

Recycling of Post-consumer Waste in South Africa: Prospects for growth

Oelofse SHH, Godfrey L, Nahman A, Strydom WF

CSIR Natural Resources and Environment, PO Box 395, Pretoria Email: soelofse@csir.co.za — www.csir.co.za

INTRODUCTION

Recent statistics on recycling of post-consumer packaging suggest that South Africa recycled 50.5% of all post-consumer packaging waste in 2012 (BMI, 2013). As with most developing countries, these encouraging recycling figures would not have been achieved without an active informal sector (DST, 2013; Wilson et al., 2013, SAPRO, 2014). An estimated 70-90% of packaging waste recycled in South Africa, is sourced by the informal sector (BMI, 2013), while only 3.3% of urban households are reported to recycle a fair amount of recyclables on a regular basis (Strydom, 2012).

Post-consumer packaging recycling rates are generally reported as a percentage of recovered materials (Figures 1-3). The non-recycled portion of recovered material may be an indication of poor quality recyclables which are not suitable for recycling due to contamination. Alternatively, it may be an indication of a lack of processing capacity or suitable technology option to process the recovered materials.

Increasing recycling of post-consumer packaging waste will depend on increased participation of households in waste separation at source initiatives. The actual and perceived barriers to household recycling must be addressed in order to facilitate the required behavioural change to achieve better participation rates by households. Municipalities, as the custodians of municipal solid waste, must create an enabling environment for collection of source separated recyclables from households, while ensuring that the needs of households are addressed (Strydom, 2012). However, improved collection of recyclables will not by itself achieve the goal of improved recycling rates in the absence of end-use markets for the recovered materials. The market demand is highest for pure recyclates that fit into existing manufacturing processes. A demand for increased recyclable and recycled content of consumer goods needs to be created throughout the value chain (the dti, 2014).

An assessment to estimate the economic value of the resources currently being recovered through recycling in South Africa found that R8.2 billion worth of resources is currently being recovered and recycled back into the economy (based on 2012 data) (DST, 2014). This value could increase to R25.2 billion, if all the recyclable material going to landfill could be recovered, (DST, 2014).

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GLOBAL TRENDS IN PACKAGING AND RECYCLING

The trend in the developed world is to move away from refillable or reusable packaging to one-way alternatives in support of the latest lifestyle trends – convenience and consumption on the move (i.e. smaller pack sizes) (PACSA, 2011). “The biggest shift from an opportunity perspective is the transition from energy recovery and disposal to recycling and resource recovery” (BofAML, 2013).

A comparison of post-consumer packaging recycling rates achieved by different countries is provided in Figure 4 as this provides an indication of what could reasonably be achieved in South Africa provided that the barriers are removed.

Key issues facing increased recycling and recovery globally include (VTT, 2012) –

- Increased efficiency in material recovery and recycling;
- Improved feedstock management, including increased access to recyclables (quantity) and to clean recyclables (quality); and
- Design for dismantling and recycling, in response to the increasing complexity of products and related wastes.

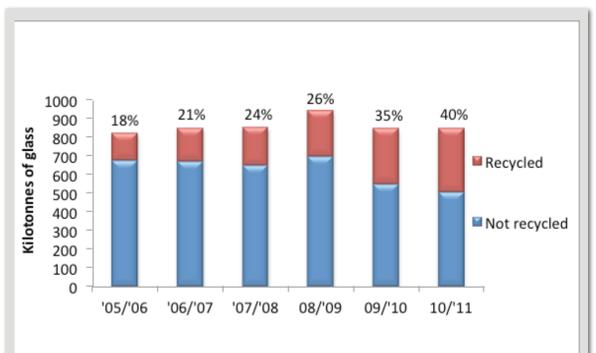


Figure 1: Glass packaging recycling and recovery rates 2005/6 – 2010/11 (Urban Earth, 2013)

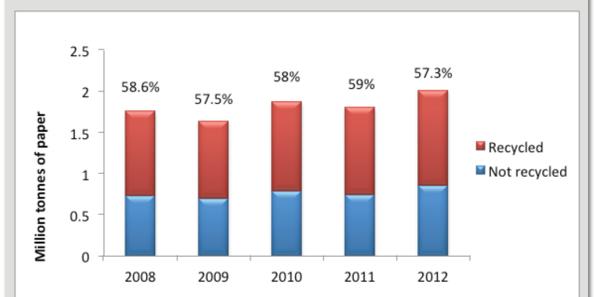


Figure 2: Paper recycling rates in South Africa as a percentage of recoverable paper and cardboard (Source: PRASA, 2013)

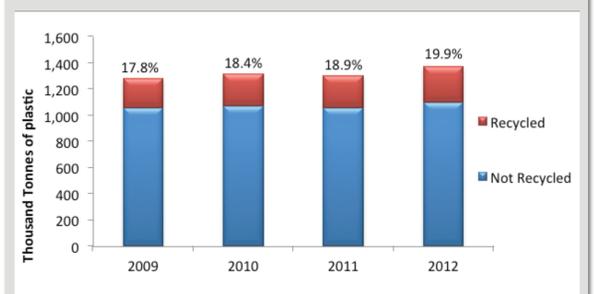
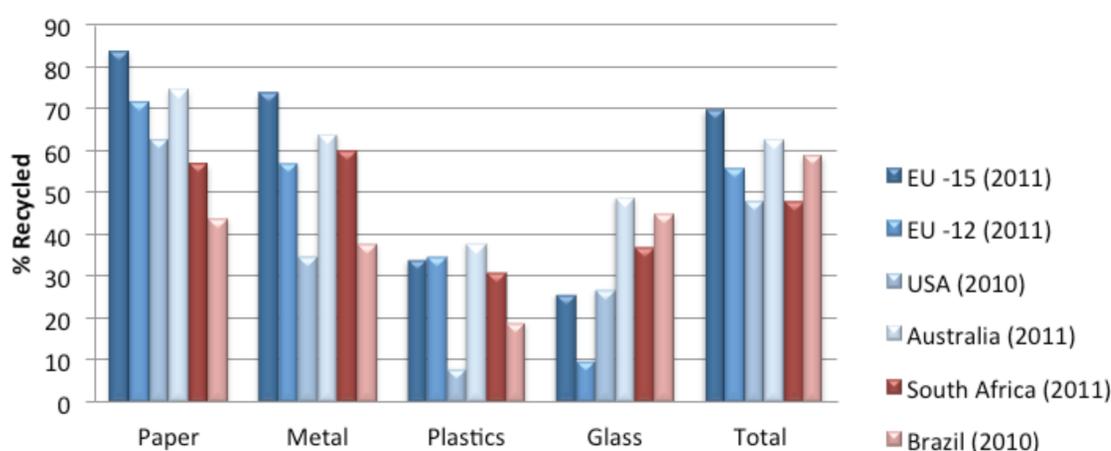


Figure 3: Plastics recycling and recovery rates for 2009-2012 (Source: Plastics | SA, 2013).

Post-consumer packaging waste recycling rates 2010/2011



EU-15 = Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, Netherlands, Portugal, Spain, Sweden, and the UK
 EU-12 = Cyprus, the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Slovakia, Slovenia, Bulgaria

Figure 4: Comparison of recycling rates between countries. (Adapted from: EUROPEAN COMMISSION (2014); USEPA (2010); APC (2011); BMI (2013); Chagas and Neto (2011)) Note: Metal figures provided for Brazil and Australia only refer to aluminium cans.

CONCLUSIONS AND RECOMMENDATIONS

A global trend, and an issue which has now emerged in South Africa, is that of resource efficiency and the value of waste as secondary resource. The recovery of waste and re-introduction of these resources back into the South African manufacturing sector provides significant opportunity for local economic growth. However, recycling rates are influenced by the quality of recovered materials and the economic viability of recycling operations. Increasing recycling rates in South Africa requires interventions on both the supply and demand sides of the recycling value chain; that is, interventions aimed at both securing an economically viable supply of recyclable materials, and at ensuring demand for recycled materials (the dti, 2014).

On the supply side, it is essential to ensure a steady stream of recyclable materials as a feedstock to the recycling process. The following will be required to achieve this:

- Investment in collection infrastructure
- Creating entrepreneurial opportunities, for example in collection and sorting of activities
- Policies and incentives driving separation and collection system at the household and municipal levels.

On the demand side, innovation is required in developing uses for recycled materials within the domestic economy by replacing virgin materials with recyclate within existing products or the development of new products altogether (Fakir, 2009).