

# Environmental responsibility

Mpact's manufacturing operations consume energy, water, pulp, logs, pine chips and plastic polymers as inputs and in the manufacturing process also produce atmospheric emissions including carbon emissions, as well as waste. We regard environmental sustainability as a core value for the business and a key aspect of our focus on business excellence.

We recognise our responsibility to use scarce inputs efficiently, minimise harmful emissions and reduce waste in order to limit our negative environmental impact. All capital decisions are made with these considerations in mind and improving production efficiencies is a strategic focus.

Mpact's business model also serves a valuable environmental role through the collection of waste paper and plastics that reduce waste to landfill and create jobs.

## Compliance

Mpact is committed to ensuring it complies with the South African environmental regulatory framework, which is becoming increasingly complex and onerous. Environmental Management Systems certificated to the ISO 14001 standard are in place at sites that have, or could potentially have, significant environmental impacts. Regular environmental legal audits are also conducted to ensure compliance with the legislation. In addition, an annual review of environmental management at all sites is conducted by Legal Consulting Services.

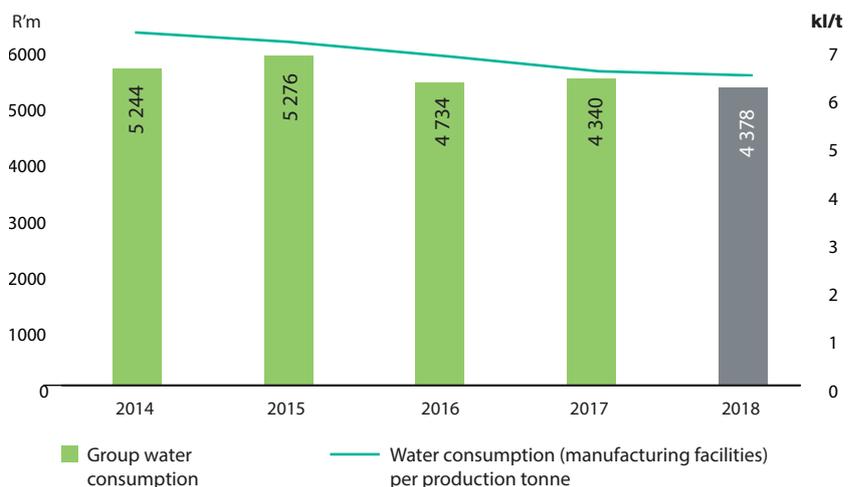
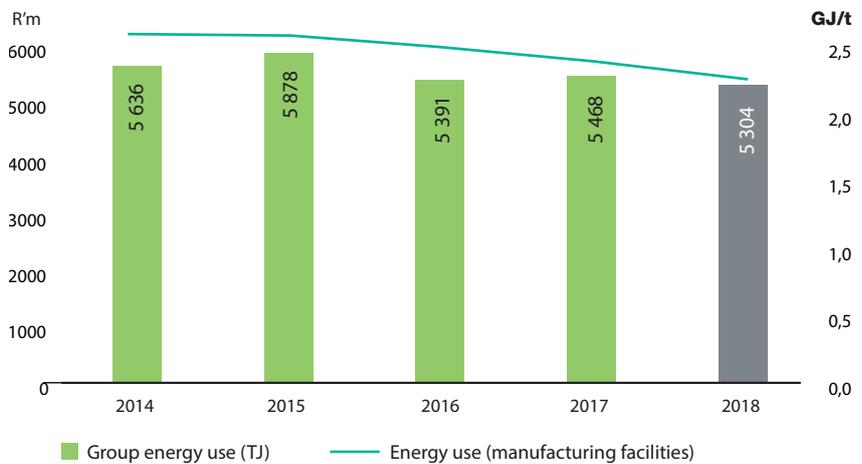
The Group Risk and Sustainability Manager and Group Energy Manger sit on the Environmental Committee of the Paper Manufacturers Association of South Africa (PAMSA) and participate in interactions with government and other business associations in commenting on emerging environmental, carbon and energy legislation.

## Environmental excellence

Mpact's annual environmental awards foster healthy competition in environmental performance and recognise environmental excellence at our operations. Platinum, Gold, Silver and Bronze awards recognise compliance with a set of internally audited standards aligned to ISO 14001. The Scarab Award, named after nature's prime example of recycling, is given to the top achiever for Excellence in Environmental Management.



Wadeville Solar PV installation



## Energy

Mpact's manufacturing operations consume energy mainly in the form of coal, used for on-site steam generation, and electricity. The Group energy management strategy aims to optimise energy usage and evaluate energy generation technologies. A Group Energy Manager has been appointed to analyse energy usage profiles of manufacturing plants, develop programmes to monitor and report usage, and assist with projects to reduce energy use and generate alternative energy where possible.

Progress on implementing our energy strategy in 2018 included:

- Developing and submitting our Green House Gas Pollution Prevention Plan, which in essence is the core of our energy management plan until 2022.
- Upgrading boiler operations at Piet Retief and Springs paper mills.
- Installing a new boiler at Mpact Corrugated in Port Elizabeth.
- Achieving, and exceeding, the targeted 15% specific energy reduction at Felixton Mill.
- Exceeding design yield on the Versapak Paarl 715kWp solar PV installation throughout 2018.
- Installing our second rooftop solar PV facility, a 1126kWp unit at our Plastics plant in Wadeville.
- Securing an in-principle decision by Exco and the Board to extend the solar PV roll out. Our target is to complete four or more solar PV installations in 2019.

In 2018, manufacturing operations consumed 5,199 TJ of energy (2017: 5,376 TJ) at a consumption rate of 6.52 GJ per tonne of production (2017: 7.08 GJ/t). Mpact targets a 15% reduction in energy consumption per tonne of saleable product from its manufacturing operations by 2020, off a baseline year of 2012. The consumption in 2018 represents an 11% saving per tonne of product since 2012. Group total energy consumption, including energy for non-manufacturing sites, decreased to 5,304 TJ (2017: 5,468 TJ).

## Air

Mpact embraces the global drive to reduce greenhouse gas (CO<sub>2</sub>e) emissions. The largest contributors to our Scope 1 and 2 carbon emissions are coal used to generate steam and electricity purchased from the national grid.

Our goal is to reduce combined Scope 1 and Scope 2 CO<sub>2</sub>e emissions per tonne of manufactured saleable product by 20% by the year 2020, against a 2012 baseline.

Mpact's 2018 Scope 1 CO<sub>2</sub>e emissions decreased 4% to 350,391 tCO<sub>2</sub>e (2017: 365,751 tCO<sub>2</sub>e) and Scope 2 emissions were 424,947 tCO<sub>2</sub>e (2017: 424,888 tCO<sub>2</sub>e). Combined Scope 1 and 2 carbon emissions decreased 2% to 775,338 tCO<sub>2</sub>e in 2018 (2017: 790,639 tCO<sub>2</sub>e). Combined carbon emissions per tonne of manufactured product in 2018 totalled 0.964 tCO<sub>2</sub>e/t (2017: 1.032 tCO<sub>2</sub>e/t) which represents a reduction against the 2012 baseline of 7.7%.

## Water

Mpact uses water in its manufacturing operations and ensuring efficient water use has always been a priority in recognition that South Africa is a water scarce country. The ongoing focus on optimising water use and wastewater discharge has meant that the current drought has not significantly affected our ability to operate, demonstrating the strategic benefit of efficient use of natural resources.

Total water consumption for 2018 increased 1% to 4,378 megalitres relative to 2017 usage of 4,340 megalitres.

Our long-term water savings target is for a 20% saving of water used per manufactured tonne of product by 2020 against the baseline year of 2012. In 2018, the manufacturing operations used 5.47 kl of water per tonne of product (2017: 5.68 kl/t), a 20.1% saving per tonne against 2012, meeting the 2020 target. This was achieved through optimisations at many of the Mpact manufacturing sites, but particularly at the three paper mills as well as at Plastics Versapak and Plastics Wadeville Closures. Please also see the case study on page 38 on water efficiency initiatives at the Western Cape sites in response to the drought.

Worth noting is that non-manufacturing sites, including all recycling and administrative sites reduced water consumption 27% to 17.6 MI in 2018 from 24.1 MI in 2017.

## Wastewater

Wastewater discharge from the Group in 2018 totalled 3,207 mega litres (MI) (2017: 3,245 MI). For manufacturing plants, specific wastewater discharge was 4.02kl per tonne of product (2017: 4.27kl per tonne). Efforts to reduce water use have a direct impact on the volumes of wastewater discharged.

## Materials

Most of the paper fibre used in Group operations and an increasing percentage of plastic polymers come from recycled material collected by our Recycling division and through recycling practices in the business. Our operations do still use some virgin fibre and polymer, and certain residual materials are not yet recyclable and must be disposed of as waste.

Virgin raw material required for the paper mills includes:

- Piet Retief Paper mill purchases sawdust, offcuts and logs from local sawmills and plantations.
- Springs mill purchases white virgin pulp from local suppliers for the outer white layers of its folding boxboard products.
- Worth noting is that the rebuild project at Felixton mill in 2017 eliminated the use of bagasse, the fibrous residue of sugar cane, and the mill now uses only recycled fibre.

Polymers for the plastics businesses are purchased preferentially from local suppliers whenever possible.

## Environmental responsibility (continued)

### Recycling

Mpact Recycling collects paper, plastics and other recyclable materials. Recovered paper is sold for sale to the three Mpact paper mills for manufacture of containerboard and cartonboard, and to other external customers.

Recovered PET bottles are sold to Mpact Polymers for the manufacture of recycled PET (rPET) and to other customers. The rPET from Mpact Polymers is sold to Mpact Plastics manufacturing operations and other external customers.

Liquid packaging containers are recycled at our Springs plant, which separates the cartons into their constituent parts – recovered paper (75%), polyethylene (20%) and aluminium (5%). The recovered paper is sold to the paper mills and improves fibre substitution and board strength. We are currently running manufacturing trials to establish the feasibility of using the polyethylene and aluminium to manufacture construction boards and pallets.

Mpact Plastics Containers have an agreement with municipalities and retail outlets to recycle old and damaged wheelie bins, crates and baskets. Customers return these items, which are cleaned and ground down. The ground material is extruded into pellets that are blended with virgin material to mould new products for sale to the same customers.

In 2018, Mpact's recycling businesses recovered 630,111 tonnes (2017: 661,979 tonnes) of material for recycling.

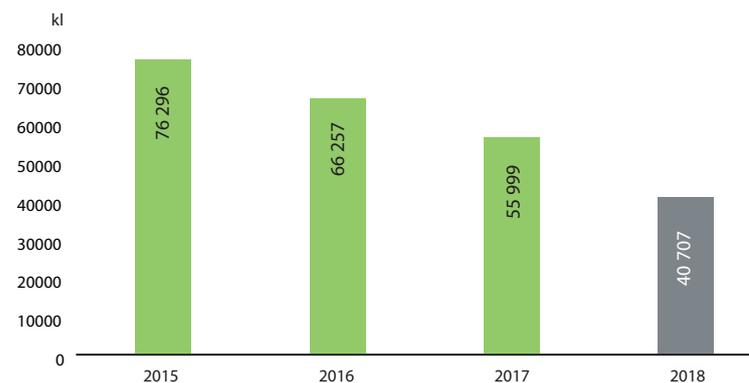
## Case study

### Water use in the Western Cape

The severe drought in the Western Cape sharpened the focus on water efficiency, particularly at our six operations in that province. These sites responded encouragingly to the call and by the end of 2018 their total water use represented a combined water savings of 35.6 MI relative to 2015 consumption, or a saving of 46.6% against a regulated water savings target of 40%. By December 2018, the Versapak Paarl plant reduced water consumption by 72% against 2015 consumption.

Initiatives to save water and reduce offtake from the municipal supply systems included:

- Eliminating water leaks
- Replacement of evaporative chillers with condensing or ambient air chillers for plastic moulds, and hydraulic system cooling
- Improved measurement, monitoring and reporting
- Water use awareness campaigns
- Low flush toilets
- Low flow taps
- Process optimisations
- Wastewater treatment and reuse
- Installation of boreholes and well points (though the use of these is limited until licences can be obtained from the Department of Water and Sanitations)
- Installation of water treatment plants to treat borehole water
- Installation of rainwater tanks to supply non-domestic uses



Once licences for the remaining boreholes are obtained and the boreholes are in full use, municipal water consumption could drop to 21,600kl or less.

## Waste

Residual materials that cannot be recycled, or are spoiled, are disposed of through registered waste service providers or municipalities, according to their waste categories.

Non-hazardous waste recycled in 2018 totalled 50,916 tonnes (2017: 57,821 tonnes). For the manufacturing sites this amounted to 64kg per tonne of product (2017: 76kg per tonne of product).

Total non-hazardous waste disposed by the Group amounted to 37,322 tonnes (2017: 36,323 tonnes) which for the manufacturing operations amounted to 45kg per tonne of product (2017: 44kg per tonne of product). Volumes of disposable waste continued to increase in 2018 as Mpact's recycling businesses increased collections of post-consumer papers that tend to have greater volumes of contaminants than pre-consumer papers. These contaminants are removed during processing and must be disposed of to landfill. Mpact is actively looking for recycling and waste-to-energy alternatives.

Hazardous waste disposed of amounted to 720 tonnes for the group (2017: 965 tonnes) or 0.9kg per tonne of product (2017: 1.3kg/t). A large proportion of hazardous waste is used oil that is sold to oil recycling companies. Recent legislation requiring sale of fluorescent tubes to recyclers has been complied with.

Most of the Mpact manufacturing sites actively recycle through careful segregation and sorting of waste materials generated on site to recover as much of the recyclable material as possible.

Waste targets for 2020 have not yet been set as the target will be greatly impacted by the viability of waste-to-energy technologies that are still in the feasibility stage of development.

## Recycling developments

Mpact Recycling collects recovered paper and plastics for recycling from pre- and post-consumer sources. There are 16 operating sites across South Africa: one in the Western Cape, two in KwaZulu-Natal, two in the Northwest Province and 11 in Gauteng.

This recovered recyclable material is an essential source of quality raw material into the Group's manufacturing operations, considerably decrease reliance on virgin materials and diverts significant quantities of material from landfills.

Other benefits of the Group's recycling activities include local beneficiation of raw materials, job creation and small enterprise development. Recycling also supports environmental stewardship by reducing greenhouse gas emissions and preventing landfilling or incineration of this recovered material.

Through several major capital projects, including the acquisition of Mpact Polymers in 2016, the Felixton paper mill upgrade, and the liquid packaging plant at the Mpact Springs mill approximately 2,000 new income opportunities will be created through the increased collection of waste paper, liquid packaging and PET bottles. As a result, the recovery rates for recovered paper and used PET bottles should also increase.

Mpact invested R46 million in processing equipment at the Springs mill to recycle liquid packaging containers in 2017. By introducing a way to recycle these containers, which include long-life milk and juice cartons, Mpact created the opportunity to divert more cartons from landfill and established a new income stream for businesses in the collection of recyclables.

For more information, view Mpact Recycling's regional videos ([www.mpactrecycling.co.za/media-office/videos](http://www.mpactrecycling.co.za/media-office/videos)) or follow them on Facebook ([www.facebook.com/Mpact-Recycling-2152267681763792](https://www.facebook.com/Mpact-Recycling-2152267681763792)) and Twitter ([twitter.com/MpactRecycling](https://twitter.com/MpactRecycling)).