Paper submitted for consideration during

The TRAPCA 3rd Trade Policy Research Forum, 29-30 July 2010, Arusha, Tanzania

Proposed title

Towards a climate compliant South African trade regime

by

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Author Biography

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Towards a climate compliant South African trade regime

Abstract

This paper addresses a need for South Africa to have a climate compliant trade regime. China, the UK and the USA are South Africa's top three trade partners this paper uses for analysis. An array of climate change (CC) regulatory regimes has emerged in the identified trade partners to South Africa. As of October 2009, China became the main export destination for South Africa. Even if China does not take (mandatory) emission reduction targets in 2013, countries from the developed North, among them, the UK, the EU and the USA have been pressurising China to reduce her huge carbon footprint. Global pressure to coerce China into reducing emissions will have spill over effects as China will in turn influence its key trading partners like South Africa to do likewise. Although many still believe China is not doing enough voluntarily to curtail its carbon emissions, reports from that country show great movement towards a low carbon economy. The UK and its EU trade block are at advanced stages in terms of being climate compliant. The new USA administration has also joined the global movement to reduce emissions and is a pioneer in the area of regulating vehicle emissions and energy efficiency. The paper utilises 2005 to June 2009 trade data obtained from South Africa's Department of Trade and Industry. An in depth analysis of this trade data is undertaken with a purpose to observe how CC regulatory regimes from the trading partners are likely to impact South African trade. The paper is therefore a wake-up call to South African businesses, politicians and other key stakeholders including labour to be pro-active and work towards a climate compliant trade regime. Although there is still work to be done, this work acknowledges that South Africa is moving at a relatively fast speed towards a climate compliant economy.

Key words: trade, South Africa, climate compliant, China, UK, USA

Introduction

In October 2009, local news bulletins in South Africa revealed that China had just overtaken the USA as South Africa's key export destination. Figures used were for the First Half-Year 2009 (herewith noted as H1 2009). Having taken great interest in climate change (CC) regulatory regimes in African export destinations (Nhamo, 2009) this paper narrows down the scope and addresses this subject holistically for South Africa. Focus is on analysing exports, imports and net trade as well as the manner in which a global and national climate compliant trade regime of the export destinations would impact on South Africa's trade regime.

Both China and South Africa significantly emit greenhouse gases (GHGs) and pressure is mounting to have these and other emerging economies with significant GHG emissions such as Brazil, India and Mexico sign up to GHG emission targets. China, South Africa and the UK have ratified the Kyoto Protocol, an international CC regulatory framework under the United Nations Framework Convention on Climate Change (UNFCC). Readers are referred to my earlier work (Nhamo, 2009). The USA on the other hand has been opposed to the Kyoto Protocol putting across an argument that emerging economies like China and South Africa be given GHG emission reduction targets. However, it is critical to note that the refusal by the USA to ratify the Kyoto Protocol does not imply ignorance on its part. Lots of initiatives to reduce GHGs at both the Federal and State Governments level are already in place (Center

for Climate Strategies, 2008). A detailed discussion regarding these and other mechanisms currently at play with regard to CC regulation at the global scale is outside the scope of this work.

Since the coming into office of President Obama in 2008, there has been significant movement towards a need to join the global fight against CC from the USA administration (Campbell, 2009). The UK on the other hand has been a touch bearer and champion leading the fight against global warming and changing climate. The country became the first in the world to enact a Climate Change Act in 2008 (UK Government, 2008). Since the world eyes are now upon China, not only in terms of the huge GHGs it emits but even in terms of its growth, there is evidence of a move from hostility to partnerships by the developed North, particularly the UK and the EU. Some kind of stick and carrot approach has emerged to bring China into the mainstream regarding a need to reduce its GHG emissions. Technology within the fields of clean energy, clean coal and carbon capture and storage (CCS) is being piloted in China with funding from the UK and the EU. All these initiatives will influence and force China to change its developmental path to one that is greener and climate compliant. This will have both direct and indirect implications in terms of China's trading partners of which South Africa now ranks first in terms of exports (Edwards, 2008). Further details regarding CC regulatory regimes for the four countries under study are provided in the relevant sections in this work.

This paper focuses on South Africa's three key trade partners selected for analysis. Selection of these trade partners is based on the significant volumes of goods and services both exported to and imported from China, the UK and the USA by South Africa. In line with the national green economy agenda spelt out by South Africa, particularly the Long Term Mitigation Scenario (LTMS) (DEAT, 2007), a call is made for the South African government to put in place a climate compliant trade regime.

Research questions and methodology

Two research questions are addressed in this article: (1) which climate change regulatory regimes are in place in China, the UK and the USA and what impact will these have on the future of South Africa's export sector and business? (2) what measures can South Africa put in place so as to move closer to a climate compliant import regime, particularly in response to the three import markets under review? This paper uses secondary data, presents a literature review, and draws from and audit of CC regulatory frameworks, particularly from the highlighted trade partners. Secondary trade data for the period 2005 to H1 2009 were retrieved from South Africa's National Department of Trade and Industry (DTI) online database (DTI, 2009). Data on carbon emissions were also gathered from the International Energy Agency (IEA) for the periods 1990 and 2005.

Carbon emission and climate compliance in case countries

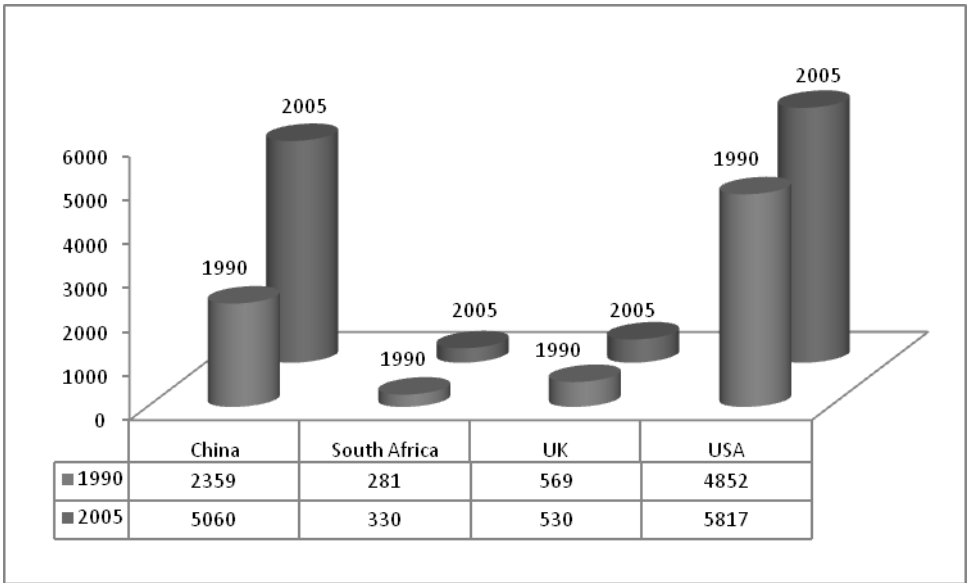
It is critical to deliberate briefly on GHG emission statistics for the countries under review. Whilst two of the economies under study (the USA and the UK) have been given GHG emission quotas under the Kyoto Protocol two others (China and South Africa) have not. Under the Kyoto Protocol the USA and the UK fall under Annex 1 countries – countries that need to collectively reduce their GHG emission by an average of 5% between 2008 and 2012 based on the 1990 emission levels.

Econsense (2007: 1) presents the following details regarding the ratification status and targets set for the countries concerned:

- China: ratified the Kyoto Protocol on 30 August 2002 and is not obliged to take on GHG emissions reduction targets.
- South Africa: ratified the Kyoto Protocol on 31 July 2002 is also not obliged to take on GHG emissions reduction target.
- UK: ratified the Kyoto Protocol on 31 May 2002 and a negative -12.5% GHG emissions reduction target was stipulated for the country.
- USA: has not ratified the Kyoto Protocol although a negative -7.0% GHG emissions reduction target was specified for the country.

Another dimension is the fact that apart from the UK the other three countries under investigation are the highest emitters of GHGs in their respective continents (Africa – South Africa, Asia – China and North America – USA). The USA stood clear of the pack as the highest source and emitter of GHGs. Its total CO_2 contribution in 1990 was 4,852 metric tonnes (Mt). Today China stands out as the world's highest GHG emitter having surpassed the USA on 27 August 2008 (Edwards, 2008). The USA has up to date refused to ratify the Kyoto Protocol that spells its targets and somehow remains 'outside' the post Kyoto Protocol framework being crafted by the Parties and other interested global players leading to Copenhagen. The summary statistics of the CO_2 emissions for 1990-2005 as compiled from IEA (2008) is shown in Figure 1.

Figure 1: CO^2 emissions 1990-2005 (Mt tonnes)



	China	South Africa	UK	USA
1990	2359	281	569	4852
2005	5060	330	530	5817

Source: Author

The scenario discussed above and the picture painted in Figure 1 is cause for concern with regard to GHG abatement and trade. The scenario leaves all the four countries with an obligation to be climate compliant as they have very high CO_2 emission levels. Hence it is going to be a fierce battle both at the local and international fronts. As such measures have been instituted to regulate rampant and

unchecked GHG production culture. Of interest is the fact that the UK's CO_2 emissions were on a reduction path by 2005 having reported 569 Mt of CO_2 in 1990 compared to a lower figure of 530 Mt in 2005. This can be attributed to the leadership in CC compliance shown by the country. Further deliberations on this are made in the next section. South Africa stands out odd as the lesser powerful of the grouping in terms of GHG emissions. This does not necessarily mean that South Africa has been and/ or will be treated with kids' gloves. In fact, both the USA and the UK have joined other developed countries in calling for both China and South Africa to take on emission targets come 2013 when the Kyoto Protocol lapses.

The following is a summary of CC legislation and related initiatives that will be investigated further concerning their implications on South African trade. The World Resources Institute (WRI) (2009b: 4), proclaims that in a development that is being hardly noticed by many internationally, China is putting in place a range of domestic energy policies and programmes aimed at significantly reducing its carbon footprint. A summary of CC regulatory regimes in South Africa's key trade partners is presented in Table 1.

Table 1: CC regulatory regimes in China, the UK and the USA

Country	CC Regulatory Regime
China	• 2005 & 2008: National renewable energy standard of 15% by 2020 passed • 2006: Goal to reduce national energy intensity by 20% by 2010 • 2007: China's National CC Programme • 2008: National Action Plan on CC • 2008 CC White Paper of 2008 • 2009: Set of industry, transport and construction energy conservation policies • 2009: Premier Wen announced that China will be adding GHG emissions goals in its 12th Five Year Plan starting 2012 • 2009: Infrastructure for Green Development Programme – A third of China's global downturn stimulus package to promote energy efficiency. • 2009: WRI and CC Policy in China Programme • 2009: Carbon Capture and Storage (CCS) Programme • 2009: Production of 10kW vertical axis wind turbines launched in October
UK (inclusive of the European Union)	*UK* • 2006: UK CC Programme • 2006: Initiative on Food Miles and Organic Certification • 2008: UK Energy White Paper • 2008: Climate Change Act • 2008: Motor Scrappage Scheme • 2009: Carbon Budget • 2009: Project 10:10 – UK businesses and other sectors to work towards reducing emissions by 10% by 2010 • 2010: CRC Energy Efficiency Scheme (effective April) *EU* • 2005: The EU- Emissions Trading System (EU-ETS) • 2006: Initiative on Food Miles and Organic Certification • 2008: December: EU Green Stimulus Package • 2009: The EU Directive on Renewable Energies • 2009: A target of a 20 percent reduction in GHG emissions by 2020
	• 2008: Change in rear guard and change in CC policy • 2009: Clean Energy and Security Act

United States of America	• 2009: Climate Bill • 2009: Electric Car Fund • 2009: Motor Scrappage Scheme – 316,189 cars turned in worth US$ 1.326 million in two weeks • 2009: Record Proxy season see 68 CC-related shareholder resolutions filed with a 50% success rate • 2009: Energy Efficiency and Vehicle Emission Standards (effective 2016) coupled with a declaration of October as the Energy Efficiency moth for the USA

Source: Modified after Nhamo (2009)

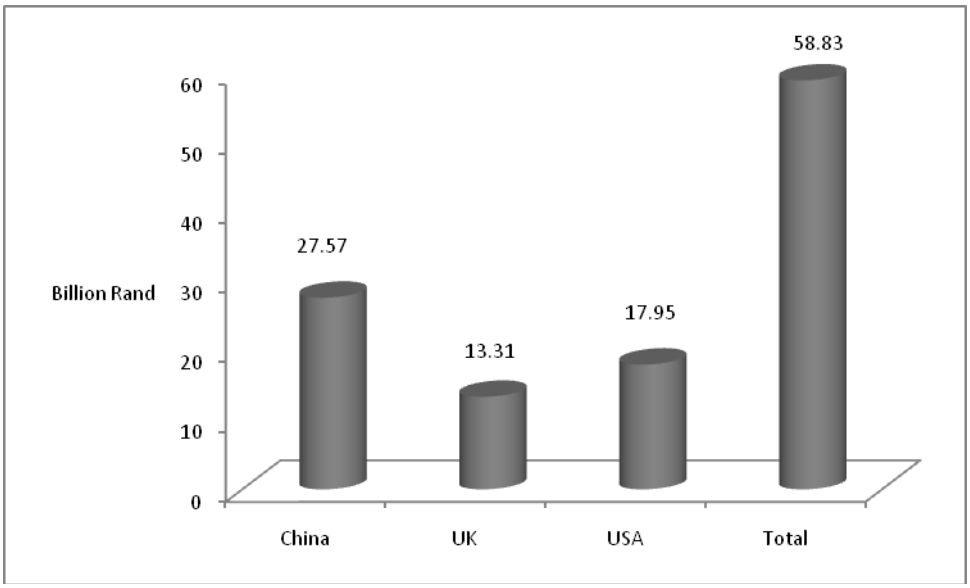
South African Trade with China, UK and USA

It is important to consider in depth the trade pattern for South Africa with the case countries namely: China, the UK and the USA. Such information and data helps us to understand the likely impacts CC regulatory regimes are likely to have on trade. The discussion comes in three parts focusing on: (a) exports, (b) imports and (c) net trade.

Exports

South Africa's H1 2009 export figures show a strong bias towards China. Of the 58.83 Billion Rand worth of exports, China alone accounted for 46.86% of total trade value that stood at a rounded figure of 27.57 Billion Rand. In second place was the USA taking up 22.62% of the trade value rounded to 17.95 Billion Rand. The UK came in third place with 22.62% of traded value rounded to 13.31 Billion Rand (Figure 2).

Figure 2: Export values H1 2009



Source: Author

South Africa's ranked export sectors for 2008 and H1 2009 as retrieved from the Department of Trade and Industry (DTI) and analysed with regard to the three countries under review are shown in Table 2. The Table presents 21 trade sectors as identified by the DTI. Table 2 shows that up to 85.36% of export value in H1 2009 was accounted for by five trade sectors namely: mineral products (ranked 1st and contributing 33.19% of total value exported); natural or cultured pearls, precious or semi-precious (2nd and contributing 18.06% of value); base metals and articles of base metals (3rd and taking up 16.98% of value); vehicle, aircraft, vessels and associated transport (4th and sharing 12.44% of value); and products of the chimerical or allied industries (in 5th position and contributing 4.68% of value). The mineral products sector outweighs all other sectors by far as it stays clear at 33.19% of total export value for H1 2009.

Further insights reveal that the top ten trade sectors contributed 96.38% of total export value. Included in this enlarged group are products that have been on the attack in terms of their carbon footprint in the UK and the EU like vegetable products (in 6th place and contributing a significant 2.82% of export value); prepared foodstuffs, beverages, spirits and vinegar (7th and sharing a significant 2.78% of export value). For further analysis regarding rankings and differences between the three countries for H1 2009 and 2008 refer to Table 2.

Additional analysis by country presents other dimensions. For example, whilst mineral products exported to China ranked 1st in both 2008 and H1 2009, these ranked 2nd and 5th in the UK and 6th and 5th for the USA destination respectively. The other observation is that whilst vehicles, aircraft, vessels and associated transport exports ranked 2nd and 1st for the USA in 2008 and H1 2009, these ranked very low for China and the UK. Total export value to China ranked 12th and 11th for the same period, whilst for the UK market these ranked 8th and 9th respectively.

South African vehicle exports and associated products in the sector to the USA ranked 1st and 2nd in 2008 and H1 2009 respectively (Table 2). This scenario presents a huge challenge to the local export sector as more stringent carbon regulations will be in place by 2016 (Crawley, 2009). Vehicle manufacturers will be forced to increase fuel efficiency by an average 6.6 litres per 100km, by 2016. Exhaust emissions will also be regulated for the first time with a major goal of cutting carbon emissions by 21% by 2030 and reducing dependence on imported oil. This initiative means South African manufacturers must comply if they intend maintaining the USA export market. The CC regulatory regime was expected to cost the USA industry an estimated $60 billion (Crawley, 2009). Vehicle emissions would have to meet a combined average of GHG emission of 155g/km by 2016.

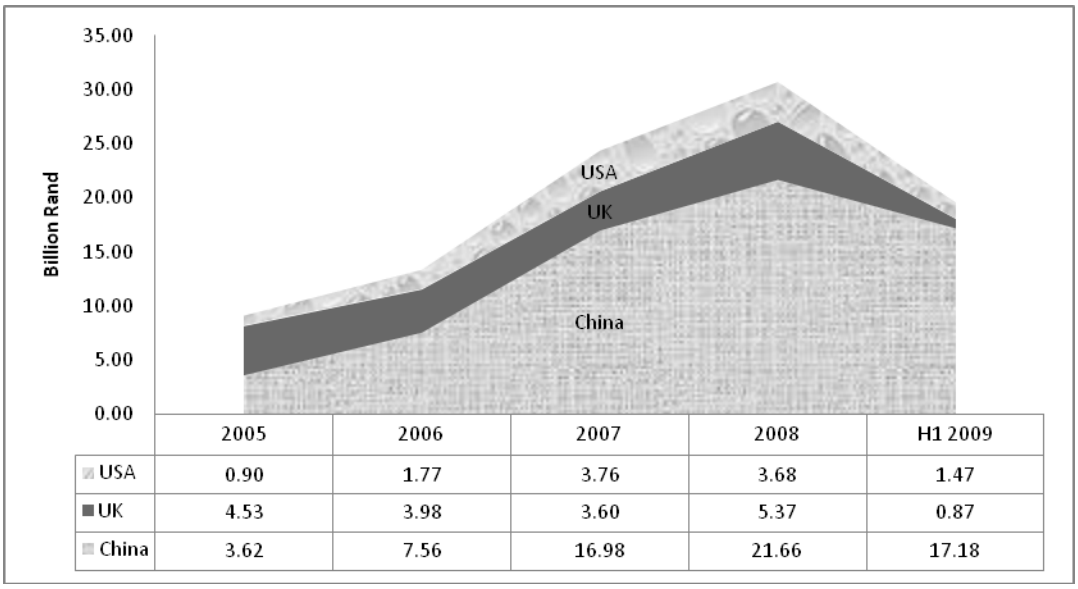
Table 2: Detailed export figures

SECTION NAME	Rand Value China	Rank		Rand Value UK	Rank		Rand Value USA	Rank		Aggregate Value	Rank	%
	2009	*2009*	*2008*	*2009*	*2009*	*2008*	*2009*	*2009*	*2008*	*H1 2009*	*H1 2009*	*H1 2009*
SECTION V : MINERAL PRODUCTS	17,184,133	1	1	874,047	5	2	1,470,089	5	6	19,528,269	1	33.19
SECTION XIV: NATURAL OR CULTURED PEARLS, PRECIOUS OR SEMI-PR	1,119,951	3	3	6,005,487	1	1	3,500,197	2	1	10,625,635	2	18.06
SECTION XV: BASE METALS AND ARTICLES OF BASE METAL	6,985,077	2	2	646,284	6	4	2,355,702	3	3	9,987,063	3	16.98
SECTION XVII: VEHICLES, AIRCRAFT, VESSELS & ASSOCIATED TRANS	51,385	11	12	343,341	9	8	6,926,520	1	2	7,321,246	4	12.44
SECTION VI: PRODUCTS OF THE CHEMICAL OR ALLIED INDUSTRIES	467,181	6	4	424,272	8	9	1,862,548	4	4	2,754,001	5	4.68
SECTION II: VEGETABLE PRODUCTS	8,943	15	15	1,470,972	2	5	177,650	8	8	1,657,565	6	2.82
SECTION IV : PREPARED FOODSTUFFS; BEVERAGES, SPIRITS, & VINEG	111,717	9	10	1,001,202	3	6	525,309	7	7	1,638,228	7	2.78
SECTION XVI: MACHINERY & MECHANICAL APPLIANCES; ELECTRICAL EQ	139,740	8	8	999,366	4	3	126,840	6	5	1,265,946	8	2.15
SECTION X : PULP OF WOOD OR OF OTHER FIBROUS CELLULOSIC MATE	406,670	7	7	557,287	7	7	133,444	10	11	1,097,401	9	1.87
SECTION VII: PLASTICS & ARTICLES THEREOF; RUBBER & ARTICLES	486,274	4	6	174,242	10	10	164,540	9	9	825,056	10	1.40
SECTION XI: TEXTILES & TEXTILE ARTICLES	472,656	5	5	169,454	11	11	106,348	13	10	748,458	11	1.27
SECTION XXII: OTHER UNCLASSIFIED GOODS	664	20	16	134343	13	14	100128	14	18	235,135	12	0.40
SECTION XVIII : OPTICAL, PHOTOGRAPHIC, CINEMATOGRAPHIC, MEASU	11,705	13	14	86,164	14	12	130,686	11	13	228,555	13	0.39
SECTION I: LIVE ANIMALS; ANIMAL PRODUCTS	14,717	12	13	80,826	16	16	123,083	12	12	218,626	14	0.37
SECTION IX : WOOD & ARTICLES OF WOOD; WOOD CHARCOAL; CORK &	1,577	18	20	157,992	12	13	8,557	19	20	168,126	15	0.29
SECTION XX: MISCELLANEOUS MANUFACTURED ARTICLES	8,146	16	19	73,847	17	15	80,019	15	15	162,012	16	0.28
SECTION VIII: RAW HIDES & SKINS, LEATHER, FURSKINS & ARTICLES	79,335	10	11	3,169	22	22	74,614	16	14	157,118	17	0.27
SECTION XIII: ARTICLES OF STONE, PLASTER, CEMENT, ASBESTOS, M	9,709	14	17	81,734	15	17	29,710	18	17	121,153	18	0.21
SECTION XXI : WORKS OF ART, COLLECTORS' PIECES, & ANTIQUES	560	21	9	13980	18	18	45635	17	16	60,175	19	0.10
SECTION XII: FOOTWEAR, HEADGEAR, UMBRELLAS, SUN UMBRELLAS, WA	682	19	21	9347	19	19	6418	20	21	16,447	20	0.03
SECTION III : ANIMAL OR VEGETABLE FATS & OILS& THEIR CLEAVAG	7,579	17	18	3,733	21	21	1,477	21	22	12,789	21	0.02
TOTAL	*27,568,401*			*13,311,089*			*17,949,514*			*58,829,004*		*100*

Export trends for mineral products from 2005-H1 2009 are presented in Figure 3. Mineral products were ranked 1st in H1 2009. Figure 3 reveals a sharp increase in mineral products exported to China. Overall, China accounted for 66.99 Billion Rand (69.77%) of mineral products export value to the three countries between 2005-H1 2009. The total value of the exports was 96.01 Billion Rand. The remaining percentages for the period 2005 to H1 2009 were shared as 18.16% to the UK and 12.07% to the USA.

In 2005 South Africa exported 3.62 Billion Rand worth of mineral wealth to China and as of H1 2009 the figure stood at 17.18 Billion Rand and will have increased significantly by H2 2009. In 2008 South Africa exported 21.66 Billion worth of mineral products to China. This figure reflects a 600% growth in mineral products exports to this destination since 2005 when the figure was only 3.62 Billion Rand. Whilst the trend is upward for China, this is not the same for the UK and the USA export markets. The export value of mineral products to the USA has been on a decline since 2007. As of H1 2009, South Africa exported less than a Billion Rand worth of mineral products to the USA.

Figure 3: Export trends for mineral products



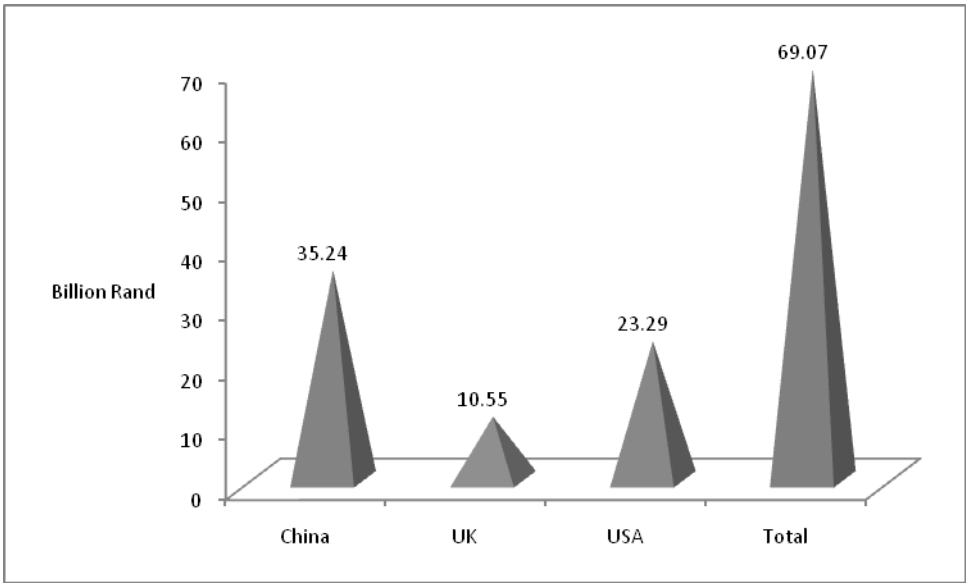
	2005	2006	2007	2008	H1 2009
USA	0.90	1.77	3.76	3.68	1.47
UK	4.53	3.98	3.60	5.37	0.87
China	3.62	7.56	16.98	21.66	17.18

Source: Author

Imports

South Africa's H1 2009 import figures once more show a strong bias towards China. Of the 69.07 Billion Rand worth of imports, China alone accounted for 51.02% (35.24 Billion Rand rounded) of total value. In second place was the USA taking up 33.71% of the import value rounded to 23.29 Billion Rand. The UK came in third place with 15.27% of traded value rounded to 10.55 Billion Rand (Figure 4.).

Figure 4: Import values H1 2009



Source: Author

South Africa's ranked import sectors for 2008 and H1 2009 with regard to the three countries under review are shown in Table 3. Table 3 presents 23 import sectors as identified by the DTI. Up to 72.05% of total import value in H1 2009 was accounted for by five import sectors namely: machinery, mechanical appliances and electrical equipment (1st); products of the chemical or allied industries (2nd and contributing 9.64% of import value); vehicles, aircraft, vessels and associated transport (3rd and contributing 8.55% of total import value); textiles and textile articles (4th and with a portion of 6.93% of total import share) as well as base metals and articles of base metal (5th with a share of 6.51% of total import value). The machinery, mechanical appliances and electrical equipment sector outweighs all other sectors by far as it stays clear at 40.42% of total import value for H1 2009. The second ranked key import sector (products of the chemical or allied industries) only comes at a distant 9.64%. Further insights reveal that the top ten import sectors contributed 89.23% of total import value. For further analysis regarding rankings and differences between the three countries for 2008 and H1 2009 and 2008 refer to Table 3.

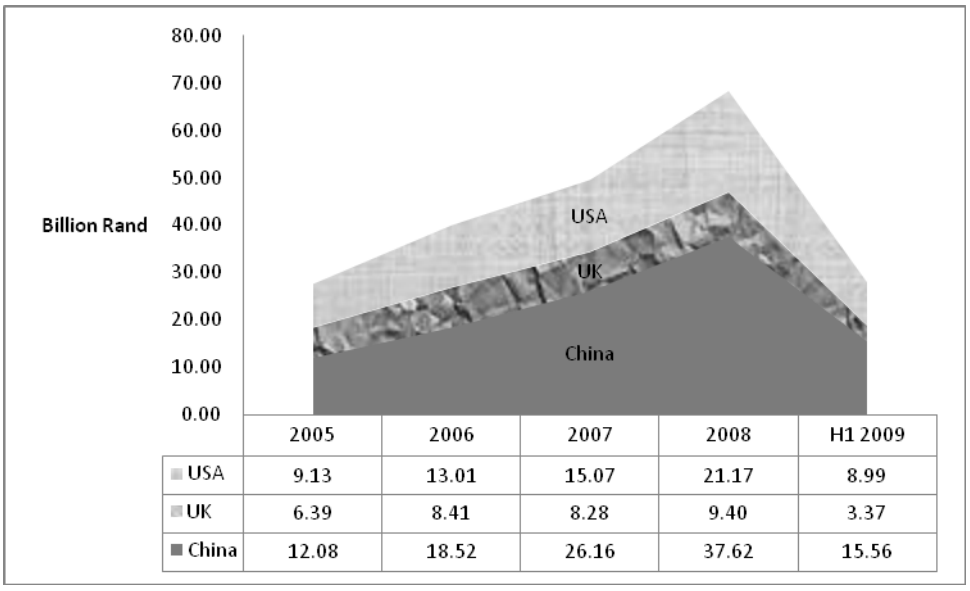
Table 3: Detailed imports figures

SECTION NAME	Rand Value China	Rank		Rand Value UK	Rank		Rand Value USA	Rank		Aggregate Value	Rank	%
	2009	*2009*	*2008*	*2009*	*2009*	*2008*	*2009*	*2009*	*2008*	*H1 2009*	*H1 2009*	*H1 2009*
SECTION XVI: MACHINERY & MECHANICAL APPLIANCES; ELECTRICAL EQ	15,562,242	1	1	3,368,390	1	1	8,985,534	1	1	27,916,166	1	40.42
SECTION VI: PRODUCTS OF THE CHEMICAL OR ALLIED INDUSTRIES	2,038,732	4	4	1,506,348	3	4	3,115,505	3	3	6,660,585	2	9.64
SECTION XVII: VEHICLES, AIRCRAFT, VESSELS & ASSOCIATED TRANS	669,406	9	7	1,535,649	2	3	3,698,370	2	2	5,903,425	3	8.55
SECTION XI: TEXTILES & TEXTILE ARTICLES	4,476,889	2	3	151,446	11	12	160,637	14	16	4,788,972	4	6.93
SECTION XV: BASE METALS AND ARTICLES OF BASE METAL	3,374,907	3	2	421,180	10	7	700,792	7	8	4,496,879	5	6.51
SECTION XVIII : OPTICAL, PHOTOGRAPHIC, CINEMATOGRAPHIC, MEASU	618,553	10	11	511,827	6	8	2,044,817	4	4	3,175,197	6	4.60
SECTION VII: PLASTICS & ARTICLES THEREOF; RUBBER & ARTICLES	1,219,970	7	8	430,128	9	10	896,412	6	7	2,546,510	7	3.69
SECTION XX: MISCELLANEOUS MANUFACTURED ARTICLES	1,803,831	6	5	115,132	12	14	319,070	12	13	2,238,033	8	3.24
SECTION XII: FOOTWEAR, HEADGEAR, UMBRELLAS, SUN UMBRELLAS, WA	1,990,458	5	6	7,297	21	21	9,632	21	21	2,007,387	9	2.91
SECTION V : MINERAL PRODUCTS	305,510	15	9	501,331	7	11	1,096,606	5	5	1,903,447	10	2.76
SECTION X : PULP OF WOOD OR OF OTHER FIBROUS CELLULOSIC MATE	347,485	14	13	546,331	5	9	511,141	9	11	1,404,957	11	2.03
SECTION IV : PREPARED FOODSTUFFS; BEVERAGES, SPIRITS, & VINEG	407,130	13	15	611,707	4	6	327,034	11	12	1,345,871	12	1.95
SECTION XIII: ARTICLES OF STONE, PLASTER, CEMENT, ASBESTOS, M	773,952	8	10	94,358	13	13	352,585	10	14	1,220,895	13	1.77
SECTION XXIII: SPECIAL CLASSIFICATION PROVISIONS: ORIGINAL EQ	174,412	17	17	440,195	8	5	603,220	8	9	1,217,827	14	1.76
SECTION II: VEGETABLE PRODUCTS	507,555	11	14	23,169	18	17	206,348	13	10	737,072	15	1.07
SECTION VIII: RAW HIDES & SKINS, LEATHER, FURSKINS & ARTICLES	493,910	12	12	5602	23	22	7188	22	22	506,700	16	0.73
SECTION I: LIVE ANIMALS; ANIMAL PRODUCTS	181,324	16	16	30,736	17	18	77,002	15	15	289,062	17	0.42
SECTION IX : WOOD & ARTICLES OF WOOD; WOOD CHARCOAL; CORK &	169,322	18	18	11,207	19	19	58,344	16	17	238,873	18	0.35
SECTION XIV: NATURAL OR CULTURED PEARLS, PRECIOUS OR SEMI-PR	110,472	19	19	77598	15	2	32177	18	6	220,247	19	0.32
SECTION XXII: OTHER UNCLASSIFIED GOODS	3,372	21	21	60,012	16	16	45,079	17	20	108,463	20	0.16
SECTION XXI : WORKS OF ART, COLLECTORS' PIECES, & ANTIQUES	5,030	20	20	80354	14	15	15566	20	19	100,950	21	0.15
SECTION III : ANIMAL OR VEGETABLE FATS & OILS& THEIR CLEAVAG	2,016	22	22	9,582	20	20	23,734	19	18	35,332	22	0.05
SECTION XIX : ARMS AND AMMUNITION	53	23	23	6309	22	22	3602	23	23	9,964	23	0.01
Total: Section	*35,236,531*			*10,545,888*			*23,290,395*			*69,072,814*		*100.00*

Further analysis by country reveals additional dimensions. For example, machinery, mechanical, appliances and electrical equipment products were ranked 1st across the three import markets in both 2008 and H1 2009. However, whilst textiles and textiles articles imports ranked 2nd and 3rd for China in 2008 and H1 2009 respectively, this figure differs greatly from those from the UK (ranked 11th and 12th) and the USA where it was ranked even lower at 14th and 16th respectively. Assuming the Chinese government moves towards regulating the textiles and textiles articles export sector for climate compliance, then the impacts will be felt significantly by South Africa as this is one of the key import sectors. The likely pressure will be on a need to move towards organic and other climate friendly farming practices that increase the production costs. This will in turn result in much expensive textiles and textiles articles for South Africa. A similar trend is also evident in terms of the footwear, headgear, umbrellas and sun umbrellas ranked 5th in both 2008 and H1 2009 imports from China. This sector was ranked very low (21st) place across the reporting period in both the UK and the USA.

Import trends for machinery, mechanical, appliances and electrical EQ in H1 2009 from 2005-H1 2009 are presented in Figure 5. The machinery, mechanical, appliances and electrical equipment sector was ranked 1st in H1 2009. Figure 5 also reveals a sharp increase in imports for machinery, mechanical, appliances and electrical equipment from China. Overall, China accounted for 109.94 billion Rand (51.58%) of mineral products import value from the three countries between 2005 and H1 2009. The total value of the imports stood at 213.16 Billion Rand. The remaining percentages for the period 2005 to H1 2009 were shared as 18.82% to UK and 31.60 to the USA. In 2008 South Africa imported 37.62 Billion Rand worth of machinery, mechanical, appliances and electrical equipment from China. This figure reflects a 311.42% growth in machinery, mechanical, appliances and electrical equipment imports from China since 2005 when the figure was only 12.08 Billion Rand. A similar upward trend is also evident with the other two import markets, the UK and the USA (Figure 5).

Figure 5: Imports trends for machinery, mechanical appliances & electrical equipment



	2005	2006	2007	2008	H1 2009
USA	9.13	13.01	15.07	21.17	8.99
UK	6.39	8.41	8.28	9.40	3.37
China	12.08	18.52	26.16	37.62	15.56

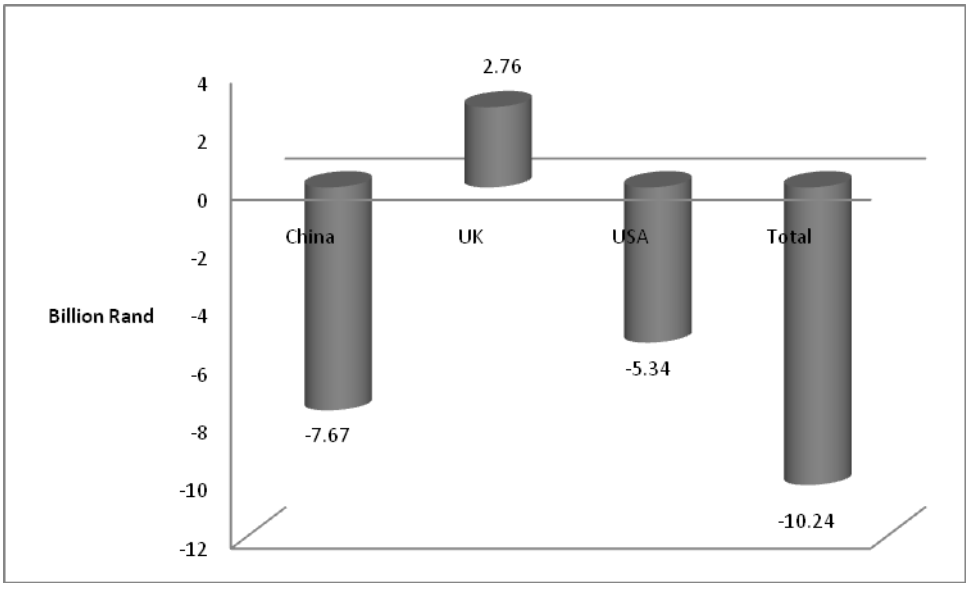
Source: Author

The WRI (2009a: 1) notes that China's approach in addressing CC as spelt out in the National climate Change Programme utilises a mixture of regulatory instruments. The WRI identifies the use of targets and quotas, industrial and equipment standards, energy taxes and financial incentives and penalties. It is the application of industrial and equipment standards that will have significant bearing for South African trade as this affects both the inward and outward movement of goods traded between the two countries. The Chinese economy being much bigger than that of South Africa is likely to have that influence in terms of the direction of trade.

Net trade H1 2009

The net trade for H1 2009 is shown in Figure 6. Apart from the UK, the figures showed trade deficit with China (-7.67 Billion Rand) and the USA (-5.34 Billion Rand). There was also a deficit in terms of total trade for the H1 2009 period and this figure stood at a negative -10.24 Billion Rand. South Africa is a net exporter to the UK as reflected by the positive figure of 2.76 Billion Rand. The top 5 export product cluster sectors to the UK contributed 77.7% of the total value of 13.32 Billion Rand. These cluster sectors (ranked from 1st to 5th) were: natural or cultured pearls, precious or semi-precious (taking up 45.10% of total value); vegetable products (11.00%); prepared foodstuffs, beverages, spirits and vinegar (7.50%); machinery, mechanical appliances and electrical equipment (7.50%); and mineral products; (6.60%). The top 10 export product cluster sectors contributed 93.90%. Base metals and articles of base metal (ranked 6th); pulp of wood or of other fibrous cellulosic mate (7th); products of the chemical or allied industries (8th); vehicles, aircraft, vessels and associated transport (9th); and plastics, articles thereof, rubber and articles (10th) completed the top 10 export sectors to the UK. Among the export products identified in the top 10 are some that can be negatively impacted by both CC regulatory regimes in the UK as well as CC vulnerability in the host country South Africa. The Food Miles Programme in the UK and EU can negatively and significantly impact on vegetable products as well as prepared foodstuffs, beverages, spirits and vinegar exports as importing such from South Africa leads to high carbon footprints.

Figure 6: Net trade H1 2009



Source: author

Looking ahead

The World Bank (2010: 263) introduces the concept of taxing virtual carbon and raises the question: "Should carbon be taxed where it is emitted, or at the point where goods are consumed on the basis of their "embodied" or "virtual" carbon?" Virtual carbon is the amount of carbon emitted in producing and delivering a particular good and service. The Bank reports that many major exporting countries argue that at off source carbon taxing will penalise them yet much of the carbon is generated and emitted during the production process of export goods. China and the Russian Federation are reported by the Bank as net exporters of virtual carbon with the EU, USA and Japan being net importers. Hence, a facility to have countries imposing a carbon tax will be concerned with competitiveness and carbon leakage effects if competing countries do not have similar measures in place. This will result in considerations to tax virtual carbon imports to level the playing field.

The average tariff on imported goods and services if virtual carbon is taxed at $50 a ton of CO_2 (in percentage) for the countries under discussion is presented in Table 4. The figures indicated are commensurate with experience in emission permits issued in the EU European Emission Trading Scheme. To support the line of argument in this paper, the World Bank concludes that virtual carbon tariff rates faced by emerging economies like South Africa could be significant if the world goes this route. Unilateral imposition of virtual carbon tariffs is highly likely and would be another source of trade friction and wars.

Table 4: Average tariffs on imports if virtual carbon is taxed at $50 a ton of CO_2 (percent)

Country		*Importing (%)*				
		China	EU15	South Africa	USA	Trade-weighted Average (%) Exporting Country
Exporting (%)	China	0.00	10.50	11.10	10.30	5.10
	EU15	1.10	0.00	1.20	1.20	7.63
	South Africa	10.60	9.80	0.00	8.90	7.33
	USA	3.10	3.10	3.20	0.00	6.38
	Trade-weighted Average (%) Importing Country	3.70	5.85	3.88	5.10	N/A

Source: Recomputed after Artkinson et al (as cited in World Bank 2010: 263)

The last column in Table 4 represents the trade-weighted average tariff faced by the exporting country within the grouping and the last row is the trade-weighted average tariff applied by the importing country within the grouping. The EU 15 is included to incorporate the UK. The trade-weighted average tariff faced by South Africa when exporting to China, the EU and the USA will be 7.33% and 10.60% if exporting to China. Likewise, the trade-weighted average tariff applied by South Africa when importing from China, the EU and the USA will be 3.88% (and 11.10% if importing to China).

In his speech to the UN Secretary General's High Level Summit on Climate Change focused on building bridges for a new climate deal agreement post 2012, South African President Jacob Zuma raised key issues. The meeting took place on 22 September

2009 in New York, USA. President Zuma mentioned that there was a need to move swiftly and ensure there would be a new climate treaty. He, however, cautioned and said:

> The global agreement should be guided by a shared vision. It should be inclusive, fair and effective. It must recognise that solving the climate problem cannot be separated from the struggle to eradicate poverty. … On mitigation, the agreement must contain ambitious, quantified, and legally binding emission reduction commitments by developed countries. It must set the framework for mitigation actions by developing countries that are supported and enabled by finance and technology. … Our goal should be to significantly reduce emissions across the globe without constraining development in the countries of the South (Zuma, 2009: 1).

It is the last part of President Zuma's speech that is most profound in terms of what this paper hopes to achieve. Stringent CC regulatory regimes in key South African trade partners will certainly have implications for both the export and import markets as well net trade. If not adequately checked, the bias will always remain against South Africa, particularly the exports. Hence CC regulatory regimes should still leave room for development and poverty eradication, especially from an emerging economy's perspective like South Africa.

In her speech during South Africa Carbon Capture and Storage Conference (CCS) on 29 September 2009, Energy Minister, Dipuo Peters reiterated the same views from the President. She, however, added that government was in full support of the CCS technology as a transitional mechanism to move towards a low carbon South Africa (Peters, 2009). Diverging from her prepared speech, Minister Peters challenged participants to be the Biblical *Noahs* of our times and make a difference by doing what is right. The very first workshop organised by the Department of Energy under Peters' Ministry to discuss building blocks and a road map to CCS regulation in South Africa took place in Midrand on 30 September 2009.

The stage is set for a low carbon global economy. As one of the emerging global leaders and players, South Africa must play ball or else the country's solid development path will be curtailed if a trade regime that is climate compliant is not put in place. Such a trade regime must focus at both the export and import markets. Although the greatest challenge will be coming from the UK (including its EU trade block) and the USA, China is likely to follow suit as more and more global pressure is exerted, especially from the developed North for it to move towards a low carbon economy. As discussed earlier, some of South Africa's top exports, especially to the UK include products that are exposed to both a stringent CC regulatory regime and a vulnerable physical local landscape.

South Africa needs to move with others in making sure that the catch up game is in place. There is no doubt that the three case countries are more advanced in terms of addressing the need to transform to greener, low carbon entities. Even if the Copenhagen round of climate negotiations fails to come up with a strong post 2012 framework, individual countries who are trade partners to South Africa including those from the South like Brazil, India and Mexico will be putting in place significant climate compliant regimes.

It will be hypocritical not to acknowledge great work and progress made by South Africa in the face of the global CC challenge so far. The framework and political will to migrate to a green South Africa is in place. What remains is to awaken some of the policies in place. The Long Term Mitigation Strategy (LTMS), for example, identifies a need to move towards a green economy as well as develop CCS technology and deploy it. The environmental tax reform is another initiative currently running. The energy Efficient Accord (DME, 2005) and the Carbon Disclosure Project (CDP) (Carbon Disclosure Project, 2009) are two landmark voluntary climate regulatory regimes that have been put in place by business. The challenge that still remains in this arena is the fact that there has not been a united CC voice from business associations in the land. Some of the key national CC regulatory regimes since 1996 (Busa, 2009; Creamer, 2009; DEAT, 2007; DME, 2005; Manuel, 2009; National Treasury, 2006; Nhamo, 2006; RSA, 1996) are listed herewith.

- 2009: Wind Atlas for South Africa (in preparation)
- 2009: National Solar Water Heating (SWH) Strategic Framework
- 2009: Regulations on Carbon Capture and Storage (exploratory work underway)
- 2009: National Climate Change Response Strategy (under preparation)
- 2009: Green Jobs Proposal/Strategy (under preparation)
- 2009: Draft Taxations Laws Amendment Bill 2009
- 2009: National Statement following the 2nd National CC Summit
- 2009: Independent Power Producers (IPP) Feed in Tariffs
- 2008: National Energy Act
- 2007: Long Term Mitigation Strategy passed
- 2007: National Statement following the 1st National CC Summit
- 2006: A Framework to Support Environmental Fiscal Reform in South Africa
- 2005: Energy Efficiency Strategy
- 2005: Sustainable Development Criteria for CDM Projects
- 2004: Regulations for the Establishment of the Designated National Authority
- 2004: National Climate Change Response Strategy
- 2004: White Paper on the Promotion of Renewable Energy
- 2002: Ratification of the Kyoto Protocol to the UNFCCC
- 1997: Ratification of the UNFCCC
- 1996: Constitution of South Africa

However, the insights raised by both President Jacob Zuma and his Minister for Energy Mrs Peters as discussed earlier remain valid. South Africa and other emerging economies need to address CC issues in a manner that does not compromise and curtail development, poverty eradication and job creation. Hence the principle of common but differentiated responsibilities and capabilities is still a pillar. South Africa must also be in the forefront in terms of pioneering CCS technology leading to its deployment in the country. This is a measure that will go a long way in reducing the carbon footprint of many export products using dirty electricity generated from carbon heavy fossil fuels.

Energy efficiency and carbon disclosure must be made mandatory so as to operationalise some of the policies already in place like the LTMS. The South African business community is also challenged to continue the good work in terms of engaging initiatives including energy efficiency and carbon disclosure. The green jobs proposal and strategy currently in the pipeline must be finalised without delay. This proposal has great potential to stir the economy to higher heights in terms of climate compliance.

Conclusions

This paper addressed a need for the South African economy to be climate compliant in terms of its trade policy. The top three trade partners (China, the UK and the USA) were purposively identified based on the volume of trade with South Africa. The work revealed that an array of CC regulatory regimes has emerged from these South African trade partners. It also emerged that even if China will eventually not take (mandatory) targets in terms of greenhouse gas emission reduction in 2013, countries from the developed North, especially, the UK, EU and the USA have been engaging China with a single goal to her to reduce its huge carbon footprint. The study noted that global pressure to coerce China into reducing emissions will have spill over effects as China will in turn force its key trading partners like South Africa to do likewise. Although many still believe China is not doing enough voluntarily to curtail its emissions, reports from that country show great movement towards a low carbon economy. The other remaining key trade partners to South African, particularly the UK and the EU trade block were regarded as having been way ahead in terms of climate compliance. The new USA administration has also joined the global movement to reduce emissions and have since put in place stringent vehicle emissions and efficiency regulatory regime effective in 2016. Another aspect deliberated upon in the paper concerns climate change related tariffs that are very much biased against South Africa. The paper therefore acts as a warning and wake-up call to the South African businesses, especially the export sector and decision makers to be pro-active and work towards a low carbon trade regime in the country. The paper also acknowledged that South Africa has done well and is moving at a relatively fast pace towards a climate compliant economy. Some of the key climate change regulatory policies identified included the Long Term Mitigation Scenario and ongoing work looking at the National Climate Change Response Strategy, Environmental Fiscal Reform Strategy and the Green Jobs Strategy. The country should, however, move swiftly towards instituting a climate compliant import regime as well.

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