

# 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”

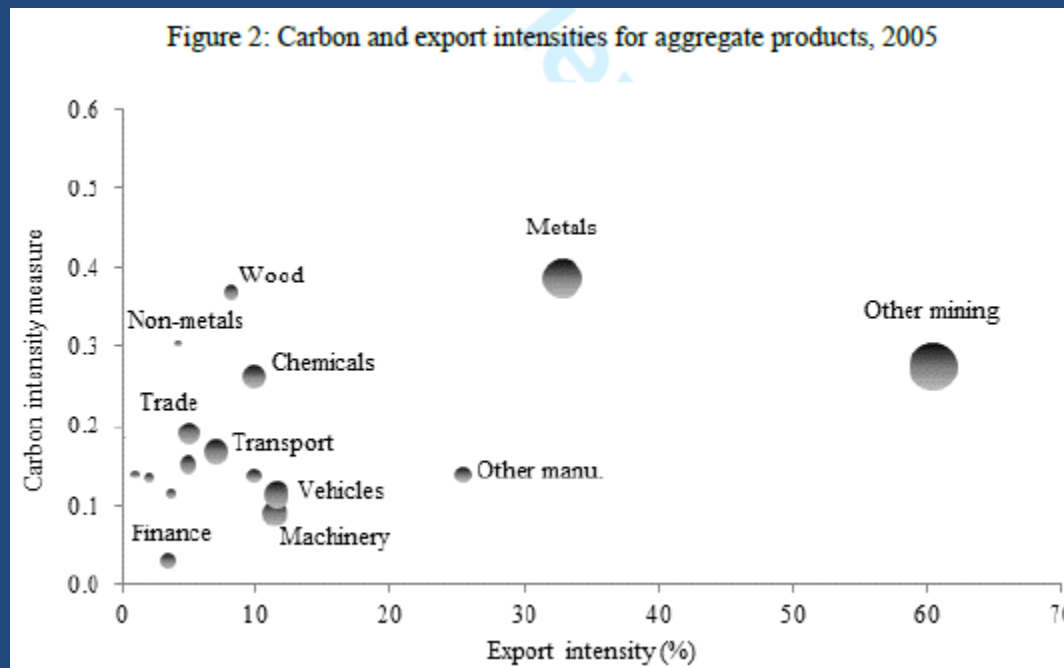
SA’s abundant renewable resources position her well to capitalise on green economy opportunities (UNEP, 2013).

# 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
-