Economic Research Southern Africa

Assessing the Impact of Environmental Policies on South African Trade

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Matthew Simmonds

Director

Assessing the Impact of Environmental Policies on South African Trade

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1. Introduction

South Africa's economy is highly reliant on the export of goods and services. In 2022, they reached 33.5 percent of GDP – higher than all other BRICS countries and the averages for the world, upper middle income and African countries. In 2021, South Africa exported $143 billion, ranking 34th out of 226 countries.

In the last few years, there have been a wave of trade policies to supplement domestic efforts to reduce emissions by incentivizing trading partners to reduce greenhouse gas (GHG) emissions. South Africa will be amongst the most affected by these policies. This is because it is one of the most emissions intensive economies in the world. In 2021, South Africa was the 14th biggest emitter of CO2 emissions.[1][2] It's carbon intensity – or the measure of CO2 produced per dollar of GDP is over triple the global average, six times the OECD average, and nearly double the carbon intensity of China (Table 1).

The wave of new environmental-trade policies is particularly detrimental given South Africa has the second highest carbon intensity embedded gross exports in the world, after Laos (Figure 1). When looking at the level of CO2 emissions embedded in trade, which measures emissions exported or imported as a percentage of domestic production emissions. South Africa is the fifth biggest net exporter of CO2 in the world, only faring better than Venezuela, Bahrain, Vietnam and Kazakhstan. Between South Africa's position as one of the highest carbon intensities in the world and one of the biggest net exporters of CO2, it is acutely exposed to climate-related trade policies.

[1] Our World in Data

[2] South Africa emitted more than more advanced economies, including the Australia and the UK, and oil producing heavyweights, United Arab Emirates and Iraq.

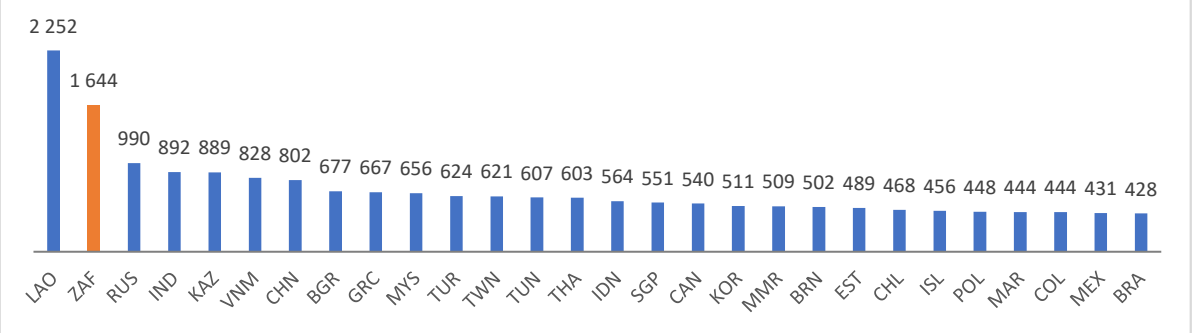
Key export industries in South Africa demonstrate higher carbon intensity embedded in gross exports, compared to global carbon emitters. South Africa is most carbon intensive in exports of basic metals among 66 countries. When comparing BRICS countries, South Africa has the one of the highest levels of carbon intensity in base metals, fabricated metal, coke and refined petroleum, and motor vehicles (Figure 4). The carbon intensity of imports and exports is deeply imbalanced. For example, South Africa's carbon intensity for motor vehicle exports is 1,511 tonnes per USD million, compared to 438 tonnes per USD million for motor vehicle imports (Figure 4).

Table 1: Cross-country GHG emissions overview, 2019

Country	Carbon intensity (tCO_2/million $GDP)	Emissions per capita (tCO_2 per capita)
South Africa	1,329.2	7.5
Russia	1,124.1	11.8
Vietnam	1,098.5	3.5
India	939.6	1.8
China	764.3	7.6
Indonesia	583.6	2.3
United States	254.8	14.7
Brazil	237.9	2.1
OECD	236.9	8.5
Germany	199.2	7.9
France	120.7	4.5
United Kingdom	116.7	5.2
World average	413.5	4.5

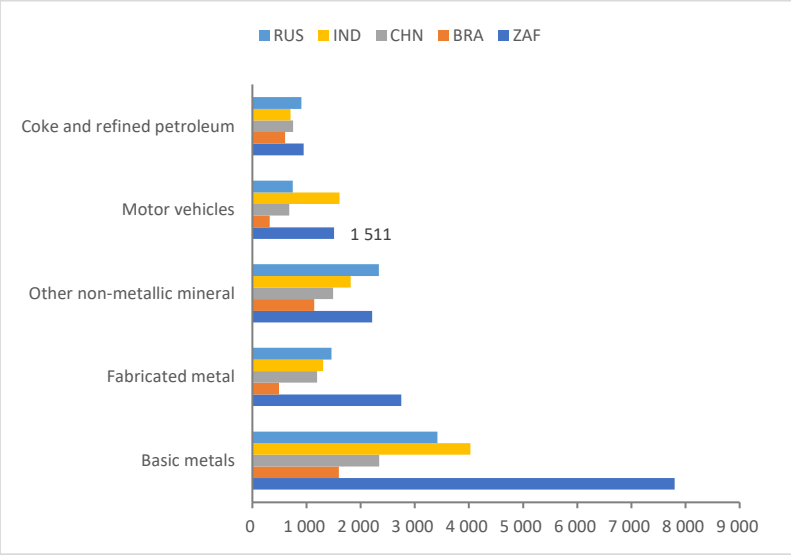
Source: World Bank (2022)

Figure 1: Carbon intensity embedded in gross exports in 2018, by country (tons per USD million)



Source: OECD data

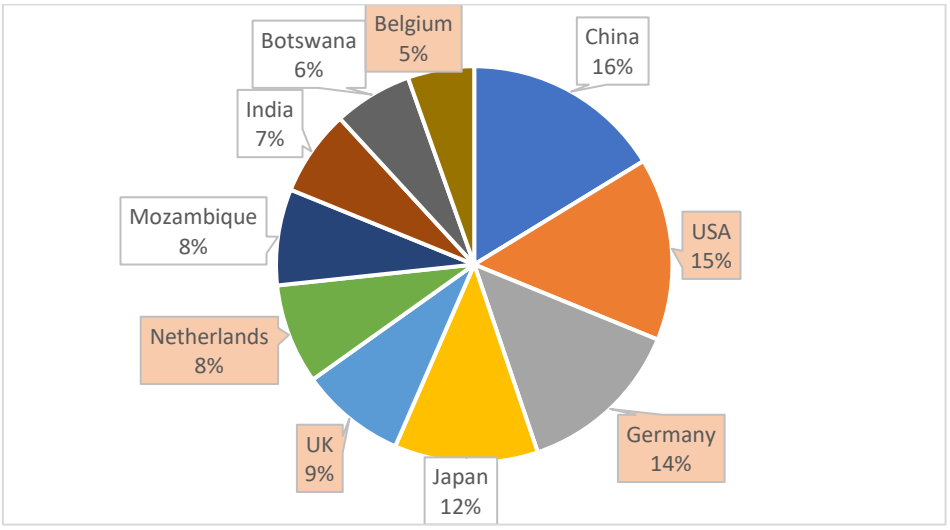
Figure 2: Comparison of carbon intensity embedded in gross exports of key industries in 2018, by country (tons per USD million)



Source: OECD data

Trade policies from key trading partners will undermine the competitiveness of South Africa access, and potentially access to these markets. Five of South Africa's ten biggest trade partners are in the Americas or Europe, all of which are rolling out punitive trade measures. The EU, USA, and UK imported of 40.8% of South African goods in 2022. Figure 3 shows the contribution of exports for the ten biggest importers of South African goods and services. Five of these ten countries have rolled out a suite of environmental policies (shaded in orange in Figure 3).

Figure 3: The contribution of South Africa's 10 biggest trading partners



Source: Author's elaborations using ITC data

Note a: Orange boxes highlight countries/regions that are adopting climate policies that will adversely affect trade dynamics.

Note b: The rest of the world, including European countries such as Italy, Spain and France amount to 40.6%.

This discussion paper focuses on three policies rolled out by the EU and US – the clean vehicle mandate, the Carbon Border Adjustment Mechanism (CBAM) and the Farm to Fork policy. Table 2 highlights sectoral risks from environmental policies adopted by key export partners. It's worth noting that there a range of policies are currently under development. In 2022, US Senator Sheldon Whitehouse introduced a US version of the CBAM – the Clean Competition Act – to make domestic companies more competitive and incentivize global emissions reduction. The Clean Competition Act has not been passed at time of publication and is not included in this paper. The paper focuses on three policies:

- The ban of new petrol and diesel cars in the EU, UK and select US states commencing 2035.
- The CBAM, which is the EU's landmark tool to apply a fair price on the carbon emitted during the production of carbon intensive goods that are imported to the EU, and incentivize cleaner industrial production in non-EU countries.
- The Farm to Fork Strategy, which is a pillar of the European Green Deal and seeks to make food production more environmentally friendly. The cost of compliance coupled with the decline in production, resulting from requirements to use less fertilizer can have significant impacts for South African agricultural exports.

The risk of the ban on internal combustion engine (ICE) vehicles in the EU and UK pose a significant threat, given the shift in the automotive exports over time. In 2012, 24.2% of exports to the US were cars. By 2021, just 5.7% were cars. The majority of the US is not implementing bans at present. But the share of automotive exports to the EU has increased over time. Three-fourths of all cars produced in South Africa are exported to Europe now.

EU countries also import a significant share of carbon-intensive goods that will be adversely affected by CBAM by making them less competitive. For example, in 2012, Germany was the seventh biggest importer of South African goods; by 2021, it was the third biggest importer. In terms of the two biggest exports in 2012, machinery, mechanical appliance and their components amounted to $1.03 billion, or 22.4%, of exports to Germany while cars, tractors, trucks and their parts amounted to $1.01 billion, or 21.8%, of exports. By 2021, vehicles and their components were by far the biggest export, amounting to $3.5 billion, or 33.8% of all exports, indicating that the value of vehicle and component exports more than tripled over the last decade. The ban on ICE vehicles will bring these exports to a halt.

Table 2: Policy risks to the export basket

Product label	Policy risks	Composition of export basket (2022)
Vehicles other than railway or tramway rolling stock, and parts and accessories thereof	Electric vehicle mandates	9.04
Iron and steel	Carbon adjustment border mechanism	5.37
Edible fruit and nuts; peel of citrus fruit or melons	Farm to fork	3.6
Aluminium and articles thereof	Carbon adjustment border mechanism	1.62
Cereals	Farm to fork	1.23
Articles of iron or steel	Carbon adjustment border mechanism	1.04
Salt; sulphur; earths and stone; plastering materials, lime and cement	Carbon adjustment border mechanism	0.66
Preparations of vegetables, fruit, nuts or other parts of plants	Farm to fork	0.56
Fertilisers	Carbon adjustment border mechanism	0.54
Miscellaneous edible preparations	Farm to fork	0.45
Animal or vegetable fats and oils and their cleavage products; prepared edible fats; animal ...	Farm to fork	0.42
Fish and crustaceans, molluscs and other aquatic invertebrates	Farm to fork	0.4
Oil seeds and oleaginous fruits; miscellaneous grains, seeds and fruit; industrial or medicinal ...	Farm to fork	0.35
Sugars and sugar confectionery	Farm to fork	0.34
Residues and waste from the food industries; prepared animal fodder	Farm to fork	0.33
Preparations of cereals, flour, starch or milk; pastrycooks' products	Farm to fork	0.27
Meat and edible meat offal	Farm to fork	0.25
Total		26.47

2. Risks from key export partners

EU-South Africa trade

The EU is the largest source of foreign direct investment (FDI) in South Africa and they are preferential trading partners through the SADC-EU Economic Partnership Agreement (EPA) that went into effect in 2016. As part of the EPA, the EU has fully or partially removed customs duties on 98.7% of imports from South Africa while guaranteeing full free access for remaining signatory countries. Data from the

International Trade Commission show that exports to the EU increased 18.4% from $6.3 billion to $7.5 billion between 2018 and 2022. By 2022, 26.9% of all South African exports went to the EU. Top exports to the EU were machinery and mechanical appliances (HS code 84), vehicles and vehicle components (HS 87) and electrical machinery and equipment (HS code 85), and minerals fuels and mineral oils (HS 27).

South Africa is highly vulnerable to the EU's environmental trade policies. The EU imports 58.2% of South Africa's vehicle and component exports, which are highly vulnerable to the electric vehicle mandates; 44.6% of dairy produce, 51.9% of fishery exports and 25.7% of fruit, vegetables and nuts that are vulnerable to Farm-to-Fork policies; and 17.7% of steel, 43.9% of inorganic chemicals, 34.9% of aluminum, and 27.3% of organic chemicals that will be adversely affected by the Carbon Border Adjustment Mechanism. The estimated sum of SA's exports to the EU that will be affected by the three policies amounts to roughly $12.9 billion.

Table 3: South Africa exports to EU affected by CBAM, ICE vehicle bans and Farm2Fork

	SA exports to EU (Thousands $)	SA exports to world (Thousands $)	Share of SA exports to EU
All products	33,211,933	123,614,816	26.87%
Vehicles other than railway or tramway rolling stock, and parts and accessories thereof	6,505,758	11,176,529	58.21%
Dairy produce; birds' eggs; natural honey; edible products of animal origin, not elsewhere …	1,986,357	4,453,653	44.60%
Iron and steel	1,171,762	6,636,425	17.66%
Inorganic chemicals; organic or inorganic compounds of precious metals, of rare-earth metals, …	822,159	1,874,414	43.86%
Aluminium and articles thereof	700,626	2,007,258	34.90%
Organic chemicals	365,244	1,336,254	27.33%
Miscellaneous chemical products	346,104	1,340,771	25.81%
Salt; sulphur; earths and stone; plastering materials, lime and cement	274,901	814,228	33.76%
Fish and crustaceans, molluscs and other aquatic invertebrates	254,249	490,034	51.88%
Preparations of vegetables, fruit, nuts or other parts of plants	178,941	696,704	25.68%
Sugars and sugar confectionery	137,483	417,822	32.90%
Animal, vegetable or microbial fats and oils and their cleavage products; prepared edible fats; …	96,657	524,024	18.45%
Cereals	92,655	1,524,392	6.08%

Source: Author's elaborations using ITC data

Note: Shaded boxes indicate exports vulnerable to trade policies covered in this paper

US-South Africa trade

In 2000, President Bill Clinton signed the African Growth and Opportunity Act (AGOA) in 2000, which gave African countries a competitive edge by providing unilateral duty-free exports for 6,500 products from Africa to the United States. South African exports to the US grew significantly, with automotives and automotive components sub-sectors being key beneficiaries.

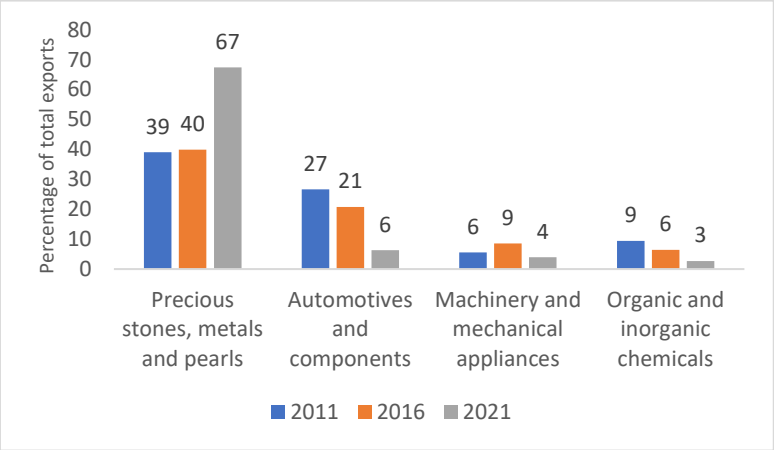
As discussed at the start of the paper, the proposed Clean Competition Act in the US seeks to emulate the CBAM – however it has not passed at time of publication. Thus, the largest trade policy risk between the US and South Africa remains the ban on ICE vehicles. California, Connecticut, Maryland, Massachusetts, New Jersey, New York, Oregon, Rhode Island and Washington have announced that they will not allow the sale of new ICE vehicles after 2035.

Between 2016 and 2022 exports to the US increased from $8.4 billion to $16.2 billion or 92.6%.[3] That is nearly double the increase of the second-fastest growing market, India ($4.8 billion increase). However, the composition of the export basket has significantly shifted over time. In 2021, the bulk of exports, or roughly 67%, were hard commodities.[4] The majority were distributed as follows - platinum (50%), gold (4.9%), diamonds (2.1%), ferroalloys (2.7%), raw aluminum (2.3%), and raw nickel (1%). This was a significant increase - hard commodities amounted to 39% and 40% in 2011 and 2016, respectively. Other major exports declined during the same time frame. Although automotive exports to the US skyrocketed following the adoption of AGOA from $195 million in 2000 to $1.8 billion in 2013, there has since been a precipitous decline. Automotives and components fell from 27% in 2011 to 6% in 2021; machinery and mechanical appliances declined from 6% to 4%; and organic and inorganic chemicals from 9% to 3%.

[3] Bureau of Economic Analysis, US Department of Commerce

[4] Hard commodities are defined as HS 71 (precious stones, metals and pearls), HS 71 (iron and steel), and 76 (aluminum articles)

Figure 4: The composition of the total export basket, 2011-2021



Source: Authors elaborations using ITC data

Figure 5: South Africa exports to EU affected by ICE vehicle bans

	SA exports to US (Thousands $)	SA exports to world (Thousands $)	Share of SA exports to US
All products	10,955,729	123,614,816	8.9%
Vehicles other than railway or tramway rolling stock, and parts and accessories thereof	940,162	11,176,529	8.4%

Source: Author's elaborations using ITC data

Note: Only a share of the exports will be affected – 9 states have passed restrictions on sales of ICE vehicles, though it's likely this will increase within the next few years.

3. Policy risks

New energy vehicle (NEV) mandate

The automotive sector is an important part of the South African economy. In 2021, the broader automotive industry's contribution to the gross domestic product (GDP) comprised 4.3%. As the largest manufacturing sector in the country's economy, a substantial 18.7% of value-addition within the domestic manufacturing output was derived from vehicle and automotive component manufacturing activity.[5] The National Association of Automobile Manufacturers of South Africa has estimated that when factoring in both direct employment and the multiplier effect, the auto industry accounts for over 500,000 formal sector jobs.

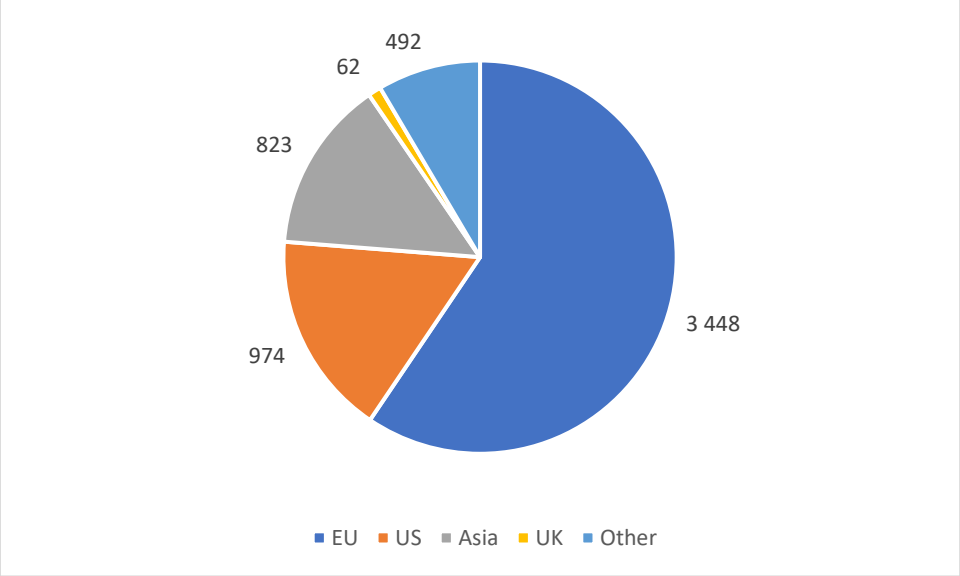
The automotive value chain faces significant risk as countries implement policies to ban sales of new vehicles with internal combustion engines after 2035 in both Europe and North America. In 2020, the UK banned the sale of new gasoline and diesel vehicles

[5] US International Trade Administration

commencing 2030, though this was later extended to 2035. In 2023, the EU implemented the ban starting 2035. In the US, California was the first state to adopt the Advanced Clean Cars II rule. Connecticut, Maryland, Massachusetts, New Jersey, New York, Oregon, Rhode Island and Washington have followed suit and stopped allowing the sale of new gas-powered vehicles after 2035.

These changes leave South Africa's automotive industry acutely exposed to environmental policies from both the US and Europe. In 2022, South Africa exported 351,785 units vehicles. Of the $5.8 billion in passenger vehicle exports, $3.4 billion went to the EU, $974 million went to the US and $62 million to the UK. Together, these markets imported 77.3% of South Africa's passenger vehicle exports. South Africa also exported R69.2 billion in automotive components and 50.4% of them were catalytic convertors – a component that is not utilized in electric vehicles.

Table 4: South Africa's passenger motor vehicle exports, 2022 (US$)



Source: Authors elaborations using ITC data

Note: HS 8703 used

Though South Africa is already producing hybrid vehicles, it is late in its production of electric vehicles. In December 2023, Ebrahim Patel, Minister of Trade and Industry, announced that South Africa's automotive industry is expected to produce its first electric vehicle in 2026.

Carbon border adjustment mechanism

On March 10, 2021, the European Parliament adopted a resolution entitled, "A WTO-compatible EU Carbon Border Adjustment Mechanism." In essence, it's the EU's

instrument for pricing in emissions and reducing carbon leakage and supporting its goal of reaching carbon neutrality by 2050. It would require importers of specified carbon-intensive goods to pay a levy on their imports based on the fees imposed on domestic industries through the EU Emissions Trading System (ETS). It both protects EU industries by making them more competitive and supports global emissions reductions. The resolution calls for inclusion of all products included in the EU Emissions Trading System (ETS) with the initial rollout covering the power sector and energy-intensive industrial sectors.[6]

In the initial transitional period between 2023 and 2026, the burden of the CBAM will be administrative rather than financial. Importers will be required to report embedded emissions but will not be mandated to buy CBAM certificates. Once the transition period is over, importers will be required to buy digital carbon certificates that correspond to the price that would have been paid if the goods had been produced in the EU under the EU ETS. One certificate is issued for each tonne of carbon dioxide emission embedded in goods. The price of certificates will be set based on the average price of carbon permits under the EU Emissions Trading System. One this transition period is over, the EU commission can reassess the CBAM to include indirect emissions (which would include the electricity used to produce goods, which would be highly disadvantageous for South Africa) and/or widen the scope of products included so a larger share of the value chain is covered. Initially, there will be a free allowance in sectors affected by the CBAM and thus, the CBAM will only be applied to the share of emissions that exceed the free allowances. By 2035, the free allowances will be phased out.

In an effort not to penalize the most vulnerable countries, the resolution adopted by Parliament has special exemptions for least development countries (LDS) and small

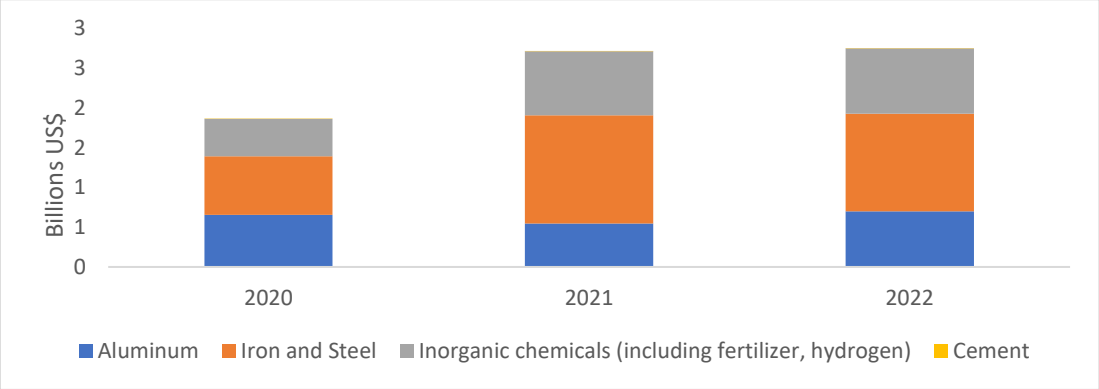
[6] By reference to the Harmonized System ("HS") nomenclature, the product scope of the CBAM is as follows:

- HS Chapter 25 – Cement: certain items of Headings 2507 and 2523
- HS Chapter 27 – Electricity: electrical energy of HS 2716
- HS Chapter 28 – Fertilisers and Hydrogen: certain items of Headings 2804, 2808, 2814, 2834, 3102, and 3105
- HS Chapter 72 – Iron and Steel: except certain products of Heading 7202
- HS Chapter 73 – Articles of Iron and Steel: certain items of Headings 7301, 7302, 7303, 7304, 7305, 7306, 7307, 7308, 7309, 7310, 7311, 7318, and 7326
- HS Chapter 76 – Aluminium: certain items of Headings 7601, 7603, 7604, 7605, 7606, 7607, 7608, 7609, 7610, 7611, 7612, 7613, 7614, and 7616

island developing states (SIDS).[7] As an upper middle-income country (and large polluter, for that matter), South Africa is not eligible for either exemption.

The primary impacts of the CBAM will be on the following sectors: aluminum, cement, electricity, fertilizers, iron and steel. An analysis by UNCTAD (2021) identified the countries with the largest volume of exports to the EU in sectors targeted by the CBAM. South Africa is ranked number 10 globally, one position behind the US. Approximately $3 billion in South African exports will be affected, with the bulk of impact concentrated in the aluminum, iron and steel, and inorganic chemical sectors. In 2022, it exported 34.9% of aluminum, 17.7% of iron and steel, and 43.9% of inorganic chemicals, including fertilizer and hydrogen to the EU. South Africa is clearly vulnerable in specific CBAM-affected sectors.

Figure 6: SA exports to EU in select CBAM-affected sectors



Source: Authors elaborations using ITC data

Table 5: Share of total exports to EU in specific CABM-affected sectors

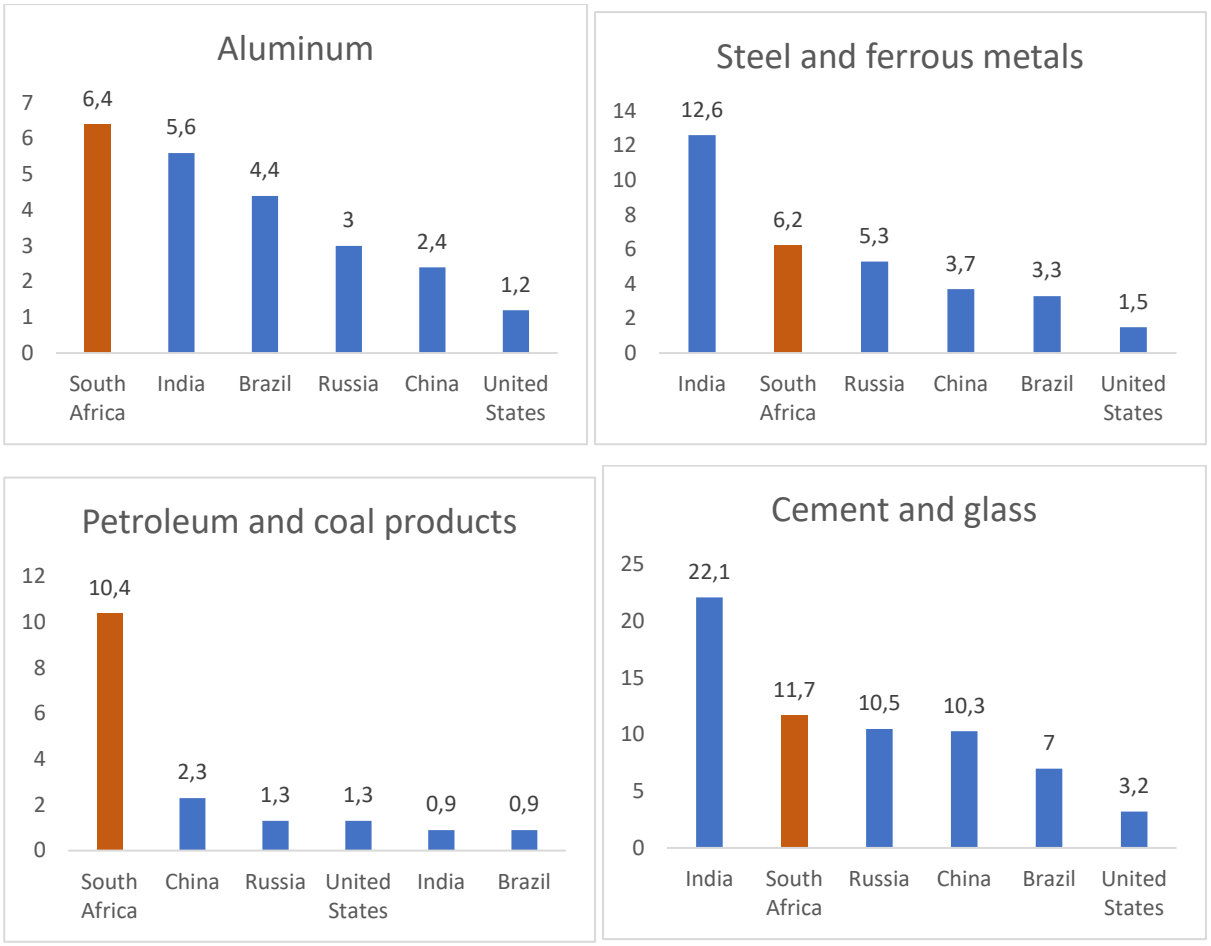
	2020	2012	2022
Aluminum (HS 76)	40.7	29.0	34.9
Iron and Steel (HS 72)	17.5	20.7	17.7
Articles of Iron and Steel (HS 73)	4.2	4.6	4.5
Inorganic chemicals, including fertilizers and hydrogen (HS 28)	52.1	59.8	43.9
Cement (HS 2507 & HS 2523)	0.2	0.3	0.3

Source: Authors elaborations using ITC data

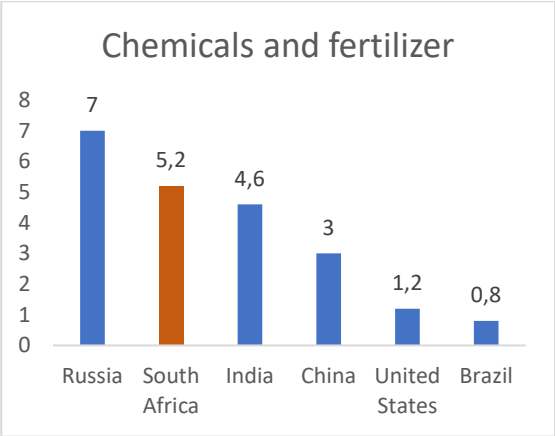
[7] The fact that these countries have not significantly contributed to global emissions was also a consideration behind the exemption.

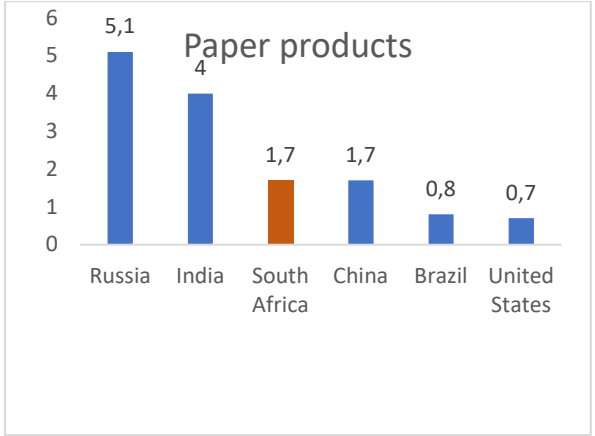
The United Nations Conference on Trade and Development (UNCTAD) undertook a computable general equilibrium (CGE) modelling exercise utilizing CO2 emissions data from the GTAP Energy-Environment version (GTAP-E). The model links data on fossil-fuel related CO2 emissions to economic activity in each sector and country. Aligned with the CBAM, the model applies a levy, or carbon border adjustment (CBA)[8] on the carbon content of imports (based on the carbon intensity of the country or origin) equal to the carbon price applied EU production. The modelling uses a carbon price of $44 per tonne of CO2 emissions for each sector and models the ad valorem for 20 countries. Of the 20 countries, South Africa has the highest ad valorem for aluminum and petroleum and coal products. Of BRICS countries and the US, South Africa is also on the upper end for steel and ferrous metals, cement and glass, and chemicals and fertilizer. This will make South African exports to the EU less competitive compared with other exporters who are not as carbon intensive in their production chains.

Figure 7: CBA ad valorem equivalent, at $44/ CO2



[8] The carbon price per tonne of emitted CO2 of the CBAM imposing economy is multiplied by the embodied carbon emissions for each sector in every exporting economy.10 This provides an ad valorem equivalent of the CBA tax



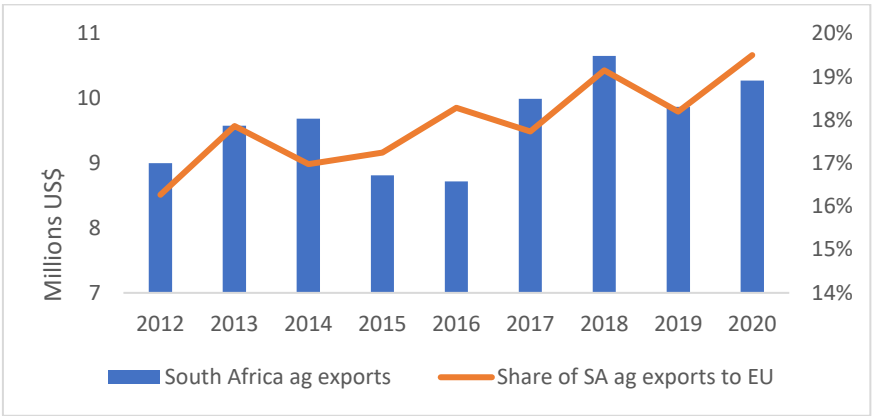


Source: UNCTAD (2021)

Farm-to-fork

The EU's Farm-to-Fork Strategy aims to reduce the environmental and carbon footprint in the way food is both produced and consumed. It is one of the EU's programs to support its goal of cutting GHG emissions by 50 to 55% compared to 1990 levels by targeting the agriculture, fisheries, aquaculture sectors and broader food value chain with sustainability measures. The strategy highlights four key goals that the EU seeks to achieve on the food sustainability front by 2030: (i) boosting organic production to reach 25% of EU land; (ii) reducing use of pesticides by 50%; (iii) reducing use of fertilizers by 20%; and (iv) reducing use of antimicrobials in agriculture by 50%. In addition to encouraging domestic producers to reduce emissions, it also includes a 'mirror clause,' to compel third countries (countries that are not members of the EU) to adhere to new regulations while creating a level playing field for EU producers by imposing equivalent restrictions to producers in countries that export agricultural goods to the EU. As the biggest importer of agri-food products and the largest seafood market in the world, these policies can have a profound impact on producers worldwide.

Figure 8: South Africa's agricultural exports and share to EU



The strategy poses both risks for South African agricultural exports. Key challenges include the high cost of compliance; regulatory and policy uncertainty; specific climate conditions that, without the adoption of new technology, can make emissions reductions difficult; and the EU's first mover advantage that can disadvantage South African firms. For example, complying with the reduction of pesticides by 50% will be challenging for South African producers. The EU's climate enables to it to use lower levels of pesticides. On the other hand, South Africa's climate is one that requires pesticides to protect crops from pest invasions. The EU's declining threshold for pesticide residues will prohibit South African producers form using certain pesticides in local production. This can cripple production, given that pests can drastically reduce production. With time, pesticide manufacturers can adopt innovative plant protection solutions that are compliant with EU standards – however the regulatory process for approving these solutions is very protracted, leaving farmers unable to use pesticides and unable to use new pest protection tools. Overall, this will have an adverse impact on the competitiveness of South African agricultural goods to the EU.

The EU has committed to supporting the global transition to sustainable agri-food systems, by developing Green Alliances on sustainable food system with its partners. The Strategy explicitly notes that this will include, 'Cooperation with Africa, neighbors and other partners.' However, it's worth noting that South Africa receives a lower level of benefits from preferential trade agreements and cooperation agreements compared to other African countries, owing to its status as an upper middle-income country, and tackling the challenges of Farm-to-Fork may similarly differentiate its treatment of South Africa and the rest of Africa.

The impacts of F2F are unlikely to be felt in the next two years, but without a swift transition to more environmentally sustainable production practices, South Africa's agricultural exports to the EU may experience a profound decline.

4. Policy recommendations

Reduce scope 1 and 2 emissions to reduce the carbon intensity and emissions of major exports.

There's an urgent need to reduce the carbon intensity and emissions of major exports. There are two primary avenues for this: reducing scope 1 and 2 emissions. Scope 1 direct emissions are emissions from on-site activities controlled by a business and scope 2 are indirect emissions, including purchased electricity used by the firm.

For scope 1 emissions, manufacturers can drive reductions by replacing on-premises fossil fuel sources with low/no carbon energy sources. Globally, scope 2 emissions represent the largest source of global GHG emissions. This is amplified in South Africa, given 42,000 MW or 85% of the country's electricity is generated by coal-fired power stations.[9] There are two primary ways to reduce scope 2 emissions: (i) investing in energy efficiency measures and (ii) utilize renewable energy. Then Government's decision to lift the licensing threshold for new embedded generation projects (that are connected to the grid) from 1 MW to 100 MW, significantly reduced red tape for independent power producers. Over time, this should begin to reduce scope 2 emissions.

Build clean energy production capacity

In 2023, the Harvard Growth Lab published a report entitled, "Growth through inclusion in South Africa," written by Richardo Hausman *et al*. The report highlights green manufacturing as a key avenue for economic growth. The report notes that, South Africa has both the critical minerals required for the transition including platinum group metals, chromium, and manganese, and, if it chooses, can enter clean energy value chains. Hausmen *et al* note that, "To decarbonize, the world will need a vast set of goods that will enable low or zero-carbon electricity systems. This will include equipment for electricity production (e.g., solar panels, wind turbines), transmission (e.g. cables, converters, capacitors), and storage (e.g., batteries, pump storage) of clean energy.

South Africa has an absolute advantage with some these minerals. It has over 80 percent of the world's platinum – a metal that was once largely only an input for emissions control units in internal combustion engines, now became a key input for hydrogen fuel-cell powered vehicles. As a result, 2023 is the first year in many that there will be a global deficit, and some forecasts suggest this could increase by up to 1.5-million ounces in 2024 — a tripling of this 2023's deficit.

Accelerate the transition to NEVs for exports rather than domestic consumption

Accelerating the transition to NEVs is critical to sustain an export-oriented automotive industry. The objective of the transition should focus production for exports rather than domestic consumption.

In 2021, the Department of Trade, Industry and Competition (DTIC) released a Green Paper entitled "Auto Green Paper on the Advancement of New Energy Vehicles in South

[9] US International Trade Administration

Africa." However, no progress was made in the years that followed. Pressure from the industry has continued to grow. In November 2022, the Africa head for Ford Motor Company, Neale Hill, said the government must provide policy certainty on NEVs within 6 months to save the automotive industry.[10] Hill also noted that it takes four years for an investment decision to turn into the funding of a factory.

In 2023, in response to the lack of progress by, the Automotive Business Council in South Africa released a paper called, "New Energy Vehicle Roadmap Thought Leadership Discussion, The Route To The White Paper." The paper makes seven core interventions to accelerate this transition. Some interventions seem more feasible than others. For example, the introduction of NEV purchasing subsidies to support the suite of policy options for the purchase of hybrid electric vehicles (HEVs), plug-in hybrid electric vehicles (PHEVs), and battery electric vehicles (BEVs) is unlikely achieve much, given the high levels of income inequality that push NEVs out of reach for 99%+ of South Africans. In the US, the average cost of an electric vehicle is $62,000, which translates to ZAR 1.1 million. When you add in the fact that very little infrastructure exists and the unlikelihood that it would be scaled, give the small size of the market for EVs, it's clear that subsidies will not significantly affect domestic consumption, particularly given likely size of subsidies in a fiscally constrained environment. Thus, production should be export-oriented rather than for domestic consumption.

Utilize sticks and carrots to decarbonize major industries and incentivize investments in clean technologies

The Government needs to leverage both incentives and punitive measures to drive decarbonization. They can address two key market failures:

- Market pricing for fossil fuels does not capture their negative externalities in terms of emissions. This is the rationale for carbon taxes.
- Innovation creates a positive externality - it benefits wider society, not just the innovator. This is the rationale for other forms of intervention, such as tax incentives to support innovation.

Fiscal incentives and penalties that can be used to incentivize technology development include R&D tax credits, research grants, publicly funded competitive research collaborations, public investment in R&D, public or private agreements on technology cooperation, demonstration projects and applied research networks.

[10] Mukherjee, P. Ford executive says South Africa needs EV policy within six months. November 18, 2022.

A stronger 'stick' approach may be via strengthening the timely implementation of the carbon tax mechanism. South Africa's carbon tax was designed to be implemented in three phases, with the second phase scheduled to start in January 2023. This was subsequently delayed by three years, with phase one now ending on December 31, 2025. The delay means that (i) firms will continue to enjoy a large tax-free allowance, reducing overall carbon tax liability and (ii) firms in high emissions sectors – including agriculture and waste – will not pay carbon tax until 2026 at the earliest. Additionally, the carbon tax specified that companies whose international competitiveness would be undermined by the carbon tax could get a trade exposure allowance, reducing their overall liability by up to 10%. The threshold was recently increased by the Ministry of Finance, making it more difficult to obtain the maximum allowance, generating unanticipated costs to the private sector. On the other hand, the EU Emissions Trading system has encouraged heavy industries to be more resource efficient. As the carbon price is forecast to increase 12-fold from 2019 to 2030, an increasingly painful penalty will be imposed that will drastically increase costs and reduce cost competitiveness of late adopters. Effective and aggressive reduction in the availability of carbon credits has also been a key ingredient in the reducing emissions in the UK energy sector. South Africa will need to strengthen a timely implementation of its carbon tax mechanism.

Foreign and local fiscal incentives should be conditional on expected and proven benefits and be subject to a fixed time limit. Penalties and incentives can be reinforced with mandatory industry standards which encourage behavioral change by setting performance targets and how they are achieved. Fiscal incentives could be made contingent upon compliance with such standards (for example, the use of sustainable construction material). Maturity of a sector should also be considered when establishing fiscal incentives. If a clean energy technology is relatively mature, continued supply side incentives may induce more adoption but not innovation. Thus, incentives of any kind be conditional, and time bound. Policymakers should use discretion when selecting complementary measures from the toolkit, to ensure they are appropriate on timing and context, subject to strict monitoring and evaluation, and have the flexibility to be withdrawn upon non-compliance or redundancy.

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