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Report: Carbon Pricing Mechanisms in South Africa and the European Union and their effects on businesses

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Carbon Pricing Mechanisms in South Africa and the European Union and their effects on businesses

Report by Gray Maguire – August 2022

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Acronyms

AFOLU	Agricultural, Forest and other Land Use
CBAM	Carbon Border Adjustment Mechanism
CEAP	Circular Economy Action Plan
CLEG-E	Combined List of Environmental Goods
CSIR	Council for Scientific and Industrial Research
CTA	Carbon Tax Act
EGD	European Green Deal
ESG	Environmental, Social & Governance
ETS	Emissions Trading Scheme
GFT	Green Finance Taxonomy
GHG	Greenhouse Gas
ICP	Internal Carbon Pricing
ISSB	International Sustainability Standards Board
NDC	Nationally Determined Contribution
SBTi	Science Based Targets Initiative
TCFD	Task Force for Climate-related Financial Disclosures
UNFCCC	United Nations Framework Convention on Climate Change

1. Introduction

The last few years have seen the meteoric rise of carbon pricing mechanisms at national, international and corporate levels in a variety of different formats within both regulatory and voluntary systems. The most common national or sub-national regulatory market systems consist of traded or taxed carbon emissions in either carbon taxes or Emission Trading Schemes (ETS). The most well-established regulatory system is the one of the European Union, which along with the European Green Deal (EGD) form part of the EU's "Fit for 55" Greenhouse Gas (GHG) emissions reduction targets.

As a global pioneer in the development and roll-out of the EGD, the EU is setting an example by establishing new mechanisms that are being emulated around the world. Given the EU's central strategic importance to South Africa as the largest trade partner (the EU accounts for around 20% of South Africa's total annual export value) as well as South Africa's status as the 13th highest carbon emitting country in the world, it is little wonder that so much of the carbon regulatory and green financial mechanisms that have been developed in South Africa over recent years have drawn so heavily from the European experience.

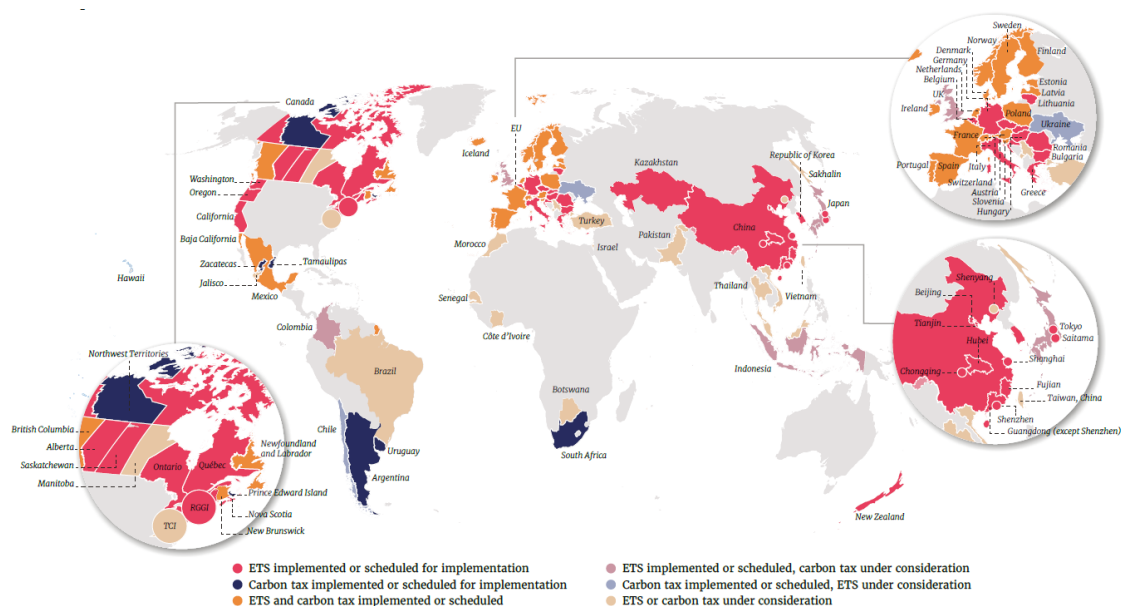


Figure 1: ETS and Carbon Tax systems around the world

In a similar vein to the EU, South Africa has made significant international commitments to decarbonisation over recent years. With the country's updated Nationally Determined Contribution (NDC) pledge to the United Nations Framework Convention on Climate Change (UNFCCC) the target range has now been set to between 350 and 420 Mt CO₂ equivalent by 2030.

This represents a decrease of 15 - 37% on the most recent Greenhouse Gas (GHG) footprint of some 482Mt CO₂ equivalent. It is however important to note that as Eskom emits around 42% of the national total GHG's and within the Integrated Resource Plan (IRP 2019 – electricity master plan) it is planning to maintain emissions at 275 Mt CO₂ equivalent per year between 2025 and 2037 (some 22% higher than the current footprint), the burden for decarbonisation must necessarily fall on the private sector.

This is especially worrisome in light of rapidly emerging carbon trade barriers globally, as South Africa's continued dependency on coal power has resulted in it being the 5th highest carbon emitter

per unit of GDP in the world. Not only this, but some sectors of South Africa's economy (such as steel and agriculture) are in fact the world's worst emitters relative to their sectors.

Under the "Fit for 55" policy package, the EU aims to achieve a reduction of GHG's from its 27 member states by 55% by 2030, compared with 1990 levels, as a step towards net-zero by 2050. To protect European production from external competitors with lower environmental regulations outside the EU region (commonly called "leakage" - a situation that may occur if, for reasons of costs related to climate policies, businesses were to transfer production to other countries with laxer emission constraints), the EU will impose a tax on GHGs embedded in carbon-intensive products imported into the EU under the CBAM. Similar initiatives are under development in the US, the UK, Canada and Japan amongst other countries.

This paper provides a high-level assessment of key carbon market related developments affecting the trade relationship between South Africa and the EU in particular and the risks and opportunities that these developments represent.

2. Executive Summary

Navigating the business environment in South Africa is difficult enough at the best of times. The growing importance of carbon pricing over recent years adds yet more complexity to this already complex terrain with a rapidly evolving suite of policy initiatives. While the EU leads the world in creating solid policy structures that speak to the ever-growing urgency to transform businesses towards a GHG trajectory that can accommodate humanity, South Africa has developed far less policy certainty.

As the 14th largest GHG emitter in the world, the South African Government has not adopted the policy reforms that will allow its NDC commitments to be met through state action. This is most notably seen in Eskom's plan to grow and then maintain emissions up until 2037 before it begins to reduce its footprint.

While the state may be slow to transform, private sector actors have been given much more room to reduce emissions through recently increased state allowances on own power generation. This is especially useful given the increasing burden that businesses are expected to bear under the newly adjusted South African Carbon Tax Act (CTA) and draft Climate Change Bill which will require company specific emission reduction targets.

It is however not only the threat of South African carbon taxation that presents a risk to South African companies, but also the threat of increasing border carbon tariffs posed by our export partners. It is for this reason that export oriented companies should be the first in line when it comes to driving down their carbon footprint. Export businesses that choose to merely pay the carbon tax and not decarbonize will find that they pay the domestic tax here and then once again in the form of a border carbon tariff in the receiving country to the value of the difference between the South African price and the EU weekly average Emissions Trading Scheme auction price, which will be significant.

Fortunately, there are also opportunities that present themselves along with the challenges posed by the emergence of carbon pricing mechanisms. As a result of policies central to the EGD, several market growth opportunities have emerged through the EU's Circular Economy Action Plan (CEAP) and the products defined under the OECD's Combined List of Environmental Goods (CLEG -E), which are further discussed in section 6. In addition to this, the low rate of return on capital common throughout developed countries provides a powerful incentive for international investors to look

for investment opportunities in emerging markets. This is especially true for companies that perform well on Environmental, Social & Governance (ESG) metrics given their history of consistently higher yields in emerging markets, with South Africa being no exception.

Businesses servicing clients that find themselves subject to domestic carbon taxes, sector specific carbon budgets or punitive carbon export tariffs would do well to remain abreast of carbon pricing legislation so that they can take advantage of systems already in place as well as apprise themselves of the new requirements that will fall upon those sectors as they develop.

3. South African Sector emissions profiles

At the end of 2021 the Department of Forests, Fisheries and the Environment released the 7th National GHG Inventory Report which tracks greenhouse gas emissions and removals by sinks, resulting from anthropogenic activities for the major greenhouse gases. The gases are reported under four sectors: Energy; Industrial Processes and Product Use; Agriculture, Forestry and Other Land Use (AFOLU) and Waste, but a refined sectoral breakdown can be seen in figure 2 below.

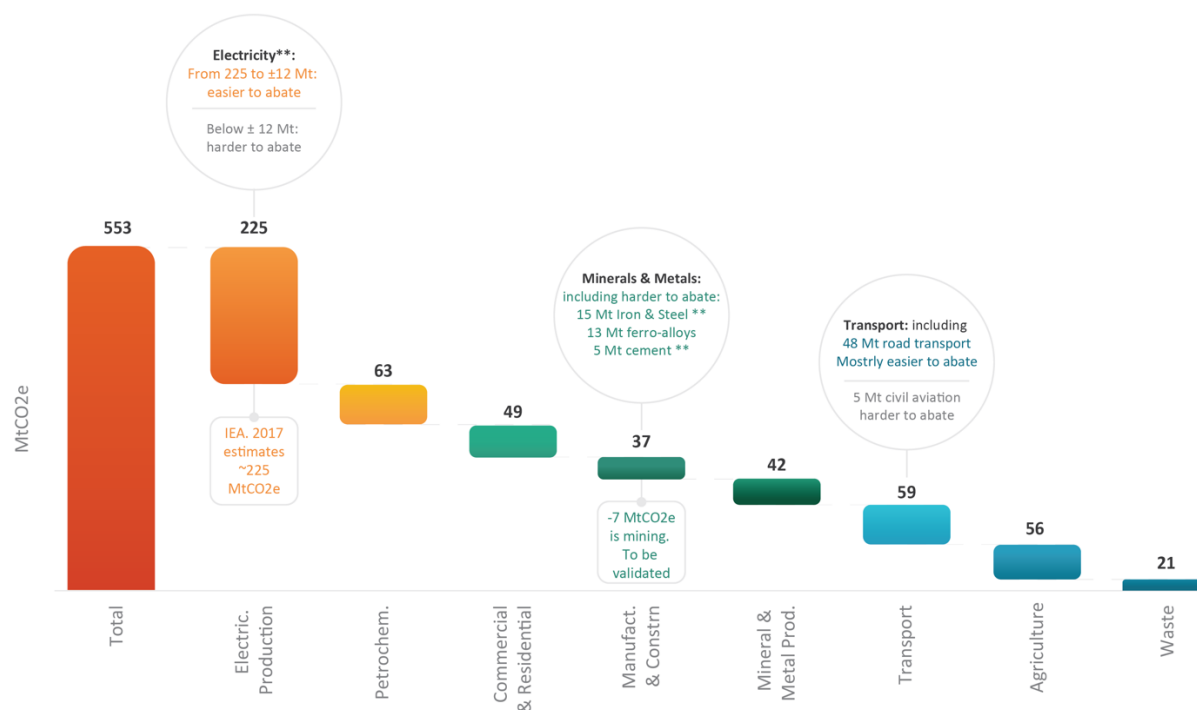


Figure 2: Emissions by sector under the 7th GHG inventory

Clearly electricity production is far and away the biggest GHG contributor, but this is closely followed by the petrochemical industry, dominated by Sasol's emissions, liquid fuels in the transport sector, predominantly livestock related emissions from agriculture and both solid and liquid fuels in the commercial, residential, manufacturing & construction and mineral & metal production sectors. These sectors have all been prioritised for the development of decarbonisation strategies by groups such as the Presidential Climate Commission and the National Business Initiative (NBI)¹. Familiarisation with the proposals put forward by the NBI in particular hold great potential to tailor service offerings in these sectors to meet the sector specific decarbonisation agendas.

¹ <https://www.nbi.org.za/climate-pathways-and-a-just-transition-for-south-africa/#explore>

4. Key recent regulatory carbon developments in South Africa and the European Union

4.1.1. The SA Carbon Tax

The South African Carbon Tax Act (CTA) came into effect in June 2019 and requires designated carbon emitters to pay for their contribution to national GHG emissions. The tax sees companies charged for direct emissions at a rate of R144 per CO² equivalent emitted in 2022, escalating at 10% per annum until the end of the first phase of the tax in 2025. Thereafter recently promulgated escalations in carbon pricing, along with reductions in taxable allowances will rapidly escalate the burden on private sector emitters under the second phase of the CTA. These recent adjusted escalations on the carbon price come at the same time that Eskom has received an extension of its liability exemption under phase one of the carbon tax with a further two-year grace period. Eskom has however already factored in the projected cost of the carbon tax into its proposed increase in electricity tariffs and it remains to be seen if it will now reduce the price hike accordingly.

A company is carbon tax liable if it conducts one or more of the activities listed in Schedule 2 of the CTA so that its emissions exceed the threshold specified for that activity. The carbon tax applies to most stationary and certain non-stationary scope 1, GHG sources that include fossil-fuel combustion, fugitive emissions and industrial process emissions. The tax does not currently include scope 2 or 3 emissions.

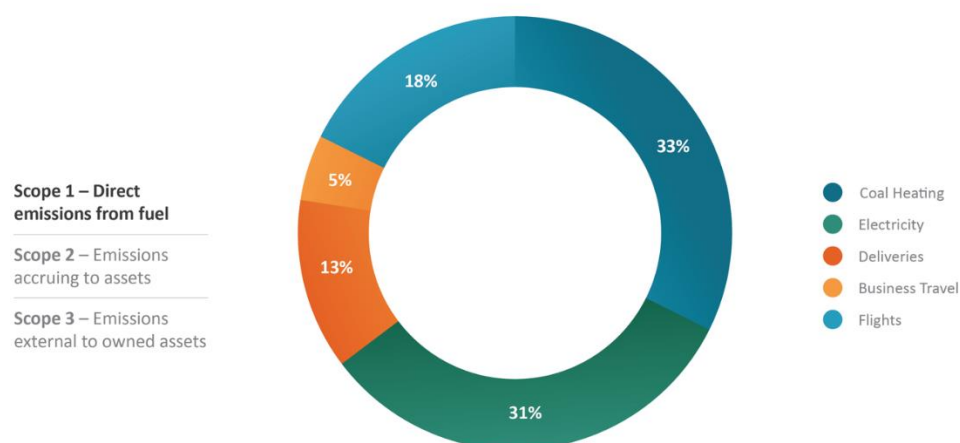


Figure 3: EXAMPLE OF THE DIFFERENT EMISSION SCOPES in a hypothetical company

To assist carbon tax liable companies to adjust to the new carbon tax system, National Treasury incorporated a number of carbon tax allowances which enable emitters to reduce their carbon tax liability by up to 90%. These include a basic allowance that provides emitters with a 60% allowance on emissions, a trade exposure allowance of up to 10% measured by value of exports plus imports divided by the total production of the sector, a performance allowance (or z-factor allowance) of up to 5% for emitters that have taken progressive actions to reduce their greenhouse gas emissions, a voluntary carbon budget system that has entitled participating emitters to an additional 5% tax free allowance and a carbon offset allowance of up to 10% of emissions, as per figure 4.



Figure 4: The carbon tax payable by a hypothetical company using allowances

While the process by which emitters determine accurate individual emission contributions under the South African system remains costly, they are also able to use ‘emission factors’ established by the Intergovernmental Panel on Climate Change (IPCC). These are factors that give an approximation of GHG’s emitted depending on how much fuel was combusted, or product that was produced. Over time, more accurate domestic emission factors will be developed for use in South Africa, but exporters should take note that similar “default values”, will be applied under the EU’s CBAM system.

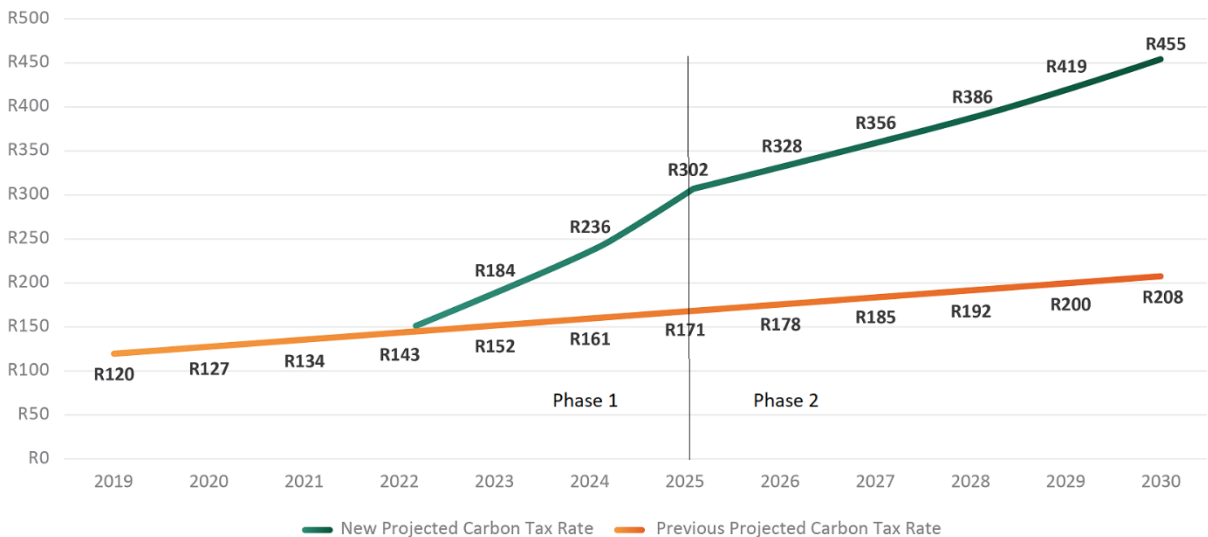


Figure 5: The projected new price path for the SA carbon tax phase

In the first phase of the CTA the waste sector as well as the AFOLU sector have been excluded, but plans are underway by the state to include waste as a carbon tax liable activity under phase 2 of the tax from 2026. Current target sectors include energy; manufacturing and construction industry; mining; various mineral industries (cement, glass and lime production); the chemical industry; and the metal industry (iron & steel, aluminium, zinc & lead production). Any industry however that exceeds the 10 MW installed thermal input capacity threshold for combustion activities that result in emissions is liable.

Phase 1 of the carbon tax has recently been revised and extended to the end of 31 December 2025. This phase was planned as a transitional phase of the tax that allowed tax-liable entities to prepare for the carbon tax in years to come through the use of the various allowances.

National Treasury is currently developing plans for Phase 2 of the carbon tax, but few solid details have been released with regards to the expected changes except: the new price path; an increase in the amount of allowable offsets from 10% to 15% of total taxable emissions; and the inclusion of the waste sector as a tax liable activity.

4.1.2. The South African Climate Change Bill

The Climate Change Bill was introduced to the National Assembly in February 2022 and is distinct from the Carbon Tax in that it provides the overarching framework to ensure that South Africa has the necessary statutory framework to mitigate GHG emissions as well as facilitate adaptation to the effects of climate change. The carbon tax forms one leg of this broader framework.

In particular, the Climate Change Act must define the roles and mandates of different sectors of government, develop sectoral adaptation strategies and generate emissions targets aligned to company specific carbon budgets. Exceeding these carbon budgets is currently intended to include punitive pricing on emissions exceeding the allowed emissions target at a higher rate than the standard carbon tax rate. The Bill will make it compulsory for emitters to participate in the carbon budget system and will allocate a greenhouse gas emissions allowance to an emitter for a specific period of time.

In its current format, the Climate Change Bill has a 5-year horizon for implementation meaning that these measures are mandated for implementation by no later than 2028. Importantly however, section 27 of the Bill refers to as-of-yet to be determined “incentives for behaviour change”, which are likely to follow a similar format to the z-factor allowance currently in place under the carbon tax.

5. Carbon offsets

Carbon offsets are measurable avoidances, reductions or sequestrations of GHG emissions derived from projects at least partially intended to deliver on these outcomes. If they are to be used under the South African carbon tax system, these offsets must be certified under one of three carbon standards:

1. the Clean Development Mechanism;
2. Verra’s Voluntary Carbon Standard; or
3. the Gold Standard

If they are to be used under the CTA, the offsets must then be registered on the Carbon Offset Administration (COAS) system by the end user wishing to claim a carbon tax liability reduction. An example of a suitable carbon offset process would be an agricultural firm (agriculture is currently exempted from the tax) installing a waste-to-energy system to deal with agri-waste and generate a reliable power back-up. The GHG emission savings from this project could be assessed and traded via the platform with a high carbon emitter, potentially securing the financial viability of the project.

The potential market for South African carbon offset certificates currently stands at around 10 million tonnes a year, while the current certified supply is only about a million tonnes a year. Through the COAS carbon tax liable companies can channel carbon revenue to developers of low carbon projects. Key project areas that are currently eligible for the generation of carbon credits

include off-grid small scale renewable energy, energy efficiency, Agriculture, Forestry and other Land-Use (AFOLU) projects, waste to energy, including waste treatment and biogas, electricity transmission and distribution efficiency, landfill gas recovery & energy production, production of biofuel and efficiency in transport.

It is important to note however that while offsets can assist companies to finance mitigation options, carbon offsets are only applicable in so far as they do not reduce scope 1 emissions as this impacts on their carbon tax liability. Carbon offsets allow companies to reduce emissions outside of their own operations when they do not have emission reduction options in-house and claim them back as a carbon allowance for up to 10% of their total taxable amount. This amount is set to be increased to 15% under phase 2 of the carbon tax from 2026. For companies that are not producing their own carbon offsets they can purchase them from a carbon offset trader with the price on domestic carbon offsets standing at around 90% of the carbon tax rate, meaning that companies are incentivised to use them, not least of all because the projects that this finance flows to are audited by third party bodies, so the end beneficiary is clear.

6. The EU Green Deal (EGD), Carbon Border Adjustment Mechanism (CBAM) and OECD – Combined List of Environmental Goods (CLEG-E)

The EGD is a set of long-term policy initiatives that define the EU's climate strategy to reach net-zero emissions by 2050 and aim to make Europe the first mover in international climate policy. Toward this goal, the EGD provides a road-map for a socioecological transition to a low-carbon future through a green economic growth strategy. A transitional period will run from 2023 to 2025 during which time GHG reporting on imported products will be required in the form of certificates, but no carbon payments made. From 2026 onwards however, payments on these certificates will be required. For companies that cannot or do not conduct appropriate GHG footprinting on their products, default values will be determined on embedded emissions, most likely set at the average emission intensity of each exporting country

The implications of the EGD for African economies are multifaceted. A decline in European demand for fossil fuels alongside rising demand for platinum, cobalt, nickel, and other critical minerals for the energy transition will greatly affect global markets as well as the economies of oil-dependent and mineral-rich African countries. The economy-wide effects of the EGD however, extend beyond the energy transition with serious risks facing South Africa's exports to the EU in primarily large, capital-intensive sectors like metals, mining and the automotive sector. The success of gold, iron ores and ferro-alloys is dependent on finding zero-carbon technology options with low-energy inputs that allow carbon-neutral versions of these commodities to capture global market share².

The CBAM has recently been amended to now cover both direct and indirect (ie: from electricity consumption) GHG emissions. This is problematic for South Africa as it is one of the world's most carbon-intensive exporter's thanks largely to its coal-based power supply but also because the Department of Trade, Industry & Competition has determined that South Africa is the second most vulnerable country by trade weighted distance. On average, South African manufacturing exports

² <https://www.nbi.org.za/wp-content/uploads/2021/12/A-Guide-to-Climate-Change-for-South-African-CEOs.pdf>

have a carbon content of about 2,250 tonnes of carbon dioxide equivalent per \$1m, while most countries sit between 300 and 1,100 tCO₂e per \$1m.

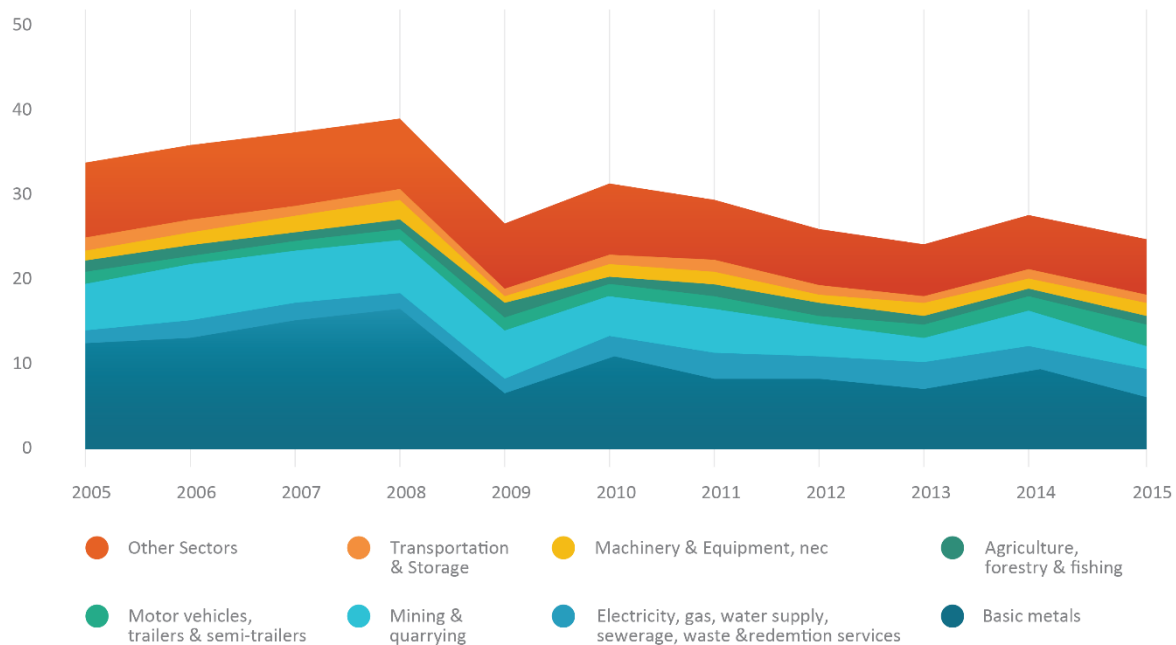


Figure 6: Carbon embodied in SA exports to the EU per sector in MtCO₂e

The scope of the CBAM also keeps increasing. Initially it covered 29 product categories from the electricity, cement, fertiliser, steel and aluminium sectors, but the recently approved updates to the mechanism now also cover organic chemicals, plastics, hydrogen, ammonia and, as raised above, indirect emissions from electricity use. Under the present structure, imports from countries that have a carbon price may claim a reduction in the number of CBAM certificates, however given the vast disparity between the South African and EU carbon price, South African exporters will still be subject to tariffs. CBAM certificates will initially be issued at no cost in the transitional phase of the CBAM roll-out but will have prices determined for them in phase two.

The CBAM will directly affect South African sectors that export to the EU, particularly the iron and steel, aluminium, organic chemical and plastics industries. A total of \$1.5bn of South African exports (based on 2021 data) is at risk. This includes 30% of organic chemical national exports, 26% of iron and steel national exports, 25% of aluminium national exports and 10% of plastics national exports³. Once the Farm to Fork strategy comes into effect in 2026 some R270bn in agricultural exports to the EU will also become liable for taxation. Other sectors that the CBAM will target include batteries, transport, marine products, forestry and hydrogen production.

In its current form, the CBAM does not appear to pose serious short-term risks to the South African economy, however the short-term CBAM certificate requirement measures in the transitional period between 2023 and 2026 will place a significant administrative burden on exporters. Over the medium to long-term, decarbonisation of carbon-intensive industries by increasing renewable energy in production processes and investing in energy-efficiency technologies will be crucial due to Eskom's intent to decarbonise at a very gradual pace.

³ <https://www.tips.org.za/policy-briefs/item/4293-european-green-deal-the-carbon-border-adjustment-mechanism-and-implications-for-south-african-and-european-union-trade>

Where the CBAM poses a threat to exports in several “primary” production activities, there are however also market opportunities stemming from the roll-out of the EGD as the GHG transition requires that a range of environmental products will be demanded by EU companies if they are to meet the fit-for-55 target. Some of the outputs from industries threatened by the roll-out of the CBAM are used as inputs in broader “environmental goods”. These are downstream products from high emitting sectors where these products are defined under the OECD’s Combined List of Environmental Goods. This presents opportunities for current “at-risk” market players to diversify and expand into downstream products. The EU’s statistical office, Eurostat, has defined these products as: environmental goods that are used “to measure, prevent, limit, minimize or correct environmental damage to water, air and soil, as well as problems related to waste, noise and ecosystems, [including] cleaner technologies ... that reduce environmental risk and minimize pollution and resource use”.

CLEG-E products cover around 280 products across a range of sectors, some of which represent significant potential growth sectors, especially over the longer term. Research⁴ by the Trade Research Advisory and the Trade and Industrial Policy Strategies (TIPS) group has identified the largest untapped potential for long-term opportunities in the Renewable Energy plant group of products where the single largest markets are Germany, France, Netherlands, Poland, Belgium-Luxembourg, Hungary, Czech Republic, Spain, Austria, Denmark, Slovakia, Sweden, Slovakia, Romania and Finland. The next largest group is in the Wastewater management & potable water treatment group, led by the German market followed by France and the Netherlands. Environmental monitoring, analysis & assessment equipment forms the third largest group, followed by Air pollution control, Noise & vibration abatement, Cleaner or more resource efficient technologies & products, Heat & energy management, Management of solid & hazardous waste & recycling systems and finally the Clean-up or remediation of soil & water group.

6.1.1. The EU Circular Economy strategy

Along with the publication of the EGD, the EU has developed the Circular Economy Action Plan (CEAP) which outlines the ambition of the EU to transform its economy from the existing linear “make-use-dispose” model into a circular one. The CEAP is one of the main building blocks of the EDG, and along with the CBAM presents very real threats to South African exporters. Clients of German chamber member companies are likely to be impacted by the roll-out of the CEAP with respect to market access, but there are mechanisms being advanced by the EU to stimulate growth in new green sectors in South Africa to offset some of these market risks as both the EGD and the CEAP take into account the importance of international cooperation to reach the EU’s sustainability objectives.

The Council for Scientific and Industrial Research⁵ (CSIR) in South Africa has estimated that in addition to the potential trade loss through the CBAM, South Africa stands to lose €8.4 billion in raw material exports (equivalent to 2.7% of GDP) if the EU moves to a fully circular economy. The platinum sector is especially at risk as it is not only the raw material that is at risk, but also because one of the major domestic demand sectors comes from catalytic convertors used in internal combustion engines. One third of Platinum Group Metal’s demand comes from component parts of the Internal Combustion Engine.

⁴ <https://www.tips.org.za/research-archive/sustainable-growth/green-economy-2/item/4242-the-european-green-deal-context-challenges-and-opportunities-for-south-african-smes-operating-in-the-green-economy>

⁵ <https://www.circulareconomy.co.za/wp-content/uploads/2021/12/CSIR-2021-Circular-Economy-As-Development-Opportunity.pdf>

The vehicle manufacturing sector and its value chain remains a high-risk sector, as the National Association of Automobile Manufacturers of South Africa projects that the failure to develop a coherent policy response to Internal Combustion Engine bans will reduce the contribution of automotive exports from 6.9% of GDP to 4.6% while around one-third of value addition within the domestic manufacturing sector is derived either directly or indirectly from vehicle assembly and automotive component manufacturing activity.

South Africa has been able to attract many EU companies to its shores since the late 1990's and to date, over 2000 EU companies operate within South Africa, having created over 350 000 jobs in the process. The EU has identified priority sectors⁶ for a shift to circular and blue economy approaches in sectors including plastics, agriculture, construction, ICT, urban mining transport and sustainable energy.

In an effort towards fairness in trade activities, the EU has been trying to expand existing circular economy financing and support mechanisms to South Africa including the SWITCH Africa Green programme, the Global Alliance to end Plastic Waste, the E-Waste Implementation Toolkit (EWIT), AquaVitae in aquaculture, the circular economy think-tank ReTraCE, BIORECOVER which focus on raw material extraction through biotechnology, the SisAL pilot working on sustainable silicon and aluminium extraction and ERA-MIN 2, researching sustainable raw material extraction.

7. The Science Based Targets Initiative (SBTi)

The Science Based Targets initiative (SBTi) is a global body enabling businesses to set ambitious emission reduction targets in line with the latest climate science. The initiative is a collaboration between the Carbon Disclosure Project - CDP, the United Nations Global Compact, World Resources Institute (WRI) and the World Wide Fund for Nature (WWF). It defines sector specific guidance in over 50 key GHG emission sectors to enable them to set science-based targets that align with the outcomes of the Paris agreement.

The SBTi follows three key steps in the carbon management process aimed at achieving "Net-Zero", namely generating a scientifically rigorous carbon footprint, identifying areas for GHG emission reductions across all three emission scopes (direct, indirect and value chain emissions) and now allows for the use of offsets for up to 10% of residual emissions. The exponential growth in approved science-based targets and commitments since 2018 has been nothing short of remarkable and now appears to have reached a critical mass.

⁶ <https://op.europa.eu/en/publication-detail/-/publication/62768223-3e88-11eb-b27b-01aa75ed71a1/language-en/format-PDF/source-search>

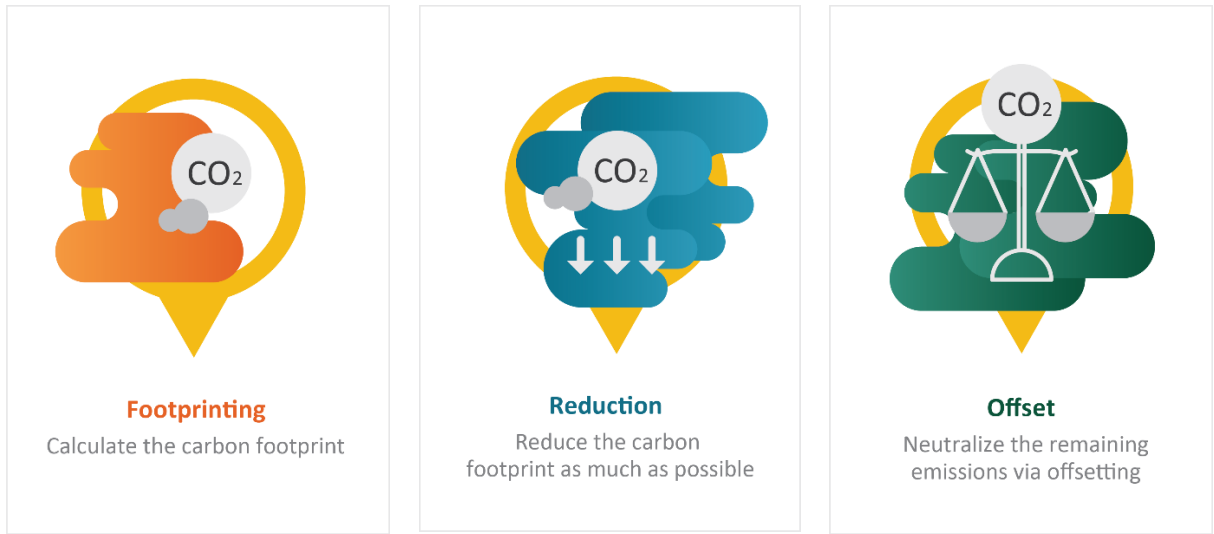


Figure 7: The key steps in the SBTi process

The SBTi approach aims to achieve a “Net-Zero” target and not one of “Carbon Neutrality” as there is an important distinction between the two. Carbon Neutrality requires no specific level of emission reduction targets and allows for GHG footprint reduction targets to be achieved through offsets exclusively, while not distinguishing between offset types. Net Zero on the other hand requires a reduction target aligned to the 1.5 degree, Paris aligned, science based target and only allows for the use of credits that sequester carbon for use against residual emissions.

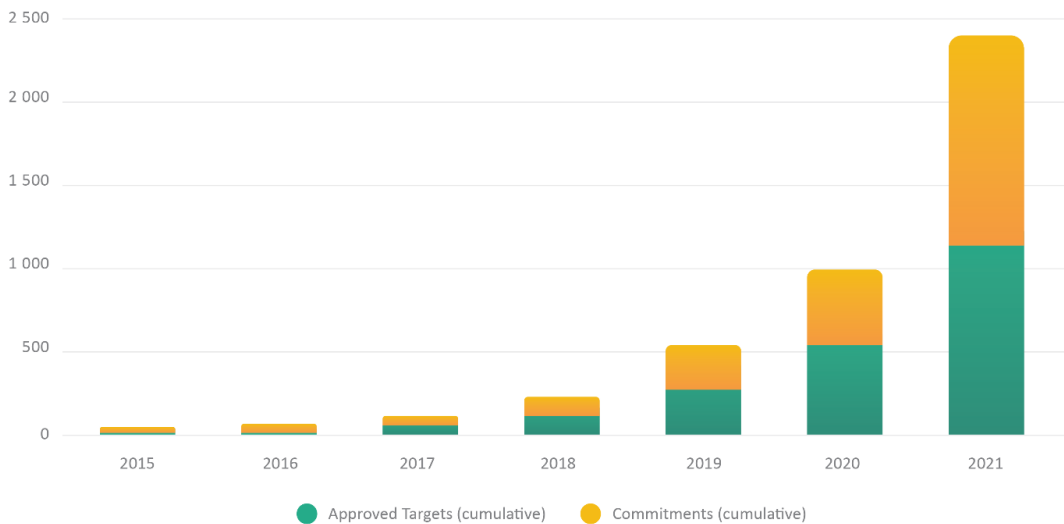


Figure 8: Growth of SBTi aligned corporate commitments

The financial sector is the latest addition to SBTi’s sector-specific guidance approach to GHG emissions targets with a new framework having been released earlier in 2022 which allows financial institutions – including banks, investors, insurance companies, pension funds and others – to set science-based targets to bring their lending and investment activities in-line with the Paris Agreement.

Building towards global alignment are the proposals from the U.S Securities and Exchange Commission (SEC), European Financial Reporting Advisory Group (EFRAG), and International Sustainability Standards Board (ISSB), to make company climate reporting mandatory to enable the standardisation of approaches to climate reporting and the provision of a foundation for Paris-aligned investment and lending.

8. The emerging South African green finance landscape

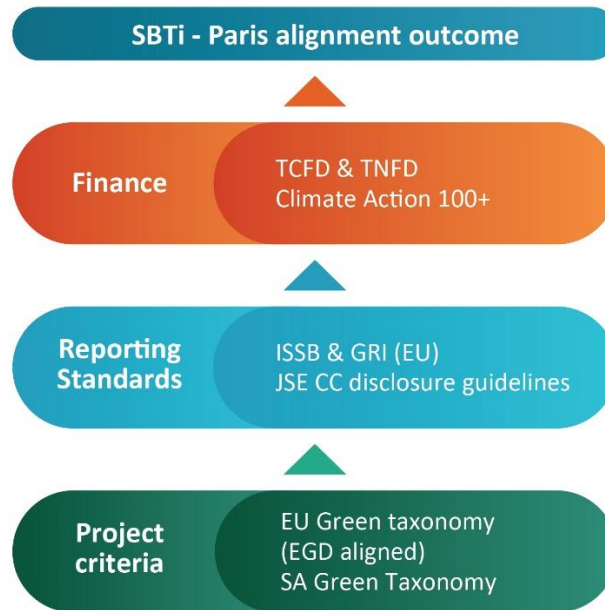
Despite the relatively small market capitalisation of the Johannesburg Stock Exchange (JSE), South Africa has stayed at the forefront with global leaders in the introduction of broader social and environmental considerations in financial reporting. From around the year 2000 the King Code on corporate governance incorporated “triple bottom line reporting” and the JSE became the first stock exchange in the world to introduce an Environmental, Social & Governance (ESG) index in partnership with FTSE Russell.

Since that time the level of interest in ESG reporting has increased significantly as leading indexes, such as the MSCI Emerging Markets ESG Leaders Index, have shown how top ESG performing listed companies have out-performed conventional emerging market indexes substantially and presented far less price volatility, with a resultant decrease in the cost of capital. This provides a powerful incentive for companies to invest in projects that lower carbon emissions, reduce waste and promote efficiency.

This trajectory was given an additional boost during the 2015 Paris accord with the introduction of the Task Force for Climate-related Financial Disclosures (TCFD). Since its introduction the world has undergone a powerful transformation of the finance and investment sector with growth in “sustainable” finance having rapidly increased in recent years, with sustainable debt issuances having increased from 314 Billion dollars in 2018 to over 1,640 Billion Dollars in 2021, with similar growth being displayed in other Electronically Traded Funds and Products.

8.1. South Africa finance developments in the global context

The TCFD was created by the Basel-based Financial Stability Board (FSB) whose role, since its establishment in 2009 after the global financial crisis, has been to promote international financial stability. The TCFD's focus is reporting on the impact an organisation has on the global climate, but it has recently been supplemented by the creation of the Task for on Nature-related Financial Disclosures (TNFD) which is set to emulate the TCFD's progress for the Biodiversity sector (arguably a bigger threat than climate change). Following on from the SBTi and TCFD processes is the alignment of capital. The largest global financial activist group, the Climate Action 100+, represents a group of roughly 700 investors with a combined \$68 Trillion in assets under management, spanning 166 companies and accounting for 80% of global industrial emissions. Thus far some 52% of the Climate Action 100+ investees have developed net-zero commitments, 72% of whom have TCFD aligned financial disclosures.



A further significant development this year was the U.S Securities and Exchange Commission’s release of its proposed rules for standardised climate related disclosures that will “require registrants to include certain climate-related disclosures in their registration statements and periodic reports, including information about climate-related risks”.

These frameworks align with the International Financial Reporting Standards Foundation (IFRS) and the Global Reporting Initiative (GRI) who recently announced an agreement to coordinate their respective standard setting entities, the International Sustainability Standards Board (ISSB) and the Global Sustainability Standards Board (GSSB).

At the same time in South Africa the JSE released its draft climate change and sustainability disclosure guidelines that align with the ISSB. These guidelines are aimed at helping listed companies navigate the rapidly evolving landscape of sustainability reporting and link sustainability disclosures to the key drivers of value creation, the underlying assets.

8.2. South African Green Finance taxonomy

All of this green financial architecture must link back to the underlying assets, as investors need to be able to access guidance on what counts as a sustainable asset or project in the South African context through the lens of disclosure guidelines.

A Green Finance Taxonomy (GFT) is an official classification or catalogue that defines a minimum set of assets, projects, and sectors that are eligible to be defined as "green" or environmentally friendly. It supports emerging national policy and voluntary private sector initiatives toward sustainable finance by reducing costs and uncertainty in classifying a core set of green activities. Under the GFT climate-related risks for financial institutions can be classified as:

- Physical risks from extreme weather – directly affecting institutions’ own operations or assets that they finance through damage, business disruption or default risks;
- Transition risks – resulting from disruptive technologies, changing regulation, consumer or market preferences;

- Liability and disclosure risks – resulting from loss and damages, rising insurance costs, director’s liability and disclosure failures.

The GFT provides this guidance by allowing developers to track, monitor, and demonstrate the credentials of their green activities in a more confident and efficient way and aligns with the JSE disclosure guidance at the local level and the ISSB disclosure standards at an international level. Currently, the GFT includes definitions for agriculture, industry, energy, water and waste, transportation, ICT and construction.

9. Internal Carbon Pricing in Businesses

If the adoption of a SBTi approved emissions reduction target is to be effective companies must begin the process of changing their pre-existing business decisions. Internal Carbon Pricing (ICP) is a simple but powerful mechanism to assist companies in achieving these targets by embedding the cost of carbon emissions into business practice by placing a monetary value on GHG emissions which businesses can then factor into investment decisions and business operations.

While this practice is still fairly small in South Africa, on the international front 16 % of all companies publicly disclosing to the CDP in 2021 reported that they had already implemented an ICP, and a further 19% indicated that they have plans to implement one in the next two years.

The majority of companies implementing ICP use the shadow price model which applies an assumed cost to emissions associated with a given investment or project, to better understand their climate impacts and allow for financial projections of anticipated carbon prices. The other popular method is that of developing a carbon fee where an additional price is levied on a given good or service and which can be ring-fenced for emission reduction activities.

Of the roughly 950 companies disclosing their ICPs to CDP, 68% currently implement a price of \$50/ tCO₂e or below, and a further 18% implement a price between \$50 and \$100/ tCO₂e. This represents a growing trend which can be an unseen threat that can be addressed ahead of official regulatory interventions.

10. Conclusion

The International Panel on Climate Change (IPCC’s) 6th assessment has categorically stated the absolute necessity of decisive transformative action over the period leading up to 2030 if we are to keep global temperature increase below 1, 5 degrees C. There can be little argument that this will necessitate a significant flux within production and export-oriented sectors of the global economy at the very least and more likely across the majority of value chains.

Despite the decades that it took for a viable framework to be developed, it is however clear from the many initiatives briefly covered in this paper that expansive and well thought-out policies and programmes are being implemented to facilitate precisely this significant flux. It is already clear that renewable energies are now already much cheaper and faster to install than fossil fuel sources and at least in the electrical sector, we can expect the radical transformation from fossil fuels to only accelerate in pace.

Much harder to resolve is the issue of long-distance transport fuels, or that of Agriculture, Forestry and other Land-Use (AFOLU), which is on par with energy as far as total GHG emissions go. AFOLU is not only a huge emitter, but it is also the most exposed to the physical risks posed by climate

change and the one sector that must remain consistently productive if we are to sustain 8 billion people.

It is up to each of us in our commercial dealings to acknowledge the seriousness of the threat that is facing us and make a commitment to attempting business unusual in order to secure the survival of our businesses and our civilisation.

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