Australian Government

# Carbon Neutral Program

# Public Disclosure Summary

An Australian Government Initiative

NAME OF CERTIFIED ENTITY: ZOOS VICTORIA

REPORTING PERIOD: 2017-18

## Declaration

To the best of my knowledge, the information provided in this Public Disclosure Summary is true and correct and meets the requirements of the National Carbon Offset Standard Carbon Neutral Program.

| | |
|---|---|
| Signature | Date<br>31/10/2018 |
| Kiam Yoong | |
| Senior Manager Environmental Sustainability | |

| | |
|---|---|
| Carbon neutral certification category | Organisation |
| Date of most recent external verification/audit | 27/10/2016 |
| Auditor | Ndevr Environmental |
| Auditor assurance statement link | http://www.zoo.org.au/about-us/vision-and-mission/environmental-sustainability/carbon-management |

Australian Government
Department of the Environment and Energy

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# 1. Carbon neutral information

## 1A. Introduction

Zoos Victoria is a not-for-profit conservation organisation aimed at saving endangered wildlife from extinction. Zoos Victoria operates Healesville Sanctuary, Werribee Open Range Zoo and Melbourne Zoo and in 2017-18 welcomed 2.4 million visitors. Zoos Victoria is dedicated to connecting these visitors to wildlife and providing them with actions they can take to help save species in the wild. Zoos Victoria sees first-hand the impact of climate change and other human-induced threats to wildlife and this has spurred the organisation to take great lengths to decrease its environmental footprint.

Based on the operational control consolidation approach, Zoos Victoria defines its organisational boundary in accordance with all corporate group members and properties (Melbourne Zoo, Healesville Sanctuary and Werribee Open Range Zoo), including:

i. the controlling corporation – Zoos Victoria
ii. subsidiaries – that operate within the Zoos Victoria boundary and the zoo's resources

The Zoos Victoria emissions boundary definition includes all scope 1 & 2 emissions and scope 3 emissions from business travel (air and taxi), staff travel to and from work, waste to landfill, energy supply, paper use, reticulated water and the supply of animal foods. Scope 3 emissions are included on the basis of materiality and measurability. The diagram below identifies key Zoos Victoria activities (applicable and measured at all sites), together with the breakdown of emission sources and the organizational boundary for emissions.

This inventory has been prepared based on the following standards:

- National Carbon Offset Standard for Organisations (Organisation Standard)
- National Greenhouse & Energy Reporting Scheme
- GHG Protocol – Corporate Standard (WBCSD and WRI, 2004)
- ISO 14064.1:2006

Greenhouse gasses calculated in this inventory includes CO2, CH4, N2O and HFCs. All greenhouse gas calculations are converted to tonnes CO2-e using various emissions factors.

## 1B. Emission sources within certification boundary

### Quantified sources

The following emission sources have been included in Zoos Victoria's carbon inventory.

| Scope | Emission source |
|---|---|
| 1 and 3 | Fuel for vehicles |
| 1 | Refrigerant losses from our air-conditioners, cooler and chillers/freezers |
| 1 and 3 | Natural gas consumption for buildings |
| 1 and 3 | LPG consumption for both building and transport |
| 1 | Composting on site |
| 1 and 3 | Acetylene consumption for building maintenance |
| 1 | Greases and lubricants for transport |
| 2 and 3 | Purchased and onsite generated electricity for buildings |
| 3 | Municipal solid waste |
| 3 | Staff air travel |
| 3 | Business Accommodation |
| 3 | Taxi travel |
| 3 | Purchased office paper |
| 3 | Reticulated water supply (potable water) |
| 3 | Purchased food for animals |
| 3 | Employee travel to and from work |

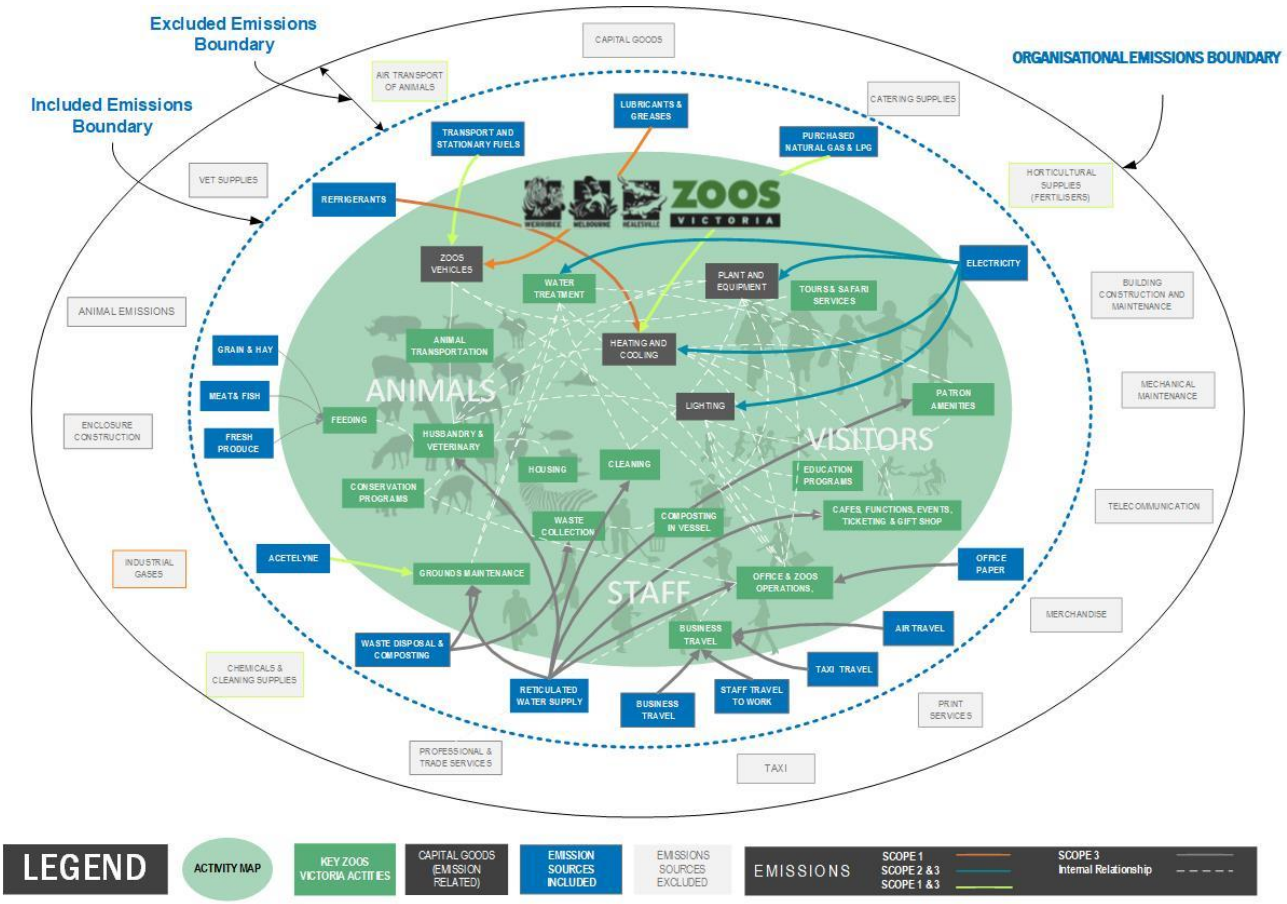
## Excluded sources

The following emission sources have been excluded in line with the provisions of the National Carbon Offset Standard for Organisations because it has not met the Scope 3 relevance criteria. The impact of excluding these sources is not expected to materially affect the overall total emissions.

| Emission source | Scope | Justification for exclusion & overall implications for footprint |
|---|---|---|
| Animal Travel | 3 | Animal Travel (3rd party – e.g. flights, couriers etc.) as transportation of animals can arise from a number of scenarios with varying stakeholders such as animal confiscations (holding and diverting), animal releases in the conservation field, rescued animals brought into our hospitals, animal exchanges with other institutions, quarantine facilities (holding and diverting), as well as planned animal movement and imports. Data are difficult to acquire with high uncertainty relative to overall size of emissions.<br><br>Note however, all travel activities taken by staff using Zoos Victoria's vehicles and business travel are included separately. |
| Rental vehicle | 3 | Rental vehicle data are difficult to acquire with high uncertainty relative to overall size of emissions. Our travel agent is unable to track like how far the traveller will drive when they have hire a vehicle.<br><br>Note that Zoos Victoria has a fleet of leased and owned vehicles and emissions has been accounted for fuel, greases and lubricants used. For interstate and international conferences and seminars, we provide staff the ability to book accommodation close to the conference venues hence omitting the need for a rental vehicle. |
| Telecommunications | 3 | Data telecommunications are difficult to acquire with high uncertainty relative to overall size of emissions. |
| Chemicals and Cleaning Supplies | 3 | Data for chemicals and cleaning Supplies are difficult to acquire with high uncertainty relative to overall size of emissions. Using proxy emission factors, chemicals and cleaning supplies were found to be immaterial. |
| Vet Supplies | 3 | Data vet supplies are difficult to acquire with high uncertainty relative to overall size of emissions.<br><br>This category includes pharmaceuticals and medical supplies (e.g. syringes, gloves etc.). |
| Animal Emissions | 1 | Data from animal emission (from ruminants) are difficult to acquire with high uncertainty relative to overall size of emissions.<br><br>There are no emissions factors for our wide and varied range of wild animals. Using proxy emission factors, animal emissions are found to be immaterial. Animals in our care are non-productive animals and are kept in a wild state. |
| Mechanical Maintenance | 3 | Data from mechanical maintenance are difficult to acquire with high uncertainty relative to overall size of emissions.<br><br>Apart from greases and lubricants, mechanical maintenance data is difficult to obtain. All fleet vehicles are serviced externally and only minor maintenance is done on site. |
| Industrial Gasses | 3 | Data from industrial gasses are difficult to acquire with high uncertainty relative to overall size of emissions.<br><br>Apart from Acetylene used in Scope 1 emissions, other gasses we use (e.g. oxygen) are not GHG emitting gasses. |
| Horticulture Supplies | 3 | Data from horticulture supplies are difficult to acquire with high uncertainty relative to overall size of emissions.<br><br>Horticulture supplies include small tools to small amounts of chemicals. Zoos Victoria practices Sustainable Landscaping/Management which minimises the use of chemicals. Quantification of GHG is not possible due to insufficient data from third party suppliers. |

| | | |
|---|---|---|
| Professional & Trade Services | 3 | Data from professional & trade services are difficult to acquire with high uncertainty relative to overall size of emissions.<br><br>Quantification of GHG is not possible due to insufficient data from the vast and varied profile of third party suppliers. |
| Print Services | 3 | Data from print services are difficult to acquire with high uncertainty relative to overall size of emissions.<br><br>Quantification of GHG is not possible due to insufficient data from third party suppliers. However Zoos Victoria is continuously looking towards printing services that provides carbon neutral and environmentally friendly print services. |
| Building Construction | 3 | Data building construction are difficult to acquire with high uncertainty relative to overall size of emissions.<br><br>While we use, upgrade and construct buildings and enclosures, construction is not part of our normal business and done through third party contractors. Also our buildings especially enclosures are unique in many ways tailored to the animal and visitor experience. As such, quantifying GHG emissions from the construction would be highly complex and difficult to accomplish. |
| Catering Services | 3 | Data from catering services are difficult to acquire with high uncertainty relative to overall size of emissions.<br><br>Catering services are done through third party suppliers. Quantification of GHG is not possible due to insufficient data from third party supplier. However energy, water and waste management (Werribee and Melbourne only) from these services are included in our carbon inventory. |
| Merchandise | 3 | Data from merchandise are difficult to acquire with high uncertainty relative to overall size of emissions.<br><br>The zoos' retail shops sell a very wide range of product lines from soft toys to craft items. Quantification of GHG is not possible due to insufficient data from third party suppliers. |
| Capital Goods | 3 | Data from capital goods are difficult to acquire with high uncertainty relative to overall size of emissions.<br><br>Quantification of GHG is not possible due to insufficient data from third party suppliers. However Zoos Victoria has a Green procurement process to ensure the best possible environmental outcomes for capital goods procurement. |

1C. Diagram of the certification boundary




## 2. Emissions reduction measures

2A. Emissions over time

**Table 1.** Emissions since base year

| | 2011-12 | 2012-13 | 2013-14 | 2014-15 | 2015-16 | 2016-17 | 2017-18 |
|---|---|---|---|---|---|---|---|
| **Scope 1** | 1,117.94 | 1,125.70 | 1,096.147 | 1,056.15 | 1,051.12 | 1,130.32 | 1,039.14 |
| **Scope 2** | 8,191.14 | 8,359.98 | 8,545.51 | 8,773.88 | 8,592.54 | 8,257.96 | 8,243.17 |
| **Scope 3** | 5,604.77 | 5,245.07 | 5,161.41 | 4,730.28 | 5,139.63 | 4,959.26 | 5,364.54 |
| **Total (t CO2-e)** | **14,913.84** | **14,730.76** | **14,803.09** | **14,560.32** | **14,783.29** | **14,306.46** | **14,646.85** |

Zoos Victoria has managed to curb its carbon emissions despite continuous growth in our visitor numbers, exhibits and programs we run. This is due to resource efficiency and renewable energy projects reducing our consumption of resources, reducing our waste to landfill and production of renewable energy on site.

## 2B. Emissions reduction strategy

Zoos Victoria uses the ISO 14001; 2015 Environmental Management System (EMS) to manage its environmental performance and minimise environmental impacts. Zoos Victoria has an Environmental Policy and Strategy that assist in guiding the organisation towards its environmental goals which includes:

- Water consumption reduced by 10% by 2021 from 2018 levels.
- Zero Waste to Landfill by 2019 for visitors and staff and whole of organisation by 2021.
- Investment in resource efficiency and renewable energy projects through our Zoos Victoria Environmental Sustainability Prospectus.
- Procure 100% renewable energy through a PPA arrangement for Healesville Sanctuary in the Melbourne Renewable Energy Project.
- Developed the Guiding Principles for integrating Environmentally Sustainable Development (ESD) to minimise environmental impacts associated with new and re-developments.
- Strengthen the Sustainable Procurement policies and processes considering life cycle impacts from services and products we use.
- Encouraging staff and contractors to improve our overall environmental performance by providing training and awareness.

## 2C. Emissions reduction actions

**Emissions Reduction Actions Summary**

| Location | Emission source | Reduction measures | Scope | Status | Measured Reduction 2017-18 - t CO2-e |
|---|---|---|---|---|---|
| Melbourne Zoo | Electricity | Grid Connected Solar PV installed - 299 kW | 2 & 3 | Ongoing | 251 |
| Werribee Open Range Zoo | Electricity | Grid Connected Solar PV installed - 180 kW and Off-grid Solar PV - 20kW | 2 & 3 | Ongoing | 222 |
| Healesville Sanctuary | Electricity | Grid Connected Solar PV installed - 102 kW | 2 & 3 | Ongoing | 106 |
| Melbourne Zoo | Waste | On-site in-vessel composting | 3 | Ongoing | 791 |
| Werribee Open Range Zoo | Waste | On-site composting | 3 | Ongoing | 332 |
| Healesville Sanctuary | Waste | On-site composting | 3 | Ongoing | 142 |
| Zoos Victoria | Office Paper | NCOS certified product – Australian 100% Recycled – 348 reams A4 equivalent (0.87 tonnes) | 3 | Ongoing | 1 |
| Total emission reductions in 2017-18 | | | | | **1,845** |

In 2017-18 we produced 490,348 kWh renewable electricity from solar PV projects which reduced our greenhouse gas emissions by 579 t CO2-e. Note that we do not produce LGCs and all renewable energy produced is from on-site generation only. Through our on-site composting programs we have reduced our greenhouse gas emissions by 1,265 t CO2-e. We also procured NCOS certified 100% recycled paper and reduced our emissions from paper consumption by 1.2 t CO2-e. If we did not have these reduction initiatives, our carbon emissions will be 16,461 t CO2-e.

## 3. Emissions summary

| **Table 2. Emissions Summary** | | |
|---|---|---|
| Scope | Emission source | t $CO_2$-e |
| 1 | Petrol for vehicles | 37.89 |
| 1 | Diesel for vehicles | 258.09 |
| 1 | Refrigerant losses | 102.55 |
| 1 | Natural gas usage for buildings | 617.96 |
| 1 | LPG usage for buildings | 3.44 |
| 1 | Composting organic waste on site | 18.98 |
| 1 | Acetylene | 0.02 |
| 1 | Greases and lubricants for transport | 0.21 |
| 2 | Purchased Electricity | 8,243.17 |
| 2 & 3 | Onsite electricity generation (renewable energy) | 0 |
| 3 | Total electricity for buildings (fuel extraction, production & transport and transmission & distribution losses) | 763.26 |
| 3 | Natural gas usage for buildings (extraction, production & transport) | 46.77 |
| 3 | LPG usage for buildings (extraction, production & transport) | 0.20 |
| 3 | Petrol for vehicles (extraction, production & transport) | 2.02 |
| 3 | Diesel for vehicles (extraction, production & transport) | 13.18 |
| 3 | Municipal solid waste | 487.53 |
| 3 | Commercial & Industrial Waste | 30.87 |
| 3 | Office paper | 2.48 |
| 3 | NCOS certified Office paper – Australian 100% Recycled | 0 |
| 3 | Reticulated water | 238.56 |
| 3 | Air travel | 203.93 |
| 3 | Business Accommodation | 31.05 |
| 3 | Taxi travel | 2.23 |
| 3 | Acetylene | 0 |
| 3 | Purchased animal food | 2,529.80 |
| 3 | Employee travel to and from work | 1,012.67 |

| | |
|---|---|
| **Total Gross Emissions** | 14,646.85 |
| GreenPower or retired LGCs | 0 |
| **Total Net Emissions** | 14,646.85 |

# 4. Carbon offsets

## 4A. Offsets summary

**Table 3.** Offsets Summary

| Date of cancellation | Offset project, unit type and registry | Serial numbers | Vintage | Quantity |
|---|---|---|---|---|
| 24 Oct 2018 | The Kasigau Corridor REDD Project - Phase II The Community Ranches, APX registry | 6053-277359310-277364184-VCU-006-MER-KE-14-612-01012015-31122015-1 | 2015 | 4,875 |
| 19 Sep 2018 | Rimba Raya Biodiversity Reserve Project, Markit registry | 3167-143915162-143920036-VCU-016-MER-ID-14-674-01012013-30062013-0 | 2013 | 4,875 |
| 26 Sep 2018 | Redd Forests Grouped Project: Protection of Tasmanian Native Forest, Markit registry | 2646-115101684-115102095-VCU-016-MER-AU-14-641-01072011-15042012-0 | 2011-12 | 412 |
| 26 Sep 2018 | Redd Forests Grouped Project: Protection of Tasmanian Native Forest, Markit registry | 1613-67410517-67410731-VCU-006-MER-AU-14-641-01042010-30062011-0 | 2010-11 | 215 |
| 26 Sep 2018 | Redd Forests Grouped Project: Protection of Tasmanian Native Forest, Markit registry | 3291-148286966-148287042-VCU-016-MER-AU-14-641-16042012-15042013-0 | 2012-13 | 77 |
| 26 Sep 2018 | Redd Forests Grouped Project: Protection of Tasmanian Native Forest, Markit registry | 2646-115192363-115192508-VCU-016-MER-AU-14-641-01072011-15042012-0 | 2011-12 | 146 |
| 26 Sep 2018 | Redd Forests Grouped Project: Protection of Tasmanian Native Forest, Markit registry | 2657-116691638-116691651-VCU-016-MER-AU-14-587-01032011-29022012-0 | 2011-12 | 14 |
| 26 Sep 2018 | Redd Forests Grouped Project: Protection of Tasmanian Native Forest, Markit registry | 2657-116634817-116635562-VCU-016-MER-AU-14-587-01032011-29022012-0 | 2011-12 | 746 |
| 26 Sep 2018 | Redd Forests Grouped Project: Protection of Tasmanian Native Forest, Markit registry | 3229-145768563-145771802-VCU-016-MER-AU-14-587-01032012-28022013-0 | 2012-13 | 3240 |
| 23 Oct 2017 | Rimba Raya Biodiversity Reserve Project<br>Banked from previous year. | 3167-143904743-143909142-VCU-016-MER-ID-14-674-01012013-30062013-0<br>*– Note: these 544 tonnes were banked from the offsets (4,400 tonnes) retired in for the 2016-17 period.* | 2013 | 544 |
| Total offsets cancelled | | | | 15,144 |

| **Table 3.** Offsets Summary | | | | |
|---|---|---|---|---|
| Date of cancellation | Offset project, unit type and registry | Serial numbers | Vintage | Quantity |
| Net emissions after offsetting | | | | 0 |
| Total offsets banked for use future years: The Kasigau Corridor REDD Project - Phase II The Community Ranches, APX registry. Serial Number: 6053-277359310-277364184-VCU-006-MER-KE-14-612-01012015-31122015-1 | | | | 497 |

## 4B. Offsets purchasing and retirement strategy

Our offset purchasing and retiring is done in arrears at the end of the reporting period. This is in line with our annual reporting on environmental indicators. Any surplus retired offsets will be used in the following year's offset requirements to maintain certification.

## 4C. Offset projects (Co-benefits)

As a leading zoo-based conservation organisation, we will purchase NCOS acceptable offsets that have co-benefits that promote habitat protection, biodiversity together with high social benefits.

| **Project type and Standards** | **Name of Project and co-benefits** | **% of total offsets used in this reporting period** |
|---|---|---|
| Improved Forest Management.<br><br>Verified Carbon Standard | **Redd Forests Grouped Project: Protection of Tasmanian Native Forest**<br>The projects help to protect and restore Tasmania's valuable native forests, which provide a habitat for a number of endangered species including the wedge-tailed eagle, spotted quoll and the iconic Tasmanian devil. They have also created new employment opportunities in the forestry sector, and ecotourism opportunities through the enhancement of the landscape. Furthermore, the projects have provided income diversification and stabilisation for local landowners, thereby enabling them to set the land aside for conservation purposes only, and manage it in a way that encourages natural regeneration of the forest. | 33% |
| Reduced Emission from Deforestation and Degradation.<br><br>Verified Carbon Standard and Climate, Community and Biodiversity Standard – Gold Level. | **The Kasigau Corridor REDD Project - Phase II The Community Ranches - Kenya**<br>This project builds on Wildlife Works' first REDD project (Phase I, Rukinga Ranch) which has been protecting forests, flora and fauna since 2006. The aim of this new, larger project is to bring the benefits of direct carbon financing to surrounding communities, while simultaneously addressing alternative livelihoods and protecting vital flora and fauna. Human-wildlife conflict has been a problem in the past, as local agents are directly reliant on the environment as a means for subsistence. This Phase II project directly addresses such sources of conflict in a holistic, sustainable approach, and on a large scale. | 30% |
| Reduced Emission from Deforestation and Degradation. | **Rimba Raya Biodiversity Project**<br>The project aims to protect and preserve 64,977ha of tropical lowland peat swamp forests, home of the endangered Borneo | 37% |

| | | |
|---|---|---|
| Verified Carbon Standard and Climate, Community and Biodiversity Standard – Triple Gold Level. | Orang-utan, and other RED listed species. These forests are one of the most highly endangered ecosystems in the world. The Rimba Raya project also provides alternative income streams through capacity building, investments in micro-finance, programs that provide basic necessities and access to a conservation model that does not put the developing world's need for economic growth at odds with the desire to protect this fragile ecosystem. | |

## 5. Use of trade mark

**Table 4.** Trade mark register

| Where used | Logo type |
|---|---|
| Zoos Victoria – Environmental Sustainability Investment Prospectus 2014-19 | Certified Organisation |
| Zoos Victoria Annual Reports | Certified Organisation |
| Zoo News | Certified Organisation |
| Community Conservation Master Plan | Certified Organisation |
| Web Site | Certified Organisation |
| Plaque on an exhibit at Melbourne Zoo | Certified Organisation |

## 6. Have you done more?

Zoos Victoria have a certified Environmental Management System (EMS) in place to ensure continuous improvement in environmental performance and management. This EMS is certified to the new ISO14001;2015 standard. This will ensure further improvements for our environmental management together with performance taking into account life-cycle impacts from our operations and products and/or services we procure. Zoos Victoria has also embarked on a continuous improvement program incorporating LEAN. This program aims to reduce waste and improve performance of the organisation.

We are also continuously improving on our data collection. This year we have reviewed our animal food procurement and updated fish data and improved on our waste collection data by separating Commercial and Industrial waste from Municipal waste.

We are also partners in the Melbourne Renewable Energy Project and have signed a Power Purchase Agreement to ensure Healesville Sanctuary will be powered by 100% renewable energy from 1st January 2019.

Our Zero Waste to Landfill program have commenced and by June 2019, all public and staff landfill waste bins will be removed and replaced with soft plastics and organics. We will compost our organics on-site through our in-vessel composter and our soft plastics will be recycled in products we require forming a circular economy agreement.