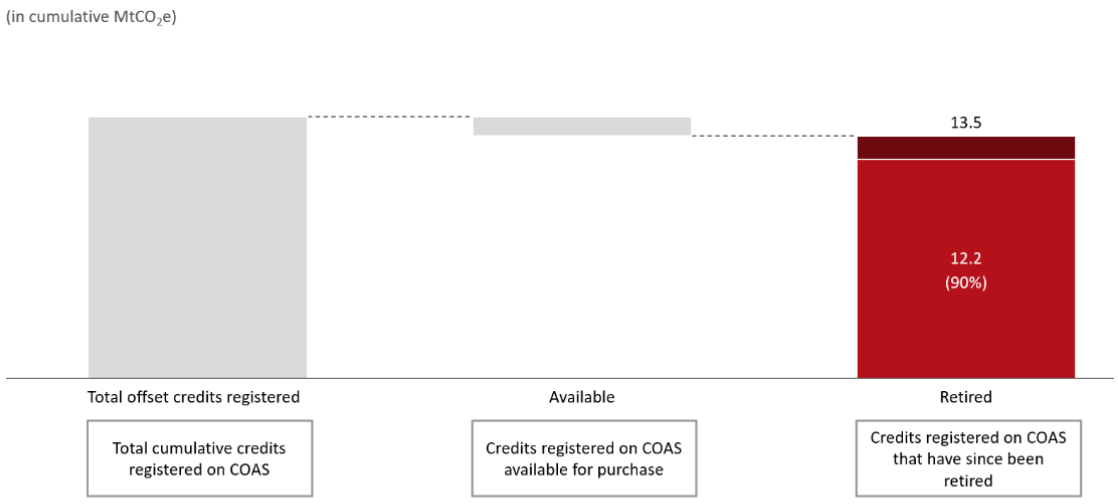
As of 2024, approximately 18.70 $MtCO_2e$ offsets were listed on COAS. With a similar approximate 17.6 $MtCO_2e$ credits having been retired to offset tax liability and 90% of these have been retired by Sasol.

Table 1: South Africa's offsets issuance and retirement (2020-2024).

	ISSUED	RETIRED
2020	4 509 961	4 508 079
2021	5 652 599	5 590 608
2022	3 058 849	2 319 026
2023	1 488 128	1 171 137
2024	3 990 362	3 988 970
TOTAL	**18 699 899**	**17 577 820**

Source: DEE (2025)

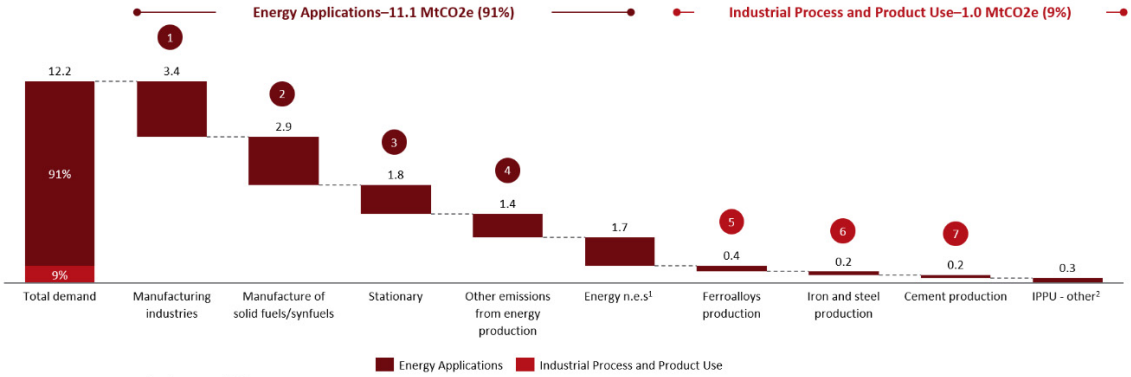
Figure 7: Carbon offset market: registrations, available offsets and retirements (2023*)



1. Carbon Offset Administration System
Source: Carbon Offset Administration System

Theoretical demand in the compliance market is approximately 12.2MtCO2e/year, primarily driven by Energy Applications (91%).[12] Industrial Process and Product use accounts for the other 9%, while Agriculture, Forestry and Land Use is exempted from carbon tax.

Figure 8: Theoretical carbon credit demand by activity, 2021



Energy n.e.s = Energy not elsewhere specified
1. "Energy–n.e.s" includes Commercial/Institutional; Petroleum Refining; Agriculture/Forestry/Fishing/Fish Farms; Civil Aviation; Coal mining and handling; Railways; Oil and Water-Borne Navigation; 2. "IPPU–other" includes Lime Production; Zinc Production; Glass Production; Lead Production and Paraffin Wax Use
Source: Draft Carbon Tax Bill (2017); South African GHG Inventory (DFFE); BCG analysis
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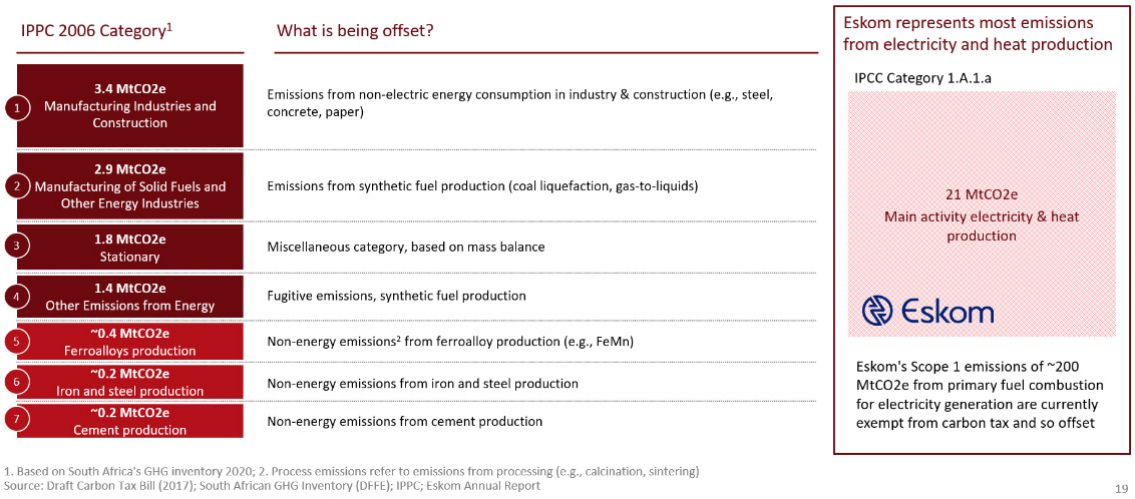
Source: BCG (2024)

[12] Boston Consulting Group, 2024.

Eskom's theoretical demand alone would amount to 21 $MtCO_2e$, tripling the market's demand, if it were not exempt from the carbon tax. This figure is based on Eskom's 2021 emissions of ~206 $MtCO_2e$ which would be eligible for a 10% carbon offset allowance under the Carbon Tax Act.

Figure 9: Overview of IPCC categories and Eskom's potential contribution to theoretical demand



Source: BCG (2024)

Compliance demand will be shaped by the carbon tax legal regime until 2030. However, two areas of developments among others may significantly boost demand.

- **Potential adjustments to the Carbon Tax act from 2026 onwards:** The National Treasury has signalled its intention to raise the activity-specific offset allowance by 5 percentage points form 1 January 2026.[13] Theoretical demand in 2026 will increase by 50-100% (from 11$MtCO_2e$). Note that while removal of the current Eskom exemption to the carbon tax would increase demand by 21$MtCO_2e$, effectively tripling demand even in the absence of the 5% increase in offset allowances, removal of the exemption is unlikely before 2031.[14]
- **Implementation of Article 6.2 of the Paris Agreement:** Overall, the effects of Article 6.2 implementation on the domestic market are not clear. Article 6.2 may increase demand for South African carbon credits - if the government authorises such credits for use under the mechanism. If that is the case, the price of credits from domestic developers may go up. If the price that domestic developers receive exceeds the carbon tax effective price per tonne co2e, this means

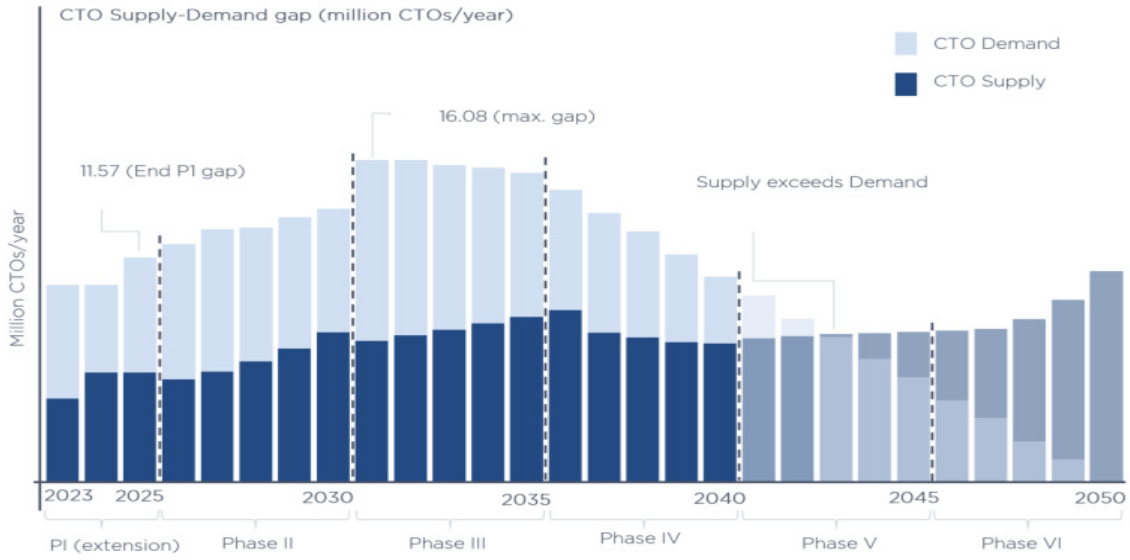
[13] National Treasury, *2025 Budget Review* (Chapter 4), page 68. See also: *National Treasury Carbon Tax Discussion Paper (For Public Comment): Phase Two of the Carbon Tax*, November 2024.

[14] National Treasury, *2025 Budget Review* (Chapter 4), page 68, provides as follows: "Extend the commitment to electricity price neutrality to 31 December 2030. This five-year extension will continue to protect consumers from higher electricity prices. This will be achieved by removing the electricity generation levy from 1 January 2026 and applying the carbon tax on electricity emissions. Electricity generators can continue to deduct a portion of the renewable energy premium from their carbon tax liability to the extent that there would have been a difference between the carbon tax and electricity levy. The carbon tax on electricity generation will be revenue neutral".

that companies covered by the carbon tax would ultimately not have an incentive to offset tax liabilities. The increased price effect may additionally have the medium term effect of encouraging new developers to enter the market. Overall, this means that reduced reliance on offsets in the carbon tax could increase tax revenue, while higher prices and access to international markets would in turn increase cross-border climate finance flows.

As Figure 10 notes, carbon offset demand is forecast to rise strongly in the next number of years. In contrast, carbon offset supply will remain relatively slow. From 2030 onward, demand should slow and supply rise causing an overall shift.

Figure 10: Actual and forecasted carbon offset demand from 2023 to 2050



Source: Brundtland (2023)

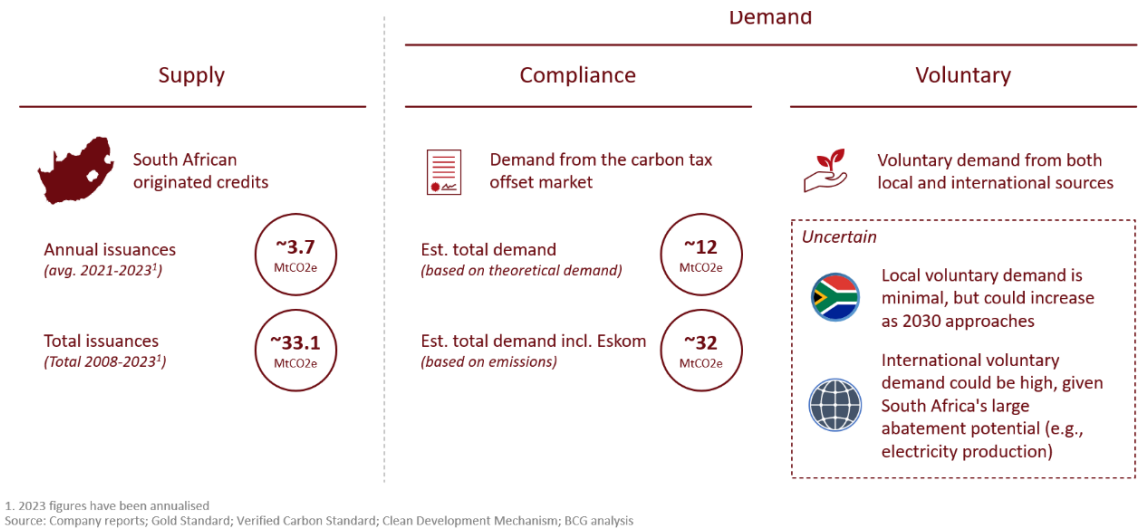
The consequence is that the carbon market is expected to be undersupplied. Estimates vary, but the South African carbon market is approximately undersupplied with theoretical compliance demand (approximately 12 $MtCO_2e$/year) exceeding supply (of approximately 4 $MtCO_2e$/year) by 8 $MtCO_2e$/year from 2021 to 2023. The expansion of carbon tax coverage would increase this shortfall in the absence of significant growth in supply.

Large emitters are currently unable to meet their compliance demand due to the supply shortfall. The compliance market's undersupply will be exacerbated by the end of Eskom's exclusion from the carbon tax legal regime (currently set to end on 31 December 2025 with the National Treasury signalling that the exemption may be extended to 2030)[15]. The end of this exemption would increase

[15] This five-year extension will continue to protect consumers from higher electricity prices. This will be achieved by removing the electricity generation levy from 1 January 2026 and applying the carbon tax on electricity emissions. Electricity generators can continue to deduct a portion of the renewable energy premium from their carbon tax liability to the extent that there would have been a difference between the carbon tax and electricity levy. The carbon tax on electricity generation will be revenue neutral.

theoretical demand to ~32MtCO_2e/year. South Africa's approach to Article 6 of the Paris Agreement (which is still to be determined) and the growth of the local and international voluntary markets also have the potential to increase demand.

Figure 11: Supply and demand dynamics in the South African carbon credit market



1. 2023 figures have been annualised
Source: Company reports; Gold Standard; Verified Carbon Standard; Clean Development Mechanism; BCG analysis

Demand in the voluntary market is driven by the net zero and decarbonization targets set by large, typically listed companies. Several South African companies have set net-zero targets for the next 10+ years. International companies have also set voluntary emissions reduction targets and will be a source of demand for South African carbon credits. Estimates are highly uncertain at present and will be impacted by the price and supply of South African-originated credits relative to credits originated in other markets. However, the expectation is that the market can grow fivefold or more to 2030 as the number of international companies engaging in net zero emission commitments is growing.

2.2 CURRENT GOVERNANCE OF THE CARBON CREDIT MARKET

The South African offset carbon credit market is governed by government departments (such as the National Treasury, Department of Forestry, Fisheries & the Environment and Department of Mineral Resources & Energy) and relies on the so-called independent certification entities such as Verra and Gold Standard that are located outside South Africa and operate internationally. These entities are accepted by the Government to certify credits for use as tax offsets. Going forward, the market will also be shaped by decisions made by the Government, as well as guidance and standards at an international level by standard setting bodies such as the United Nations Framework Convention on Climate Change (UNFCCC) and other bodies that are getting involved in standard setting in this market from the financial and markets integrity perspective, such as the International Organization of Securities Commission (IOSCO).

2.2.1 POLICIES AND REGULATION

Approximately 10 key regulatory frameworks, policies, measures, and standards govern the South African carbon credit market. These are summarised in Table . Key elements that are particularly relevant to the carbon credit market are discussed in the following paragraphs.

Table 2: Overview of key regulatory frameworks, policies, measures and standards governing the South African carbon offset market

COMPONENT			KEY STAKEHOLDERS AND ROLE	DESCRIPTION	IMPACT ON CARBON MARKET
		Nationally Determined Contribution	• Recommended by Presidential Climate Commission • Approved by Cabinet of South Africa	Determines South Africa's national plan for climate change mitigation and commitments under the Paris Agreement	Set emission reduction targets for entire country
		South African Carbon Tax Act of 2019	• Designed by National Treasury (w/consultations) • Administered by SARS	Establishes an explicit carbon tax to meet South Africa's NDCs and stipulates exemptions and tax-free allowances	Establishes compliance carbon market via offset allowances; sets carbon price
		Environment-related taxes (e.g., fuel levy)	• Designed by National Treasury (w/consultations) • Administered by SARS	Generates revenue through taxation of activities with typically negative environmental effects	Establishes the implicit (but non-tradable/non-offsetable) carbon price
		Climate Change Act	• Designed by DFFE (w/consultations) • Aspects currently in consultation	Enables the development of an effective climate change response and a long-term, just transition	Facilitates wide range of climate change mitigation efforts, incl. offsets
		Carbon Offset Administration System	• Administered by DMRE	Facilitates the listing, transfer and retirement of carbon credits to offset carbon tax liabilities	
		Draft Framework for Domestic Standards	• In consultation, mandate the responsibility of DMRE/DEE	Under consultation, determines the eligibility of a local certification standard as eligible in the Carbon Tax offset allowance	

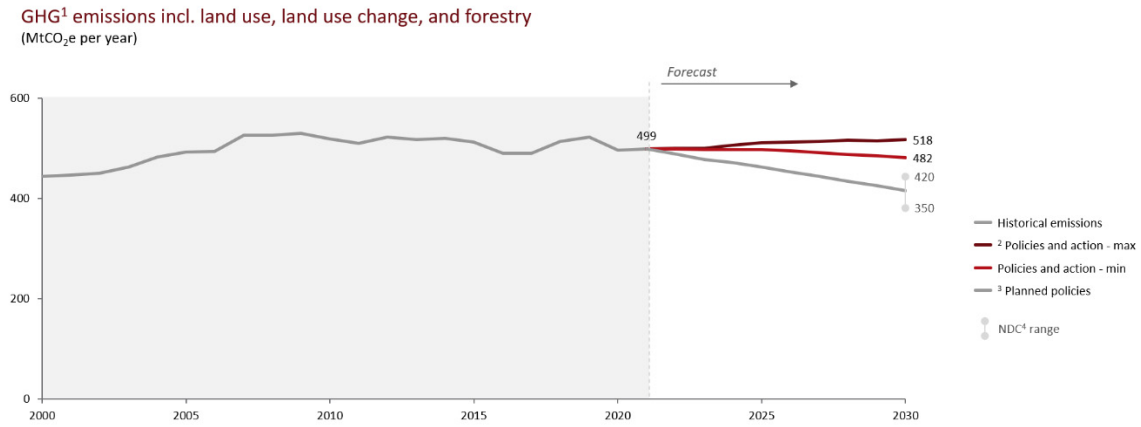
COMPONENT			KEY STAKEHOLDERS AND ROLE	DESCRIPTION	IMPACT ON CARBON MARKET
	VERRA	Verified Carbon Standard	• Administered by Verra	Repository for information and documentation relating to Verra registered and certified projects; facilitates issuance, registration, or transfer of credits in the voluntary carbon market	
	Gold Standard	The Gold Standard	• Administered by The Gold Standard	Repository for information and documentation relating to Gold Standard registered and certified projects; facilitates issuance, registration, or transfer of credits in the voluntary carbon market	
		Clean Development Mechanism	• Administered by the United Nations Framework Convention on Climate Change (UNFCC)	World's first international carbon finance scheme, defined in Article 12 of the Kyoto Protocol 1997, but limited effectiveness due to market crash in 2012	
		Article 6 of the Paris Agreement	• Administered by the United Nations Framework Convention on Climate Change (UNFCC)	Establishes international cooperation in emissions reduction through trading of carbon credits	Creates international compliance market in carbon offset credits

2.2.2 NATIONALLY DETERMINED CONTRIBUTION

South Africa has committed to reducing its GHG emissions from 499 $MtCO_2e$ in 2021 to 350–420 $MtCO_2e$ in 2030, representing a 16%-30% reduction. This Nationally Determined Contribution (NDC) was approved by Cabinet, endorsed by the Presidency and tabled with the United Nations Framework Convention on Climate Change (UNFCCC).

Figure 12: South African greenhouse gas emissions pathways:

South Africa has committed to reducing GHG emissions from 499 MtCO2e in 2021 to 350-420 MtCO2e by 2030



1. Greenhouse gas; 2. Policies and actions refers to current policies, measures etc. in force as of October 2021; 3. Planned policies includes policies indicated or committed, including the scaling-up of current policies; 4. Nationally Determined Contributions
Source: Climate Action Tracker; International Monetary Fund

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2.2.3 PHASED IMPLEMENTATION OF THE CARBON TAX ACT OF 2019

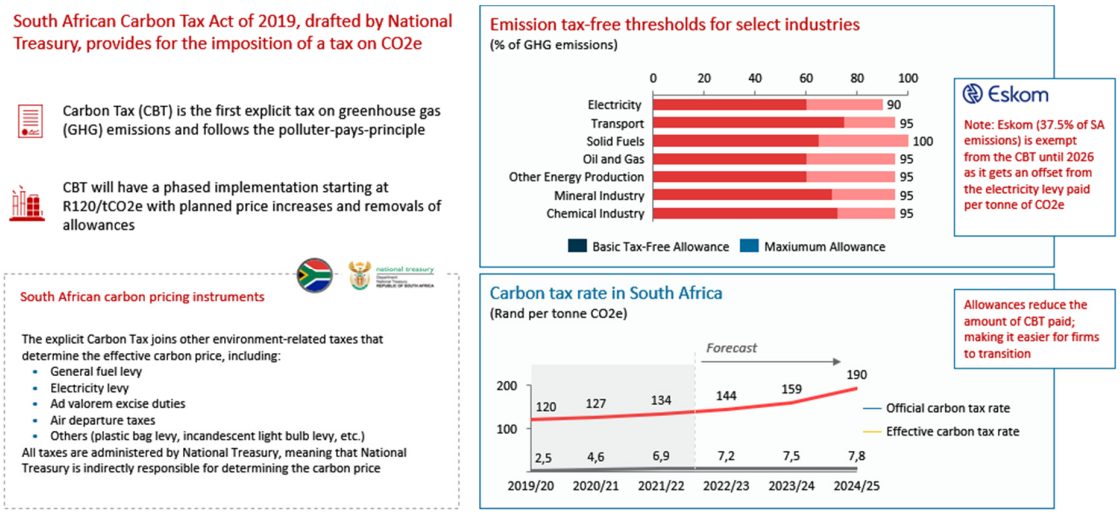
To help reduce emissions, South Africa enacted a suite of policies, including an explicit carbon tax. The Carbon Tax Act of 2019, drafted by the National Treasury, provides for the imposition of a tax on CO_2e emissions. The carbon tax is the first explicit tax on greenhouse gas emissions in South Africa and follows the "polluter-pays-principle". Eskom (37.5% of SA emissions) has been provided specific relief from the tax until at least 2026[16].

Implementation of the carbon tax has been phased to ease the transition with an initial explicit carbon tax of R120/tCO_2e, increasing at an inflation-linked rate until 2022 with adjustments from 2023 onwards aligned with the 2022 Tax laws amendment act. The effective tax rate is lower due to tax allowances of up to 95%. The carbon tax joins other environment-related taxes that determine the effective carbon price, including the general fuel levy, electricity levy, , motor vehicle emissions tax air departure taxes. Since the National Treasury determines policy (and rates) for all taxes, it indirectly sets the carbon price.

[16] Eskom has a statutory responsibility to file carbon tax returns. However it is able to claim a deduction under the carbon tax ie. credit for its electricity generation levy and renewable energy premium (REIPPP). This makes its carbon tax liability zero.

A summary of the Carbon Tax Act framework is provided in Figure 13.

Figure 13: A summary of the Carbon Tax Act



Source: South African Carbon Tax Act 15 of 2019; International Monetary Fund

3 THE LEGAL AND REGULATORY NATURE OF CARBON CREDITS AND OFFSETS

In this section, we briefly outline the current legal and regulatory nature of carbon credits, noting that there are a number of competing views amongst market participants as to both what the current legal status is, and as to what the appropriate legal and regulatory status *should* be. There was, however, consensus that clarity from government would assist market development.

This section distinguishes between the legal nature and the financial regulatory treatment. While these are related, it is important to distinguish the two.

3.1 DEFINING THE LEGAL NATURE OF CARBON CREDITS[17]

Given the rapid development of the carbon credit market, and the significant demand for these credits, the appropriate legal framework becomes particularly important. In this section, we review the nature of carbon credits and how they are created in law, noting the interplay between credits and offsets.

[17] This section draws heavily on two documents prepared as input to National Treasury: A legal opinion prepared by Webber Wentzel / Climate Legal (hereafter WWCL 2024); and a legal opinion by the International Emissions Trading Association for the Carbon Markets Forum (hereafter IETA 2024).

3.1.1 THE CONTEXT

The current global trend is that the demarcation between compliance carbon markets and VCMs is becoming less distinct. Article 6 and carbon tax offset markets (compliance) are increasingly using the same service providers and infrastructure as voluntary carbon markets.

In South Africa, the legislation essentially creates a hybrid approach in terms of which credits that are typically utilised within voluntary carbon markets (VCMs), such as the Gold Standard and VCS credits, may also be utilised within South Africa's regulated carbon tax scheme. This regulatory scheme effectively bridges compliance carbon markets (CCMs) and VCMs, where traditionally these have operated separately.[18]

This is done in the following way:

- The Carbon Tax Act[19] imposes a regulated obligation on certain emitters to pay a carbon tax in respect of each tonne of carbon dioxide equivalent emitted by their operations.
- Under the Act and Carbon Offset Regulations,20 taxpayers are entitled to an "Offset Allowance", in terms of which they may reduce their carbon tax liability using carbon offsets that meet the eligibility requirements set out under the Act's regulations.
- Carbon offsets are, in terms of the Carbon Offset Regulations, "an avoidance, a reduction or a sequestration of carbon dioxide equivalent (CO2e) emissions recognised in terms of an approved project".
- These may be generated by other parties and sold to the emitters and used to reduce their carbon tax liability. An "offset owner" can either "generating that offset … or by purchasing that offset from another person".
- These credits are brought into the regulated system once they demonstrated to have complied with the unique requirements of the Offset Regulations (for example offsets must be from projects wholly undertaken in South Africa), have followed the regulated procedural requirements to be listed on the South African Carbon Offsets Administrative System ("COAS"),
- At this point they become a "**particular species" of carbon credit, namely a "carbon offset"**[21] ultimately (and only) destined for retirement under the Carbon Tax Act.

Essentially there is a process by which "carbon credits" are converted to "carbon offsets" – this particular "species of carbon credit'[22] that has value because it can be used to reduce a tax liability under the Carbon Tax Act's offset allowance.

[18] WWCL 2024 at para 2.8.

[19] Carbon Tax Act of 2019 (Act No. 15 of 2019).

[20] GN 1556 of 29 November 2019: Regulations on Carbon Offsets under section 19 of the Act (referred to in this document as the "Carbon Offset Regulations".

[21] This terminology is from WWCL 2024 at para 2.7.

[22] See again WWCL 2024 at para 2.7.

This consultation paper uses the term “carbon credits” and “carbon offsets” as described on page 7, however, they should be seen as two distinct concepts with specific legal and regulatory meanings in the South African context. In the domestic market:

- A “carbon offset” has tangible realisable value in South Africa because it can be used to reduce a tax value.
- A “carbon credit” can have value if it is easily convertible into a “carbon offset”. If, however, there are frictions (costs, time delays etc.) that make it difficult for the credit to become an offset, then the value of credits will fall and the market for credits will freeze.

Carbon credits can also accrue value in another way.[23] There could also be increasing demand for carbon credits in South Africa from the private sector outside of a desire to use them as offsets. This is underpinned by companies seeking to meet their voluntary climate targets in the context of Environmental, Social and Governance objectives.

As such South Africa has both a quasi-regulated market for carbon credits that covers only VCS, Gold Standard and CDM credits, which imposes limitations on the nature and vintage of carbon credits that can be used within the system, as well as a much broader voluntary market for credits that do not need to comply with any regulated requirements and which can relate to any carbon standard.

If it is intended to regulate all forms of carbon credits in the country, it would be important to take account of these two parallel markets. Moreover, the design of the Carbon Offset Allowance and regulations relating to the use of offsets has implications for how they might be treated as a form of intangible property.

The transition of the CDM into the Article 6(4) or Paris Agreement Crediting Mechanism (PACM)may see a further merging of the distinction between compliance credit markets and voluntary credit markets, with countries generally moving towards a more regulated approach under Article 6.4, including potentially the regulation of voluntary credits. The Department of Forestry, Fisheries and the Environment is in the process of developing an Article 6 strategy for the country, including potentially the development and alignment of inventories and systems including the COAS and existing South African Greenhouse Gas Emissions Reporting System and associated National Emissions Inventory System.

3.1.2 THE NEED FOR FUNGIBILITY

As noted above, the value (and by extension tradability) of a carbon credit arises because it can be converted into something with value – either an offset or a credit that can be used to meet a voluntary obligation.

This is essentially the fungibility of the credit – that is the interchangeability of a good or asset with other specific goods/assets. Credits are fungible if they are easily interchanged for cash (e.g., if a credit is sold to an emitter) or can easily be exchanged into offsets.

[23] WWCL 2024 at para 2.10.

As far as possible, credits should be interchangeable for purposes of satisfying settlement obligations. The key issue is to determine the minimum parameters required for credits to be considered equivalent for the purposes of discharging an obligation to transfer a credit.

Identifying the exact legal nature of a carbon credit is a core component of ensuring fungibility. Based on the Webber Wentzel / Climate Legal opinion, from a South African property law perspective, carbon credits are likely to be viewed as:[24]

- intangible (not having physical presence);
- incorporeal (challenging the traditional requirement for a 'thing' to be corporeal in nature);
- "thing" capable of being the object of a right (having an impersonal nature, independent existence, susceptible to human control, and of value);
- a real right (concerned with the relationship between a person and a thing, as opposed to personal rights which concern relationships between persons);
- movable (as the object of the right does not necessarily attach to land and is focused on the project); and
- fungible in certain circumstances (can be replaced with identical credits in some contexts, depending on their specific characteristics and the rules of the markets in which they are traded).

National Treasury supports this interpretation, noting that the Webber Wentzel / Climate Legal opinion notes that carbon offsets (i.e., those listed on COAS) are statutory, noting that:[25]

> *"The fact that the COAS system created by the Carbon Offset Regulations allows for entities to list, transfer and retire certain carbon credits in South Africa supports the notion that the species of carbon credit that is generated on COAS is statutorily recognised through an "ownership repository" that consists of an electronic database reflecting the listing [and] transfer of ownership and retirement of offsets. While determining the true entity that owns the carbon credit is a separate exercise and cannot be determined through COAS registration alone, it is instructive that South African law recognises that rights of ownership over a carbon credit are capable of statutory registration. This supports the notion that South African law would recognise a [carbon offset] as an asset in respect of which entities may have "ownership" and the associated rights, notwithstanding its incorporeality."*

This is important, because *carbon offsets* almost indisputably have both financial value and are property rights but that the standing of *carbon credits* is not as clear.

[24] WWCL 2024 at para 4.9.

[25] WWCL 2024 at para 4.8.2.

3.2 THE FINANCIAL REGULATORY TREATMENT

The question arises whether or not credits should be brought into the financial regulatory treatment.

IETA 2024 notes that:

> *The legal nature of [carbon credits] in private law must be differentiated from the classification under public law. As [carbon credits] are a novel unit, in many jurisdictions there is uncertainty on the definition of a [carbon credits] in private law. Private law governs market interactions between private entities whereas public law governs how public institutions (including Government appointed Regulators) interact with private entities.*

This question is essentially *what should the public law treatment be?* That is – how should the regulators broadly treat carbon credits?

The first question is: to what end - what is the purpose of regulation?

Declaring credits as "financial instruments" under financial services legislation could deal with illicit trading and market abuse, as well as issues of tax evasion. However, it is unlikely to deal with the underlying issues around the integrity of credits: quality, price transparency and varying rules and criteria.[26] These are already largely dealt with through the international system of verification and validation.

The purpose, arguably, of regulation should be on making the market work better – creating a deep and relatively liquid market for carbon credits that can support the growth of the market and ultimately contribute to net zero.

Regulation may have the opposite effect – that is it may create hurdles that make it difficult to overcome.

The next question that arises is *which regulators*?

- SARS: For the purposes of developing a well-functioning market, the one objective of the generation of a carbon credit is to use it to offset a tax liability. The key “regulator” is thus the South African Revenue Service (SARS), insofar as SARS need to be assured that the offset is valid for the purposes of the offset regulations.

  DMRE or AG appointed independent auditor supported by SARS may wish to conduct audits from time to time to verify the legitimacy of offset claims. This aligns with the Carbon Offset Regulations' design which provides for an 'ownership repository' that consists of an electronic database reflecting the listing, transfer of ownership, and retirement of offsets.

  Here the integrity of the entire system is required – from verification and validation through to audits and then conversion to an offset by listing.

  In particular, any concerns with COAS would lead to questions about the validity of an offset.

[26] WWCL 2024 at para 3.11.17.

- FSCA: As the "securities regulator" for South Africa, the Financial Sector Conduct Authority is responsible for standards relating to financial markets and instruments. At present, there is no financial regulatory oversight of carbon markets and FSCA has yet to give guidance on how they may think of the treatment of carbon credits. FSCA's mandate is to (a) enhance and support the efficiency and integrity of financial markets; (b) protect financial customers… and (c) assist in maintaining financial stability. FSCA has a role to play, arguably, in terms of the first component of its mandate, which that carbon credits and offsets are a core part of the long-run development of financial markets. Secondly, which its focus is predominantly on the retail market, it has a role to play in terms of protecting buyers and sellers of carbon credits from fraud, misrepresentation, misselling and the like. However, its primary role should be market development – that is assisting in creating a viable and deep market. This fits squarely into the overall objective of enhancing the efficiency and integrity of financial markets. However, it primary role should be market development – that is assisting in creating a viable and deep market. This first squarely into the overall objective.
- JSE. The Johannesburg Stock Exchange (and other exchanges) are *self-regulatory organisations,* in that the exchange sets the standards for instruments listed on that exchange. In that capacity, the JSE has already taken steps to create listed carbon credits. This is possible to do in their capacity as a self-regulatory organisation. There are drawbacks – one of which being that the market for carbon credits is not necessarily that liquid. Credits adjust in value as the carbon tax rises and there is no "daily" price discovery process (other than, for example, a currency impact). For this reason, credits are less like other securities or derivatives.
- Financial Surveillance Department of the South African Reserve Bank (SARB), or "Excon". As we note in the box, "Excon" can impose controls on the cross-border transfer of carbon credits and offsets. This can severely curtail the fungibility of the market.

The regulatory treatment can be through a range of options, including commodities, financial products under the FAIS Act, financial instruments or securities. The advantages, disadvantages and tax treatment of each is set out in Table .

Table 3 Potential financial regulatory approaches

POSSIBLE APPROACHES	ADVANTAGES	DISADVANTAGES	TAXATION
Commodities	VCCs have some characteristics in common with other commodities: tradable assets by mother nature, upstream and downstream role players, fungible, etc. VCCs are being traded as commodities internationally. Treating VCCs as commodities would simplify their regulation, which in turn may make project development	The theoretical legal grounds for treating VCCs as commodities are relatively tenuous, as commodities are usually corporeal and tangible property, whereas VCCs are incorporeal, intangible property. Acquiring and disposing of the underlying commodity is often regulated by regulatory authorities outside of the Financial Sector	Generally, a commodity is a basic good used in commerce that is interchangeable with other goods of the same type. Commodities are most often used as inputs in the production of other goods or services. Thus, the term usually refers to a raw material used to manufacture finished goods. Amounts received or accrued from the

POSSIBLE APPROACHES	ADVANTAGES	DISADVANTAGES	TAXATION
	and trade in VCCs more accessible to smaller scale project developers and traders. This would support DMRE's desire to enhance market access to smaller participants.	Regulators. If VCCs are to be considered as commodities, their acquisition and disposal would likely be regulated by the DMRE or the DFFE. There is potential for abuse in the spot trading market in respect of commodities, which is less regulated	disposal of a commodity may be subject to CGT or income tax depending on whether the
Financial products under the FAIS Act	VCCs would not be regulated, however, persons rendering services in relation to VCCs would be regulated. This may improve the legitimacy of the off-market trade in VCCs.	This option does not necessarily establish a market for VCCs and may inadvertently capture persons rendering services in relation to VCCs who do not require oversight and licensing thus stifling the trade in VCCs. This option is temporary	Refer to the findings on financial instruments above.
Financial instruments under the FSR Act	As VCCs and their providers (most likely project owners) would be subject to regulation, specific standards and requirements can be imposed to regulate VCCs and their providers.	overall transaction costs, and indirectly stifle the growth of the domestic carbon market in circumstances where project developers may already be paying prohibitive project development, registration, and related transaction costs.	If a VCC were to be categorised as a 'financial instrument' as defined in section 1 of the ITA, any provision in the ITA that applies to 'financial instruments' would also apply to VCCs and the tests applied for the taxation of the 'financial instruments' would then be applied for the taxation of carbon credits. Cryptocurrency or crypto assets are an example of assets that fall within the definition of 'financial instrument'.
VCC Derivatives	Trading VCCs through a derivative structure on a licensed exchange will improve price discovery and enable the trading	Derivatives can be traded over the counter in terms of National Treasury's policy	If VCCs are broadly interpreted to be a 'derivative instrument' and/or 'securities' under the FM Act, it would be recognised as a

POSSIBLE APPROACHES	ADVANTAGES	DISADVANTAGES	TAXATION
	of VCCs in regulated financial markets. VCCs can be traded in a regulated market without VCCs being declared a "*financial product*", or project owners and third parties being licensed. No need to declare, designate or prescribe VCCs as any form of financial product, financial instrument, or security.	document on OTC derivatives. The relevant exchange's listing requirements would need to be amended and their systems would need to be interoperable with third-party registers to allow for "physical" settlement of VCCs.	'financial instrument' in terms of the ITA. Generally, receipts and accruals associated with speculation would be of an income or revenue nature, and receipts and accruals associated with synthetic investments or hedging would be of a capital nature.
VCCs as "*securities*" as defined in the FM Act	Securities do not necessarily need to be traded on exchanges. Four recently de-listed companies have chosen to continue to settle their shares electronically via Strate. Strate provides both JSE-listed and any unlisted companies a facility whereby they are able to dematerialise, clear and settle shares in the Strate environment. Trading VCCs on a licensed exchange will improve price discovery and enable the trading of VCCs in regulated financial markets. VCCs can be traded in a regulated market without VCCs being declared a "*financial product*", or project owners and third parties being licensed.	Revisions to CSDs systems to allow for VCCs to be registered, alternatively, third party registers to be licensed as CSDs which is unlikely to be viable. As a further alternative, the clearing and settlement provisions in the FM Act would need to be revised to specifically address the specific settlement requirements of VCCs. This will require extensive legislative intervention.	

Source: WWCL (2024) at para 4.12

3.3 ENSURING CONSISTENCY WITH THE FINANCIAL MARKETS ACT

The proposed design of the market architecture for the carbon market has been anchored in the legislative framework (the Financial Markets Act of 2012), and the principles articulated in the Financial Market Review published by National Treasury, South African Reserve Bank and Financial Sector Conduct Authority in 2020[27].

In essence, in fair markets, participants act in accordance with consistently applied standards of market conduct, and there is information symmetry and transparency, equitable market access (either directly or through intermediaries), competitive neutrality, and market integrity. Markets are effective when they meet the needs of participants and the real economy in terms of financing and risk management, freely and without frictions. Fairness and effectiveness are reinforced by sound governance, accountability, internal controls, and risks management structures; and surveillance and enforcement mechanisms that effectively deter, detect, and penalise market abuse.

EXCHANGE CONTROL CONSIDERATIONS

There is no current exchange control policy framework that would provide for VCCs. While the issuance, sale and retirement of VCCs as commodities could be tracked via the relevant international standard, from an SA perspective, only those carbon offsets recognised in the registry established under the COAS,28 would have a 'paper trail' which creates challenges from an exchange control perspective for VCCs not recognised in a registry.

In terms of current exchange control policies for VCC Derivatives, there is provision for hedging operations which could cover VCC Derivatives with the requirement that the VCCs would need to be subject to International Swaps and Derivatives Association agreements and that they must be quoted and traded on a licensed exchange.

The Currency and Exchanges Manuals currently outline the capacity of Authorised Dealers to enter into certain derivative transactions with their non-resident clients for hedging purposes on certain prescribed conditions and the Currency and Exchanges Manual deals specifically with these prescribed conditions.

With regard to South African residents, the overall effect of the Currency and Exchanges Manuals is such South African residents are only allowed to enter into derivative transactions with or through Authorised Dealers, unless they have applied for and have been granted specific permission / exemption to face a non-Authorised Dealer under a derivative transaction. This generally means that a South African resident is required to enter into OTC transactions with an Authorised Dealer unless the resident has a specific approval or exemption for the transaction to be effected with a non-resident / non-Authorised Dealer.

Transactions which are not specifically regulated by the Currency and Exchanges Manuals and Transactions which exceed the parameters and/or authorities set out in the Currency and Exchanges Manuals may only be concluded subject to a specific approval under the Exchange Control Regulations granted pursuant to a specific individually motivated application to FinSurv for exchange control approval.

It should also be noted that South African residents are subject to exchange control restrictions in respect of offshore investments.

VCCs as a "security"

[27] **National Treasury (2020). Financial Markets Review. Pretoria: Own publication.**

[28] Since the Carbon Offset Regulations provide for the cancellation, listing, third party transfer of offsets between offset owners and retirement of carbon offsets.

There is no current exchange control policy framework that would provide for trading in VCCs as a security and a policy framework would need to be developed in conjunction with the relevant exchange. Where a VCC is treated as a security in order to allow it to trade on a licensed exchange, it may be sensible to treat VCCs traded on such basis in the same manner as other securities from an exchange control perspective.

VCCs as a "financial instrument"

There is no current exchange control policy framework that would provide for trading in VCCs as a financial instrument and a policy framework would need to be developed.

CONCLUSIONS AND RECOMMENDATIONS

Save for the case of VCC Derivatives, which could arguably be captured by existing exchange control regulations and policies, current exchange control policy frameworks do not adequately cater for VCCs. If VCCs are considered to be a commodity, while the issuance, sale and retirement of VCCs could be tracked via the relevant international standard, from an SA perspective, only those carbon offsets recognised in the registry established under the COAS,29 would have a 'paper trail' which creates challenges from an exchange control perspective for VCCs not recognised in a registry.

Input from market participants on the appropriate exchange control treatment of Carbon Credits is requested, with the following questions:

- What is the most appropriate Excon treatment of Carbon Credits given the need to develop the market?
- How would bringing in different legal structures affect the exchange control treatment of different instruments?
- Should specific guidance be given on Excon treatment?

Similarly, the Bank for International Settlements (BIS) and International Organization of Securities Commissions' (IOSCO's) Principles for Financial Market Infrastructures,[30] emphasises that the rules and procedures governing the functioning of the market should be transparent; access to participants should be fair and open; the market should meet the requirements of its participants efficiently and effectively; and accurate market data should be made available in a timely manner.

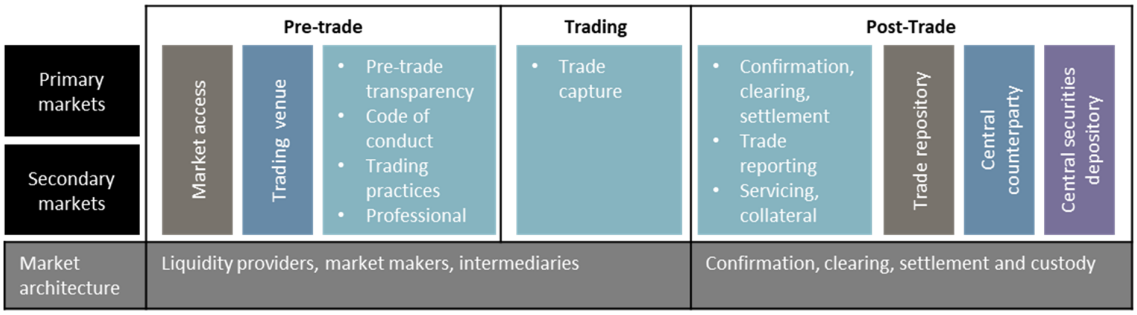
Economically, a financial market should create a market venue, reduce search costs, address coordination problems, enable efficient market access with low costs, better match market participant needs, and enable the real economy by supporting a freer flow of credit, goods, services, price discovery, risk dissemination and management and overall allocation of capital to support economic growth.

The market architecture needed to address the main phases of the trading value chain (see Figure 14): pre-trade, trading, and post-trading. Pre-trading includes the issuance of credits, and pre-trade price discovery. Trading includes execution, trade documentation and trading practices. Post-trading includes clearing, settlement and custody and post-trade information. All stages are underpinned by data and information and technology infrastructure.

[29] Since the Carbon Offset Regulations provide for the cancellation, listing, third party transfer of offsets between offset owners and retirement of carbon offsets.

[30] BIS and IOSCO (2012)

Figure 14. Phases of the trading value chain



Source: FirstRand

THE LEGAL STANDING OF EXISTING CENTRAL SECURITIES DEPOSITORIES

Operators of existing financial market infrastructure licensed under the Financial Markets Act possess the necessary skills, infrastructure and experience to render Post-Trade functions for carbon markets. Unless treated as "securities" for purposes of the Financial Markets Act, carbon credits cannot be cleared and settled through financial market infrastructure in the ordinary course. However, As such functions would amount to "additional business" under the Financial Markets Act, it must be assessed whether rendering such functions would result in a conflict of interest for the financial market infrastructure for purposes of both sections 61(2) and 62 of the Financial Markets Act. Following consultation between the financial market infrastructure and the Financial Sector Conduct Authority, the Financial Sector Conduct Authority may (after consultation with the Prudential Authority and the South African Reserve Bank), make a determination specifying requirements in relation to the market infrastructure carrying on of such functions.

In addition, the market architecture needs to consider the architecture for both the spot market, i.e., where carbon credits that have already been issued are traded for immediate delivery, and the derivative market, where forwards or options could be traded. Generally a well functioning spot market will support the development of a derivative markets. Forward contracts will enable the purchase and sale of carbon credits to be delivered in the future and a forward curve for the price of carbon credits going out into the future to be established. This forward curve can provide greater certainty regarding the potential revenues that could be generated by projects, enabling them to be financed more easily. Derivatives serve an important purpose in risk management. They allow for flexibility and financial innovation that can make a market more complete. This makes the market more efficient.

By bringing speculators into the market, derivatives boost market liquidity and reduce transaction costs[31]. The Taskforce on Scaling Voluntary Carbon Markets[32] recommends building or utilising existing high-volume trade infrastructure; creating or utilising existing post-trade infrastructure; and implementing advanced data infrastructure. It is recommended that the Taskforce recommendations are applied as far as possible to South Africa.

[31] Sill (1997)

[32] Ibid 2023, now known as the Integrity Council for the Voluntary Carbon Market (ICVCM)

RECOMMENDATION

The legal treatment of the broader carbon credit universe (both full voluntary credits and credits that the owner intends to list on COAS) is unclear. Enhancing the legal standing will improve the tradability, clearing and settlement of the instrument, which is discuss in more detail below. Having a legal definition in financial regulatory law would also improve certainty over financial institutions engagement in financing carbon credit projects, holding carbon credits as inventory and trading. This would be critical for improving access to financing by carbon credit project developers and therefore to support a sustained supply decarbonization projects and of carbon credits.

As noted by the legal opinion,[33] carbon credits could be treated as a commodity. However, commodities are:

- Usually corporeal and tangible property, whereas carbon credits are incorporeal, intangible property (and a real right).
- The spot trading market is primarily unregulated, which leaves room for abuse.
- Trading is based on the physical nature of commodities – they are usually real items that can be bought or sold.
- Treating them as commodities will not solve the legal problem that there is no legal framework for them – indeed "commodities" are not defined in the financial sector law.

It is accepted that "treating" carbon credits as commodities would simplify their regulation, which in turn may make project development and trade in VCCs more accessible to smaller scale project developers and traders. This is the approach that has been adopted in some jurisdictions, as more carbon exchanges emerge and aligns with the approach adopted by some of the South African banks. There is no financial sector law that allows for the legal designation of commodities. Even the Diamond Act (no 56 of 1986) does not define a "diamond" nor does the Precious Metals Act (no 37 of 2005) define Precious Metals.

The only way to bring a carbon credit in as a commodity is to create a derivative instrument, which comes with a number of other complexities, including the need for traders in carbon credit derivatives to register as over-the-counter derivative providers.

A second option is that carbon credits are classified as (unlisted) securities in terms of subsection (d) of the definition of securities in the Financial Markets Act. This has a number of benefits –

- It will facilitate a broader engagement of banks and asset managers in financing projects.
- it will clarify that carbon credits can be traded over-the-counter
- It will open up the possibility of clearing and settlement in a designated central securities depository
- The option arises that they can be listed.
- Moreover, there is no direct regulation on the issuers of unlisted securities - currently many companies issue unlisted securities and indeed some companies use financial market infrastructure (STRATE) to settle and clear their unlisted securities.

Companies may elect to list these securities, indeed the JSE has already piloted a scheme for listing of VCCs. However, this would not be mandated.

Feedback from industry on the two options (either unlisted security or commodity) is requested.

[33] WWCL (2024) at para 4.11.1

4 THE CARBON CREDIT VALUE CHAIN

This section identifies the elements of the "carbon credit value chain" – i.e., the process by which a carbon credit is generated, validated and certified, traded, and utilised / retired (e.g., as an offset).

The section proceeds from the proposal that carbon credits are treated as (unlisted) securities.

Drawing from stakeholder engagement, the challenges in each part of the system are identified, with the intention of understanding which elements are binding constraints to the development of the market.

TERMINOLOGY

Participants in the carbon credit market use slightly different terminology from those in the financial market, particularly in South African legal sense, which can lead to misunderstandings.

For example, "carbon trading" used loosely effectively maps to three separate financial market regulatory activities: "trading", "clearing" and "settlement". Each of these is defined in its own chapter in the Financial Markets Act (FMA, 2012) and refers to a different part of the process of exchanging a "financial instrument" for cash or for another instrument**.**

- "Trading" (see Chapter III of the FMA) is the process of matching a buyer and a seller. It can take place either on an organised venue (such as an exchange or on a trading platform) or bilaterally (referred to as "over-the-counter"). In 2012, South Africa opened up trading venues to allow for multiple types. Further reforms are planned;
- "Clearing" (chapter V) is the process of checking that the two parties to the trade can legally participate (e.g., that the buyer has the cash and that the seller has the security);
- "Settlement" (chapter IV) is the process of exchange of cash for a security; and
- Recording of trades in a "trade repository" (chapter VI), designed for recording of derivative trades.

The Financial Markets Act does not have the concept of a "registry", which is a widely used term amongst carbon market participants.

The closest financial market infrastructures in law are a "central securities depository", which is can "make entries in respect of securities", or a "trade repository". However, a registry as usually referred in the carbon markets has elements of trading, clearing and settlement. This is not possible in terms of the Financial Markets Act as international best requires the different components to be clearly defined and segregated for risk management and market conduct reasons.

This is discussed further in the individual sections on each component of this consultation paper. However, for the purposes of this paper, terminology generally refers to the Financial Markets Act definitions.

4.1 OVERVIEW OF A CARBON CREDIT LIFECYCLE

There are a number of stages in the typical lifecycle of a carbon credit. Usually, the process starts with a project developer identifying a carbon project to reduce, avoid or remove GHG emissions. The project developer prepares documentation on project that is submitted to a carbon crediting mechanism.

Carbon credits are generated through different means, including the avoidance, mitigation/reduction and removal (or even sequestration of emissions), using both technology- and nature-based approaches. For instance, emissions may be avoided or reduced through changing

industrial processes to emit less GHG or limiting deforestation. Similarly, emissions can be removed through carbon capture and storage as well as reforestation. Internationally, credits generated through removal or sequestration attract a price premium compared to those created through avoidance or reduction,[34] as the environmental integrity of these credits tends to be higher, and their use is perceived as more "legitimate."

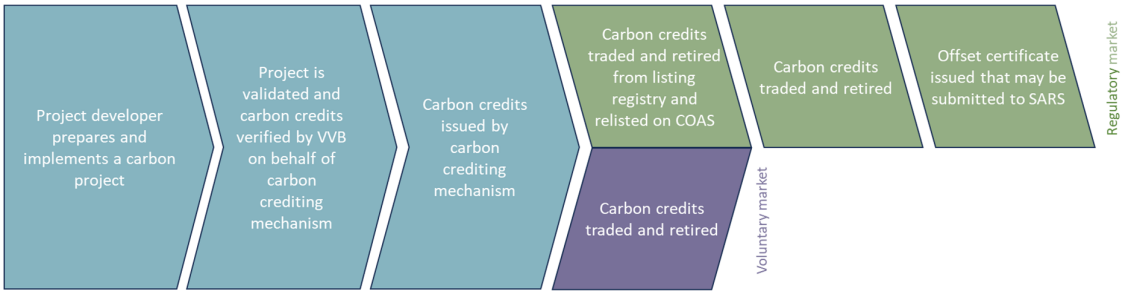
On behalf of the carbon crediting mechanism, **a validation and verification body (VVB) audits the project** in accordance with the relevant methodology and, if the project receives a positive opinion, it may be registered with the carbon crediting mechanism. Once the project has been implemented, regular audits are carried out by a VVB to determine the actual amount of GHG emissions that have been mitigated. Based on the results of the audit, the carbon crediting mechanisms issues the carbon credits, which are usually held on the register of the relevant carbon crediting mechanism, where they may be traded. Market participants that wish to use the carbon credits for voluntary purposes, simply retire the credits.

If carbon credits are intended to be used as tax offsets in South Africa the carbon credits are cancelled on the registry of carbon crediting mechanism that issued them and them relisted on COAS. When used as offsets they are retired on COAS effectively into the SARS account.

It is important to distinguish between terminology. They are voluntarily cancelled (not retired) on registry of origin, listed as offsets on COAS and retired against a tax liability. To do so, the project from which the carbon credits originated meets the requisite criteria and have obtained an Extended Letter of Approval (ELOA). On COAS, the transfer and change in ownership of carbon credits is catered for that is, carbon credits may still be traded, before being retired.

An offset certificate is issued that may be submitted to the South African Revenue Service (SARS) to mitigate the end-user's carbon tax liability. This process is illustrated in Figure 15.

Figure 15. Carbon Credit Lifecyle



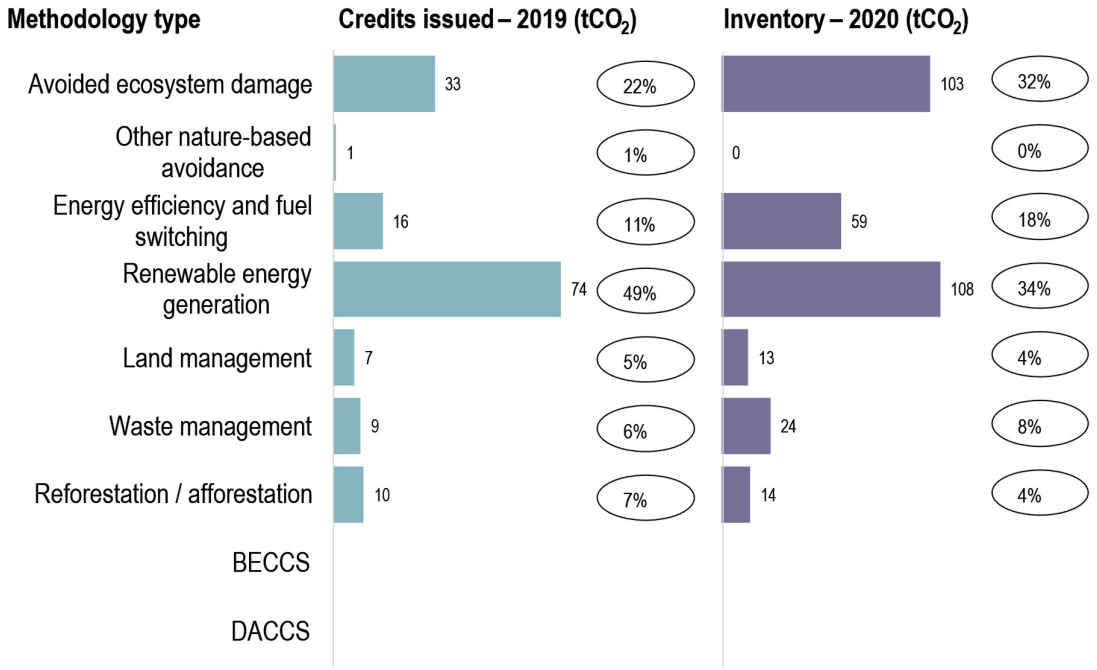
The main market participants are project developers, offset purchasers (corporates, both those subject to regulatory schemes and voluntary participants), NGOs, and governments, as well as intermediaries like traders, brokers, and banks.

[34] World Bank (2024) *State and Trends of Carbon Pricing 2024.* World Bank

Other important stakeholders in the market include governments, carbon crediting mechanisms, validation, and verification bodies (VVBs), rating agencies, insurance companies, market intelligence providers, institutions setting standards of good practice and financiers of emission mitigation projects.

Internationally, in excess of 80 percent of carbon credits are based on three main methods of avoiding or reducing emission: renewable energy generation, avoidance of ecosystem damage, and energy efficiency and fuel switching (see Figure 16). Waste management and reforestation or afforestation are the only removal categories currently at scale. Bioenergy with carbon capture and storage (BECCS) and Direct air carbon capture and storage (DACCS) have been identified as important categories that could be scaled in the short- to medium-term.

Figure 16. Current state of the carbon credit market internationally



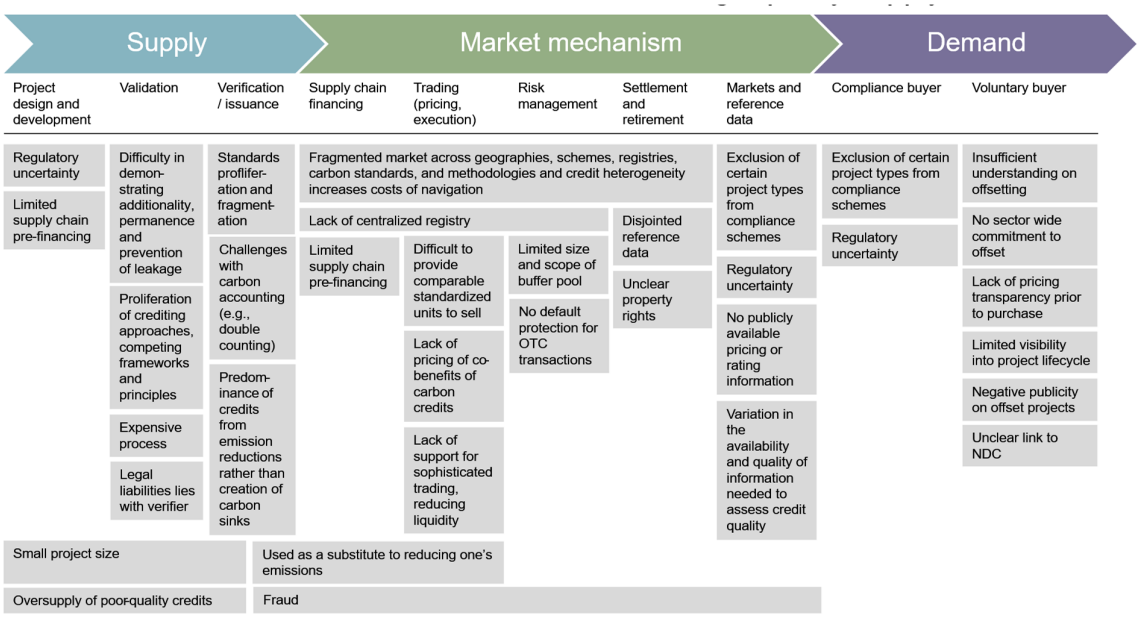
Source: Taskforce on Scaling Voluntary Carbon Markets (2021)

Internationally, carbon markets currently face numerous challenges (see Figure 17). The supply of carbon credits is hampered by challenges in attracting financing for early-stage development of carbon projects, the high costs of project validation and verification of the credits, and difficulties demonstrating additionality, permanence, and prevention of carbon leakage. Markets are highly fragmented across geographies, carbon crediting mechanisms, registries, and credit heterogeneity, making it difficult to provide comparable, standardised units to trade and increasing the costs of participating in the market. Pricing information is not publicly available, and there is insufficient support for derivative transactions that could boost liquidity. These problems are exacerbated by regulatory uncertainty, e.g., regarding the nature of carbon credits, and their tax and accounting, and regulatory treatment. Voluntary credit markets face specific challenges; unlike the compliance credit market, there is no statutory or legal framework governing the voluntary credit market. Insufficient

consensus on the legitimacy of offsetting emissions, and questions regarding the quality of carbon credits, moderate voluntary market demand.

These challenges are also evident in the local market. In particular, the high cost of certifying the credits is aggravated by a lack of accredited, local validation and verification auditors. The protracted process which can take in excess of 12 months (including requirements for public consultations), and high degree of uncertainty with regards to success add to the costs. The high costs are prohibitive for small projects. Moreover, the methodologies applied by the international carbon crediting mechanisms do not always take account of the local context; in particular, they exclude grid-connected renewable generation projects other than in least developed countries, whereas, in South Africa, where the local grid has a very high carbon emission factor at more than 1,000kg of carbon-dioxide equivalent per MWh, such projects are a key means of reducing emissions.

Figure 17. Challenges Facing Carbon Markets



Source: Taskforce on Scaling Voluntary Carbon Markets (2023)

In the next few sections we discuss specific aspects of the carbon market value chain highlighting constraints and potential areas for improvement.

Figure 18: Overview of key stakeholders and activities along the value chain

Source: Stakeholder interviews; Company websites

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4.2 THE ROLE OF REGISTRIES

Registries play a critical role in carbon markets. They serve as centralised systems for tracking, verifying, and managing carbon credits throughout their lifecycle. Their primary functions include issuing carbon credits once projects have been validated and verified, ensuring that each credit corresponds to a verified reduction or removal of greenhouse gases. Registries also maintain transparent records of ownership to prevent double counting or fraudulent claims, as each credit is assigned a unique identification number. Additionally, they facilitate the trading of credits by recording transfers between buyers and sellers and ensuring that retired credits (used to offset emissions) are permanently removed from circulation. By providing transparency, credibility, and accountability, registries help build trust in carbon markets and ensure the environmental integrity of carbon credits.

No carbon credit should exist outside a registry, which must provide for the issuance, trading, and retirement of the credit.[35]

In carbon credit markets, registries fulfil equivalent functions that a **central securities depository** (CSD) fulfils in financial markets. A CSD is an entity that provides securities accounts, central safekeeping services, and asset services. CSDs play an important role in helping to ensure the integrity of securities issues (that is, ensure that securities are not accidentally or fraudulently created or destroyed, or their details changed). In terms of the BIS/IOSCO principles, a CSD should have appropriate rules and procedures to help ensure the integrity of securities issues and minimise and manage the risks associated with the safekeeping and transfer of securities.

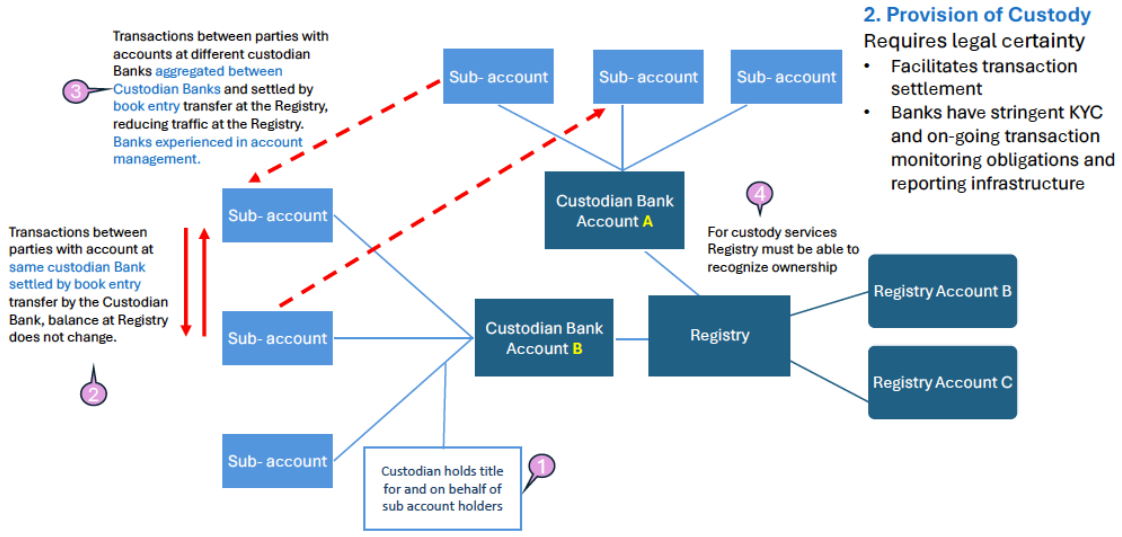
[35] Carbon insetting and carbon offsetting are both ways to reduce a company's carbon footprint, but they differ in their impact and the level of control the company has over the project. Insetting focuses on reducing emissions within a company's operations, while offsetting involves purchasing carbon credits from external projects.

The Partnership for Market Readiness has highlighted that registries:

- need to maintain a complete and accurate record of ownership of carbon credits and the ownership history;
- they need to be able to timeously process transactions to list the credits (including transferring from other registries);
- transfer ownership; and
- retire credits.

They must operate efficiently in order to keep costs low. Access must be provided to the administrator of the registry, market participants, and regulators.

Figure 19: The role of registries



Source: IETA

Registries face a number of risks, notably security risks. They need to have procedures in place to ensure the environmental and market integrity of the carbon credits. Importantly, the platform on which the registry is built must be able to withstand cyber-attacks.

4.2.1 CURRENT REGISTRIES IN SOUTH AFRICA

The term "registry" is used for institutions that provide a variety of different functions in the carbon market space. There are three types of registries: (i) government-owned registries; (ii) registries in the voluntary carbon market; and (iii) global multilateral registries.

There are several types of registries operating in South Africa serving different types of carbon markets segments, and with different functionalities and institutional set up:

- **The Carbon Offset Administration System (COAS)**. It was formally created under the 2019 Carbon Tax Act and launched on July 23, 2020. It was specifically set up for the registration, monitoring, and verification of carbon offset projects. It is an administration platform for the approval of projects as well as the listing, transfer, and retirement of carbon credits to offset carbon liabilities. It is operated by the Department of Electricity and Energy on behalf of the National Treasury.
- **Domestic Voluntary Carbon Markets Registries.** Each of the two domestic Carbon Certification entities (Credible Carbon and Inclusive Carbon) own and operate their own registry for the carbon credits they certify for the Voluntary Carbon Markets. These registries have no interaction with COAS since domestic carbon certification entities are not as yet accepted in the carbon tax offset markets.
- **International Voluntary Carbon Market Registries.** These are the two foreign Registries operated by the two Independent Standards, Verra and Gold Standard respectively. Both Standards are accepted in the Carbon tax offset market and therefore their Registries interact with COAS, though still on a manual basis.

The industry standard is that the Registries are owned and operated by the carbon standards (certification entities), with potential risk for conflicts of interest.

Another type of registry for Article 6.2 and 6.4 emission reduction credits is currently being developed an international level. These registries have developed organically. However, there is not a country policy on what the approach should be on registries for a larger and more efficient domestic carbon market connected with the international market. The policy should include an approach on whether the country should have a national registry and for which market segments. There should be minimum standards to ensure their trustworthiness and efficiency on their functionalities, operational and physical integrity, transparency, minimum services, and interoperability. Additionally, there should be requirements on their governance to mitigate conflicts of interest.

Other concerns are that different standards are not interoperable - importantly one cannot transfer a credit from VCS to GS let alone from Credible Carbon to GS. The function that the carbon credit registries serve is not just about listing the carbon credits, but also having links to all the information on the projects, VVB reports etc. (Presumably a bit like prospectus, financial statements of companies etc.)

4.2.2 ASSESSMENT OF CURRENT REGISTRY ARRANGEMENTS

COAS was established by Government to administer the carbon tax offset scheme. Projects that meet the qualifying criteria to be used as a tax offset may obtain an Extended Letter Of Approval (ELOA) from the Director General of the DEE (or official to whom the DG delegates the powers as is currently the case with COAS), allowing the projects to register on COAS.

Once such a project has been implemented, carbon credits issued by the approved carbon crediting mechanisms, i.e., the emission reductions have been verified by the standard, may be transferred to COAS. To do so, the credits must first be cancelled in the carbon crediting mechanism's registry before they can be listed on COAS. Within COAS, ownership may be transferred through the owner of the carbon credits issuing a transfer instruction to COAS. When a taxpayer wishes to use the carbon

credits to obtain a tax allowance, they retire the carbon credits, and COAS issues an offset certificate that can be surrendered to SARS.

COAS consists of two distinct components:

- The **project database** is used to store project information, validation and verification reports and listing history aimed at ensuring the environmental integrity of the offset credits in the system.
- The **ownership repository** maintains a record of the ownership of carbon credits and their retirement and is aimed at ensuring market integrity. The system was designed so that the ownership registry could be operated independently and even that multiple registries could be accommodated.

Chapter VI of the Financial Markets Act (Act 19 of 2012) sets out the minimum requirements for the custody and administration of securities, which is to be effected through a central securities depository (CSD). As discussed above, carbon credits are not securities as yet, but the proposal is that they could be treated as such. However, the standards that government requires for securities transfers should as far as possible apply to the transfer of other publicly recognized assets – that is that the regime for the custody and administration of carbon credits should be equivalent to that of custody and trading of securities. Based on interviews with a range of market participants, several areas where COAS does not meet these criteria have been identified.

These include:

- *Lack of trading functionality*. Currently COAS does not allow for trading. Market participants noted that the process for effecting a transfer of ownership and retirement of credits does not have the capacity to handle the higher volume of transactions that may eventually take place in the market and the requisite financial sector and market operation skill set.
- *Misaligned processing*. Market participants noted that COAS operating procedure is not sufficiently aligned with financial market procedures for registrations and listings. COAS would typically take longer than processing times expected in a securities environment, where the transfer of securities is currently on a three-day cycle. These processing times create significant pricing issues – for example, the market value of the credit may move during the registration and listing time.
- *Limited security protocols to safeguard the ownership of carbon credits*. Cyber security is an important consideration and the potential for the system to be "hacked" is a real and present one.
- *No full transferability*. Once credits have been transferred from the registry of the carbon crediting mechanism that issued them onto COAS, it is not possible for them to transferred back. This effectively, closes out options for them to be traded in the international voluntary carbon market, if it became possible for the owner to realise a higher price there.
- *No custody accounts*. The system does not allow users to hold and manage custody accounts on behalf of third parties in addition to their principal accounts.

Article 6 requires that all countries have a national register for tracking carbon credits that are used towards NDCs or as ITMOs. Under the auspices of the German Gesellschaft für Internationale Zusammenarbeit (GIZ), a tender has been issued to appoint a consultant to conduct a technical

assessment of Article 6 registry options for South Africa. One option being considered by the DEE is expanding the functions of COAS for this purpose.

This registry has to perform a very different purpose to the trading...it is just a record of the credits and that the relevant approvals have been granted.

4.2.3 DRAFT ARTICLE 6 FRAMEWORK

With an eye on future development of carbon credit registries in South Africa, the *Draft South African Article 6 Framework* (**Draft Article 6 Framework**)[36] provides a detailed set of consultancy recommendations for the establishment and management of carbon credit registries within South Africa's implementation of Article 6 of the Paris Agreement. A broad view of the consultancy recommendations is as set out below.

The Draft Article 6 Framework recommends the establishment of an Article 6 registry to serve as a *single, national information repository* for ITMOs, and that all ITMO transactions into or out of South Africa must go through this registry to ensure transparent tracking and accurate accounting.

The registry should be established under the Climate Change Act and be interoperable with the Article 6.4 Mechanism Registry (UNFCCC-run), and the registries of other countries with which South Africa has bilateral or multilateral agreements, and would consolidate data from COAS, SAGERS and the DNA's database of Letters of Approval.

The registry would notionally:

- Function as a recording and authorisation system, not as a trading platform and will track project-level and credit-level authorisations, and record issuance, transfer, retirement, and cancellation of carbon credits.
- Distinguish between credits eligible for South Africa's carbon tax system (offsets) and those eligible for international transfer as ITMOs.
- Assign unique identifiers to all ITMOs to ensure traceability and compliance with Article 6.

4.2.4 ROLE OF EXISTING CENTRAL SECURITIES DEPOSITORIES

COAS is the system by which carbon credits are converted to carbon offsets. It was not designed with the intention of managing a trading, clearing and settlement role.

RECOMMENDATION

Registries of international carbon crediting mechanisms that issued the credits to manage the custody of the carbon credits, and domestic players also be allowed to do (e.g., the domestic CSD or a domestic carbon crediting mechanism).

COAS ownership registry to remain only for approval for use as a carbon offsets.

[36] DFFE *Draft South African Article 6 Framework – Management of International Credits/Offsets & Other Article 6 Related Activities*, 2025 (prepared on behalf of DFFE by Promethium Carbon and Climate Legal under a contract with the NDCP.

This would create interoperability with international markets. The registries of these carbon crediting mechanisms are already being used for the settlement of transactions in carbon credits by major exchanges, e.g., CBL Xpansiv. The registries have the necessary environmental and market integrity safeguards in place and provide the requisite trading functionality. They also have the functionality to tag carbon credits that meet specific criteria (for instance, already CORSIA compliant credits are being tagged as such).

New carbon crediting mechanisms are likely to include both the mechanism being developed under Article 6.4 of the Paris Agreement as well as domestic standards. In the event that domestic standards become recognised, rather than each having its own registry, this South African ownership registry could be used.

Importantly, in terms of this proposal, COAS would still have the important function of issuing the ELOA and Article 6.4 LOA and maintaining the project registry. And for Article 6 DFFE would still have the important role of issuing the Article 6.2 approvals.

5 CONCLUSION

South Africa has emerged as a leader in adopting a market-based strategy to manage emissions, setting a notable precedent in environmental governance. The country's innovative approach leverages market based economic instruments, such as carbon taxes, to incentivise businesses to reduce carbon emissions carbon footprint. Introduced in 2019, South Africa's carbon tax aims to nudge companies towards cleaner technologies by imposing financial penalties on greenhouse gas emissions. Additionally, this consultation paper outlines steps to improve the potential for carbon offset scheme that allows companies to invest in sustainability projects as a way to balance out their emissions. These efforts are crucial in a nation heavily dependent on coal and beset by significant environmental challenges, demonstrating a proactive and pragmatic approach to balancing economic growth with environmental sustainability.

This consultation paper sets out a path to unlock the potential for carbon markets. These are grouped in three main areas: (i) unlocking market potential through an increased carbon tax coupled with a higher offset allowance, to stimulate demand; (ii) creating a clear market architecture framework that is aligned with the requirements of the Financial Markets Act, together with legal certainty around the nature of carbon credits; and (iii) advocating for efficient, low-cost certification standards specific to South Africa.

2025 DEVELOPING THE SOUTH AFRICAN CARBON CREDIT MARKET

Consultation Document

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