

## **Green Markets of The Future - An Economic Opportunity Also for Newly Industrializing Countries?**

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### **Background**

Competences for green development and leapfrogging in Newly Industrializing Countries (NICs) are becoming increasingly urgent from a global perspective. The integration of these innovations into the development process in the rapidly growing economies requires knowledge build-up and technology cooperation. The prospect of exporting sustainability technologies can add an incentive for NICs to move towards sustainability technologies.

### **Methodology**

The competences for green development are analysed with an innovation indicator approach. The general innovation capabilities are evaluated using R&D indicators and survey results about general innovation capabilities. Technological competences in the sustainability fields are a key indicator for the absorptive capacity of sustainability technologies and for the ability to export them. International patents and publications, and successes in foreign trade indicate to what extent a country is already able to participate in global technology markets (see Walz et al. 2008; Walz 2009)

### **Results**

The resulting pattern shows various strengths and weaknesses of the analyzed countries. In some fields, e.g. material efficiency, the knowledge build up is above average in the Newly Industrializing Countries. There is a strong need for strategic positioning of the countries and for coordination of the various policy fields involved.

However, the capabilities for supplying green markets is quite different between the NICs. Some NICs have already reached substantial level of general innovation capability, without specialisation on sustainability technologies though (e.g. China, see Walz/Ostertag 2009). Other countries have somewhat lower general innovation capabilities, but are specializing on sustainability related technologies. Countries in both clusters are likely to have good opportunities to participate in green markets of the future. This is more unlikely to happen in the near future for the NICs which show neither strong general innovation capability nor specialization on sustainability technologies.

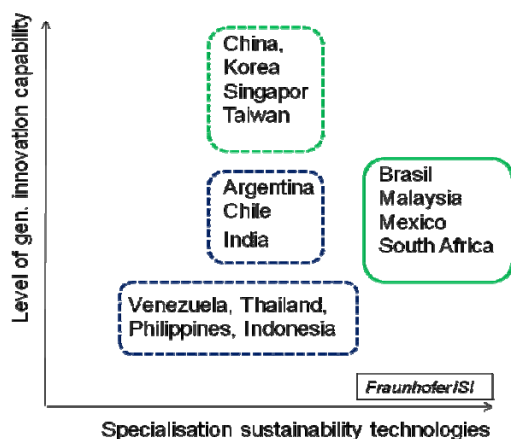


Figure 1: Country clusters of NICs capabilities for green technologies

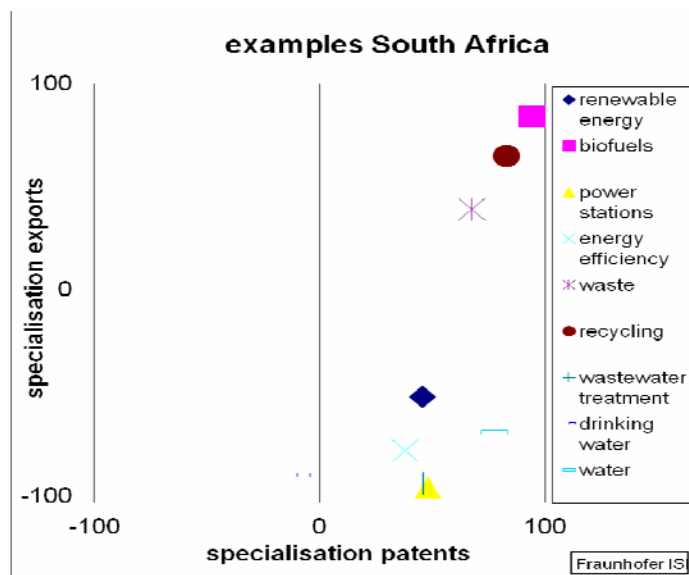


Figure 2: Specialisation of South Africa for selected sustainability technologies

A disaggregated analysis of South Africa reveals significant differences between the technological fields. In some areas such as biofuels, South Africa is already showing strengths in both increase of the knowledge base and success in export markets. In other fields it is necessary to transfer the strong knowledge base into products which can be marketed.

However, moving towards a greater role in supplying green markets of the future also requires additional efforts. First of all, higher attention must be paid to sustainability technologies within the national research priorities. This calls for research programs specifically targeted towards sustainability. Second, the supply oriented R&D policies have to be augmented with a demand oriented innovation policy. The demand for the green technologies is strongly influenced by the (environmental) regulatory system. Thus, the latter must be tailored to enhance further innovations. Strengthening environmental regulation must be seen not as a trade-off between environmental protection and economic development within the NICs, but as an instrument of demand side driven innovation policy in one of the most dynamic growing economic sectors. This also calls for integration of the traditional R&D policies with the demand side oriented policies, which are typically performed by different actors – a challenge which is not unique to NICs, but which can be found in almost every OECD country, too.

**References:**

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