

## Briefing Note: The global climate change regime and its impacts on South Africa's trade and competitiveness

Overall, the rise of the global climate change regime has deep implications for South Africa's exports. On the one hand, South African sales are at risk from measures aimed at curbing trade in carbon-intensive goods as well as imports from carbon-intensive jurisdictions. On the other, with the rise of the international climate change regime, greenhouse gas (GHG) emissions have emerged as a new commodity. They can effectively be traded between countries through the import and export of products and services, when emissions are "embodied" within products.

South Africa's goods exports are focused on a few destinations (China, Europe, the United States, Japan, Korea, India and Southern Africa). They are also heavily concentrated around a limited number of commodities plus auto. These characteristics make South Africa particularly vulnerable to changes in trade patterns arising from measures aimed at transiting to low-carbon pathways.

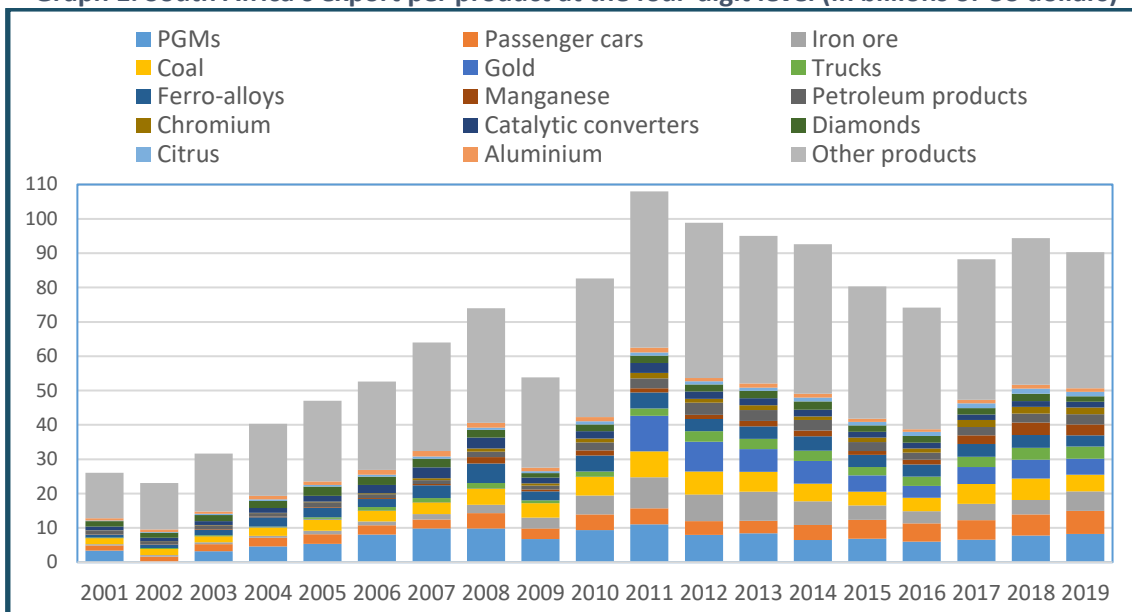
First, a material share of importers (such as the European Union, the US, United Kingdom and Japan) are rapidly moving away from carbon-intensive activities and may introduce border carbon taxes in the near future. The EU has announced the implementation of a border carbon tax from 2023. In the US, a border carbon tax is widely supported as a quid pro quo for the country playing an active role in the climate change regime. Already, South Africa's exported GHG emissions have shifted over the past two decades. China's imports (in carbon terms) have increased rapidly, compensating a material decline in the EU's and Japan's absolute and relative share.

Second, some of South Africa's key exports will face significant changes as a result of the transition to a low-carbon economy. Automotive-related exports, i.e. passenger cars, trucks, catalytic converters and platinum group metals, feature among the top South African exports. South Africa's key export markets (the EU and the US) are aggressively shifting to electric vehicles. Yet South Africa's exports of transport equipment are heavily linked to petroleum-based vehicles.

In addition, fossil fuels, namely coal and coal-based petrochemicals, account for substantial export shares. These are set to experience dramatic shifts in the coming years. In the third quarter of 2020, coal equalled 4% of South African exports, down from 6% at the start of the year mostly due to lower global fuel prices given the slowing economy. Petrochemicals added another 1.5% to export sales.

Other key exports rely on the country's mineral resources and are exported in raw or beneficiated form. Such exports are less at risk and may, under certain circumstances, even benefit from the transition to a low-carbon world. The case of aluminium is peculiar though, as South Africa does not host deposits of bauxite (which it imports from Australia). Aluminium production, which requires a large amount of reliable, cheap electricity, was historically attracted to South Africa by cheap coal-fuelled electricity, effectively forming part of a coal beneficiation strategy that is no longer viable.

**Graph 1. South Africa's export per product at the four-digit level (in billions of US dollars)**



Source: Calculated from Quantec EasyData. RSA Trade data series. Accessed at [www.quantec.co.za](http://www.quantec.co.za).

Overall, South Africa's exports are relatively carbon intensive. The country is a global outlier for numerous products, such as metals, transport equipment and agricultural products. In other cases, South Africa forms part of a group of high carbon-intensity countries (mining and quarrying, chemicals and pharmaceutical products, rubber and plastics products). With 2 243 tCO<sub>2</sub>e per US\$ million, South Africa is the only country with a carbon intensity over 2 000 tCO<sub>2</sub>e per US\$ million for manufacturing exports. Even other outliers, such as Kazakhstan (1 814), India (1 495) and Russia (1 381) do much better.

In sum, while a small country in overall embodied emissions, South Africa is one of the leading exporters of embodied GHG emissions. In fact, exported emissions represent a large share of South Africa's total GHG emissions (about a quarter in 2015). South Africa also has a relatively high share of exported emissions originating domestically, highlighting once more the role of domestic factors, such as energy supply and use. This situation is largely a function of: a) the country's carbon-intensive energy system; b) a poor (although improving) energy efficiency performance; and c) the key role played by energy-intensive industries in South Africa's economy. The country's vulnerability is also reinforced by the absence of an ambitious climate change framework, South Africa's relatively long distance to its trading partners and the status of emerging economy.

Encouragingly, South African exports have nevertheless increased faster in US dollar terms than in embodied carbon terms, indicating a relative decoupling of GHG emissions with exports over the 2005-2015 period. Looking ahead, this situation calls for decisive action to reduce the carbon intensity of the South African economy as well as diversify the structure of exports to low(er)-carbon products. This is essential to maintain South Africa's competitiveness and market access going forward. Despite some progress (for instance, in grid decarbonisation and energy efficiency efforts), much more is required to reduce South Africa's vulnerability to climate change regulations and set the country on a sustainable pathway.

The report, which forms the basis for this briefing note, can be found on the TIPS website [here](#).