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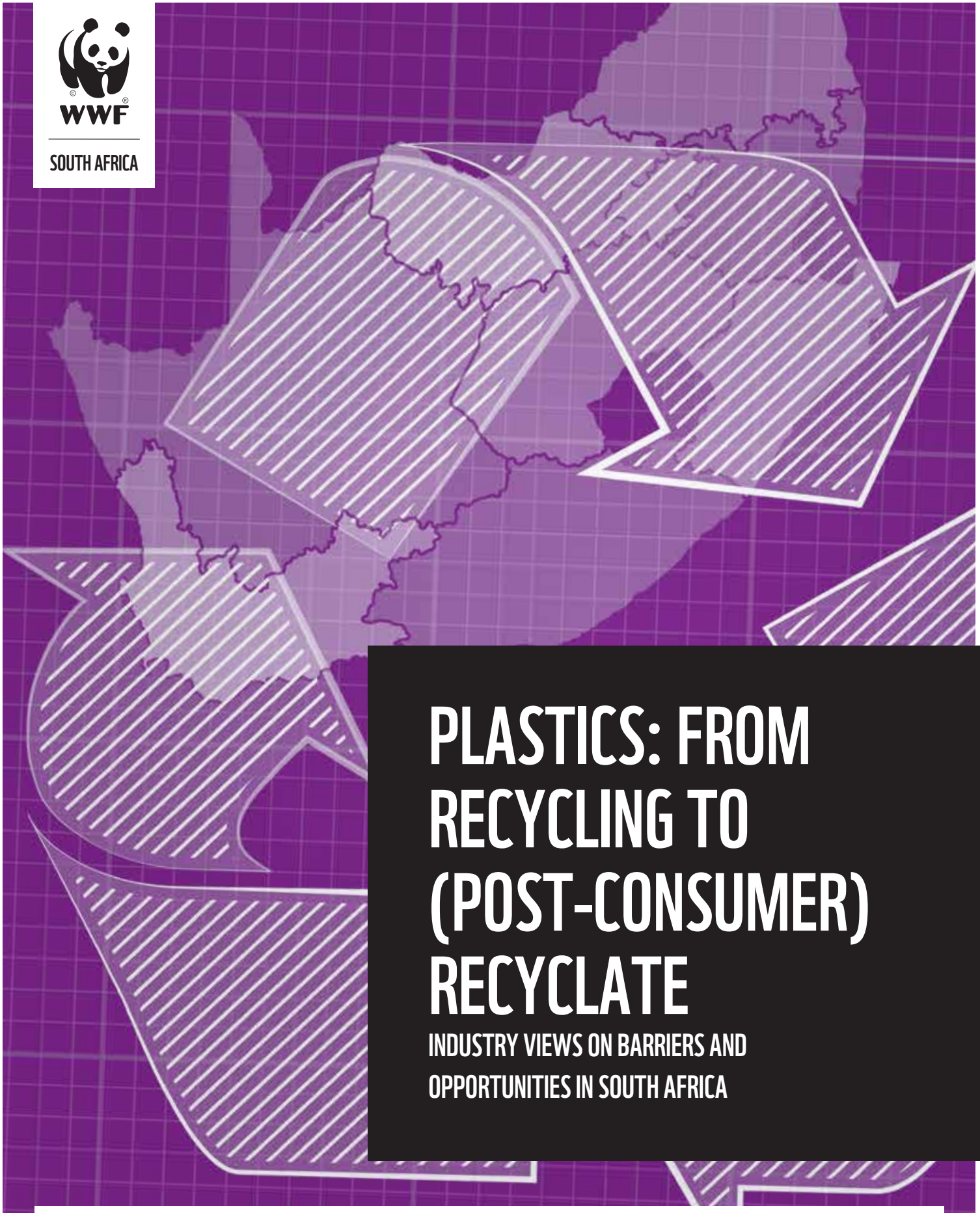

PLASTICS: FROM RECYCLING TO (POST-CONSUMER) RECYCLATE

INDUSTRY VIEWS ON BARRIERS AND OPPORTUNITIES IN SOUTH AFRICA

This report has been produced in collaboration with these partners to determine barriers and opportunities in the plastics industry.

The SA Plastics Pact

PLASTICS PACT

SAPRO
South African Plastics Recycling Organisation

NATURVÅRDSVERKET

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WWF is one of the world's largest and most experienced independent conservation organisations with over 6 million supporters and a global network active in more than 100 countries.

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WWF South Africa is a national office in the global WWF network. Started in South Africa in 1968, we are a local NGO with a vision of building a sustainable and equitable future in which humans and nature thrive. We work to champion the Earth's capacity to provide a source of inspiration, sustainable food, freshwater and clean energy for all. For Nature. For You.

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The South African Plastics Pact is a collaborative pre-competitive initiative that brings together key stakeholders from the local plastics value chain, including businesses, the South African government, producer responsibility organisations, NGOs and other key players to tackle plastics waste and pollution at its source. As the South African Plastics Pact, we aim to stimulate industry-led innovation, dialogue and collaboration to create new business models, generate job opportunities, and unlock barriers to move towards a circular economy for plastic, with improved economic, environmental and societal outcomes overall. The South African Plastics Pact works towards the Ellen MacArthur Foundation's New Plastics Economy vision and an ambitious set of four 2025 targets to create a circular economy for plastics in South Africa.

The South African Plastics Recycling Organisation (SAPRO) represents the plastics reprocessors in South Africa. Its members procure sorted, baled end-of-life plastics and reprocess them into raw material. The recycled material can be used to manufacture new plastic products.

The Swedish Environmental Protection Agency (EPA) is the public agency responsible for environmental issues. The agency carries out assignments on behalf of the Swedish government relating to the environment in Sweden, the European Union and internationally. The Swedish EPA funded this subproject as part of the broader project of developing policy recommendations for extended producer responsibility for plastic packaging in South Africa. This research complements and supports the broader project to accelerate the transition to a circular plastics economy in South Africa.

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PACKAGED FRUIT AND VEGETABLES AT A SOUTH AFRICAN RETAILER.

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ABBREVIATIONS AND ACRONYMS

DFFE	Department of Forestry, Fisheries and the Environment
DTIC	Department of Trade, Industry and Competition
EPR	Extended producer responsibility
GDP	Gross domestic product
HDPE	High-density polyethylene
NGO	Non-governmental organisation
OPRL	On-pack recycling label
PCR	Post-consumer recyclate
PE-LD or LDPE	Low-density polyethylene
PET	Polyethylene terephthalate
PP	Polypropylene
PROs	Producer responsibility organisations
PS	Polystyrene
PVC	Polyvinyl chloride
R&D	Research and development
ROI	Return on investment
rPET	Recycled PET
s@s	Separation at source
SAPRO	South African Plastics Recycling Organisation
Waste Act	National Environmental Management: Waste Act 59 of 2008
WWF	World Wide Fund for Nature

KEY MESSAGES

This report is an in-depth investigation of the inherent barriers to increasing the recycling rates of plastic packaging in South Africa and to the development of end markets for plastic products containing post-consumer recyclate, specifically packaging.

Some of the barriers overlap between sectors; some are unique to a specific sector. Packaging design and demand for post-consumer recyclate are identified as barriers that hinder the systemic shift towards a circular plastic packaging economy, along with the strong link of these barriers to protectionism, inertia arising from the current mindset and overall ignorance.

"Demand is the driver for value, and value drives recycling."

MAIN FINDINGS

1. Food packaging is a challenge when designing for recycling and the inclusion of post-consumer recyclate. Food-contact and safety standards are a significant barrier, as is the cost of recyclate compared to virgin plastic resins.
2. The sectors that have the most influence to shift the system are brand owners followed by the government and retailers. This is pertinent with regard to the extended producer responsibility regulations for brand owners and retailers, who are categorised as "producers".
3. There is general inertia in the value chain due to market protectionist strategies, mainly by the virgin polymer producers and converters. The lack of design for recycling and poor demand for recycled content from brand owners and retailers add to this inertia.
4. There is very little collaboration between brand owners/retailers, converters and recyclers to develop, trial and implement products containing post-consumer recyclate.
5. With a lack of embedded organisational policy on circularity, packaging design for brand owners and retailers is governed by cost and marketing requirements (bright colours and a proliferation of formats and materials). Very few, if any, brand owners and retailers have a packaging policy with criteria on design for recycling, the inclusion of post-consumer recyclate and procurement from suppliers who also support circular packaging.
6. There is a lack of understanding and implementation of design for recycling by brand owners and retailers, which are key to achieving good quality recyclate.
7. In the past, large capital expenditure investments have been made for non-circular packaging, leading to resistance by converters and brand owners to move forward with packaging redesign and investment in the corresponding equipment and processes.
8. Most surveyed stakeholders approve of extended producer responsibility regulations as they even out the playing field and make it less risky for players to suggest post-consumer recyclate to their customers. However, brand owners and retailers lack awareness of the changes extended producer responsibility will bring.
9. Consumers are not empowered and face structural barriers to support both recycling and the increased use of post-consumer recyclate in packaging. The situation is worsened by brand owners and retailers not applying transparent and consistent labelling on packaging so that consumers are able to dispose of packaging correctly.
10. Waste sector stakeholders are incentivised to only collect high-value items. Informal reclaimers are not economically included and face the brunt of any price fluctuations due to the failures of the current free-market system. Together with buy-back centres, formal waste operators and recyclers, they absorb most of the economic losses, which ultimately affects the supply of plastic recyclables.
11. Recyclers need to provide better quality feedstock but face many challenges – from limited access to insurance and loans to lack of demand for recyclate – which hamper their ability to invest in improving quality and providing stable volumes.
12. The government has until recently not provided a clear direction on policy or enforcement to improve waste collection systems and support the circular economy. Local government and the relevant by-laws have inhibited access to material and there is a lack of financial and operational capacity.
13. Producer responsibility organisations have limited membership, which restricts their ability to fund plastic collection, recycling and end-use development projects. This also allows the boards of producer responsibility organisations to be dominated by individuals or organisations who drive agendas that are not always conducive to recycling. The producer responsibility organisations are seen to be operating in silos with very little collaboration between them.

MAIN RECOMMENDATIONS
FROM THE INDUSTRY AND PROJECT PARTNERS

1. The lack of food-grade post-consumer recyclate requires more investment in R&D and recycling equipment, a relook at food-contact standards and more support from producer responsibility organisations. Most importantly, brand owners and retailers need internal and collective commitments (the South African Plastics Pact and extended producer responsibility) to design food packaging for recycling and for the inclusion of post-consumer recyclate.
2. Virgin polymer producers must promote and invest in technology to provide post-consumer recyclate resin, especially in food-grade applications. A reduction in the production of virgin plastic is being called for globally – many studies point to this being the biggest lever for change. Investment risks that will arise in future include stranded assets, climate risks, environmental justice, community health and plastic waste, among others.
3. Brand owners and retailers should make the use of post-consumer recyclate mandatory not only for non-food packaging but also in secondary and tertiary packaging, including trolleys, totes, bags, crates, etc.
4. Brand owners and retailers need to place pressure on the converters and importers of their packaging to use more post-consumer recyclate, even though this may take time to accomplish due to the long packaging approval process, cost implications and the need to invest in new technologies.
5. Brand owners and retailers can directly influence consumer behaviour by communicating the benefits of recycling and post-consumer recyclate. They should be telling the story and creating awareness at point-of-sale and via on-pack labelling.
6. The promulgation and implementation of extended producer responsibility should lead to more investment in the end-of-life sector, including recycling. This will shift the "money" towards a more equitable and sustainable value chain. The integration guidelines published by the Department of Forestry, Fisheries and the Environment (DFFE) (DFFE, 2020a) are a step forward for the informal sector and will require buy-in and support from municipalities, the industry and producer responsibility organisations.
7. Policy alignment is required in future between government departments (DFFE and the Department of Trade, Industry and Competition) with regard to more circular and sustainable materials management. Public procurement policy should result in increasing the levels of post-consumer recyclate and design for recycling in products and packaging.
8. Implementation of the extended producer responsibility scheme will address the membership issue with producer responsibility organisations and ensure that their strategies are focused on driving collection, recycling and end-use development programmes. There needs to be better engagement among producer responsibility organisations and they should consider a shared-services model to reduce cost and complexity.
9. The adoption of designing plastic packaging for recycling or even multiple life cycles by all stakeholders will ensure better quality scrap (post-consumer material) and ultimately better quality post-consumer recycled material.
10. Industry must lobby for special dispensation from Treasury to allow municipalities to sign long-term agreements with waste management companies so that they can invest in materials recycling facilities.

"Recycling is a complex process; therefore, not everybody has an understanding of how it works."

SECTION 1

RESEARCH BACKGROUND

A great deal of local and international research has been undertaken over the past decades, highlighting the increasing negative environmental and socio-economic impacts of plastic pollution. To complement WWF's *Plastics: Facts and Futures: Moving beyond pollution management towards a circular plastics economy in South Africa* report of 2020 (Sadan & De Kock, 2020), research was undertaken to identify the barriers to the recycling of plastic packaging and the inclusion of post-consumer recycled content in packaging applications, specifically as viewed by the plastics value chain.

This report includes a brief literature review of the widely available information on the challenges faced globally and in South Africa with regard to plastic leakage into the environment and presents recommendations to address the problem. The recycling of plastics and the inclusion of recycled content in plastic products are part of the solutions provided to counter the impacts of the linear plastics economy. However, even within these solutions there are barriers that exist based on factors linked to the geographical context.

In this section, the research context, current baseline, research objectives, target groups and research approach are explained.

PLASTIC POLLUTION EVIDENT ON DURBAN BEACH AFTER A RAINFALL EVENT.

© Hanno Langenhoven

RESEARCH CONTEXT

International and local research have found that recycling, as a supply-side solution, and the inclusion of recycled content, as a demand-side solution, are economically and technologically viable approaches to address the increasing leakage rates of plastics into the environment. However, barriers to recycling and to the inclusion of recycled content in products need to be understood and addressed in the local context to accelerate the systemic shift to a circular plastics economy.

Internationally, the research that has gained substantial attention from 2016 is that by the Ellen MacArthur Foundation (The Ellen MacArthur Foundation 2016; 2017), stating the impacts of plastic pollution and providing high-level recommendations for collaboration across plastics value chains. Other notable international research has been by The Pew Charitable Trusts and SYSTEMIQ, which published their report *Breaking the Plastic Wave* in 2020 (The Pew Charitable Trusts and SYSTEMIQ, 2020). This went further in providing global material flows and scenarios to address increasing leakage to oceans, which are the last sink of plastic waste. Their report recommends an integrated approach that would result in a systems change, which includes upstream and downstream interventions. This systems change, which most importantly includes a reduction in virgin plastic production and substitution (with alternative materials and recycled plastic content), followed by recycling and collection, will deliver the required significant reduction in leakage.

Recycling and the inclusion of recycled content are important activities in a circular plastics economy that will reduce leakage. In order to make meaningful interventions, an understanding of the barriers facing these activities is crucial. In certain contexts, internationally, more detailed research on local barriers to recycling and the inclusion of post-consumer recycle, together with specific local solutions, has been identified, specifically within the European Union (EU) (EC, 2015) and the USA (More Recycling, 2017).

In South Africa, it is imperative that research is conducted in the local context to find context-specific solutions. These solutions must be responsive to local needs, such as the need for designing people into the circular economy for plastics through labour inclusion at low skills levels, with a focus on skills development. A great deal of local research has been done over the past decades. The first studies examined the prevalence and impacts of plastic in the South African marine environment (Bouwman et al., 2018; Ryan, 2018; Ryan et al., 2018; Ryan et al., 2020; Weideman et al., 2020). This was followed by a substantial increase in papers coming out of the Waste Research Development and Innovation (RDI) Roadmap programme (Arabi & Nahmann, 2020; Naidoo et al., 2020; Verster & Bouwman, 2020), a government initiative aimed at supporting South Africa's transition to a circular economy through the generation of scientific evidence for the waste sector (DST, 2014). These papers looked at material flows and high-level recommendations to counter the increasing leakage of plastics.

The industry body Plastics SA, together with the South African Plastics Recycling Organisation (SAPRO), annually provides information on the various plastics materials and their collection rates and end markets. The national government also

draws upon these findings and local data for the National Waste Management Strategy (DFFE, 2020b) and the Circular Economy Guideline (DFFE, 2020a) upon which the National Environmental Management: Waste Act 59 of 2008 (Waste Act) and the recently gazetted extended producer responsibility regulations are based. Various NGOs in South Africa have produced reports either collating the existing evidence with recommendations (Sadan & De Kock, 2020) or with novel findings on plastic material flows and leakage rates with viable interventions that deliver the most impact (IUCN-EA-QUANTIS, 2020).

The first attempt to identify the barriers (Duncan, 2018) to a transition to a circular plastics economy in the local retail sector in South Africa aimed to obtain a clearer understanding of the systemic barriers and lock-ins across the multiple dimensions and levels of the current socio-technical system. The findings identified a range of retail responses to the challenge of plastic pollution, ranging from the removal of plastic straws to comprehensive targets for reusability and recyclability of own-brand plastic packaging.

The systemic barriers identified in the retail sector were the culture and behaviour of consumers, the regulatory environment, financial implications and stakeholder inertia, a lack of integration across departments, the limited sharing of knowledge and a lack of control over design decisions. However, in light of the position of retailers in the value chain – between suppliers and producers on the one hand and customers on the other – it was found that retailers could play an important co-ordinating role in establishing mechanisms for collective agency. It was recommended that retailers establish an independent packaging authority to lead the development of common labelling strategies and to enable systemic knowledge management by developing a knowledge clearinghouse for relevant research on plastic packaging and other alternatives.

After this initial research, WWF convened a multi-stakeholder workshop in 2019 (WWF, 2019) to delve deeper into the barriers and solutions to drive circularity for all the relevant stakeholders and sectors. This culminated in the WWF report, *Plastics: Facts and Futures: Moving beyond pollution management towards a circular plastics economy in South Africa*, which was published in 2020 (Sadan & De Kock, 2020). This report expanded on the initial research by Duncan (2018), using outcomes from the workshop and further desktop research to identify specific high-level barriers, along with opportunities for each sector in the value chain to transition to a circular economy for plastic packaging. The barriers and opportunities were identified for direct stakeholders (virgin polymer producers, plastic converters, brand owners, retailers, hospitality services, consumers, and waste collectors, contractors, recyclers and treatment facilities) and indirect stakeholders (research institutions, government departments, civil society organisations, industry bodies and informal sector representatives).

The current report complements the ongoing work within the South African Plastics Pact, SAPRO and WWF, with the long-term aim of moving towards a circular economy for plastics in South Africa. The current work undertaken by the various action groups within the South African Plastics Pact also indicates that it is of the utmost importance to identify and address existing barriers. The high-level barriers and opportunities identified in *Plastics: Facts and Futures* (Sadan & De Kock, 2020) to transition to a circular plastics economy are compared to the more detailed findings and recommendations of this study, which only focuses on recycling and the inclusion of post-consumer recyclate. The aim is to further confirm and strengthen the direction to be taken in future by each sector and to guide the actions and engagement of the South African Plastics Pact.

Structure of this report

This report includes a brief literature review of the current widely available information on the state of recycling and the use of post-consumer recyclate in plastic packaging. The current baseline, research objectives, target groups and research approach are explained. The report then presents the views and experiences of direct and indirect stakeholders in the South African plastics industry about the barriers and challenges to plastics recycling and the inclusion of post-consumer recyclate. An overview of the interview results is given, first for food-packaging experts and then for stakeholders in the industry. Importantly, in the industry-specific section (pages 29 to 64), practical recommendations are given that the local industry could embrace to further its circular economy aims using recycling and the inclusion of post-consumer recyclate as the main drivers.

CURRENT BASELINE

Most plastic products and packaging consumed in South Africa are sent to landfill or open dumps after use, but recycling rates have increased steadily since first reported on in 2011. Over the past three years, however, numbers have stabilised, highlighting the need for more support from all stakeholders in the value chain to increase collection, recycling and the demand for post-consumer recycled content, not incrementally but dynamically, to achieve the systemic shift required.

The need for this research emerged from various industry reports and independent academic research, as discussed in "Research context". Recent material flow analyses have found that about 70% of plastics collected for recycling originate from landfill and other mixed post-consumer sources such as general waste bins, and are then sorted in informal material recovery facilities (Plastics SA, 2019a). In addition, of the plastics collected for recycling, only two-thirds of the collected material is effectively recycled (actually converted to recyclate) (Plastics SA, 2019a). The largest portion of this recycled material is used in durable applications (e.g. irrigation pipes, domestic ware, polyester fibre and construction material), with a significantly smaller proportion going back into primary, secondary and tertiary packaging. In the last few years, the plastic that is recycled has been stockpiled due to market constraints exacerbated by a low oil price and the COVID-19 pandemic (Sadan & De Kock, 2020). The rest goes to either compliant or non-compliant landfills, is disposed of via other methods (e.g. self-help disposal in open dumps or littered) or exported (4%) (Von Blottnitz et al., 2018). A very small percentage of plastic waste is incinerated for energy recovery (0,25%) (DEA, 2018) compared to total waste generated. There are some examples of reuse (Caboz, 2020) or repurpose (Bulbulia, 2021) applications, which help to keep the material out of the waste stream.

Using data from the Plastics SA Recycling Survey in 2018, it was found that South Africa's effective recycling (ISO: 18604, 2013)[1] rate (recycled material output from recycling facilities over total plastic waste generated from local manufacturing) was approximately 30% in 2018 (Plastics SA, 2019a). Other sources show conflicting figures, such as the report by the Department of Environmental Affairs in 2017 (DEA, 2017), which found a recycling rate of 15%, and the latest research conducted by the IUCN (IUCN-EA-QUANTIS, 2020), with a similar overall plastic recycling rate of 14%.

With regard to the inclusion of post-consumer recyclate in plastic products, which is a crucial factor in driving up recycling rates, academic research conducted on plastics material flows in 2017 found that "the average recycled content in all plastic products manufactured in South Africa was a modest 17%" (Von Blottnitz et al., 2018). It is, however, unclear what the post-consumer recyclate content is in plastic packaging, but the latest analysis under way within the action group on Target 4 of the South African Plastics Pact (increasing post-consumer recyclate in

1 Recycling is defined as "[r]eprocessing, by means of a manufacturing process, of a used packaging material into a product, a component incorporated into a product, or a secondary (recycled) raw material; excluding energy recovery and the use of the product as a fuel" (ISO: 18604, 2013).

plastic packaging to an average 30% across all members by 2025) shows a post-consumer recyclate content of approximately 13% for the top ten packaging formats identified by the action group as quick wins (see Box 1).

It is therefore in the interest of all stakeholders and ongoing initiatives that the barriers to increasing the collection and recycling of plastic and to increasing the levels of post-consumer recycled content, specifically for plastic packaging, are identified to inform further work.

The national government is giving attention to the matter of waste and recyling, as is evident from the National Waste Management Strategy of 2020 (DFFE, 2020b) and the EPR regulations (DFFE, 2020c), among other things (see Box 2 on following page).

BOX 1: THE SOUTH AFRICAN PLASTICS PACT'S 2025 TARGETS

The South African Plastics Pact has set four specific, ambitious and time-bound targets to address the design, production, use, recovery and recycling of plastic packaging, including primary, secondary and tertiary formats.

The members voluntarily participate in action groups to drive membership progress towards these targets. The South African Plastics Pact is committed to specific deliverables from action groups as guided by its Roadmap, and action group recommendations for member assistance in progressing towards the 2025 targets.

Target 1: Elimination of problematic or unnecessary plastic packaging through redesign, innovation or alternative (reuse) delivery models

Target 2: 100% of plastic packaging to be reusable, recyclable or compostable* by 2025
*(*applicable only in closed-loop and controlled systems with sufficient infrastructure available or fit-for-purpose applications).*

Target 3: 70% of plastic packaging effectively recycled
Target 3 is the only target that is not under the direct control of individual members. The target of a 70% recycling rate for all plastic packaging put on the market in South Africa means that the South African Plastics Pact commits to engage and collaborate with key players beyond its membership.

Target 4: 30% average recycled content across all plastic packaging

Source: saplasticspact.org.za/2025-targets

BARBARA CREECY, MINISTER OF ENVIRONMENT, FORESTRY AND FISHERIES, AT A MANDELA DAY CLEAN-UP IN CAPE TOWN.

BOX 2: THE NATIONAL GOVERNMENT'S STANCE ON PLASTIC WASTE

Waste policy is traditionally driven by the department responsible for environmental affairs, which has since 2019 expanded its mandate to forestry and fisheries. This department is currently called the Department of Forestry, Fisheries and the Environment (DFFE). The late Edna Molewa, Minister of the then Department of Environmental Affairs, fully supported growth and acknowledged the importance of the waste and recycling sector during her tenure (DEA, 2018).

The department at that point provided funding for the Recycling Enterprise Support Programme, which supports start-ups or pre-existing enterprises in the waste sector financially via grants. During that time, the department was conducting a third review of the National Waste Management Strategy, which states the country's commitment to waste minimisation and the development of the circular economy for materials, and emphasises the importance of effective waste management.

The current Minister of Forestry, Fisheries and the Environment, Barbara Creecy, has continued in this direction with various policy amendments on plastic carrier bags, enacting section 18 of the Waste Act for an industry-led EPR scheme and supporting industry-led initiatives (DFFE, 2020c). It is acknowledged that the waste sector can contribute significantly to job creation and overall GDP in future, pending the implementation of and compliance with relevant policy and deeper collaboration between all plastics industry stakeholders. The National Waste Management Strategy that was published in 2020 (DFFE, 2020b) affirms the commitment by the government and the required steps to be taken. The research outcomes of this report will add value to the implementation of these policies and commitments to ultimately result in a more circular (plastics) economy in South Africa.

RESEARCH OBJECTIVES

It is in the interest of all stakeholders to understand and address the barriers to recycling and to the inclusion of post-consumer recyclate in plastic products that are inherent in the plastic packaging value chain.

The main objective of this research was to identify barriers to the recycling of plastic packaging and to the inclusion of post-consumer recycled content in packaging applications, specifically as viewed by the plastics value chain. Using these findings, appropriate recommendations are put forward to support the work being done by various voluntary initiatives such as the South African Plastics Pact and the Initiative to End Plastic Waste (Plastics SA, 2019b), industry bodies including SAPRO, producer responsibility organisations (PROs), NGOs and the wider plastic packaging ecosystem.

In addition, a major objective was to consider the development of the EPR policy for South Africa and thereby support implementation through identifying and designing interventions to address some of the main barriers, as follows:

- **Upstream interventions**: Support eco-design principles and innovation.
- **Downstream interventions**: Inform the collection and recycling targets of plastic to support work done by the South African Plastics Pact, a WWF project partner. Highlight areas of collaboration/partnership with the government to develop the necessary infrastructure to collect and manage waste, increase recycling rates and increase the demand for recycled plastic in South Africa.

A WORKER SORTING WASTE AT A MIXED-MATERIAL RECOVERY FACILITY AT THE V&A WATERFRONT, CAPE TOWN.

RESEARCH TARGET GROUPS

The direct and indirect stakeholders identified in the plastic packaging value chain were interviewed in this research.

All known stakeholders in the value chain who produce, place plastic packaging onto the market and collect and reprocess post-consumer plastic packaging in South Africa were included in the research process. The stakeholder categories were as follows:

DIRECT STAKEHOLDERS IN THE PLASTICS VALUE CHAIN

- Large plastics resin producers (i.e. Sasol and Safripol)
- Brand owners
- Retailers
- Buy-back centres
- Waste management companies doing collecting and sorting of recyclables.
- Recyclers

INDIRECT STAKEHOLDERS IN THE PLASTICS VALUE CHAIN

- Research institutions (e.g. the CSIR)
- Academics at South African universities
- National government departments (Department of Trade, Industry and Competition (DITC); Department of Forestry, Fisheries and the Environment (DFFE))
- Local government
- Organisations or institutes with a focus on food safety and food-packaging standards
- Specific industry experts
- Plastics sector industry bodies (SAPRO, Packaging SA and Plastics SA)
- Plastics sector PROs (PET Recycling Company (PETCO); the Polystyrene Association of South Africa; the Polyolefin Responsibility Organisation (Polyco); the Southern African Vinyls Association (SAVA))
- Informal collectors/reclaimer organisations (South African Waste Pickers Association (SAWPA); African Reclaimers Organisation (ARO)).

This list was useful in identifying who to engage in the interviews for the project, and to serve as reference for a comprehensive list of interest groups to include in the dissemination of information about the project.

The research outcomes and recommended actions will assist these stakeholders to participate in the upcoming mandatory EPR policy process in South Africa and move towards the circular economy aims.

MATERIAL THAT HAS BEEN SORTED AND BALED TO BE SOLD TO RECYCLERS AT THE KRAAIFONTEIN MATERIAL RECOVERY FACILITY, WESTERN CAPE.

RESEARCH APPROACH

The approach of this research was to, first, examine the existing research outcomes and then delve deeper into the specific barriers to recycling for each sector through the views of key industry stakeholders.

The scope of work and deliverables for the study included the following:

- **Desktop study**: A desktop study was performed on available web-based research by looking at existing reports and projects relating to plastics recycling and additional (published) analyses to identify all local barriers to plastics recycling and the use of recyclate. These included recycling barriers related to packaging formats and materials, food safety and other regulations. The summarised information that was gathered is included in this report, with a library of material available on request.
- **Database**: A database of relevant individuals was created, based among others on the stakeholder map, to serve as a basis for the list of potential interviewees. The project team identified 50 key individuals in the relevant organisations for in-person online interviews. The database is available to project partners and members of the project team. Since it contains sensitive information, it is not available for general distribution.
- **Interviews**: In-person interviews were conducted using a specific questionnaire that was set up together with industry experts on plastic packaging (food and other applications). The same questionnaire was used for all interviewees. The interviewers have extensive experience in the industry, allowing them to understand the interviewees' subjective perspectives. They understand the value chain and have experienced many of the issues and obstacles raised in the interviews. They could thus probe deeper where relevant, so that the maximum amount of useful information could be gathered. Thirty interviews were recorded (with seven exceptions) and the recordings are available on request. The in-person interview questions are given in Box 3 and the additional questions directed specifically at the food-packaging industry in Box 4.

BOX 3: IN-PERSON INTERVIEW QUESTIONS

During the interview, stakeholders were asked their opinion on the following questions:

1. What can each sector in the value chain do to increase national recycling rates for plastic and how to increase the usage of post-consumer recyclate (PCR) in plastic packaging?
2. What are the obstacles preventing each sector from doing more?
3. Rate (on a scale of 1 to 10) whether each sector is doing enough to increase recycling rates and PCR usage.
4. Who in the value chain has the single biggest influence in changing recycling rates and PCR usage?

BOX 4: SPECIFIC IN-PERSON INTERVIEW QUESTIONS FOR FOOD-PACKING EXPERTS

The following questions were asked in the one-on-one interviews with food-packaging experts:

1. What are the reasons for the limited use of recycled plastic in packaging, and specifically in food applications?
2. How do you think these can be overcome?
3. Are you aware of any legislation or standards pertaining to plastic packaging for food applications?
4. How is compliance with the legislation enforced, or is there an accreditation process for any standards mentioned?
5. Does your organisation have their own standards with respect to packaging and food safety, in addition to national or international standards?
6. As a food manufacturer, do you have recycled content in any of your product packaging? If so, which packaging formats (incl. polymers if possible)?
7. If not, could you explain why?
8. If your organisation has commitments to include post-consumer recycled content (PCR), how will these be achieved if food-grade PCR is not available?

- **Questionnaire**: An online questionnaire for self-completion was drawn up to supplement the information gathered during the in-person online interviews. An invitation to complete the online survey was sent to a total of 98 individuals. These included individuals originally earmarked for individual interviews who could not participate, as well as a number of other key industry and government players.

  The same five questions were asked for every sector, with the wording adapted accordingly. The initial five questions (a–e) were followed by two questions (11 and 12) that applied to all the sectors, and six questions (13–18) that applied to food-packaging experts in all the sectors. The example for virgin polymer producers is given in Box 5.

  A total of nine responses (9%) were collected. The low participation rate is not unusual for online interviews and was exacerbated by the time of the year it was sent out and organisational priorities due to the Covid-19 pandemic.

- **Report and fact sheet**: A report and fact sheet were compiled to bring together the findings from the research process.

BOX 5: ONLINE SURVEY QUESTIONS: EXAMPLE FOR VIRGIN POLYMER PRODUCERS

Virgin polymer producers

a. Are **virgin polymer producers** doing enough to drive higher recycling rates of plastics?
(YES/NO)

b. To what extent are their efforts effective?
Scale = 1 (weak) to 10 (strong)

c. Are **virgin polymer producers** doing enough to increase the demand/grow the market for post-consumer materials (PCR) in plastic packaging?
(YES/NO)

c. Do you think **virgin polymer producers** have a role to play in plastics recycling and PCR usage?
(YES/NO)

e. If you answered yes to the previous question, please state what the role of **virgin polymer producers** is.
(Open-ended response)

General

11. Considering the entire plastics value chain, which three sectors do you believe have the biggest influence on changing plastics recycling rates and PCR usage?
    a. (Open-ended response)
    b. (Open-ended response)
    c. (Open-ended response)

12. Are you a food-packaging expert?
    (YES/NO)

If YES, continue to the following questions (13 to 18):

13. What are the reasons for the limited use of recycled plastic in food-packaging plastics? Please also mention any ways in which you think these can be overcome.
    (Open-ended question)

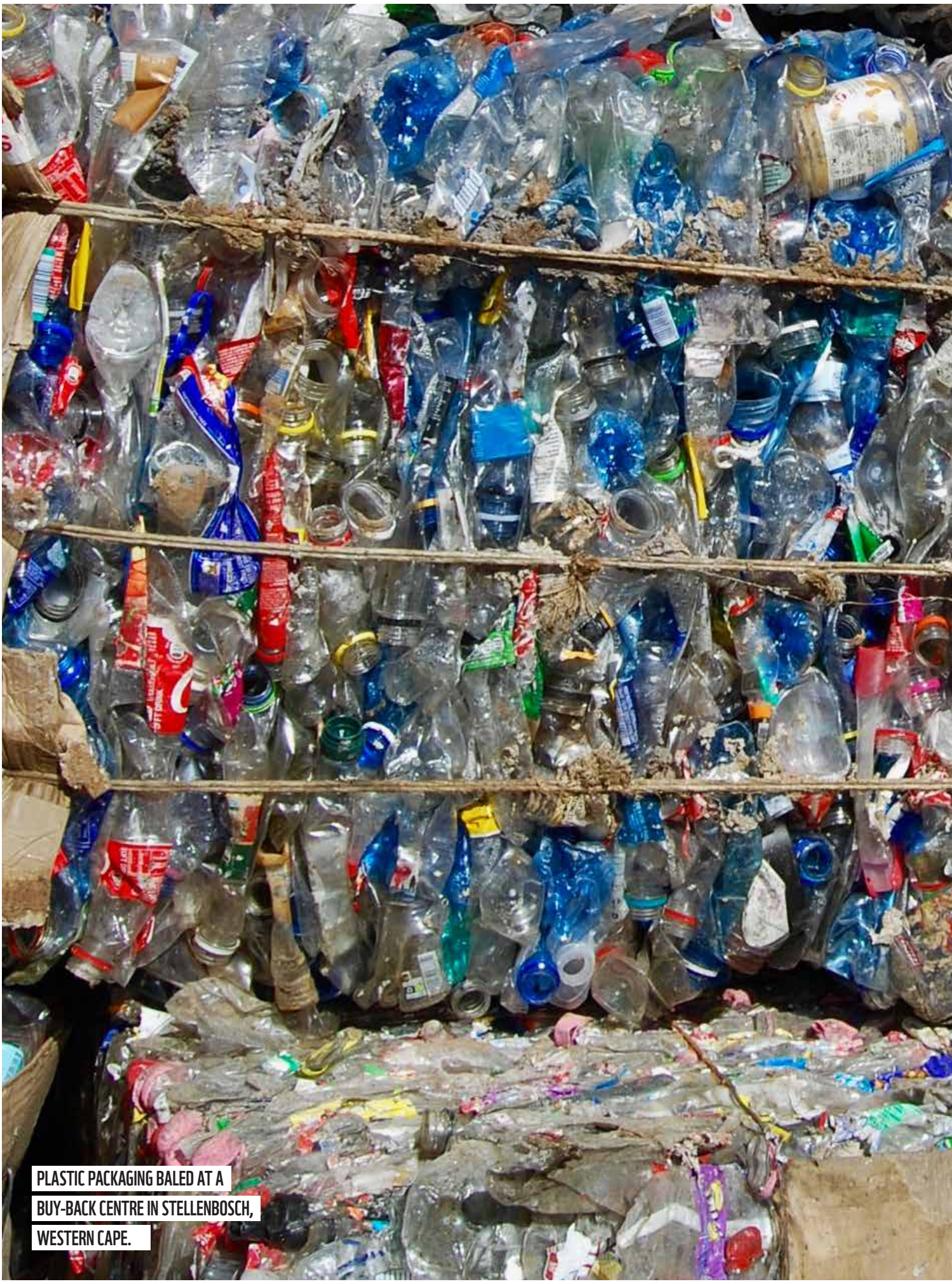
14. Do you believe compliance with plastic packaging for food legislation and standards is enforced effectively?
    (YES/NO)

15. Does your organisation have its own standards with respect to packaging and food safety, in addition to national or international standards?
    (YES/NO)

16. Please mention one or two of those standards
    (Open-ended response)

17. As a food manufacturer, do you have recycled content in any of your product packaging?
    (YES/NO)

18. If your organisation has commitments to include post-consumer recycled content (PCR), how will these be achieved if food-grade PCR is not available?
    (Open-ended response)



PLASTIC PACKAGING BALED AT A BUY-BACK CENTRE IN STELLENBOSCH, WESTERN CAPE.


© Fiona Piller

SECTION 2

RESEARCH RESULTS

This section presents the views and experiences of direct and indirect stakeholders in the South African plastics industry on barriers and challenges to plastics recycling and the inclusion of post-consumer recyclate in plastic packaging.

An overview of industry views on stakeholder barriers and opportunities is given, graphically showing the representation of interviewees and online survey respondents. This is followed by a discussion of the interview results with food-packaging experts, identifying specific barriers and challenges to recycling experienced by these stakeholders and suggesting ways in which to overcome the obstacles. The experts also commented on legislation and standards in their sector and organisational commitments to drive higher recycling rates and the inclusion of post-consumer recyclate in food-contact plastic packaging.

Next, an overview is given of responses from industry stakeholders to the one-on-one interviews and online survey. Responses from direct and indirect stakeholders are listed, idenfying the barriers and opportunities to recycling and the increased use of post-consumer recyclate in plastic packaging. These responses not only focus on each sector's own barriers and opportunities but also provide a perspective on how other sectors perceive barriers and opportunities, looking from the outside in.

Importantly, practical recommendations are given for each sector. The local industry could embrace these to further its circular economy aims.

Finally, the sectors with the most influence on driving recycling and the increased use of post-consumer recyclate in plastic packaging are identified.

OVERVIEW OF INDUSTRY VIEWS ON STAKEHOLDER BARRIERS AND OPPORTUNITIES

The findings from the in-person interviews and the online survey covered plastic packaging in general and food applications of plastic packaging in particular. The questions were aligned with the themes of identifying the barriers to recycling and the use of post-consumer recyclate in each sector, followed by recommendations to overcome those barriers (opportunities).

FIGURE 1: THE SOUTH AFRICAN PLASTICS VALUE CHAIN

DIRECT STAKEHOLDERS				
VIRGIN POLYMER PRODUCERS & IMPORTERS	PLASTIC CONVERTERS	RETAILERS, BRAND OWNERS & HOSPITALITY	CONSUMERS	WASTE COLLECTORS, CONTRACTORS, RECYCLERS & TREATMENT FACILITIES
Petrochemical companies (producers and importers) Bio-based plastic polymer producers & importers	Conventional plastic converters (local & international) Bio-based plastic converters Biodegradable plastic converters	Large-scale retailers Multinational & local brand owners Small-scale retailers Online retailers Hospitality & food services	Shelf-facing consumers	Formal and informal waste collectors and buy-back centres Material recovery facilities Recyclers Municipalities

INDIRECT STAKEHOLDERS			
RESEARCH INSTITUTIONS	GOVERNMENT DEPARTMENTS	CIVIL SOCIETY ORGANISATIONS	INDUSTRY BODIES
PRODUCER RESPONSIBILITY ORGANISATIONS (PROs)	INFORMAL SECTOR REPRESENTATIVES	LABOUR UNIONS	

POLICIES, REGULATIONS AND INITIATIVES TO COMBAT POLLUTION FROM THE PLASTICS VALUE CHAIN			
International partnerships and frameworks	Global agreement on plastic pollution	National policies and regulations	Global initiatives and voluntary agreements

INTERVIEWS AND ONLINE SURVEY

Altogether 49 invitations for one-on-one online interviews were sent out via email. This method yielded unique responses, representing a broad cross-section of the plastics industry. Four (three converters and one brand owner) declined and seven (three brand owners, one retailer, one academic, one recycler and one converter) did not respond.

The online survey, which consisted of the same questions as the online in-person interviews, was also used as a qualitative information gathering method to ascertain the perceptions of the wider stakeholder group. Although the participation rate was low (9 responses to 98 invitations sent out), this was expected, as it meets the norm for research undertaken online. Representatives who were not included in the online in-person interviews were contacted to reach a wider stakeholder group and included national and local government departments. No responses were received.

A total of 40 stakeholders from various sectors were engaged via the in-person online interviews and online survey. Sector representation for the process is depicted in Figure 2.

Both the interviews and the online survey included questions on the barriers to recycling of plastic packaging, what is holding back the inclusion of post-consumer recycled content in packaging applications, and what each sector in the value chain should be doing more of.

WHO ARE THE BIGGEST INFLUENCERS?

The biggest influencers in driving up recycling rates and post-consumer recyclate usage as rated by all the sectors in the value chain are shown in Figure 3.

FIGURE 2: SECTOR REPRESENTATION OF INTERVIEWEES AND ONLINE SURVEY RESPONDENTS

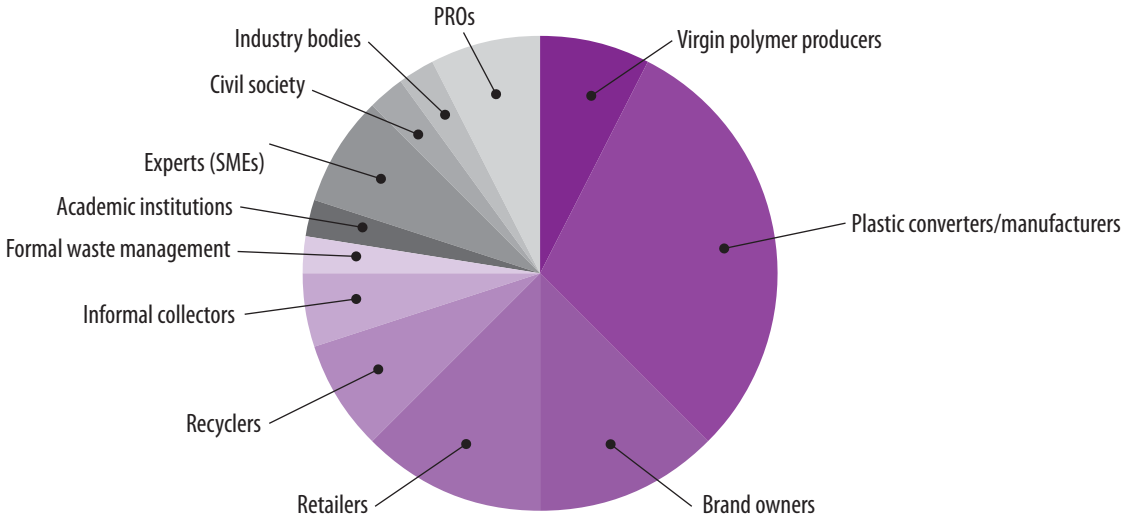
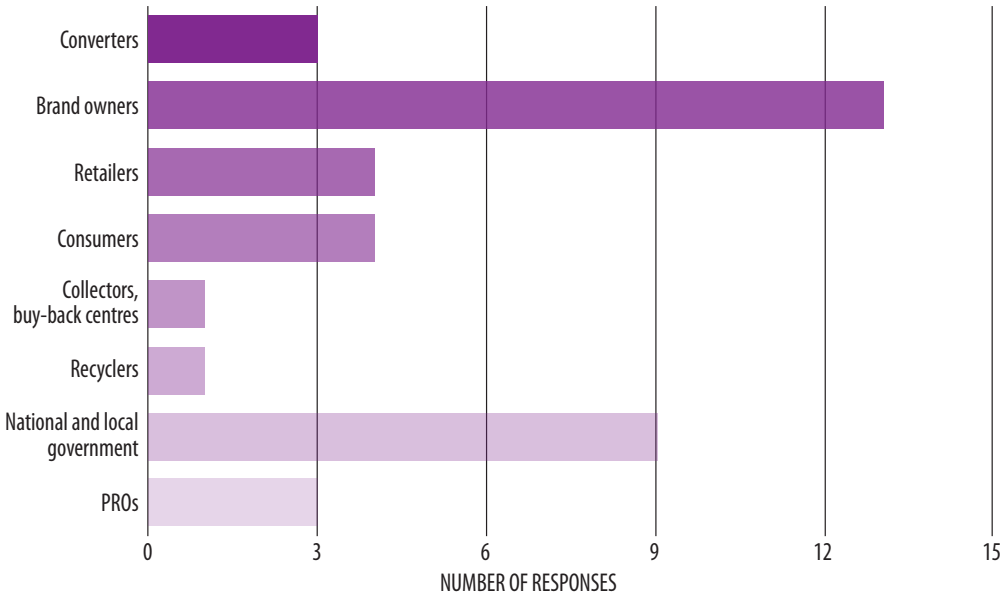


FIGURE 3: INDUSTRY PERCEPTIONS ON WHICH SECTOR HAS THE MOST INFLUENCE



VIEWS FROM FOOD-PACKAGING EXPERTS

Food packaging is perceived as a significant barrier to recycling and to the inclusion of post-consumer recycled content due to various food safety standards and consumer expectations. It was therefore important to obtain the views of food-packaging experts at brand owners, retailers and industry bodies.

Six invitations were sent to food-packaging experts for one-on-one interviews. Two felt they were not the right people to be interviewed on the topic and therefore declined the invitation. In the end, four individuals from different organisations were interviewed.

The survey included questions on the barriers to the recycling of plastic packaging, what was holding back the inclusion of post-consumer recycled content in food packaging, legislation and commitments to include post-consumer recycled content in future. In addition to the questions asked of all stakeholders (Box 3), specific questions (Box 4) were asked of food-packaging experts.

BARRIERS TO RECYCLING AND THE INCREASED USE OF POST-CONSUMER RECYCLATE IN FOOD PACKAGING

This question focused on the obstacles or barriers holding back the recycling of plastic and the inclusion of post-consumer recycle in plastic packaging, specifically in food applications.

Cost

The primary barrier cited was cost. Respondents believe that it costs more to use recycled material instead of virgin material. "Cost" refers not only to the cost to the business but also to the cost that consumers will have to absorb if recycled material is used. One of the reasons for the high cost is believed to be the complicated nature of the recycling process and the limited technologies available (see also Box 6).

BOX 6: IS THE INCLUSION OF POST-CONSUMER RECYCLATE A COST-SAVING EXERCISE?

The cost of recyclate is affected by the oil price. When the price of oil drops, so does the price of virgin plastic. This constant fluctuation affects end markets and increases the uncertainty and business risk for the recycling sector. Recyclers have costs related to collection and sorting, and other overhead costs coupled with the risk of low-quality feedstock. Converters tend to prefer virgin plastic feedstock because recycled plastic/recyclate, particularly post-consumer recycled plastic, may have contaminants that negatively affect overall plant efficiency, resulting in more waste material. Cost is one of the major barriers for all sectors to using post-consumer recyclate in their packaging and products.

Technology

The second barrier mentioned was technology. Respondents believe that the limited and outdated technologies available make it difficult for manufacturers of food packaging to use sustainable alternatives.

Food safety

One respondent mentioned the issue of food safety. They mentioned that there are no "food-contact food-grade" sources of post-consumer recyclate that are safe for use in direct contact with food. However, there are opportunities to use recycled material for packaging that does not come into contact with food.

HOW CAN THESE BARRIERS AND CHALLENGES BE OVERCOME?

In this question, respondents were asked how they thought the barriers and challenges to recycling and the increase of post-consumer recyclate (PCR) in food packaging could be overcome.

Respondents suggested the following:

- Industry and government should subsidise post-consumer recyclate so that inclusion is not costly and the manufacturer does not add the cost to the product, as it will have a negative impact on the consumer if this is done.
- Hold manufacturers responsible for "their actions".
- Producer Responsibility Organisations need to do more to find a way to keep the cost of post-consumer recyclate down.
- Invest in research and development.
- Brand owners and retailers must provide funding to recyclers to be able to process the material to "food-contact food-grade" or the appropriate quality to be used in food packaging.
- The government together with obliged companies in the extended producer responsibility (EPR) scheme should invest in separation at source (s@s) infrastructure to reduce contamination of material that is destined for recycling.

STANDARDS AND LEGISLATION PERTAINING TO PLASTIC PACKAGING FOR FOOD APPLICATIONS

In this question, respondents were asked whether they were aware of any legislation or standards pertaining to food-contact packaging and compliance.

Respondents' answers regarding legislation focused on the following:

- Some respondents mentioned the EPR regulations in terms of section 18 of the National Environmental Management: Waste Act 59 of 2008. These regulations were promulgated in November 2020 and will be implemented in 2021, requiring a levy to be paid by producers who place plastic packaging on the market. There is still much confusion on what EPR is and most respondents referred erroneously to a tax that would need to be paid.
- Some respondents mentioned being accountable to their customers who take sustainability seriously.

Respondents' answers regarding the enforcement of food-contact packaging standards focused on the following:

- Most respondents follow international guidelines, specifically European Union standards.
- Most respondents mentioned that they have not seen enforcement but the organisations they represent are ethically driven to do the right thing regardless.

ARE THERE ANY ORGANISATIONAL COMMITMENTS TO DRIVE HIGHER RECYCLING RATES AND PCR INCLUSION?

In this question, respondents were asked whether their organisations had commitments to include post-consumer recycled content in food packaging, and how these commitments would be achieved if food-grade post-consumer recyclate was not available.

All the respondents said there is currently no commitment to include post-consumer recycled content in food-contact packaging in the near future. With regard to achieving a commitment to include recycled content, some mentioned that they were trialling a number of initiatives but no concrete results were available yet.

FRESH PRODUCE PACKAGED IN PLASTIC PACKAGING THAT HAS A HIGH PROBABILITY OF NOT BEING RECYCLED IN PRACTICE AND NOT CONTAINING POST-CONSUMER RECYCLED CONTENT.

THE ROLES AND INTERDEPENDENCE OF SECTORS IN THE PLASTICS VALUE CHAIN

BARRIERS, OPPORTUNITIES AND RECOMMENDATIONS FOR DIRECT STAKEHOLDERS

One of the interview and survey questions focused on the barriers holding back the recycling of plastic and the inclusion of post-consumer recyclate in plastic packaging. The responses from industry participants to this question have been grouped per sector for direct and indirect stakeholders. Sectors identified their own barriers and also commented on the barriers they perceive for other sectors, looking from the outside in.

VIRGIN POLYMER PRODUCERS

Plastic polymer producers are the primary producers of plastic polymers.

BARRIERS AND OPPORTUNITIES

BARRIERS LISTED BY VIRGIN POLYMER PRODUCERS	BARRIERS SPECIFIC TO VIRGIN POLYMER PRODUCERS AS PERCEIVED BY OTHER STAKEHOLDERS
Chemical recycling was cited by most sectors as a possible solution to growing recycling and to the use of post-consumer recyclate. However, it is viewed by virgin polymer producers as being a very complex, capital-intensive and rather long-term solution to growing recycling and the use of post-consumer recyclate. ■ Without government intervention, polymer producers are reluctant to invest in huge capital-intensive projects such as chemical recycling. ■ The recyclable packaging solutions developed by the polymer manufacturers, e.g. mono-layer barrier pouches, may require plastic converters and/or brand owners to invest in new equipment such as converting or packing machines. Without economies of scale, they are reluctant to invest in new equipment. In addition, any cost added on to the packaging is seen as a barrier. ■ There is limited collaboration between polymer producers and brand owners. Without understanding the brand owners' wants and needs, it is difficult for polymer producers to present their recyclable solutions or initiate joint development projects.	There were a few comments about post-consumer recyclate and virgin resin competing against each other. ■ Virgin polymer producers are heavily invested in producing fossil-derived resins; therefore recycling and post-consumer recyclate are not on their agenda. ■ Overseas resin manufactures who sell their product in South Africa have no interest in local recycling initiatives. ■ Chemical recycling was raised as an opportunity but for it to work will require all sectors in the value chain to collaborate to ensure that waste is sorted and cleaned at the lowest possible cost. Even then it may not be profitable because of the very low return on investment. The theme that stands out across the value chain is that virgin polymer suppliers (importers and local producers) are in the top three sectors that are not doing enough to drive the uptake of post-consumer recyclate in the market. This includes insufficient investment in collection and recycling, either individually or through EPR schemes. Being polymer experts, they should be sharing knowledge and investing in R&D to enable or enhance the quality and availability of post-consumer recyclate they manufacture, specifically for food-grade applications. They also know what additives are not good for recycling; therefore, they have a lot of value to add to improve the quality of post-consumer recyclate. Through these actions, price competition of virgin and post-consumer recyclate should be addressed.

"For chemical recycling to work will require all sectors in the value chain to collaborate to ensure waste is sorted, cleaned, etc. at the lowest possible cost. Even then it will not be profitable for the raw material suppliers, i.e. very low ROI."

"We talk about multi-stakeholder collaboration and how everyone along the value chain needs to come together to enable this, and this is one of the blocks. This is one of the bottlenecks."

OPPORTUNITIES LISTED BY VIRGIN POLYMER PRODUCERS	OPPORTUNITIES SPECIFIC TO VIRGIN POLYMER PRODUCERS AS PERCEIVED BY OTHER STAKEHOLDERS
■ Virgin polymer producers need to understand the brand owners' wants and needs with regard to plastics. ■ They must ensure that the plastics they supply are recyclable. ■ They must develop a resin offering containing recycled content that meets the post-consumer recyclate quality standards.	It is recognised that post-consumer recyclate has no commercial value for virgin polymer producers, but promoting a circular economy will grow the plastics industry to their benefit. It is also acknowledged that at some stage the polymer producers will need to provide a post-consumer recyclate resin grade. Virgin polymer producers should: ■ Actively show their support for circular economy principles by being involved in developing and growing end-use applications for post-consumer recyclate. ■ Innovate to make their products more compatible with post-consumer recyclate or sell a virgin + post-consumer recyclate blend. ■ Partner with recyclers to drive a common agenda. ■ Fund Life Cycle Assessments and research projects that enable recycling.

"I think our raw material suppliers need to be more transparent in what additives they add to their materials, to make it simpler and easier to classify the product or to put it in the right blocks for recycling."

"They're selling a lot of virgin, so why spend all the extra money if there's potentially a dilutive effect to their turnover?"

KEY FINDINGS AND RECOMMENDATIONS: VIRGIN POLYMER PRODUCERS

BARRIERS		RECOMMENDATIONS
Chemical recycling	Polymer producers are heavily invested in manufacturing fossil-derived polymers and to now invest in chemical recycling will be a massive undertaking that will require huge capital and possibly low return on investment.	Polymer producers are the subject matter experts and should consider partnering with mechanical recyclers to help them improve the quality of their post-consumer recyclate. The ambition should be for the polymer producers to offer a virgin + post-consumer recyclate blend that meets all the quality standards.
Cost of new technology	Recyclable solutions as developed by the polymer producers, e.g. mono-layer pouches, often require plastic converters and brand owners to invest in new technology such as conversion or packing machines. However, if the proposed new structure adds cost, then the brand owner and/or converter may be reluctant to proceed with the project.	To ensure transparency and alignment, multi-stakeholder collaboration between polymer producers, plastic converters and brand owners is needed. The implementation of an EPR scheme will also eliminate the risk of brand owners being uncompetitive in the marketplace.
Misinformed opinion makers	There are too many misinformed opinion makers who have incorrect perceptions about plastic recycling. This creates false or unrealistic expectations about possible recycling or post-consumer recyclate solutions.	As the experts, polymer producers have a role to correct these misconceptions by informing/educating the relevant stakeholders in the recycling value chain. This could include funding Life Cycle Assessments, research projects or studies that aim to improve the quality of post-consumer recyclate.

"They're selling a lot of virgin, so why spend all the extra money if there's potentially a dilutive effect to their turnover?"

"It's in the interest of the polymer producers to encourage recycling or collection of recycling, because it then implies that there is a way of capturing the product that they manufacture. And if there's a way of capturing the product they manufacture, then they can carry on manufacturing."

VIRGIN POLYMER PRODUCTION PLANT

© Shutterstock

PLASTIC CONVERTERS

Plastic converters are plastic product and packaging manufacturers.

BARRIERS AND OPPORTUNITIES

BARRIERS LISTED BY PLASTIC CONVERTERS	BARRIERS SPECIFIC TO PLASTIC CONVERTERS AS PERCEIVED BY OTHER STAKEHOLDERS
The general theme is the lack of demand from customers for post-consumer recyclate on the one hand, and quality material supplied with the relevant quality certifications on the other. The impact post-consumer recyclate has on operational efficiencies and wastage levels, plus the reluctance of production to run what is perceived to be a "lower grade" material are barriers. The impact post-consumer recyclate resin has on the final cost of the packaging and passing this cost on to the customer were also raised as major barriers. ■ There is a poor demand from brand owners to use post-consumer recyclate resins in their packaging. ■ Cost savings are more important to customers. ■ Food-grade r-HDPE (high-density polyethylene) and r-PP (polypropylene) are not available. ■ There is a limited availability of consistently good quality post-consumer recyclate. ■ Post-consumer recyclate will be detrimental to the functionality and performance of the packaging, e.g. it could shorten the shelf life or weaken products. ■ The internal approval process with brand owners to change packaging is often complex and time consuming. Any new packaging material must undergo laboratory, factory, storage and transit tests before it is approved. ■ Increased cycle times and material wastage will increase costs. ■ There is a general perception that post-consumer recyclate is of poor quality.	Plastic converters are perceived as supporting the drive towards recycling in that some are participating in the voluntary EPR schemes. However, some stakeholders believe that not enough is being done to support higher levels of post-consumer recyclate use in packaging. Plastic converters are seen to play an important role but, like any of the businesses in this value chain, want to maximise their profits. Anything that would jeopardise or diminish that profit is not something they are likely to entertain in the absence of regulation or unless the brand owner demands it. There were a few comments about the disconnect between what is being said at a strategic level and what is happening at production level, i.e. machine operators' reluctance to run post-consumer recyclate because of the impact it may have on efficiencies, wastage and potentially their remuneration. Stakeholders' perceptions about plastic converters included the following: ■ A reluctance to change from virgin to post-consumer recyclate resin because of cost, complexity, additional investment, operational efficiencies, wastage and a poor perception of post-consumer recyclate. ■ Converters are not proactively engaging with other sectors to address their (converters') concerns about the quality of post-consumer recyclate. ■ Converters do not have environmental strategies or goals in place. ■ Converters have a short-term focus to maximise profits. ■ There is a lack of commitment to increase the recyclability of packaging produced and to include recycled content. ■ Converters tend to abdicate their responsibility to PROs: it is easier to give money to a PRO than it is to engage in recycling projects and gain customer support for the inclusion of post-consumer recyclate. ■ There seems to be a reluctance among some converters to collaborate with recyclers and trial their post-consumer recyclate resins.

"They are experts in creating packaging that's safe for the product, will look good on shelf, will sell, and is recyclable."

"As soon as it got to running trials at the converter stage, everything halted."

OPPORTUNITIES LISTED BY PLASTIC CONVERTERS	OPPORTUNITIES SPECIFIC TO PLASTIC CONVERTERS AS PERCEIVED BY OTHER STAKEHOLDERS
Plastic converters acknowledge that they can generally do more to drive the use of recyclable packaging and post-consumer recyclate. To create demand, converters could initiate joint development projects with their customers to promote the use of post-consumer recyclate in packaging and support them in achieving their post-consumer recyclate targets. Converters have the expertise, resources and capability to support their customers to design for recycling. ■ To enable collection, recycling and end-use development projects, converters must belong to a PRO. ■ Converters need to create more awareness among their customers about what is recyclable and where it is possible to include post-consumer recyclate. ■ They must invest for sustainability, e.g. in tri-layer EBM (electron beam melting) machines for food products. ■ Convertors should make it mandatory (internal company policy) that everything they produce can be 100% recycled. ■ Plastic converters must engage in joint development projects with brand owners and recyclers.	Plastic converters have the capability to innovate. They control what is put into products and can encourage the uptake of post-consumer recyclate. Converters should support collectors and recyclers to secure supply and access to good quality material. There must be a real partnership between the recycler, brand owner and converter where they work together to develop the right quality product and understand the limitations of post-consumer recyclate. Senior leadership has a role to play in sharing the company's environmental strategy with the entire workforce (i.e. internal advocacy). Converters can invest in new research and technology with a focus on equipment and moulds in order to process post-consumer recyclate and share this knowledge with other converters. They should also develop the necessary processes on site to retain ISO 9001 quality assurance with regard to food-processing standards in order for the packaging to still pass the required quality tests, even when having been manufactured with post-consumer recyclate. Stakeholders' perceptions about opportunities for plastic converters also included the following: ■ Incentivise and educate staff about the benefits of recycling and the use of post-consumer recyclate. ■ Be more proactive in promoting post-consumer recyclate instead of finding reasons not to try it. ■ Be prepared to invest in trialling post-consumer recyclate and in new equipment, if necessary. ■ Collaborate with brand owners and recyclers to drive projects that use post-consumer recyclate. ■ Post-consumer recyclate supplied to converters must have the relevant quality certifications, e.g. a certificate of conformance. ■ Build up knowledge, methodology and best practice on post-consumer recyclate grades.

"So they have this perception that it's bad, it stinks, because that's the stuff we get exposed to instead of saying, 'But hang on, maybe there's better quality available'."

"I don't get a sense that there's anything kind of forcing them to do anything other than just what they've been doing for the last decade. And again, I hear talk, but I don't see action."

KEY FINDINGS AND RECOMMENDATIONS: PLASTIC CONVERTERS

BARRIERS		RECOMMENDATIONS
Lack of demand for post-consumer recyclate	There is a lack of demand for post-consumer recyclate from customers (i.e. brand owners and retailers).	■ Proactively promote (with support from PROs) design for recycling and the use of post-consumer recyclate to customers. Cost must not be a driver. Instead, the focus must be on the benefits to society, i.e. job creation and the environment. The South African Plastics Pact targets and the implementation of an EPR scheme will be enablers to achieve this. ■ The objective is to initiate post-consumer recyclate inclusion projects with brand owners and retailers. For these joint development projects to be successful, brand owners, plastic converters and recyclers must enter into a "tripartite alliance". There will be challenges, but these must be dealt with in an open and honest manner.
Quality of post-consumer recyclate	Plastic converters want post-consumer recyclate of a consistently good quality and it must be delivered with the relevant quality certifications, e.g. a certificate of analysis.	■ To give converters confidence in the quality of post-consumer recyclate, they will first need to invest in trials to build their knowledge and develop best practice on how to process the material. This will require extensive engagement with recyclers to develop the optimum grade of post-consumer recyclate and to implement the necessary quality standards. Virgin polymer producers, through their knowledge and their testing capabilities, may be able to add value to this process. ■ Design for recycling must be mandatory and the converters' expertise on this topic should be shared with brand owners and retailers. ■ Support of collectors and recyclers should be increased to secure a consistent supply of quality feedstock.
Reluctance to change	There is a general perception among converters that post-consumer recyclate is inferior to virgin resin and will have a negative impact on their operational efficiencies, increase factory waste and could possibly influence the performance and remuneration of the production staff.	■ Internal advocacy driven by senior leaders is critical to bring everyone in their organisations on board to realise the benefits of recycling and using post-consumer recyclate. The South African Plastics Pact targets and the EPR scheme should underpin this communication. ■ Investing in new technologies to convert and test post-consumer recyclate must not be a barrier. There is an opportunity for these investments to be funded by PROs via the EPR scheme.

"We don't have to do this investment now, let's still make as much money as we can, and then when the pressure becomes too much, we change that."

"Because for them, it looks difficult and they just want to stay out of it as much as they can. They're definitely not pushing it."

"They are too focused on pushing volume and maximising income to pay much attention to PCR development."

A PLASTIC CONVERTER / MANUFACTURING FACILITY MAKING FLEXIBLE FILM (LDPE) ON A BLOWN FILM LINE.

BRAND OWNERS

Brand owners take decisions on what packaging to use for their products.

BARRIERS AND OPPORTUNITIES

BARRIERS LISTED BY BRAND OWNERS	BARRIERS SPECIFIC TO BRAND OWNERS AS PERCEIVED BY OTHER STAKEHOLDERS
Brand owners acknowledge their role in the value chain. They mentioned the barriers faced to make their packaging recyclable or to include post-consumer recyclate. The development process for packaging, particularly with multinationals, is a complex process with many different approval levels. The non-availability of food-grade post-consumer recyclate was listed by most brand owners as a key barrier. ■ The development process to change packaging may take up to 36 months or even longer if there are capital expenditure requirements. ■ The impact that recyclable alternatives have on profit margins is a big barrier. ■ Instead of investing in new equipment, it may be easier to wait for new collection systems or technology to recycle their non- or poorly recyclable packaging. ■ Brand owners do not have the in-house expertise to guide them on making their packaging recyclable, and do not have converters who are willing and able to work with them towards including post-consumer recyclate. ■ Replacing the current unrecyclable multi-layer flexibles with fully recyclable packaging that achieves the same performance is not possible at present. ■ Due to risk, it is often difficult to get business approval to commercialise a project once the development process is complete.	In general, brand owners are seen as not doing enough to support recycling efforts. There was a view that, unless the EPR regulations specify brand owners as the producers (or the paying industry), it will be too easy for brand owners to "talk the talk" without taking responsibility for their plastic products. Some stakeholders mentioned that it is too risky for brand owners to introduce recyclable packaging at a higher cost as they may lose business to cheaper non-recyclable options. Also, post-consumer recyclate does not offer a competitive advantage in South Africa; consumers are more focused on price. Stakeholders' perceptions about brand owners included the following: ■ They lack the capacity, resources or technical knowledge to implement design for recycling. ■ Cost is still the main priority. ■ Marketing teams are too critical of post-consumer recyclate, e.g. of black spots, smell and colour. ■ Brand owners are not placing pressure on converters to trial post-consumer recyclate or become a member of a PRO. ■ Multinationals take direction from their global design and procurement centres. This delays or even stops the product and packaging development and approval process. ■ The development process is very complex and time consuming. ■ Brand owners are not homogenous; they consist of many different functions and stakeholders. For new packaging (e.g. packaging including post-consumer recyclate) to be approved by the brand owner, it has to pass through many approval gates (e.g. marketing, R&D, supply chain). Each approver has their own areas of responsibility and views, which very often delays the approval of the project (in this case the inclusion of post-consumer recyclate).

"Brand owners are the channel captains and have to take responsibility for the value chain as they are generating the most value [profit]."

"I think everybody else in the value chain is just serving another master, and my sense is that the master is the brand owner."

OPPORTUNITIES LISTED BY BRAND OWNERS	OPPORTUNITIES SPECIFIC TO BRAND OWNERS PERCEIVED BY OTHER STAKEHOLDERS
Brand owners acknowledge their important role in the value chain and that they must design for recycling and specify post-consumer recyclate in their non-food packaging in order to create demand. They realise that they must set targets and have roadmaps in place to achieve these targets. ■ Multinational brand owners are the catalysts and must share their knowledge and successes. ■ Design for recycling must be a job fundamental. ■ All brand owners must have a sustainability strategy and roadmap to achieve their targets. ■ The focus should be on problematic plastics, not on recycled packaging. ■ Collaboration between plastic converters and recyclers is critical to grow demand for post-consumer recyclate. ■ Brand owners must work with PROs to co-develop collection, recycling and end-use projects.	Brand owners are the most influential sector in the value chain. They determine the specifications, the recycled content and the delivery method, and can even choose not to place the product in packaging. However, they are not doing enough and are often ill-informed in their decision-making, specifically the marketing and branding departments. Packaging designers, marketing departments and brand owners need to take more responsibility and truly understand the impacts at end-of-life for the packaging they use. The multinationals have expertise and resources; therefore, there is no reason why they cannot do more. Brand owners are also in a position to influence consumer behaviour through their advertising campaigns and on-pack recycling labels, so they must start influencing consumers about the benefits of recycling and of using products containing post-consumer recyclate. Stakeholders' perceptions about opportunities for brand owners also included the following: ■ Make design for recycling a job fundamental. ■ Less talk, more action and avoid "greenwashing". ■ Collaborate with plastic converters and recyclers to drive the use of post-consumer recyclate. ■ Eradicate "greenwashing" – organisations such as the South African Plastics Pact must name and shame those brand owners who greenwash. ■ Take a systematic approach to achieving the targets and commitments (roadmap approach or packaging strategy) and communicate progress with all sectors of the value chain. ■ Get top leadership to drive a sustainability agenda and have key performance indicators associated with design for recycling and the inclusion of post-consumer recyclate. ■ Specify post-consumer recyclate on packaging but start with a low percentage and gradually increase to the target level. ■ Do not view the inclusion of post-consumer recyclate in packaging as a cost-saving exercise. ■ Invest in collection, return schemes and recycling of packaging via an EPR mechanism.

KEY FINDINGS AND RECOMMENDATIONS: BRAND OWNERS

BARRIERS		RECOMMENDATIONS
Long development and approval processes	The protocol required to develop and approve new packaging is very rigorous and time consuming.	■ Brand owners must utilise the expertise of their tripartite alliance partners (plastic converters and recyclers) when designing for recycling or testing post-consumer recyclate. They are the experts – use them. Enabling design for recycling tools should be available via the PROs. ■ Agree to realistic standards and tolerances with plastic converters supplying packaging that contains post-consumer recyclate. Marketing must agree to these standards and not expect post-consumer recyclate to be the same as virgin resin. ■ Multinational brand owners, who are leading the sustainability journey, must share their experiences and knowledge with others in the value chain. They should act as the catalysts to change and help speed up the development process.
A lack of commitment and/or expertise	The general view is that brand owners are not doing enough to drive design for recycling and the inclusion of post-consumer recyclate. They make the right noises but do not follow up with actions.	■ Design for recycling must be a job fundamental and the inclusion of post-consumer recyclate should be specified in all non-food packaging. Post-consumer recyclate inclusion levels must start low and gradually increase to levels aligned with the EPR targets. ■ Brand owners must set sustainable packaging targets and have roadmaps (with milestones) to achieve their targets. These milestones and targets must be transparent and must be shared with the tripartite alliance partners to ensure full alignment. If possible, supply agreements should be concluded to allow stakeholders to invest in new technologies to enable the delivery of targets. PROs could provide the funding. ■ Committed leadership and internal advocacy within the organisation are needed to ensure that all functions are aligned and working towards common targets. This will hopefully eliminate the debate about the inclusion of post-consumer recyclate being a cost-saving exercise (see Box 6 on page 26).
Not taking responsibility for packaging	Many brand owners are doing absolutely nothing to support collection and recycling initiatives for the packaging they place in the market.	■ To educate consumers and enable effective separation at source (s@s), on-pack recycling labels must be mandatory. ■ Brand owners should partner with stakeholders in the value chain to invest in collection and recycling initiatives for post-consumer plastic. ■ Brand owners should influence consumer behaviour through advertising campaigns or on-pack claims.

"They are key, absolutely essential. I mean, I would say they're the number one stakeholder in the value chain, because they're the order makers."

"Marketing and recycling are often at odds with each other."

"So I think that there's a big difference between doing the right thing and doing the popular thing, and I don't think all brands and brand owners and even retailers are brave enough to go there."

NATURAL OR WHITE HDPE MILK BOTTLES ARE PREFERRED FOR RECYCLING IN SOUTH AFRICA.

RETAILERS

Retailers place packaged products from brand owners, as well as their own brands, on the market and are the direct link with the consumer.

BARRIERS AND OPPORTUNITIES

BARRIERS LISTED BY RETAILERS	BARRIERS SPECIFIC TO RETAILERS AS PERCEIVED BY OTHER STAKEHOLDERS
A general comment by retailers was the limited influence retailers have on the recyclability and inclusion of post-consumer recyclate in their suppliers' packaging. They are so far down the value chain that it is difficult to control what is happening higher up. Another common barrier is that they operate in a complex environment, which makes it difficult to track progress against targets. ■ Retailers operate in a price-sensitive environment; therefore, any added cost due to the recyclability of packaging or the inclusion of post-consumer recyclate in packaging is a barrier. ■ Consumers are emotional, reactive and often misinformed about plastic. ■ Retailers do not see it as their role to educate consumers about the benefits of post-consumer recyclate and recycling. ■ Retailers stock a huge range of products, many of which are own brands, which makes it difficult to develop roadmaps and manage the implementation of design for recycling and post-consumer recyclate inclusion. ■ Retailers do not have the expertise and capacity to manage post-consumer recyclate inclusion and recycling programmes. ■ Combating food waste is a priority; therefore, the functionality of packaging is of primary importance. ■ Some retailers have little influence over the packaging specifications of their own-brand products, particularly imports.	The message from the feedback of other stakeholders is that retailers are not making decisions based on sustainability criteria. Instead, they are basing their decisions on economic criteria only. Although they are publicly making waste commitments, they have no idea how to achieve those targets and lack the resources and expertise to implement them. Some responders view retailers as the biggest underachievers in terms of packaging that can be recycled in practice and the use of post-consumer recyclate. Stakeholders' perceptions about retailers included the following: ■ Commodity products cannot absorb the add-on cost of post-consumer recyclate inclusion. ■ Designing for recycling is not the retailers' responsibility and retailers are not responsible for ensuring that their suppliers design for recycling. Instead, it is the responsibility of the brand owner, i.e. retailers sell on behalf of brand owners. ■ There is no common agenda or alignment between the sustainability and procurement functions. ■ Retailers operate in a competitive environment where price is the priority. ■ They do not see themselves as brand owners, which is a way of avoiding responsibility. ■ Instead of trying to promote the benefits of recycling plastic packaging, they are trying to avoid plastic at all cost, e.g. phasing out plastic carrier bags.

"After the brand owners, retailers are the main drivers and have to take responsibility for the value chain as they are generating value [profits] based on the product and shelf space they sell."

"The retailers can also do so much to educate consumers, really being at the coalface of consumption."

OPPORTUNITIES LISTED BY RETAILERS	OPPORTUNITIES SPECIFIC TO RETAILERS AS PERCEIVED BY OTHER STAKEHOLDERS
Retailers regard themselves as the conduit between the customer and the brand owner and therefore in a unique position to convert customer pressure back up the value chain, i.e. to brand owners and plastic converters. The retailers' immediate priority for design for recycling and post-consumer recyclate usage should be their own brands and the plastic packaging used in-store, e.g. carrier bags. Due to the complexity of their product portfolio, it is important that they have a systematic plan to implement and monitor progress. Retailers acknowledge their pivotal position between the customer and the brand owner. ■ Retailers must raise awareness and encourage recycling with their customers. ■ In-store collection of used plastic items, e.g. reverse vending machines, could be a means to raise awareness among consumers. ■ Design for recycling must be a job fundamental for their own brands. ■ Retailers have a good understanding of consumers' wants and needs, and must feed this back to the brand owners. ■ Retailers must employ more resources to work on sustainable packaging.	Retailers do not have a direct influence in driving post-consumer recyclate demand but can put pressure on brand owners and plastic converters to do more. More direct participation in EPR schemes is needed to ensure the collection and recycling of their packaging. There were a number of comments about the need for retailers to educate the consumer about the benefits of recycling and the inclusion of post-consumer recyclate. There was also a view that retailers should have drop-off zones for recyclables in-store and explore loyalty rewards to promote packaging returns. Stakeholders' perceptions about opportunities for retailers included the following: ■ Place pressure on suppliers if their packaging cannot be recycled in practice or does not contain post-consumer recyclate. ■ Change the procurement policy to specify only packaging that can be recycled in practice and has a minimum level of post-consumer recyclate, similar to what Walmart is doing in the USA. This will address the current "free riders" in the system who do not comply with section 18 of the National Environmental Management: Waste Act 59 of 2008. ■ Implement loyalty programmes to drive behaviour change with customers. ■ Drive post-consumer recyclate demand via their Dealer own Brands. ■ Ensure that senior leadership is invested and does not treat recycling and sustainability as a mere tick-box exercise. ■ Use post-consumer recyclate for point-of-sale and promotional material. ■ Address "greenwashing"' of products and packaging that make spurious claims, e.g. compostable, biodegradable AND recyclable all on one pack.

"Don't stock stuff on your shelf if it's not going to be recycled or if it's designed poorly."

"There needs to be that feedback loop from retailers to brand owners, to influence what's put onto the market."

KEY FINDINGS AND RECOMMENDATIONS: RETAILERS

BARRIERS		RECOMMENDATIONS
Complexity to implement design for recycling	Retailers have thousands of stock-keeping units (SKUs) on their shelves. Some are own brands and others are supplier brands. This makes implementing design for recycling and monitoring progress against targets a very complex task.	■ Design for recycling and the inclusion of post-consumer recyclate must be job fundamentals and an immediate priority for implementation into retailers' own brands. ■ Retailers should utilise the expertise of their tripartite alliance partners (plastic converters and recyclers) when designing for recycling or testing post-consumer recyclate for their own brands. Recyclers and plastic converters are the experts – retailers should use them. Enabling design for recycling tools should be available via the PROs. ■ Retailers should set sustainable packaging targets for their own brands and have roadmaps (with milestones) to achieve these targets. Milestones and targets must be transparent and shared with the tripartite alliance partners to ensure full alignment. ■ If possible, supply agreements should be concluded to allow stakeholders to invest in new technologies to enable the achievement of targets. PROs could provide the funding.
Limited influence over suppliers' packaging	Retailers are sitting far down the value chain, which makes it difficult for them to influence design for recycling up the value chain (this excludes own brands).	■ Retailers are consumer-facing and should have a good understanding of the shopping behaviour of their customers. Anything related to the recyclability of plastic packaging should be fed back to the brand owners, and if not confidential, shared at forums such as the South African Plastics Pact. ■ Pressure must be placed on brand owners so that only products whose packaging conforms to design for recycling are listed. Alternatively, punitive instruments can be introduced for brand owners that do not conform. ■ Loyalty programmes can be introduced to drive behaviour change with customers and to reward suppliers who use sustainable packaging. This could be a means of influencing suppliers to design for recycling.
Misinforming the consumer	On-pack claims and labelling which make spurious claims should be addressed.	■ As a gatekeeper between brand owners and consumers, retailers have a responsibility to protect consumers from any misinformation by using legitimate on-pack recycling labels and eco-labelling. ■ Retailers have an opportunity to educate consumers at point-of-purchase about the purpose of on-pack recycling labels and how to better interpret these labels. In this way, retailers can support consumers to make informed decisions. This will place pressure on brand owners to label their products correctly and to design for recycling.

"Retailers are sitting so far down the value chain, it's sometimes a bit difficult to control what's happening all the way up the value chain."

"They're at the frontline of ... the interface with consumers."

A SHELF OF HOMECARE PRODUCTS IN PLASTIC PACKAGING AT A RETAILER.

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CONSUMERS

Consumers purchase packaged products from various retailers and then have to dispose of the packaging after use. Ideally, the packaging waste should be separated from other waste streams before collection. This is referred to as separation at source (s@s) and has multiple benefits for further beneficiation activities. It also ensures more effective diversion of post-consumer plastic products from landfill.

No consumers were interviewed or completed the online survey. The views stated are from other sectors.

BARRIERS AND OPPORTUNITIES

BARRIERS LISTED BY CONSUMERS	BARRIERS SPECIFIC TO CONSUMERS AS PERCEIVED BY OTHER STAKEHOLDERS
No consumers were interviewed or completed the online survey.	Consumers are perceived by some industry stakeholders as not doing enough to increase recycling or the use of post-consumer recyclate. However, consumers are not empowered to influence change due to various structural barriers. The key barriers raised are the lack of s@s services and collection infrastructure, a lack of garbage collection in certain areas and the lack of a co-ordinated educational and awareness programme. ■ Without s@s, recyclable waste is sent to landfill. Recovering highly contaminated recyclables from landfills adds cost to the recycling process and affects the quality of post-consumer recyclate. ■ Recyclability of packaging and whether the packaging contains post-consumer recyclate does not influence the consumer's purchasing decision. Price is the priority. ■ For many consumers there is no incentive to recycle, and a lack of understanding of the social, economic and environmental benefits of recycling. ■ Consumers do not understand their role in the plastics value chain. ■ National education campaigns are not effective. ■ Consumers are being fed messages that benefit the industry. ■ For many products there is no or inconsistent on-pack labelling. No on-pack recycling labels are displayed on packaging or only a material identification code is displayed that has no meaning for the consumer. ■ Changing consumer behaviour is incredibly difficult and costly. ■ Consumer pressure is often misdirected or naïve, e.g. "all plastic is bad" or "ban carrier bags".

"We need to move away from awareness into programmes linked to behaviour change, with supporting systems [infrastructurre and tools to enable behaviour change]."

"Awareness is one thing, but the will to want to do it is another thing altogether."

"Consumers are not enabled to recycle packaging."

OPPORTUNITIES LISTED BY CONSUMERS	OPPORTUNITIES SPECIFIC TO CONSUMERS AS PERCEIVED BY OTHER STAKEHOLDERS
No consumers were interviewed or completed the online survey.	South Africa needs a consolidated nationwide education and awareness campaign and not the current fragmented approach, which is having a minimal impact. Consumers also need to be provided with infrastructure and drop-off zones to back up the messages that are sent. Separation at source (s@s) is critical to stop recyclables ending up in landfills and on dumpsites. Stakeholders' perceptions about opportunities for consumers included the following: ■ Consumers need to be educated via on-pack labelling. Accurate on-pack recycling labels should be mandatory. ■ Consumers must engage within their own communities and with the retailers where they buy the products. ■ Education and awareness campaigns must be consolidated and include a clear message, along with the infrastructure and systems to support recycling. ■ Consumers must be provided with better drop-off and/or collection infrastructure, which will enable better quality waste for recyclers. ■ Consumers must be more understanding of the role of waste collectors and their value in the recycling industry. ■ Brand owners must run "choose well" campaigns to help and encourage consumers to buy products packed in recyclable packaging or packaging made with post-consumer recyclate. ■ Separation at source is the key that enables good quality post-consumer recyclate. ■ Where there is no s@s, recyclables must still be separated so that collectors can pick up and sell recyclable items. ■ Consumers need to understand the social and environmental benefits of post-consumer recyclate. This will encourage them to purchase products packed in recyclable packaging or in packaging made with post-consumer recyclate. If consumers start demanding this packaging, it will place pressure on brand owners and retailers to do something about the matter. The plastics industry needs to motivate consumers to build the demand for post-consumer recyclate.

"If consumers can reduce the contamination of recyclables in the waste stream, particularly at the source, it gives us better feedstocks to increase PCR."

"The consumer in South Africa is very uneducated on recycling."

"We've hardly spent anything on awareness. We've ticked the box."

KEY FINDINGS AND RECOMMENDATIONS: CONSUMERS

BARRIERS		RECOMMENDATIONS
Separation at source (s@s)	Consumers do not have the necessary awareness to separate packaging after use.	■ Poor s@s has a negative impact on the availability of clean feedstock for recyclers to process into post-consumer recyclate. ■ On-pack recycling labels must be mandatory and must be enforced by retailers. This must also be supported by a nationwide multimedia campaign to educate consumers on the purpose and benefits of s@s.
Lack of awareness	Consumers do not make purchasing decisions based on recyclability or the inclusion of post-consumer recyclate in packaging.	■ Consumers need to understand the social and environmental benefits of recycling and of the inclusion of post-consumer recyclate in packaging. Equipped with this information, consumers will be able to place pressure on brand owners and retailers to use sustainable packaging irrespective of the overall aesthetics of the packaging. ■ The plastics industry, and most importantly the brand owners and retailers, need to motivate consumers by running focused and co-ordinated education and awareness campaigns supported by in-store “choose well” promotions.
Behaviour change	Current awareness campaigns are ineffective, biased and do not drive a change in consumer behaviour.	■ The plastics value chain, including brand owners and retailers, needs to create communication campaigns that have a purpose. These campaigns must be structured, co-ordinated, strategic and tailored to specific LSM groups while sharing a common purpose. Informal collectors could possibly drive these campaigns in informal settlements.

ZERO

PACKAGING WASTE TO LANDFILL

Our vision is **zero packaging waste to landfill**, and for all our packaging to either be reusable or recyclable by 2022. Below are just some of the goals we've met on our way to our zero packaging waste vision.

BYE-BYE PLASTIC SHOPPING BAGS

OVER 200 WOOLIES STORES ARE NOW PLASTIC SHOPPING BAG FREE

WE'RE ON A JOURNEY TO PHASE OUT SINGLE-USE PLASTIC SHOPPING BAGS

We're happy to announce that from 26 April 2021, **50 more Woolies Foodmarkets will become plastic shopping bag free, bringing the total number of stores to over 200**. Remember to bring your reusable shopping bags every day. They can be reused again and again.

Forgot your bags? No problem. Buy our low-cost, reusable fabric shopping bags in store, online or on the app for R6.49. You'll also help to support the small, local business Isibag, that employs 148 people from vulnerable communities.

Our reusable fabric shopping bags are made from **a minimum of 70% post-consumer recycled** plastic bottles (rPET), which means less plastic waste goes to landfill.

CH STORES ARE PLASTIC SHOPPING BAG FREE >

A CONSUMER OUTREACH BY WOOLWORTHS ON PHASING OUT TRADITIONAL PLASTIC CARRIER BAGS AT STORES. THE ALTERNATIVE IS A NON-WOVEN PLASTIC BAG THAT CAN BE REUSED.

MORE TO LOVE ABOUT OUR AVOS

INFORMAL COLLECTORS, BUY-BACK CENTRES AND FORMAL WASTE MANAGEMENT ORGANISATIONS

The waste sector is complex and includes many stakeholders. Informal collectors or reclaimers collect the high-value plastic items and packaging, which have an end market and are recycled in practice, to sell to buy-back centres that aggregate and bale the material. These bales are then sold to recyclers. The formal waste management organisations are generally contracted by municipalities to collect the separate or mixed waste streams from households, or by commercial entities to collect and manage their waste. The recyclable material fraction collected by the formal waste management organisations is also then sold to recyclers.

BARRIERS AND OPPORTUNITIES

BARRIERS LISTED BY INFORMAL COLLECTORS, BUY-BACK CENTRES AND FORMAL WASTE MANAGEMENT ORGANISATIONS	BARRIERS SPECIFIC TO INFORMAL COLLECTORS, BUY-BACK CENTRES AND FORMAL WASTE MANAGEMENT ORGANISATIONS AS PERCEIVED BY OTHER STAKEHOLDERS
Informal collectors have limited access to materials in formal areas and it is difficult to make formal arrangements with other actors in the value chain such as municipalities and formal waste management organisations. A lack of storage and sorting facilities is a big obstacle for both informal collectors and buy-back centres. It is very difficult to collect material in rural areas and still make a profit. ■ Formal waste management companies do not have a direct line to the informal collectors. ■ The value chain is too long, which affects margins and pricing for all actors in this sector. ■ The contamination of recyclables is a big problem, resulting in recyclables being rejected by buy-back centres and recyclers or fetching lower prices. ■ Rejection of recyclables at buy-back centres may result in recyclables being dumped in the environment as litter or at landfills. ■ Transporting waste is a big cost driver, especially for buy-back centres. ■ Separation at source will eliminate the need for informal collectors.	Informal collectors play a critical role in the value chain, yet they are not economically included and face the brunt of any price fluctuations. They absorb most of the losses, which ultimately affects the supply of plastic recyclables. Buy-back centres are more organised and are better buffered against price fluctuations but also absorb much of the losses due to the length of the value chain and the cost of transporting materials. ■ Informal collectors and buy-back centres are in direct competition with formal waste management organisations, resulting in many actors operating in a very low-margin environment. ■ Informal collectors are only incentivised to collect materials with high value. ■ It takes too much effort for informal collectors to collect lightweight material, e.g. snack-on-the-go wrappers, and there is no value for these items at buy-back centres or other markets. ■ Margins are very low, which means there is a high turnover of collectors. ■ There is a high cost to transport and sort waste for buy-back centres and formal waste management organisations. ■ Price volatility may result in hoarding by both informal collectors and buy-back centres. ■ The role of collectors will diminish once separation at source (s@s) is introduced by municipalities, unless integration guidelines are implemented. ■ There seems to be a general dislike of or misconception about waste collectors, i.e. they are seen as criminals. ■ Poorly designed packaging has little or no value, so it will not be collected or will be discarded at material recovery facilities operated by formal waste management organisations. ■ The demand for certain materials is being manipulated through existing monopolies of buy-back centres and recyclers, which affects the price paid to informal collectors. ■ Waste management companies are not recovering economically viable materials from the waste stream that arrives at their premises and carry the cost of sending these materials and formats to landfills.

OPPORTUNITIES LISTED BY INFORMAL COLLECTORS, BUY-BACK CENTRES AND FORMAL WASTE MANAGEMENT ORGANISATIONS	OPPORTUNITIES SPECIFIC TO INFORMAL COLLECTORS, BUY-BACK CENTRES AND FORMAL WASTE MANAGEMENT ORGANISATIONS AS PERCEIVED BY OTHER STAKEHOLDERS
Informal collectors see themselves as raw material suppliers and acknowledge that they play an important role in the value chain. They have the power to disrupt the entire value chain if they so choose. They want to be integrated into the formal waste management system. They also need centralised storage space and some sort of price regulation. ■ Industry must find ways to improve the current informal collection system and not replace it. ■ The informal system must be integrated into the formal waste management system. ■ Informal waste collectors need centralised sorting and storage facilities. ■ Currently, economics dictate what materials are collected by the waste collectors. Packaging that has an end market and can be recycled is collected as it has a high value. Packaging that cannot be recycled due to a lack of technology or is not recycled due to limited end markets has no value and will not be collected. Hence the importance of designing for recycling and including post-consumer recyclate in packaging to create demand for the material. It is important to note that with the upcoming mandatory EPR regulations ALL packaging will be required to be collected, sorted and recycled by the obliged companies, which will change the current system significantly. ■ Informal collectors are well placed to educate consumers living in informal settlements.	Informal collectors, buy-back centres and formal waste management organisations all play an important role in increasing collection, thereby driving up recycling rates. The current system leads to "cherry-picking" of valuable items, which does not support an overall increase in the recycling rate. This should be addressed through the current plans to integrate the informal and formal sectors, and the upcoming mandatory EPR regulations. Informal collectors need to be integrated into the formal waste collection system and be recognised as and compensated for the services delivered to municipalities and communities. Although they are doing a good job, their wants and needs need to be examined and clarified – we should not assume we know what they want. Buy-back centres should broaden the materials they accept and provide reasonable prices for recyclables. However, the term "reasonable pricing" is open to interpretation, acknowledging that demand for post-consumer recyclate upstream impacts on the prices that recyclers will pay and the many layers of buy-back centres until the material reaches the recycler. It is worth noting that currently buy-back centres accept a wide range of materials to buffer against market fluctuations. The buy-back centres cannot pay for materials they cannot sell, as confirmed through a survey of 53 buy-back centres in Cape Town (Barnes et al., 2021). They take certain formats and materials for free and pass them on for free as a favour. The formal waste management sector should increase collections and support separation at source (s@s). However, improving the quality and stability of material volumes supplied to recyclers will also require actions from the other stakeholders in the value chain. Public awareness and education on what is accepted and what will be collected by the waste management organisation, to assist with s@s, are crucial and must be aligned with labelling on packaging (on-pack recycling labels). This also means more engagement with brand owners and retailers and placing pressure on these upstream stakeholders to place packaging on the market that can be recycled and that contains post-consumer recyclate. Stakeholders' perceptions about opportunities for informal collectors, buy-back centres and formal waste management organisations included the following: ■ The value chain must manage price volatility, otherwise supply may be disrupted. ■ Informal collectors need support and assistance from local municipalities. ■ More buy-back centres are needed to prevent waste collectors from having to travel far to sell their waste. ■ Buy-back centres should accept more material, acknowledging that high-value materials and formats are in demand. ■ If most of the recyclables are collected by informal collectors, the PROs could possibly invest in informal rather than formal models. ■ Informal collectors should have access to waste in urban areas through implementation of the integration guidelines (DFFE, 2020a) by municipalities and the creation of supporting by-laws. ■ A business model that monitors the price paid for plastic recyclables is needed to ensure that informal collectors are not exploited. ■ A study to understand the cause of price fluctuations and where in the value chain they occur is needed, i.e. who is benefiting from these price increases or decreases.

KEY FINDINGS AND RECOMMENDATIONS: INFORMAL COLLECTORS

BARRIERS		RECOMMENDATIONS
Price volatility	As entrepreneurs, informal collectors are severely affected by price volatility.	■ Commission a study to better understand the various PRO-led business models within the waste economy and highlight barriers preventing informal collectors from earning a decent wage and opportunities to improve their earnings.
Low-value packaging	Packaging that is difficult to collect, difficult to recycle and does not have an end-market demand is defined as "low value" in the market.	■ For packaging to have a value after use, retailers and brand owners must ensure that their packaging is recyclable and contains post-consumer recyclate where possible. The post-consumer recyclate content will drive demand and the recyclable material will increase in value and be collected and recycled. ■ Packaging that has no value, e.g. lightweight or non-recyclable packaging, will need a different collection model.
Public mis-conceptions	There seems to be a perception among some members of the public that informal collectors are criminals or are undesirable in their areas. The fact that waste collectors are part of an informal industry probably adds to this misconception.	■ Integrate informal collectors into the municipal waste collection system as entrepreneurs and not as full-time employees.

"We need to utilise our informal waste reclaimers; we need to recognise them as entrepreneurs and we need to compensate them for the role they play in the collection of recyclables."

"If it doesn't have value, it doesn't become a priority to collect."

"Collectors need financial support to encourage them to collect the low-value materials."

KEY FINDINGS AND RECOMMENDATIONS: BUY-BACK CENTRES

BARRIERS		RECOMMENDATIONS
Rejection of recyclables	Rejection of recyclables at buy-back centres due to the low value or contamination of packaging may result in recyclables being dumped in the environment (in drains, rivers, etc.) as litter.	■ Industry needs to create solutions and demand for contaminated and low-value materials as an interim solution before design for recycling and effective collection (separation at source) are implemented. ■ Producers, i.e. brand owners, must redesign their problematic packaging to ensure that it is 100% recyclable in South Africa. ■ Sectors in the value chain must collaborate to develop end-use applications for the current low-value materials. ■ Contaminated recyclables picked from landfill must be addressed via the EPR scheme.
High transport cost	The high cost to transport recyclables from buy-back centres to recyclers is seen as a barrier to recycling.	■ As transport costs are the highest costs for buy-back centres, being paid more for the material will alleviate the narrow margins buy-back centres are dealing with due to the low value of plastic waste. ■ The implementation of EPR, along with targets within the regulations to increase recycling rates and the use of post-consumer recyclate, should increase the overall value of materials.

KEY FINDINGS AND RECOMMENDATIONS: WASTE MANAGEMENT ORGANISATIONS

BARRIERS		RECOMMENDATIONS
Recyclables ending up in landfill	Recyclables of low value or that are too expensive to transport are not recovered from the waste stream in sorting facilities (e.g. wet and dry materials recycling facilities) and end up in landfill. The landfill fees are then paid by the waste management company.	■ Waste management organisations and the government (who contracts these companies in municipalities) must place pressure on the upstream stakeholders to place packaging on the market that is fully recyclable. ■ PROs must work with stakeholders to create an end-use demand for these materials. ■ With the upcoming EPR regulations, the costs of disposing to landfill and other activities for non-recyclable packaging should move from the waste management companies to the obliged companies or producers. It is important that the waste sector organisations are included in these discussions.

"I think informal collectors are a very valuable part of the value chain. Undervalued and unrecognised, and to some degree, I think they've done a great job of carving out a space that maybe 20 years ago didn't exist."

"Informal collectors play an incredibly valuable role in providing feedstock into the system."

"Buy-backs link the collection system with the recycling value chain."

RECYCLERS

Recyclers are the link between the waste sector and upstream stakeholders. They wash, flake and reprocess plastic waste into pellets, which can then be sold to upstream stakeholders such as brand owners and manufacturers to make new products. The majority of recyclers in South Africa are not subsidised and rely solely on market demand for their product.

BARRIERS AND OPPORTUNITIES

BARRIERS LISTED BY RECYCLERS	BARRIERS SPECIFIC TO RECYCLERS AS PERCEIVED BY OTHER STAKEHOLDERS
Recyclers are in a tough position because they need consistent demand to enable them to invest in technology and quality management systems. ■ Without demand for post-consumer recyclate from brand owners and retailers, there is a reluctance to invest in new capability. ■ Access to capital is limited, with high interest on loans to fund new equipment. ■ It is difficult for recyclers to obtain insurance, which affects access to funding and loans. ■ The profit margins for post-consumer recyclate are poor. ■ Recyclers are at higher risk of crime, e.g. theft and invasions, among others. ■ Competitiveness among recyclers is not equal, i.e. some recyclers do not pay VAT. ■ Recyclers are directly affected by the state of the economy. With an economic slowdown, the demand and prices paid for recyclate decrease. ■ It is difficult for recyclers to drive the demand for post-consumer recyclate or engage directly with brand owners and retailers. ■ The quality of post-consumer recyclate (regarding odour, colour and black spots) expected from converters is too high. ■ The lack of trust between brand owners, converters and recyclers results in much finger-pointing if problems are experienced with post-consumer recyclate.	Currently there is too much mistrust between the various sectors in the value chain. To address this problem, each sector needs to understand the obstacles the other sectors are facing. Waiting for legislation to create the demand instead of creating the demand now is a barrier to growth. ■ There is a perception that recyclers operate in a dirty environment and do not have the capability to manufacture good quality post-consumer recyclate. As a raw material supplier, they are compared to virgin polymer producers. ■ Very few recyclers are ISO accredited; therefore, they cannot guarantee the quality of their product. ■ Without a consistent demand for post-consumer recyclate there is a reluctance to invest in new technology. Due to the nature of their business, access to funding is also difficult for recyclers. ■ They lack a consistent supply of the right quality material, e.g. white milk bottles. ■ They must have demand to stimulate growth. ■ Post-consumer recyclate competes with virgin resins; therefore, the price must be competitive. ■ Recyclers are using old equipment to supply new markets. ■ A lack of recycling capacity to reprocess plastic waste into new material (pellets) for certain materials means there is a risk to the supply to customers. ■ There is a lack of collaboration and trust between recyclers and converters. ■ Recyclers do not have the resources or expertise to buy, make, market, sell and distribute their post-consumer recyclate to a standard that meets their customers' expectations.

"The million-dollar question is, how do we make it viable for recyclers to operate in South Africa?"

"The issue is we are not seeing a consistent demand for recyclate, even though many of the brand owners are advocating post-consumer recyclate inclusion in their packaging."

OPPORTUNITIES LISTED BY RECYCLERS	OPPORTUNITIES SPECIFIC TO RECYCLERS AS PERCEIVED BY OTHER STAKEHOLDERS
There needs to be a change in mindset of brand owners and converters that post-consumer recyclate is not the same as virgin resin; therefore, they must expect imperfections such as colour variations and black spots. This is something that must be established and tolerance must be agreed upon by recyclers, converters and brand owners. There were comments that these imperfections can be marketed as a badge of authenticity. ■ Recyclers must invest in sorting, washing and processing technology to improve the quality of post-consumer recyclate. ■ Recyclers must invest in quality management systems to ensure a consistent supply of good quality post-consumer recyclate. ■ Recyclers must improve the (poor quality) perception that industry has of post-consumer recyclate. ■ Better collaboration is needed between brand owners, recyclers and converters. ■ PROs must fund new technology investments and quality systems, promote the use of post-consumer recyclate resins and support recyclers to find new markets for their post-consumer recyclate, among others.	It is recognised that recyclers add value to waste and therefore play an important role in the value chain to drive recycling rates. Recyclers must have a consistent demand from brand owners and retailers. One respondent viewed the recycler as the heart and soul of the whole recycling value chain. Their business models must be financially viable to compete with virgin resin. This may require a new business model, which would include subsidies, taxes or incentives. There must be investment in technology to measure and analyse the quality of their product. This will give confidence to plastic converters that they are receiving a quality product. Without this technical data it becomes difficult for recyclers to market and sell their product. Stakeholders' perceptions about opportunities for recyclers included the following: ■ Recyclers need to invest in equipment and quality management systems that can provide post-consumer recyclate of the right quality. ■ It is critical for recyclers that all packaging is designed for recycling. This enables a consistent supply of good quality feedstock. ■ Virgin resin should be taxed to make post-consumer recyclate more competitive. ■ A critical evaluation of the current PRO funding models is needed to determine which model is most suited to growing the demand for post-consumer recyclate. ■ Recyclers must create new markets for post-consumer recyclate, but this will require the relevant quality standards. ■ It is not ideal having one or two recyclers dominating the post-consumer recyclate market. There must be healthy competition in the marketplace. ■ Recyclers must improve their image and market their products better. This will give confidence to plastic converters and brand owners that they are buying from a reputable business. ■ Recyclers should partner with converters and virgin polymer producers to test, develop and improve the quality of post-consumer recyclate. The virgin polymer producers will add value by sharing their scientific knowledge and testing facilities. This will allow recyclers to improve their scientific knowledge of plastics so that they fully understand the science behind the product they sell. ■ A model can be considered where certain tasks in the recycling process, e.g. sorting, are centralised. The economies of scale will allow for greater investment, e.g. optical sorting. The ultimate benefit would be better quality post-consumer recyclate at a competitive price. ■ Plastic converters want recyclers to grade and certify their post-consumer recyclate according to quality and application.

KEY FINDINGS AND RECOMMENDATIONS: RECYCLERS

BARRIERS		RECOMMENDATIONS
Unrealistic expectations	The brand owners' expectations of post-consumer recyclate are unrealistic (or ill-informed).	■ To improve the image of post-consumer recyclate, stakeholder expectations should be managed and the benefits of using post-consumer recyclate in packaging should be communicated. ■ Post-consumer recyclate must be better marketed by the recyclers and PROs to promote its use, and stakeholders should be educated about its unique characteristics. ■ Imperfections such as black spots should be marketed as a badge of authenticity to counter the perception that it indicates poor quality.
Quality concerns	Converters are reluctant to run post-consumer recyclate because of quality concerns.	■ Recyclers must invest in quality management systems. It was also suggested that post-consumer recyclate be graded (and priced) according to its application. ■ There must be standards for all grades. ■ All batches delivered to converters must have a certificate of conformance (as for virgin resins). In this regard, recyclers can learn from virgin polymer producers and converters. ■ Recyclers and converters must enter into joint development agreements and deal with any challenges in an open and honest manner.
Lack of demand	Without a demand for post-consumer recyclate, recyclers are reluctant to invest in new equipment and access to funding is problematic.	■ The implementation of EPR schemes and initiatives such as the South African Plastics Pact should address the demand for post-consumer recyclate. ■ PROs could fund recyclers and the government could introduce tax incentives to support them.

"At the moment, everyone's working in their own little boxes, and that's not going to solve the problem."

"I think recyclers are kind of at the end of this whole value chain, and to some degree subject to everything that happens elsewhere along the value chain.'

"I think what lets down recyclers, and there're reasons for it, is the lack of investment and innovation."

"Recyclers are using old equipment and they're trying to supply new markets with equipment that's got really poor quality controls."

"The recycler is like the heart and soul of the whole recycling value chain … or the brain behind the whole process."

AN INFORMAL WASTE RECLAIMER AT A BUY-BACK CENTRE IN CAPE TOWN.

BARRIERS, OPPORTUNITIES AND RECOMMENDATIONS FOR INDIRECT STAKEHOLDERS

NATIONAL AND LOCAL GOVERNMENT

National government is responsible for developing policy and regulations with regard to the management of plastic and plastic waste. Local government is responsible for aligning local by-laws and complying with national regulations.

Government representatives were not interviewed and did not respond to the online survey invitation. The views stated are from other sectors.

BARRIERS AND OPPORTUNITIES

BARRIERS LISTED BY NATIONAL AND LOCAL GOVERNMENT	BARRIERS SPECIFIC TO NATIONAL AND LOCAL GOVERNMENT AS PERCEIVED BY OTHER STAKEHOLDERS
Government representatives were not interviewed and did not respond to the online survey invitation.	National and local government are perceived as not supporting or enabling increased recycling rates and there is a lack of direction with regard to increasing the use of post-consumer recyclate in public procurement and other policy. Apart from the usual complaints about corruption, bureaucracy, incompetence, lack of funds, etc., the more relevant barriers listed were that the municipalities do not have the infrastructure, resources or money to manage collection of general waste or waste collected through separation at source (s@s). ■ Municipal tenders for longer than three years need permission from Treasury, which is difficult to obtain. This holds back investment because industry cannot get a return on its investment over this short period. ■ The lack of infrastructure and service delivery in informal settlements limits the recovery of recyclables. ■ Education programmes aimed at consumers to stimulate separation and supply of recyclables to the recycling industry are not effective and there is a general lack of commitment. ■ There is fragmentation and a lack of policy cohesion and alignment between departments and levels of government (i.e. EPR regulations and municipal by-laws, the plastics sector Master Plan at the DTIC, and the National Waste Management Strategy and Circular Economy Guideline at the DFFE). ■ Dumping in landfill is still the cheapest solution for municipalities. ■ The cost of running an effective s@s scheme is too high to be sustainable. ■ The government needs a better understanding of what the circular economy is trying to achieve. ■ There also needs to be stricter enforcement at municipal level to divert waste and ensure the accurate reporting of data. ■ There is a lack of monitoring and evaluation of the effect of policies, regulations and by-laws, e.g. the plastic carrier bag tax has not resulted in a significant change in behaviour from consumers, and yet there is sustained commitment to the tax.

RIVER LITTER IN AN INFORMAL SETTLEMENT

OPPORTUNITIES LISTED BY NATIONAL AND LOCAL GOVERNMENT	OPPORTUNITIES SPECIFIC TO NATIONAL AND LOCAL GOVERNMENT AS PERCEIVED BY OTHER STAKEHOLDERS
Government representatives were not interviewed and did not respond to the online survey invitation.	The government must build infrastructure to enable collection and recycling. It is recognised that regulation is a driver and creates a level playing field where everyone needs to comply. Education and awareness campaigns need a controlling body to ensure that the messages are factual and do not serve the interests of a specific sector. The government must reach out to the private sector for assistance and not treat it as the enemy. Stakeholders' perceptions about opportunities for national and local government included the following: ■ Municipalities must give collectors land where they can store and sort their recyclables. ■ Municipalities must improve waste collection to bring more materials into the waste stream for diversion to recycling. This will require successful implementation of the EPR regulations and close collaboration with obliged companies and PROs. ■ Education programmes should be tailored in consultation with the private sector to drive behaviour change at all levels of society. ■ There should be stiffer penalties for individuals or organisations that break the law (dumping in rivers, littering, etc.). ■ Punitive measures such as a tax on virgin plastic should be introduced. ■ The government should mandate the inclusion of post-consumer recyclate in all tenders and Requests for Quotations. ■ There should be tax incentives for recycling companies. ■ The government should be kept out of the value chain. It should rather play an oversight role. ■ Informal waste collectors should be integrated into the waste collection system, not as full-time employees but rather as waste entrepreneurs.

KEY FINDINGS AND RECOMMENDATIONS: NATIONAL GOVERNMENT

BARRIERS		RECOMMENDATIONS
Lack of leadership	Poor leadership and bureaucracy was listed by most respondents as barriers.	■ The government can do much more in terms of tax incentives and positive financial instruments, which can be used to encourage the plastics recycling value chain. ■ The government and industry must collaborate with purpose to find solutions to grow the plastics recycling industry.
Lack of infrastructure	Local government and municipalities do not have the infrastructure, resources or funds to implement separation at source (s@s).	■ Informal waste collectors should be integrated into the formal post-consumer waste collection sector. ■ PROs must support municipalities (via funding and expertise) to increase the collection rate of recyclables from the municipal waste stream.
Lack of commitment	There is poor commitment to increasing recycling rates and poor demand for post-consumer recyclate.	■ National government should use its purchasing power and specify the inclusion of post-consumer recyclate in their tender documents. ■ A green public procurement policy would have a significant impact in growing the demand for post-consumer recyclate.

KEY FINDINGS AND RECOMMENDATIONS: LOCAL GOVERNMENT

BARRIERS		RECOMMENDATIONS
Inability to manage local recycling	Municipalities do not have the infrastructure, resources and funds to manage s@s in all metros and secondary cities.	■ This could present an opportunity to integrate informal waste collectors into the formal waste stream. ■ Collaboration is needed among waste collectors, municipalities and PROs to develop a collection model that creates decent work for informal collectors and supports municipalities to increase the collection of recyclables.
Limitations of tender periods	Municipal tenders for periods of longer than three years require approval from Treasury, which is difficult to obtain. This is a barrier to investing in collection or recycling projects because service providers cannot recoup a sufficient return on their investment in such a short period.	Industry must lobby for special dispensation from Treasury to allow municipalities to sign long-term agreements with waste management companies so that they can invest in materials recycling facilities.

A MATERIAL RECOVERY FACILITY AT KRAAIFONTEIN, WESTERN CAPE, MANAGED BY A FORMAL WASTE MANAGEMENT COMPANY.

PRODUCER RESPONSIBILITY ORGANISATIONS (PROs)

Producer responsibility organisations typically organise, co-ordinate and manage EPR schemes. PROs in South Africa are organisations that voluntarily implement the producer responsibility scheme for specific material streams, including plastic packaging.

BARRIERS AND OPPORTUNITIES

BARRIERS LISTED BY PROs	BARRIERS SPECIFIC TO PROs AS PERCEIVED BY OTHER STAKEHOLDERS
A lack of understanding across the sectors of the roles and responsibilities of PROs was raised by all three PROs. Other barriers cited were a lack of members, small budgets and the lack of industry representation on their boards. ■ There is a lack of funds to drive and support recycling and the inclusion of post-consumer recyclate. ■ There is a lack of funding to manage programmes due to limited membership. ■ Membership is limited to only the manufacturing sector with little to no representation by brand owners and other important actors. ■ Some PROs have become marketing/public relations organisations for their members, and therefore are not true EPR bodies. ■ Some PROs are handicapped by their board members. ■ There is a lack of collaboration among PROs.	The industry view is that PROs have too much of a silo mentality, which is not conducive to growing recycling and the use of post-consumer recyclate. Instead of working together, they are fighting for airtime. The value chain is not working together with the common aim of increasing recycling rates and post-consumer recyclate content, and that is a big obstacle. Instead of facilitating this collaboration, the PROs are more interested in looking after their members' interests. The problem is that the PROs do not currently represent the large proportion of the market that they were set up to cover, which is probably the underlying cause of them not doing what they should be doing. ■ PROs are run according to their dominant members' mandates. ■ They are not flexible in terms of making decisions because they must refer to their boards. ■ They need more members and funding to run recycling and post-consumer recyclate inclusion programmes. ■ Currently there is no good reason to join a PRO; it is more of a moral obligation. ■ Some PROs lack clear strategies and targets. Instead, their projects are very ad hoc and do not support an overarching objective. ■ PROs have, essentially, just focused on creating the demand with very little attention given to collection programmes. ■ Some PROs are dominated by big personalities and egos, which may obstruct recycling and post-consumer recyclate initiatives. ■ PROs allow monopolies in some material streams. ■ There is no government legislation or oversight; therefore, PROs can do as they please.

"The biggest obstacle or stumbling blocks for the PROs is that they belong to their members, and their members beat the drum."

"They're not going according to their own mandate; they're being told what to do."

"The lack of collaboration and the lack of unification between all the different polymer groups, I think is a massive barrier."

"I think that they're doing an amazing job, actually."

OPPORTUNITIES LISTED BY PROs	OPPORTUNITIES SPECIFIC TO PROs AS PERCEIVED BY OTHER STAKEHOLDERS
Apart from the need to collaborate, there is not much else in common among the three organisations. ■ There is a need to engage with all sectors of the value chain to encourage design for recycling and the use of post-consumer recyclate. ■ PROs should work with industry to develop end markets for post-consumer recyclate. ■ They should set long-term targets and develop a robust business plan to grow the demand for post-consumer recyclate. ■ PROs should provide financial support to informal collectors, buy-back centres and recyclers. ■ They should engage with relevant stakeholders to develop collection and recycling infrastructure.	The PROs should be playing a bigger role in facilitating discussions and sharing knowledge among the various sectors in the value chain. It was suggested by a few respondents that a centralised PRO model is needed with a shared database, facilities, knowledge library, etc., which will make it easier for members to implement design for recycling and include post-consumer recyclate in plastic packaging. Stakeholders' perceptions about opportunities for PROs included the following: ■ PROs need to review their business models to move from promoting their materials and focusing only on supply and ad hoc projects with little impact to a holistic value chain approach working with all stakeholders, including national and local government. ■ There should be more transparency on targets and implementation plans. ■ PROs need to have better insights into the barriers preventing stakeholders from implementing design for recycling and from including post-consumer recyclate. ■ PROs should drive the design for recycling agenda with their members. ■ They should care more about creating a demand for recycling and post-consumer recyclate than about looking after their stakeholders' interests. ■ PROs should provide financial and technical support to plastic converters and the waste management sector, including informal collectors, buy-back centres and recyclers.

"If PROs' role is to improve recycling and to improve the industries, I think they need to be a bit more engaging. They need to be more proactive. They need dynamic plans in place. They need to show what they're doing in order to improve the sector."

"I think there is opportunity to tap into more central resources when it comes to things like doing the Life Cycle Assessments that will be required for EPR, and maybe sharing more research across them. I think there is still this competition between PROs."

KEY FINDINGS AND RECOMMENDATIONS: PRODUCER RESPONSIBILITY ORGANISATIONS

BARRIERS		RECOMMENDATIONS
Lack of funds and resources	PROs experience a lack of funds and resources to support collection, recycling and end-use development programmes.	■ The implementation of the EPR scheme will address the funding problem as it will be mandatory to join a PRO. ■ PROs should consider a shared-services operational model to manage the collection, recording and reporting of data, plus take advantage of any other synergies that exist.
Lack of collaboration	Apart from the need to collaborate, there is not much else in common among the three organisations.	■ PROs should collaborate to better understand the challenges they face and whether any synergies exist between them. There may be opportunities to collaborate in collection programmes where waste is mixed, e.g. municipal bins or landfill. ■ Greater collaboration or consolidation among PROs will also benefit the other stakeholders in the value chain by eliminating the need for them to engage with multiple PROs.
Uncertainty about roles and responsibilities of the various PROs	PROs have different business models (e.g. some are seen as producer responsibility organisations and others as product responsibility organisations), which has created some confusion with stakeholders in the value chain.	■ PROs must focus on driving collection, recycling and end-use development programmes instead of promoting the material streams they represent, i.e. move from product to producer responsibility organisations.

Polystyrene Association of South Africa

POLYSTYRENESA.CO.ZA

petco PET plastic recycling south africa

PETCO.CO.ZA

Polyco Making waste work

POLYCO.CO.ZA

SAVA vinyl.

SAVINYLS.CO.ZA

"I think that the PROs need to be better managed."

"They've done extremely well with the number of members they have."

"They're led by players in the industry and so you don't know if they're there just there to serve the industry's needs or are they there to look at the bigger issue?"

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GLOSSARY

Brand owner: A person or company who sells any commodity under a registered brand label (e.g. Unilever, Coca Cola, Nestle).

Converter: A manufacturer of plastic products or packaging (e.g. MPact, Polyoak).

Free rider: A person or company who benefits from the actions or efforts of another in relation to an EPR scheme without fully complying with the requirements of the EPR scheme.

Greenwashing: When businesses falsely market their goods or services as providing environmental benefits.

Informal collectors/reclaimers/waste collectors: Someone who collects reusable and recyclable materials from residential and commercial waste bins, landfill sites and open spaces in order to revalue them and generate an income.

Input recycling rate: The ratio of plastics collected for recycling against the total plastic entering the waste stream. The calculation point is where plastics in the waste stream are collected.

Integration of waste pickers/informal waste collectors/reclaimers: See Waste picker/informal waste collector/reclaimer integration:

Output recycling rate: The ratio of plastics entering a recycling facility against the total plastics entering the waste stream. The calculation point is where washed flake enters the recycling operation for reprocessing.

Post-consumer: ISO 14021's use of the term clarifies post-consumer material as material generated by households or by commercial, industrial and institutional facilities in their role as end users of the product which can no longer be used for its intended purpose. For this report, "post-consumer" refers to waste generated from households.

Producers: In the context of the plastics value chain, all organisations involved in the production, manufacturing and use of plastic packaging.

Recyclate: Output feedstock or raw material (pellets) produced at a recycling facility from post- industrial or post-consumer material to be used in other products.

Recycle: Reprocessing, by means of a manufacturing process, of a used packaging material into a product, a component incorporated into a product, or a secondary (recycled) raw material; excluding energy recovery and the use of the product as a fuel (ISO: 18604: 2013).

Repurpose: product or packaging used for a different purpose than the original design, e.g. plastic carrier bags are used to carry books to school instead of carrying groceries after point-of-sale at a retailer.

Reuse of packaging: An operation by which packaging is refilled or used for the same purpose for which it was conceived, with or without the support of auxiliary products present on the market, enabling the packaging to be refilled.

Separation at source (s@s): The separation of different types of post-consumer waste materials at the site where they are generated. Separation at source typically focuses on the separation of recyclables (and often further disaggregation into different types of recyclables), organic waste and solid waste. Selective collection of separated materials ensures that they do not contaminate one another and that waste to landfill is minimised. Often referred to as a formal system, from which informal collectors (also known as waste collectors or reclaimers) will be excluded.

Virgin polymer producer: A petrochemical company that produces virgin polymer resin from petrochemical feedstock, such as coal, crude oil or natural gas (e.g. Sasol, Safripol, DoW).

Waste picker/informal waste collector/reclaimer integration: The creation of a formally planned recycling system that values and improves the present role of waste collectors, builds on the strengths of their existing system for collecting and revaluing materials, and includes waste collectors as key partners in its design, implementation, evaluation and revision. Waste picker integration requires changes in a number of spheres and includes the integration of waste collectors' work, as well as the political, economic, social, legal and environmental integration of waste collectors.

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