

ECO-INNOVATION IN SOUTH AFRICA: POLICY NEEDED

Climate change, energy insecurity and increasing scarcity of resources are some of the major challenges faced in the South African economy. Although manufacturing industries show greater interest in sustainable production and adopting corporate social initiatives, and are innovating, an HSRC survey shows this does not always lead to environmental improvement, writes *Cheryl Moses*.

Faced with rising costs for producing goods and managing waste products, the competitiveness of enterprises and countries are increasingly linked to their ability to eco-innovate.

However, eco-technologies have been largely neglected in economic statistics and we know very little about the adoption of eco-innovations as a means of reducing environmental impact.

The Organisation for Economic Co-operation and Development (OECD) describes eco-innovation as the creation of new, or significantly improved, goods and services, processes, marketing methods, organisational structures and institutional arrangements that lead to environmental improvements with or without intent.

When unintended, the environmental benefit of eco-innovation can be a side effect of other goals, such as recycling heavy metals to reduce costs. Innovative products, services, processes or business models can benefit the environment by reducing pressure on natural resources and the emission of pollutants. It can also foster economic development.

However, market mechanisms alone will not provide an appropriate level of eco-innovation, at the right time — because markets may not value environmental benefits appropriately. This is why South Africa needs policy intervention.

Natural resources critical to socio-economic goals

Sustainable development is a national priority for a rapidly developing country like South Africa because the country can no longer meet its socio-economic goals if its ecosystem and natural resources are depleted and degraded.

Several government departments, research institutions and particularly large private companies have developed policies, strategies and programmes to promote research and development in technological and non-technological innovations that have a favourable impact on the environment, whether deliberate or not.

Despite this commitment, the country does not have a specific national eco-innovation policy, probably because its national policy landscape is younger than those of most other member countries of the OECD.

Manufacturing industry - research findings

In 2015, researchers looked at data from the South African Business Innovation Survey 2010-2012, conducted by the HSRC. The survey showed that at least 50% or more of the enterprises in the manufacturing sector were actively innovating (Figure 1).

The refined petroleum, coke and nuclear fuel sector had the highest number of innovation-active enterprises (86.1%), followed by food products, beverages and tobacco sector (80%).

However, most of the innovation-active companies did not introduce innovations with environmental benefits. The food products, beverages and tobacco products sector had the highest percentage of enterprises that reduced their CO₂ footprint due to innovations.

The highest percentage of enterprises that reported having recycled water due to innovations was in the manufacture of basic metals, fabricated metal products, and machinery and equipment.

This sector also had the highest share of enterprises with innovations leading to materials efficiency improvements.

The researchers observed that enterprises more often introduce innovations that result in reduced energy per unit output.

Results for the South African manufacturing sector confirm this trend by showing that 43.9% of all manufacturing enterprises introduced innovations that resulted in reduced energy per unit output.

We need policy intervention because market mechanisms alone will not provide an appropriate level of eco-innovation

This was followed by 39% whose innovations led to a reduced CO₂ footprint.

The food products, beverages and tobacco products sector, and the basic metals, fabricated metal products, machinery and equipment sector had the highest percentage of enterprises that introduced innovations that led to reduction in soil water and noise pollution (Figure 2).

Recycling of waste, water or materials was a direct result of innovation implementation for a higher percentage of enterprises in the food products, beverages and tobacco products sector, the basic metals, fabricated metal products, and machinery and equipment sector and the refined petroleum, coke and nuclear fuel sector than the other manufacturing sectors.

Implications for policy

Based on this study, the HSRC recommends that the government promotes support programmes for innovation with environmental benefits in the private sector. Government should also continue to offer incentives to businesses, especially small, micro and medium enterprises, to boost investment in renewable energy and the use of environmentally friendly practices.

Funding the environmental sector to create jobs with green growth is another critical focus for the creation of policies to support key manufacturing sectors to implement innovations with environmental benefits.

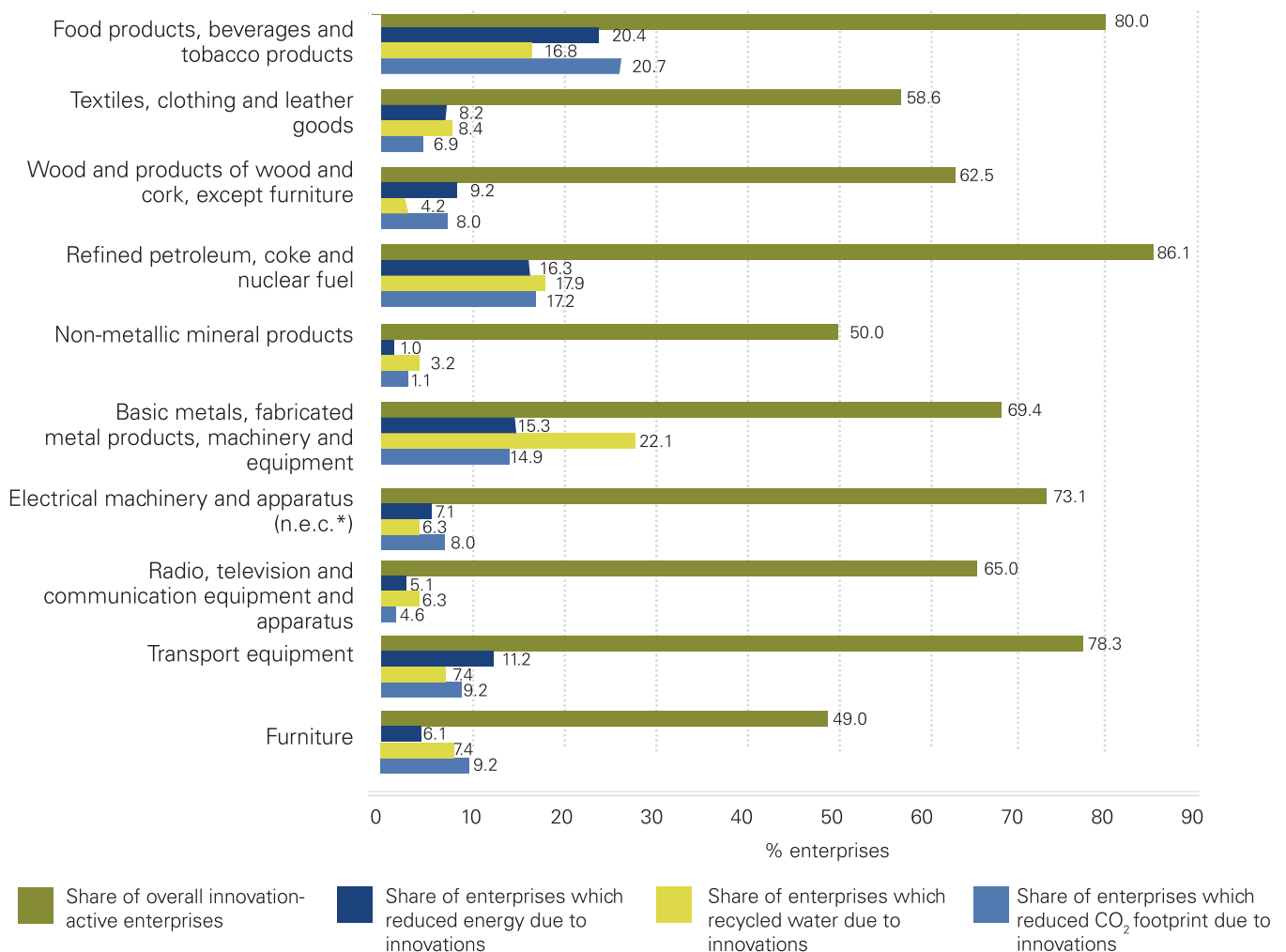
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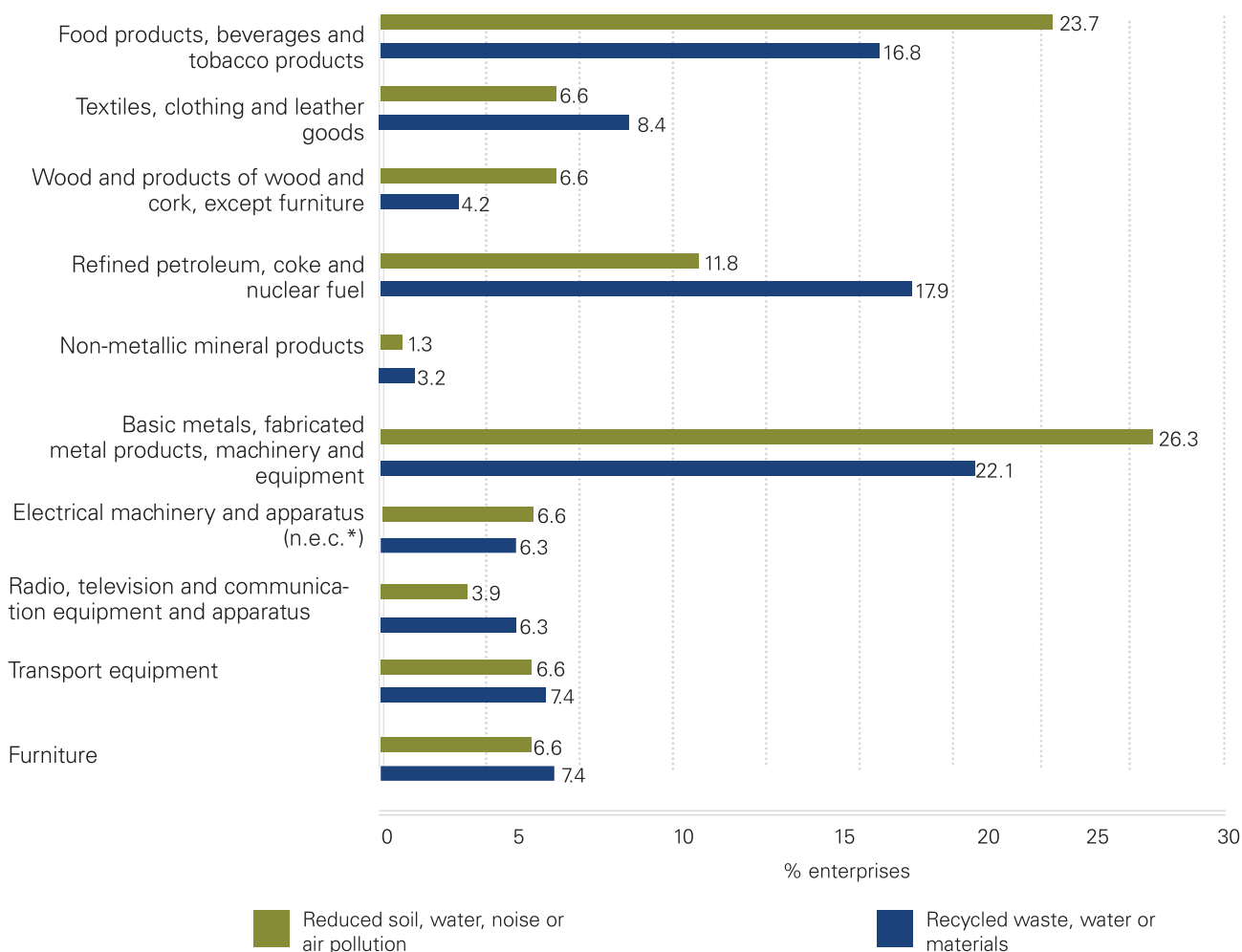
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Figure1: Eco-innovative enterprises in the South African manufacturing sector (2010 - 2012)



Data Source: South African Business Innovation Survey 2010 - 20112, HSRC

Figure 2 : Share of enterprises that reduced pollution or recycled due to innovation



Note: * not elsewhere classified

Data Source: South African Business Innovation Survey 2010 - 20112, HSRC

The Business Innovation Survey 2014-2016

The Centre for Science, Technology and Innovation Indicators (CeSTII) is currently conducting the Business Innovation Survey 2014-2016, commissioned by the Department of Science and Technology, to deliver an internationally comparable report on innovation activities in key sectors of the South African economy. A team of specialist researchers and managers are collecting data from a random sample of 5 000 businesses ranging from very small to very large firms that operate in industrial and services sectors. The companies will answer detailed questions about their innovation activity in 2014-2016, as well as their views on barriers to innovation. The results, due to be published towards the end of 2018, will help the government draw up policies that respond to the rapidly changing realities facing businesses. The aim is to find out how innovative South African firms are in the sectors that are key to our economic growth strategies, and whether they are doing the kinds of innovation that can contribute to employment generating and inclusive economic development. The survey will also ask if there are enough people with the skills to innovate, and to harness the potential of the digital economy, and what the main barriers are that hinder more innovative activity. Given the pace of the digital era, the need for new, up-to-date and credible data is urgent.

More information: sabizinnovationsurvey.blog

