

# South African Trade and Competitiveness Opportunities in a Green Transition

Marcel Kohler

UKZN

([kohler@ukzn.ac.za](mailto:kohler@ukzn.ac.za))

# International Trade in a Green Transition: Three Identified Themes

- Theme 1:

Trade liberalisation can be consistent with a green economy..... (Grossman & Kruger, 1993), (Copeland & Taylor, 1994), (Antweiler et al, 2001)

- Theme 2: “Threats”

Green growth strategies alter current patterns of competitiveness (Fankhauser et al, 2013) these may be inconsistent with “natural” comparative advantages (Resnick et al, 2012).

- Theme 3: “Opportunities”

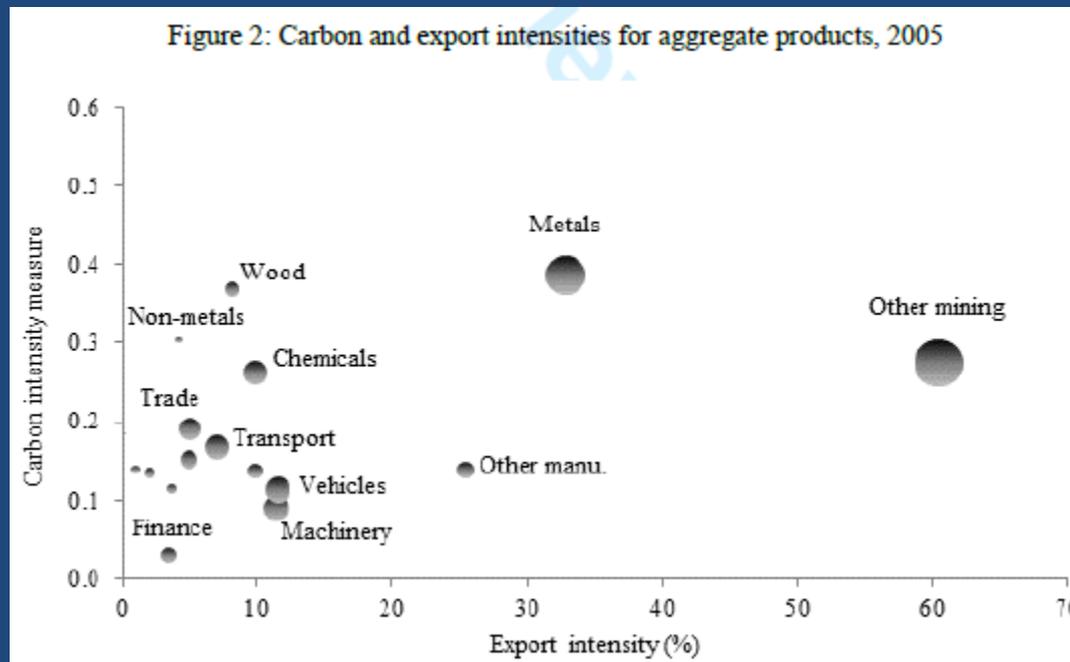
SA’s abundant renewable resources position her well to capitalise on green economy opportunities (UNEP, 2013).

# Theme 1:

## Trade & Green Growth: Theoretical & Empirical Links

	via growth in income (EKC)	for a given level of income :
<ul style="list-style-type: none"> <li>Non-green effects</li> </ul>	<ul style="list-style-type: none"> <li>larger scale of economic activity</li> </ul>	<ul style="list-style-type: none"> <li>“Race to bottom” ...pollution havens</li> </ul>
<ul style="list-style-type: none"> <li>Green effects</li> </ul>	<ul style="list-style-type: none"> <li>cleaner techniques &amp; composition of economic activity</li> </ul>	<ul style="list-style-type: none"> <li>“Gains from trade” ...higher standards</li> </ul>
<ul style="list-style-type: none"> <li>Empirically for SO<sub>2</sub> concentrations</li> </ul>	<ul style="list-style-type: none"> <li>EKC: after an income of about \$5,700/cap., green growth results</li> </ul>	<ul style="list-style-type: none"> <li>If classical factors dominate green competitive factors...green growth results</li> </ul>
<ul style="list-style-type: none"> <li>Empirically for CO<sub>2</sub> emissions /</li> </ul>	<ul style="list-style-type: none"> <li>No sign of emissions</li> </ul>	<ul style="list-style-type: none"> <li>Trade may also increase emissions</li> </ul>

# Theme 2: Threats for SA Trade Competitiveness



# Theme 3: Opportunities

## Identifying & Ranking Low-Carbon Environmental Goods

- Criterion 1: Ability of the good to reduce greenhouse gas emissions...using WTO, WB, ICTSD, FERDI and IISD lists.
- Criterion 2: South Africa's capacity to produce the good

$$RCA_{i,RSA} = \frac{X_{i,RSA} / X_{RSA}}{X_{iT} / X_T}$$

- Criterion 3: Potential economic benefits to be derived from exporting the good...using ITC (2012) methodology
- Top 5:

HS-6	Product specification	Criterion 1	Criterion 2	Criterion 3	Final score
854140	Photosensitive/photovoltaic/LED semiconductors	5	1.31	5	32.75
730820	Towers and lattice masts	4	5	0.44	8.8
853710	Electrical control and distribution boards, < 1kV	5	0.45	2.81	6.32
848340	Gearing and screws	4	0.72	1.62	4.67
850440	Static converters	3	0.3	4.6	4.14

# Top SA Export Opportunities for Low-Carbon Environmental Goods

(existing products to new markets)

Rank	HS-6 code	Product specification	Export destination	Potential export value in USD (thousands)
1	854140	Photosensitive semiconductors	China	953 255
2	854140	Photosensitive semiconductors	Hong Kong	363 505
3	854140	Photosensitive semiconductors	Czech Republic	177 443
4	850440	Static converters	Czech Republic	92 705
5	850440	Static converters	Poland	78 762
6	854140	Photosensitive semiconductors	Croatia	55 907
7	853710	Electrical control and distribution boards <1kV	Russia	41 890
8	853710	Electrical control and distribution boards <1kV	India	22 923
9	848340	Gearing and screws	Russia	18 999
10	730820	Towers and lattice masts	Australia	15 788

Source: Steenkamp (2011)

# References:

- Frankel & Rose (2005) "Is Trade Good or Bad for the Environment? Sorting out the Causality", Review of Economics and Statistics, 87, no.1.
- Fankhauser et al (2013) Who will win the green race? In search of environmental competitiveness and innovation" Global Environmental Change 23 (2013) 902–913.
- Resnick et al (2012) "The Political Economy of Green Growth: Illustrations from Southern Africa" UN Wider Working Paper No. 2012/11
- van Niekerk & Viviers (2014) ""Promoting Sustainable Economic Growth in SA through exporting low carbon environmental goods" SAJEMS No.17(4):427-439
-