



The Voice of the Private Sector in Kenya

Climate Change and Your Business Briefing Note Series | April 2014

Climate Change and Trade



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The trade sector in Kenya has been one of the most rapidly expanding sectors since the 1990s.

Climate change can disturb supply and distribution chains, potentially raising the cost of trade and commerce in Kenya, the region and internationally.

This is particularly true for agriculture and tourism, which are key international trade sectors for Kenya. These sectors are affected by climate change through temperature increases, droughts, water scarcity, coastal degradation and flooding. While climate change poses risks to the trade sector, it may bring new opportunities such as environmentally responsible and climate friendly niche products.

The trade sector in Kenya has been one of the most rapidly expanding sectors since the 1990s. The wholesale and retail trade sector accounted for 16 per cent of GDP in 2011.¹ International trade (imports and exports) is an important element of the sector. Crude petroleum and petroleum products, machinery and other capital equipment, transport equipment including motor vehicles, metals, plastics, electrical equipment, and food and beverages are the major imports. Tea, coffee, horticultural produce, and tobacco and manufactured tobacco products are the leading export earners collectively earning the country Ksh 511 billion in 2011.² Other major export items include fish and cement, the latter particularly to countries in the eastern and central African regions.

The trade and commerce sector is exposed to the impacts of climate change primarily because of the effects on goods that are traded, but also directly through the transportation of goods. Your business will need to build resilience to climate change; and, as important, mitigate its contribution to climate change by reducing greenhouse gas emissions. A robust, diversified and competitive trade sector will need to be resilient to climate change-related disruptions.

How Climate Change Impacts the Trade Sector

Trade may increase the vulnerability to climate change as it can lead countries to produce a few goods in which they have a comparative advantage. The trade sector depends on services and products offered by other sectors such as energy, agriculture, manufacturing and transport. Climate change may alter the nature and location of agriculture production and processing, resource extraction, manufacturing and other sectors. This will have implications for trade, flow of goods, corporate logistics and supply chains.⁴ This can be especially important for perishable goods like horticultural products that comprised 19 per cent of Kenyan exports in 2010.⁵

The following climate change-related risks and impacts that could impact your business were identified in Kenya's National Climate Change Action Plan (NCCAP):

- **The trade sector is vulnerable to the consequences of extreme weather-related events, especially through disruptions in the reliability of water and power supply and damage to road infrastructure** though droughts rains, and ensuing floods. Your business could face disruptions or be confronted with higher operational costs.
- **Rising temperatures are expected to strengthen coastal winds and storms, which will affect ship navigation and port operations, and potentially hamper international trade of your goods.** If the expansion of Mombasa's port facilities and the new Lamu Port Southern Sudan-Ethiopia Transport (LAPSSET) Corridor project do not account for climate change risks, growth of export trade could be endangered as well.⁶

- **The loading capacity of airplanes is dependent on temperature; the higher the temperature, the lower the loading capacity.** Projected higher temperatures could cause a reduction in the volume of airfreight cargo or limit operations at high altitude airports.⁷ This could affect the trade of your commodities, such as horticultural produce that is transported to the European Union and other markets mainly by air.
- **Adverse weather events will also impact local and regional trade of your goods.** For instance, damage to the transport infrastructure caused by the eight-month 1997-1998 El-Niño rains caused economic losses of US\$1 billion mainly from reduced trade activities.⁸

Reducing Greenhouse Gas Emissions in the Trade Sector

The trade and commerce sector contributes to climate change through the generation of greenhouse gas emissions over the course of production, transportation and consumption of traded goods and services. The main concern is greenhouse gas emissions generated through transport of goods from the place of production to the area of consumption. The bulk of domestic and regionally traded goods from Kenya are transported by truck by road (see briefing note #9 – Climate Change and the Transportation Sector for more information). The International Maritime Organization estimates that around 90 per cent of global merchandise trade by volume is transported by sea, with international marine transport generating about 8.6 per cent of the emissions generated by the international transport sector.⁹

Food Miles and Carbon Labeling

“Food miles” and carbon labeling are hotly debated policy tools that may be applied to imported products based on their carbon footprint. **Food miles involve the calculation of carbon dioxide emissions associated with the transport of food to arrive at the final consumer.** The reasoning is that the further a good travels, the more it contributes to climate change. Advocates maintain that products should be sourced locally as much as possible and that labels of food products should include information on the origin of the product. Carbon-labeling policies, introduced by the private sector on a few products mainly in the United Kingdom, show consumers the carbon content of a product enabling their selection of low-carbon products.¹⁰ Several developing countries have been critical of the use of these private sector standards, saying they penalize developing countries and small farmers.¹¹

The food miles approach has been called into question because the real carbon footprint of domestically produced versus imported foodstuffs is very complex. **Transport mode (air, road, maritime or rail) and distance are not the only significant contributors to carbon dioxide emissions. Life cycle of the products, including production methods (such as heated greenhouses versus open-air production; energy-intensive modern techniques versus hand labour) also plays a big part.** Early studies on the carbon miles of airfreighting fresh fruits and flowers have been largely discredited, and the carbon mileage of traded goods can be the opposite of what is commonly believed. For instance, it has been argued that Kenyan flowers airfreighted to Europe would generate less carbon emissions than flowers grown in the Netherlands.¹² The Kenya Flower Council is working with the Kenya Bureau of Standards and the Swedish In-

stitute of Standards on the development of ISO standards linked to the carbon footprinting of products.¹³

Border Carbon Adjustments

A border carbon adjustment is a trade measure that aims to offset competitive imbalances. It aims to level the playing field between domestic producers facing climate change measures and foreign producers facing very few or no such measures, where costs of production may be lower as a result. The International Institute for Sustainable Development reports that the United States and France have discussed the use of border carbon adjustments in their fight against climate change, although neither has seriously pursued such a policy and the imposition of a carbon adjustment does not seem imminent.¹⁴ **The border carbon adjustments discussed by the United States and France were targeted at major emitting nations, such as China; not a country like Kenya that has a low greenhouse gas emissions profile.**

Concern has been expressed that border carbon adjustments, labeling, and standards including food miles could become barriers to market access for Kenyan goods and a vehicle for green protectionism. Kenya is more likely to face trade restrictions based on food safety standards or sanitary and phytosanitary measures than carbon footprints. **Depending on how and if carbon-labeling schemes are developed, they could provide new market opportunities for Kenya based on carbon efficiency.**

Climate Change and the Trade Sector: What can you do?

Climate change is a business issue and your firm's reputation, regulatory obligations and supply chains can be affected. A prosperous low-carbon climate resilient future for Kenya includes a robust, diversified and competitive trade sector, meaning that climate change-related disruptions are minimized in the sectors that produce traded goods. Kenyan businesses are beginning to feel the impacts of climate change; however, for the most part, adapting to climate change has not been mainstreamed into activities and decisions. Your company needs to prepare its assets and operations for anticipated climate impacts and examine ways to decrease its greenhouse gas emissions.

- **Take action to adapt your business to climate change.** Climate change may alter your comparative advantage for producing certain goods, especially in the agriculture sector, and may lead to shifts in international trade. It may also



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increase the vulnerability of your supply, transport and distribution chains upon which trade depends.¹⁵ Your adaptive actions depend on your location and the nature of your business, and can include:

- Understanding how climate change will affect your trade activities and assessing climate change impacts – such as impacts on transport infrastructure, business and regulatory risks (such as changes in insurance coverage), and markets risks (such as potential changes in the pattern and volume of international trade flows). See Briefing Note #2 – Climate Proofing Your Business for information about assessing climate risk in your business.
- Ensuring your buildings and infrastructure can cope with heavier downpours.
- Being prepared to manage short-term events like floods and storms while building long-term resilience through employee and management training.
- Incorporating expected climate impacts in planning and decision-making – such as transportation routes and methods.
- **Consider diversification of goods and services.** Producing a variety of commodities can help to enhance the resilience of your business, especially in the

agricultural sector. If the impacts of climate change were to destroy a certain crop, production of other goods could reduce the negative effects. The expanding information, communication and technology (ICT) sector presents an opportunity for diversification and climate-friendly ICT products could be sold locally, regionally and globally.

- **Take action to reduce greenhouse gas emissions in your business.** Expansion of the trade sector has resulted in increased energy use and greenhouse gas emissions associated with increased demand for manufacturing and transportation. The trade sector in Kenya is characterized by inefficiencies along the supply chain, but there is ample room for improvement by increasing resource efficiency and lowering transaction costs through institutional reforms.
- **Become a leader in sustainable trade and commerce by creating a positive, climate-friendly image for Kenya.** As countries in Europe and elsewhere become more environmentally conscious, there are reputational risks associated with trade and commerce that is considered environmentally damaging. On the other hand, environmentally responsible and climate-friendly niche products may provide a global competitive advantage for Kenya. An example is horticultural produce from Kenya, such as the cut flowers that are sold mainly in the EU. This produce is likely on a life

cycle basis to be less carbon intensive than similar produce from the destination markets, presenting an opportunity for Kenya to brand its produce as low carbon.¹⁶ Further research is required as an initial step to determine the carbon footprint of Kenyan products relative to that of competitors, similar to that being undertaken by the Kenya Flower Council.

Acknowledgements

This briefing note was written by Deborah Murphy and Melissa Harris (International Institute for Sustainable Development). The authors thank Victor Ogalo, Kenya Private Sector Alliance, Maliza van Eeden and Margaret Kamau, Climate and Development Knowledge Network, and Tom Owino, ClimateCare, for providing useful comments.

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Endnotes

1. Kenya National Bureau of Statistics (2012), Statistical Release: Gross Domestic Product First Quarter 2012 (Nairobi: Government of Kenya).
2. Kenya National Bureau of Statistics (2012), Economic Survey 2012 (Nairobi: Government of Kenya).
3. WTO and United Nations Environment Programme (UNEP) (2011), Trade and Climate Change (Geneva: WTO).
4. Grossman, D. (2013), GEO-5 for Business: Impacts of a Changing Environment on the Corporate Sector (Nairobi: UNEP).
5. Kenya National Bureau of Statistics (2012), page 54.
6. IISD (2012), Climate Risks, Vulnerability and Governance in Kenya: A state of the art review (Winnipeg: IISD).
7. Velasquez-Manoff, M. (2012), A warmer world could make current airport runways too short, The Christian Science Monitor, <http://www.csmonitor.com/Environment/Bright-Green/2009/0910/a-warmer-world-could-make-current-airport-runways-too-short>.
8. Ngecu, W. M. and Mathu E. M. (1999), "The El Nino triggered landslides and their socioeconomic impact on Kenya", Environmental Geology 38(4), pages 284-288.
9. International Maritime Organization (2012), Maritime Knowledge Centre (London: International Maritime Organization).
10. Tesco, a British supermarket, dropped its 2007 plan to label all products with their carbon footprint in 2012. More than 100 companies have adopted the carbon label in 22 countries, including Dyson, Kingsmill, Morphy Richards, and PepsiCo's Walkers crisps and Tropicana orange juice. See: Lucas, L. and Clark, P (2012), Tesco steps back on carbon footprint labeling, Financial Times (31st January), <http://www.ft.com/intl/cms/s/0/96fd9478-4b71-11e1-a325-00144feabdc0.html#axzz2nQSWDreF>.
11. World Trade Organization (WTO) (2013). The impact of trade opening on climate change, http://www.wto.org/english/tratop_e/envir_e/climate_impact_e.htm.
12. WTO (2013).
13. Ellis, K., Lemma, A., Mutimba, S. and Wanyoike, R. (2013), Low Carbon Competitiveness in Kenya (London: Overseas Development Institute), page 28.
14. Cobey, A. Droege, S., Fischer, C., Reinaud, J. Stephenson, J. Weischer, L. and Wooders, P. (2012), A Guide for the Concerned: Guidance on the elaboration and implementation of border carbon adjustment (Stockholm: Entwined and Winnipeg: International Institute for Sustainable Development [IISD]).
15. WTO and UNEP (2011).
16. Williams A. (unpublished), Comparative study of cut roses for the British markets, produced in Kenya and the Netherlands (Cranfield: University of Cranfield), quoted in Garside, B., MacGregor, J. and Vorley, B. (2007), Review of food miles, carbon, and African horticulture: environmental and developmental issues (London: COLEACP), page 11.



This document is an output from a project funded by the UK Department for International Development (DFID) and the Netherlands Directorate-General for International Cooperation (DGIS) for the benefit of developing countries. However, the views expressed and information contained in it are not necessarily those of or endorsed by DFID, DGIS or the entities managing the delivery of the Climate and Development Knowledge Network*, which can accept no responsibility or liability for such views, completeness or accuracy of the information or for any reliance placed on them.

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The Climate and Development Knowledge Network ("CDKN") is a project funded by the UK Department for International Development (DFID) and the Netherlands Directorate-General for International Cooperation (DGIS) and is led and administered by PricewaterhouseCoopers LLP. Management of the delivery of CDKN is undertaken by PricewaterhouseCoopers LLP and an alliance of organisations including Fundación Futuro Latinoamericano, INTRAC, LEAD International, the Overseas Development and SouthSouthNorth.