Version 2 - September 2022

2020 ANZPAC BASELINE RECYCLABILITY ASSESSMENT

PROJECT REPORT

ANZPAC PLASTICS PACT | PLASTICS PACT

DISCLAIMER

The Australia, New Zealand, and Pacific Islands Plastics Pact (ANZPAC) and the contributing authors have prepared this report with a high-level of care and thoroughness, and recommend that it is read in full. This report is based on generally accepted practices and standards at the time it was prepared and in accordance with the project brief. The method adopted, and sources of information used are outlined within, except where provided on a confidential basis. This report has been prepared for use by the ANZPAC Plastics Pact and its Members to inform program planning. ANZPAC and the contributing authors are not liable for any loss or damage that may be occasioned from directly or indirectly using, or relying on, the contents of this publication. This report does not purport to give legal or financial advice. No other warranty, expressed or implied, is made as to the professional advice included in this report.

ACKNOWLEDGEMENTS

We acknowledge and thank the numerous contributors around Australia, New Zealand, and Pacific Island Countries who responded to our information request for this project. The completion of this study was only possible because of your valuable and expert contributions.

CITATION

ANZPAC, 2022. *2020 ANZPAC Baseline Recyclability Assessment – Project Report*, Report prepared by Blue Environment Pty Ltd on behalf of the Australia, New Zealand, and Pacific Islands Plastics Pact (ANZPAC), February 2022.

CONTENTS

Executive summary 4

Introduction 5
- This project 5
- Purpose 5
- Scope 6
- Project method 7
- Data limitations and interpretation 8

Results 9
- Australia 9
- New Zealand 14
- Pacific Island Countries 20

Conclusions and recommendations 26
- Summary 26
- Interpreting results 26
- Informing the global picture 26
- Recommendations 27

Glossary 28

References 30

Figures

Figure 1 – Plastic packaging baseline Recyclability Assessment results for the ANZPAC Region 4
Figure 2 – Australia's recyclability assessment results by packaging category 9
Figure 3 – New Zealand recyclability assessment results by packaging category 14
Figure 4 – PIC recyclability assessment results by packaging category 20

Tables

Table 1 – Baseline Recyclability Assessment results for the ANZPAC Region 4
Table 2 – Common plastic packaging category list 6
Table 3 – Australia's recyclability assessment results by packaging category 10
Table 4 – Australian data quality assessment 11
Table 5 – Australian recovery systems in place by packaging category 13
Table 6 – New Zealand recyclability assessment results by packaging category 15
Table 7 – New Zealand data quality assessment 16
Table 8 – New Zealand recovery systems by packaging category 19
Table 9 – PIC recyclability assessment results by packaging category 21
Table 10 – PIC data quality assessment 22
Table 11 – PIC recycling systems in place by packaging category 25

EXECUTIVE SUMMARY

This report provides an overview of the 2020 ANZPAC Baseline Recyclability Assessment for plastic packaging throughout the Australia, New Zealand and Pacific Islands Plastics Pact (ANZPAC) region.

The project has determined baseline consumption (referred to as 'placed on market'), recycling and recycling rates for 18 common plastic packaging formats used across the region.

The Recyclability Assessment information is based on an extensive stakeholder consultation and literature review exercise, followed by a careful and systematic collation of the acquired data and information, and estimations to fill data gaps. It is believed that the data published in this report provides a reasonably reliable picture of the ANZPAC region's plastic packaging consumption and recycling, given the data quality issues and gaps noted.

The data reporting format adopted throughout this report is largely based on the Ellen MacArthur Foundation's (EMF) 2021 Plastics Pact Network Recyclability Assessment Tool (EMF, 2021e).

There are seven current ANZPAC Member countries in scope for this baseline dataset: Australia (AUS), New Zealand (NZ), and the Pacific Islands Countries (PIC) of Fiji, Samoa, Solomon Islands, Tonga and Vanuatu. Member countries are allocated into three geographical areas: AUS (one country), NZ (one country) and PIC (five countries).
The purpose of the 2020 ANZPAC Baseline Recyclability Assessment is to:

- establish a benchmark data set for plastics recovery across the ANZPAC region and inform strategic program development,
- support ANZPAC's Member reporting and impact reporting to the global Plastics Pact Network,
- assist in monitoring progress towards the ANZPAC Regional Plastics Targets,
- support identification of gaps and opportunities for collective action and inform development of the ANZPAC Roadmap to 2025, and
- inform summary datasets for inclusion in ANZPAC Member (company level) Reporting.

In general, the baseline data provided in this report covers the following periods:

- AUS – July 2019 to June 2020 (Australian financial year)
- NZ – 2020 calendar year
- PIC – 2019 calendar year.

The 2020 ANZPAC Baseline Recyclability Assessment results are summarised in **Figure 1** and **Table 1**. The overall post-consumer recycling rate for plastics was **16.6%** across the reporting periods.

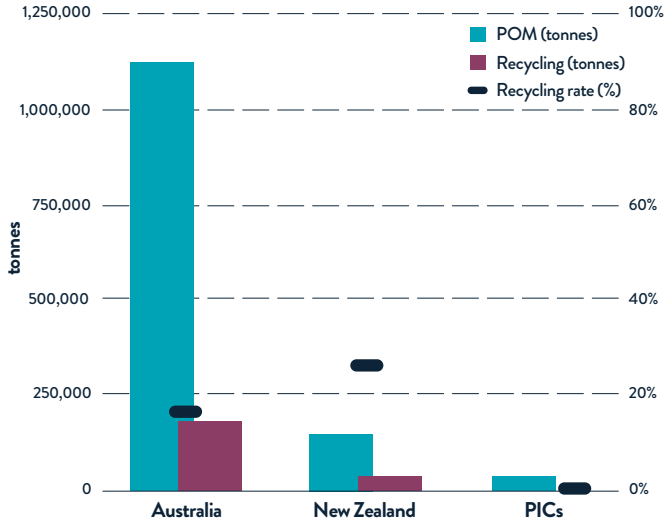

Figure 1 – Plastic packaging baseline Recyclability Assessment results for the ANZPAC region

Table 1 – Baseline Recyclability Assessment results for the ANZPAC region

Geography	POM (tonnes)	Recycling (tonnes)	Recycling rate (%)	(decile % range)
Australia	1,123,800	178,600	15.9%	10–20%
New Zealand	146,200	37,700	25.8%	20–30%
PIC	34,800	40	0.1%	0–10%
ANZPAC region total	**1,304,800**	**216,340**	**16.6%**	10–20%

INTRODUCTION

Australia, New Zealand and Pacific Islands Plastics Pact (ANZPAC) Members committed to the shared vision of a circular economy for plastic where it never becomes waste or pollution. A key target for ANZPAC and all Plastics Pacts is to make 100% of plastic packaging reusable, recyclable or compostable by 2025. Aligned under the Ellen MacArthur Foundation (EMF), this commitment is underpinned by a 'recyclable packaging' definition that states (EMF, 2021a):

"A packaging or packaging component is recyclable if its successful post-consumer collection, sorting, and recycling is proven to work in practice and at scale."

Moving beyond 'technical recyclability', this definition translates the need for on-the-ground results to achieve progress. Addressing recyclability 'in practice and at scale' under the global Plastics Pact Network means assessing whether a packaging format achieves a 30% post-consumer recycling rate in multiple regions, or locally, where the packaging is sold.

The 2020 ANZPAC Baseline Recyclability Assessment was commissioned by the Australian Packaging Covenant Organisation (APCO) as the lead organisation for ANZPAC. ANZPAC is the second regional Pact within EMF's global Plastics Pact Network, with Pacts in Africa, Europe, North America and Latin America.

All Plastics Pacts are required to complete a local recyclability assessment for their region to inform target baseline and report progress to the Plastics Pact Network. This report, and its accompanying ANZPAC Recyclability Assessment Tool, fulfil this requirement.

The project has determined baseline consumption (referred to as 'placed on market'), recycling and recycling rates for 18 common plastic packaging categories across the ANZPAC region.

The information underpinning the Recyclability Assessment is based on an extensive stakeholder consultation and literature review exercise, followed by collation of the acquired data and associated information.

The data reporting format adopted throughout this report is largely based on EMF's 2021 Plastics Pact Network Recyclability Assessment Tool (EMF, 2021e).

The four ANZPAC Regional Plastics Targets (ANZPAC Targets) are:

TARGET 1: Eliminate unnecessary and problematic plastic packaging through redesign, innovation, and alternative (reuse) delivery models.

TARGET 2: 100% of plastic packaging will be reusable, recyclable, or compostable by 2025.

TARGET 3: Increase plastic packaging collected and effectively recycled by 25% for each geography within the ANZPAC region.

TARGET 4: Average of 25% recycled content in plastic packaging across the region.

Purpose

The purpose of the 2020 ANZPAC Baseline Recyclability Assessment is to:

- provide baseline data on plastic packaging recovery across the ANZPAC region and inform strategic program development,
- provide a picture of the current recycling rates across the ANZPAC region (to be updated regularly),
- support ANZPAC's Member reporting and impact reporting to the global Plastics Pact Network,
- assist in monitoring progress towards the ANZPAC Targets,
- support identification of gaps and opportunities for collective action and inform development of the ANZPAC Roadmap to 2025, and
- inform summary datasets for inclusion in ANZPAC Member (company level) Reporting.

Scope

Results reflect a point-in-time assessment of today's situation (and in future iterations, progress to date). Therefore, results do not:

- make any judgement on recyclability in the future (i.e., what is not recycled in practice and at scale today could be in the future),
- make any judgement on the most appropriate way forward (e.g., scale up a recycling system),
- claim that, if a system for recycling exists in practice and at scale for a certain category, that all packaging in that category is recycled, or that this category is recycled in all countries globally, nor
- claim that, if no system for recycling exists in practice and at scale for a certain category, that no single packaging in that category is recycled.

GEOGRAPHICAL COVERAGE

ANZPAC covers Australia, New Zealand and the Pacific Islands with 'Member countries' considered as those with signatory Member representation. At the time of this assessment, seven ANZPAC Member countries were in scope: Australia (AUS), New Zealand (NZ), and the Pacific Islands Countries (PIC) of Fiji, Samoa, Solomon Islands, Tonga and Vanuatu.

The seven countries are allocated into three general geographies. These are AUS (one country), NZ (one country) and PIC (five countries). A baseline dataset is provided in this report for each of the three geographies.

PLASTICS PACT NETWORK PLASTIC PACKAGING CATEGORIES

The standard list of 18 common plastic packaging categories is provided in **Table 2** (EMF, 2021e), with shading assigned to each format in relation to where the most focus per Target is required.

Table 2 – Common plastic packaging category list

Packaging category	Rigidity classification	Examples	ANZPAC Regional Plastics Target 1	2	3	4
PET bottles	Rigid	Bottles for beverages, cooking oils, detergent, and cosmetics. Includes PET food jars and similar.		×	×	×
PET thermoforms		Trays, punnets, cups, blister packs.		×	×	×
Other PET rigid		All other rigid PET packaging.		×	×	×
HDPE bottles		Milk, yoghurts, fresh juices. Includes HDPE food jars and similar.		×	×	×
HDPE other rigid		Pots, trays, cups.		×	×	×
PP bottles		PP bottles used for any single-use packaging purpose. Includes PP food jars and similar.		×	×	×
PP other rigid		Pots, tubs, trays, cups.		×	×	×
PE tubes		Toothpaste tubes, cartridges.		×	×	×
PS rigid		Pots, trays.	×			
EPS rigid		Clamshells, trays, cups.	×		×	
PVC rigid		Blisters, bottles, trays.	×			
>A4 mono-material PE flexibles (B2B)	Flexible	Pallet wraps, large LDPE bags.			×	×
>A4 mono-material PE flexibles (B2C)		Wrap around bottles, wrap around toilet paper.			×	×
Other >A4 flexibles		Other large forms of flexible plastic packaging.			×	×
<A4 PE flexibles		Pouches, sachets, wrappers, small bags.			×	×
<A4 PP flexibles		Pouches, sachets, wrappers, small bags.			×	×
<A4 multi-material flexibles		Pouches, sachets, wrappers, small bags.	×	×		
Other <A4 mono-material flexibles		Pouches, sachets, wrappers, small bags.			×	×

Methodology

INFORMATION SOURCES

The 2020 ANZPAC Baseline Recyclability Assessment used a wide range of existing information sources detailed in full in the supporting MS Excel workbook 'ANZPAC Recyclability Assessment Tool'.

Consultation was undertaken with stakeholders regarding the available information for New Zealand and Pacific Island Countries. This ensured that the latest published data on plastic packaging placed on market (POM) and recycling was identified and incorporated into the recyclability assessments for those regions.

Consultation was not required to identify additional Australian data, as APCO collects the required data annually.

RECYCLABILITY ASSESSMENT REPORTING FRAMEWORK

EMF's Plastics Pact Network Recyclability Assessment is specified in the MS Excel workbook (EMF, 2021e). It involves a two-step data collation and reporting process summarised below.

Step 1 – Does a system exist?

Data parameters required for Step 1, by common plastic packaging category and region are:

- Quantities placed on market (POM) (tonnes).
- Quantities recovered (tonnes).
- Recycling rates (%) – A percentage value (%) and percentage ranges (e.g., 0%–10%, 10%–20%, etc.) are provided.
- Attainment of a 30% or higher post-consumer recycling rate (yes/no).
- Assessment of the data quality (evidence).
- Summary of recovery systems in place to collect each packaging format (e.g., kerbside collection, CDS drop-off, etc.).

All Step 1 information sources, assumptions and estimates are documented in the supporting ANZPAC Recyclability Assessment Tool.

Step 2 – Share of packaging that fits the system for recycling

Step 2 considers the share of packaging in each category that 'fits' the system for recycling (EMF, 2020a, p. 21). The data/information outputs for this step are:

- By category, the share of plastic packaging (%) that fits the current recycling system.
- Commentary supporting and explaining the share estimates.

These share estimates are mainly based on the Australian overall recyclability classification scores reported in the APCO (2021a) study, *Australian Packaging Consumption & Recycling Data 2019–20*, which included a comprehensive assessment of packaging recyclability by format.

To quantify this 'share', 100% of the packaging weight can be considered recyclable if its main packaging components, together representing >95% of the entire packaging weight, are recyclable according to the above definition; and if the remaining minor components are compatible with the recycling process and do not hinder the recyclability of the main components.

For example, (EMF, 2021a, p. 22):

- *If a bottle and its cap are recyclable, it can be concluded for the purpose of the Plastics Pact reporting that the packaging is recyclable if it has a label (<5% of total weight) that does not hinder the recyclability of the bottle and cap.*
- *If that same bottle has a label that hinders or contaminates the recycling of the bottle and cap, the entire packaging is non-recyclable.*
- *If a package has (a) certain component(s) that are not recyclable and that make up >5% of the total packaging weight (for example 12%) and that do not hinder or contaminate the recycling of the remaining recyclable components of the package, then only that recyclable part (for example 88%) can be counted towards this commitment.*

All Step 2 information sources, assumptions and estimates are documented in the accompanying ANZPAC Recyclability Assessment Tool.

TIME COVERAGE

In general, the baseline data provided in this report is for the following periods:

- Australia – July 2019 to June 2020 (Australian financial year).
- New Zealand – 2020 calendar year.
- Pacific Islands Countries – 2019 calendar year.

It is worth noting that *'pact lead organisations can decide the data timeframe to request from pact members, e.g., calendar year, fiscal year, last full year of available data etc.'* (EMF, 2021b, p. 20). As a result, Plastics Pact reporting is flexible in relation to the chosen reference year.

DATA QUALITY RATINGS

Throughout this report a qualitative (high/medium/low) assessment of data quality (evidence) has been provided. The rating allocations have been determined using the following definitions:

- **HIGH** - Actual, measured, and/or independently verified data. Data with a good level of cross verification from other sources.
- **MEDIUM** - Reasonably detailed and rigorous estimated data or projections that do not appear to have been superseded. Data with some level of cross verification from other sources.
- **LOW** - Estimated data or projections that may be superseded. Estimates from first principles that are reliant on assumptions and guesstimates. Data with no level of cross verification from other sources.

ANZPAC RECYCLABILITY ASSESSMENT TOOL

The data collation and analysis undertaken for the 2020 ANZPAC Baseline Recyclability Assessment has been built in an accompanying MS Excel workbook, 'ANZPAC Recyclability Assessment Tool'. This reporting tool contains fully referenced detail on all data sources drawn upon and documentation of all assumptions and data manipulations.

The current version of the tool is: *R01-03-P1343 2020 ANZPAC Recyclability Assessment Tool.xlsx*

Data limitations and interpretation

In the tables presented in this report, minor discrepancies may occur between summed totals and the apparent sums of the component items in tables, as summed totals and percentage values are calculated using component item values prior to rounding.

Data in this report should be interpreted as having a maximum of two significant figures. However, to obtain a balance between the proper statement of the accuracy of the data, while minimising the apparent summation discrepancies previously mentioned, mass data in this report has generally been rounded to the nearest 100 tonnes.

Unless otherwise stated, the abbreviation PIC as used in this report, refers only to the Pacific Island Countries represented within the ANZPAC Membership at the time of writing, which are Fiji, Samoa, Solomon Islands, Tonga and Vanuatu.

Results

AUSTRALIA

Australia's recyclability assessment results by packaging category are summarised in **Figure 2** and **Table 3**.
The post-consumer recycling rate was **15.9%** in the 2019–20 financial year.

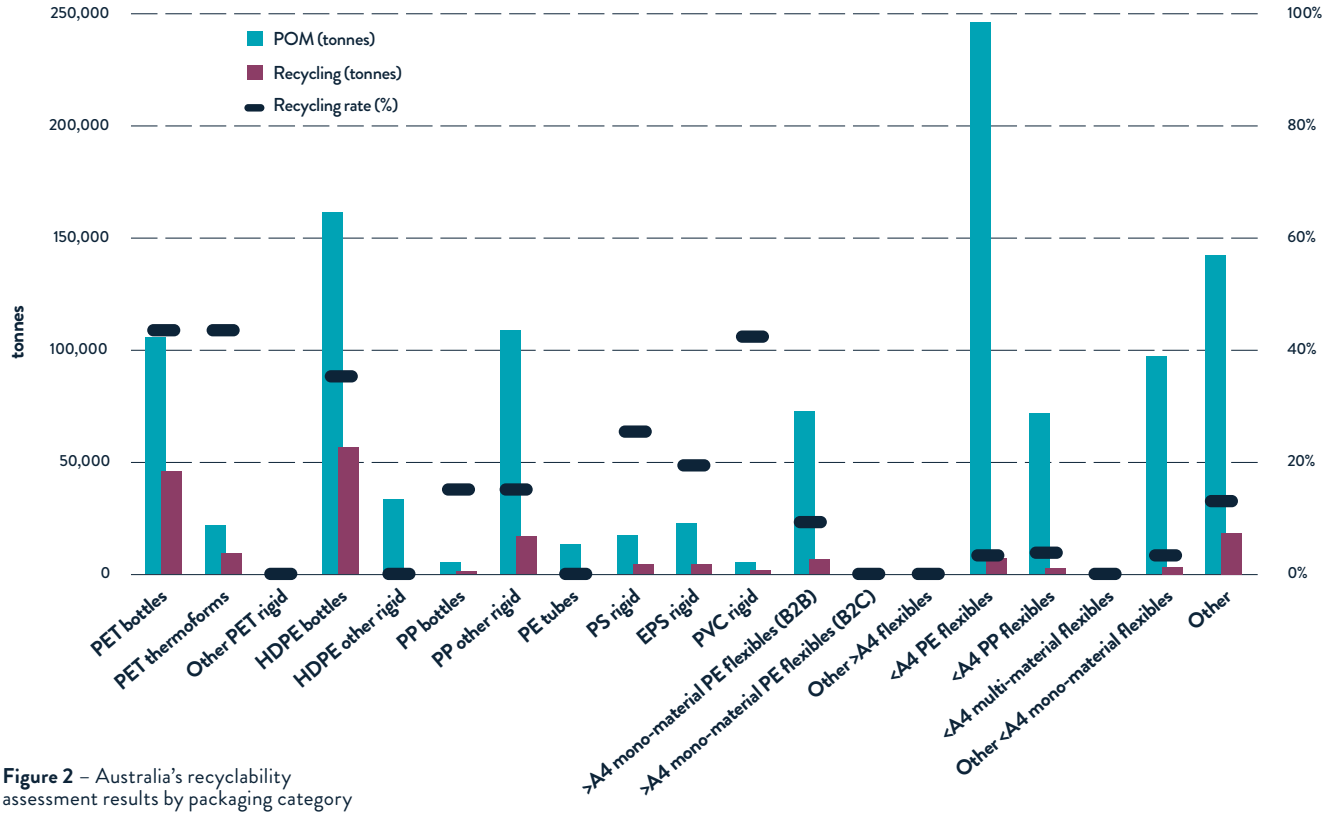

Figure 2 – Australia's recyclability assessment results by packaging category

Table 3 – Australia's recyclability assessment results by packaging category

Packaging category	POM	Recycling[1]	Recycling rate		
	(tonnes)	(tonnes)	(%)	(decile % range)	≥30% recycling rate
PET bottles	105,300	45,900	43.6%	40–50%	Yes
PET thermoforms	21,800	9,500	43.6%	40–50%	Yes
Other PET rigid	1,500	0	0.0%	0–10%	No
HDPE bottles	161,100	56,900	35.4%	30–40%	Yes
HDPE other rigid	33,600	0	0.0%	0–10%	No
PP bottles	5,600	900	15.3%	10–20%	No
PP other rigid	109,000	16,600	15.3%	10–20%	No
PE tubes	13,400	0	0.0%	0–10%	No
PS rigid	17,100	4,300	25.5%	20–30%	No
EPS rigid	22,700	4,400	19.2%	10–20%	No
PVC rigid	4,400	1,900	42.1%	40–50%	Yes
>A4 mono-material PE flexibles (B2B)	72,600	6,600	9.1%	0–10%	No
>A4 mono-material PE flexibles (B2C)	No data	0	0.0%	0–10%	No
Other >A4 flexibles	No data	0	0.0%	0–10%	No
<A4 PE flexibles	245,700	7,600	3.1%	0–10%	No
<A4 PP flexibles	71,500	2,500	3.5%	0–10%	No
<A4 multi-material flexibles	No data	0	0.0%	0–10%	No
Other <A4 mono-material flexibles	97,000	3,200	3.3%	0–10%	No
Other	141,700	18,300	12.9%	10–20%	No
Total	**1,123,800**	**178,600**	**15.9%**	**10–20%**	**No**

1. 'Recycling' data includes some post-consumer plastic packaging sent to energy recovery. However, the total quantity sent to energy recovery is low and quantities by packaging category are unknown. For this reason, energy recovery amounts are included in the recycling estimates above.

A qualitative (high/medium/low) assessment of Australia's data quality (evidence) is presented in **Table 4**. Australia's data quality, for the 2019–20 financial year, was generally found to be:

- **POM: Medium to High in quality**
- **Recycling: Medium to High in quality**

Table 4 – Australian data quality assessment

Packaging category	POM	Recycling	Main reference		Assessment comment
	(rating)	(rating)	(POM)	(recycling)	
PET bottles	High	Medium	APCO (2021b)	APCO (2021c)	> POM data is based on measured data that is reasonably specific to this polymer type and packaging component combination and is considered to have a 'High' data quality rating. > Recycling data is based on measured data for the polymer type but incorporates assumptions about the packaging component allocations, and so is considered to have a 'Medium' data quality rating.
PET thermoforms	High	Medium	APCO (2021b)	APCO (2021c)	> POM data is based on measured data that is reasonably specific to this polymer type and packaging component combination and is considered to have a 'High' data quality rating. > Recycling data is based on measured data for the polymer type but incorporates assumptions about the packaging component allocations, and so is considered to have a 'Medium' data quality rating.
Other PET rigid	High	High	APCO (2021b)	APCO (2021c)	> POM data is based on measured data that is reasonably specific to this polymer type and packaging component combination and is considered to have a 'High' data quality rating. > Recycling data is based on assumed negligible recycling, which is likely to be accurate and is considered to have a 'High' data quality rating.
HDPE bottles	High	Medium	APCO (2021b)	APCO (2021c)	> POM data is based on measured data that is reasonably specific to this polymer type and packaging component combination and is considered to have a 'High' data quality rating. > Recycling data is based on measured data for the polymer type but incorporates assumptions about the packaging component allocations, and so is considered to have a 'Medium' data quality rating.
HDPE other rigid	Medium	Low	APCO (2021b)	APCO (2021c)	> POM data is based on measured data for the polymer type but incorporates assumptions about the packaging component allocations, and so is considered to have a 'Medium' data quality rating. > Recycling data is based on assumed negligible recycling, which is considered likely to be understating actual recovery (although this is low) and is considered to be a 'Low' data quality rating.
PP bottles	High	Medium	APCO (2021b)	APCO (2021c)	> POM data is based on measured data that is reasonably specific to this polymer type and packaging component combination and is considered to have a 'High' data quality rating. > Recycling data is based on measured data for the polymer type but incorporates assumptions about the packaging component allocations, and so is considered to have a 'Medium' data quality rating.
PP other rigid	High	Medium	APCO (2021b)	APCO (2021c)	> POM data is based on measured data that is reasonably specific to this polymer type and packaging component combination and is considered to have a 'High' data quality rating. > Recycling data is based on measured data for the polymer type but incorporates assumptions about the packaging component allocations, and so is considered to have a 'Medium' data quality rating.
PE tubes	High	High	APCO (2021b)	APCO (2021c)	> POM data is based on measured data that is reasonably specific to this polymer type and packaging component combination and is considered to have a 'High' data quality rating. > Recycling data is based on assumed negligible recycling, which is likely to be accurate and is considered to have a 'High' data quality rating.
PS rigid	High	Medium	APCO (2021b)	APCO (2021c)	> POM data is based on measured data that is reasonably specific to this polymer type and packaging component combination and is considered to have a 'High' data quality rating. > Recycling data is based on measured data for the polymer type but incorporates assumptions about the packaging component allocations, and so is considered to have a 'Medium' data quality rating.

Table 4 – Australian data quality assessment

Packaging category	POM	Recycling	Main reference		Assessment comment
	(rating)	(rating)	(POM)	(recycling)	
EPS rigid	High	Medium	APCO (2021b)	APCO (2021c)	> POM data is based on measured data that is reasonably specific to this polymer type and packaging component combination and is considered to have a 'High' data quality rating. > Recycling data is based on measured data for the polymer type but incorporates assumptions about the packaging component allocations, and so is considered to have a 'Medium' data quality rating.
PVC rigid	High	Medium	APCO (2021b)	APCO (2021c)	> POM data is based on measured data that is reasonably specific to this polymer type and packaging component combination and is considered to have a 'High' data quality rating. > Recycling data is based on measured data for the polymer type but incorporates assumptions concerning the packaging component allocations, and so is considered to have a 'Medium' data quality rating.
>A4 mono-material PE flexibles (B2B)	Medium	Medium	APCO (2021b)	APCO (2021c)	> POM data is based on measured data for the polymer type but incorporates assumptions about the packaging component allocations, and so is considered to have a 'Medium' data quality rating. > Recycling data is based on measured data for the polymer type but incorporates assumptions about to the packaging component allocations, and so is considered to have a 'Medium' data quality rating.
>A4 mono-material PE flexibles (B2C)	Not applicable	High	Blue Environment (2021)	Blue Environment (2021)	> POM data is not estimated, so no assessment of data quality. > Recycling data is based on assumed negligible recycling, which is likely to be accurate, and is considered to have a 'High' data quality rating.
Other >A4 flexibles	Not applicable	High	Blue Environment (2021)	Blue Environment (2021)	> POM data is not estimated, so no assessment of data quality. > Recycling data is based on assumed negligible recycling, which is likely to be accurate, and is considered to have a 'High' data quality rating.
<A4 PE flexibles	Medium	Medium	APCO (2021b)	APCO (2021c)	> POM data is based on measured data for the polymer type but incorporates assumptions about to the packaging component allocations, and so is considered to have a 'Medium' data quality rating. > Recycling data is based on measured data for the polymer type but incorporates assumptions about the packaging component allocations, and so is considered to have a 'Medium' data quality rating.
<A4 PP flexibles	Medium	Medium	APCO (2021b)	APCO (2021c)	> POM data is based on measured data for the polymer type but incorporates assumptions about to the packaging component allocations, and so is considered to have a 'Medium' data quality rating. > Recycling data is based on measured data for the polymer type but incorporates assumptions about the packaging component allocations, and so is considered to have a 'Medium' data quality rating.
<A4 multi-material flexibles	Not applicable	High	Blue Environment (2021)	Blue Environment (2021)	> POM data is not estimated, so no assessment of data quality. > Recycling data is based on assumed negligible recycling, which is likely to be accurate and is considered to have a 'High' data quality rating.
Other <A4 mono-material flexibles	Medium	Medium	APCO (2021b)	APCO (2021c)	> POM data is based on measured data for the polymer type but incorporates assumptions about the packaging component allocations, and so is considered to have a 'Medium' data quality rating. > Recycling data is based on measured data for the polymer type but incorporates assumptions about the packaging component allocations, and so is considered to have a 'Medium' data quality rating.
Other	Medium	Medium	APCO (2021b)	APCO (2021c)	> POM data is based on measured data for the polymer type but incorporates assumptions about the packaging component allocations, and so is considered to have a 'Medium' data quality rating. > Recycling data is based on measured data for the polymer type, but incorporates assumptions about the packaging component allocations, and so is considered to have a 'Medium' data quality rating.

A summary of recovery systems in place throughout Australia to collect each of the 18 identified common plastic packaging categories is presented in **Table 5**.

Table 5 – Australian recovery systems in place by packaging category

Packaging category	Municipal kerbside collection	CDS drop-off[1,2]	C&I collections[3]	In-store or depot drop-off
PET bottles	✓✓	✓	✓✓	✗
PET thermoforms	✓✓	Not applicable	✓✓	✗
Other PET rigid	✓✓	Not applicable	✓✓	✗
HDPE bottles	✓✓	✓	✓✓	✗
HDPE other rigid	✓✓	Not applicable	✓✓	✗
PP bottles	✓✓	Not applicable	✓✓	✗
PP other rigid	✓✓	Not applicable	✓✓	✗
PE tubes	✗	Not applicable	✗	✗
PS rigid	✓	Not applicable	✓	✗
EPS rigid	✓	Not applicable	✓	✗
PVC rigid	✓	Not applicable	✓	✗
>A4 mono-material PE flexibles (B2B)	Not applicable	Not applicable	✓✓	✗
>A4 mono-material PE flexibles (B2C)	✗	Not applicable	Not applicable	✓✓
Other >A4 flexibles	✗	Not applicable	✗	✓
<A4 PE flexibles	✗	Not applicable	✗	✓✓
<A4 PP flexibles	✗	Not applicable	✗	✓✓
<A4 multi-material flexibles	✗	Not applicable	✗	✗
Other <A4 mono-material flexibles	✗	Not applicable	✗	✗
Other	✗	Not applicable	✗	✗

Key:

✓✓	Generally good collection/drop-off coverage across Australia.
✓	Okay collection/drop-off coverage across the region, but with some significant gaps.
✗	Poor or minimal collection/drop-off coverage across Australia.
Not applicable	Recycling system does not apply to the packaging category.

[1] Container deposit schemes (CDS) are currently in all states/territory except Tasmania and Victoria. Schemes to commence in these two states in 2022 and 2023, respectively.

[2] CDS applies to a restricted range of beverage packaging only.

[3] Assumed to be the availability of a paid commercial collection, including commingled packaging or a single plastics packaging stream collection (e.g., pallet wrap).

NEW ZEALAND

New Zealand's recyclability assessment results by packaging category are summarised in **Figure 3** and **Table 6**.
The post-consumer recycling rate was **25.8%** in the 2020 calendar year.

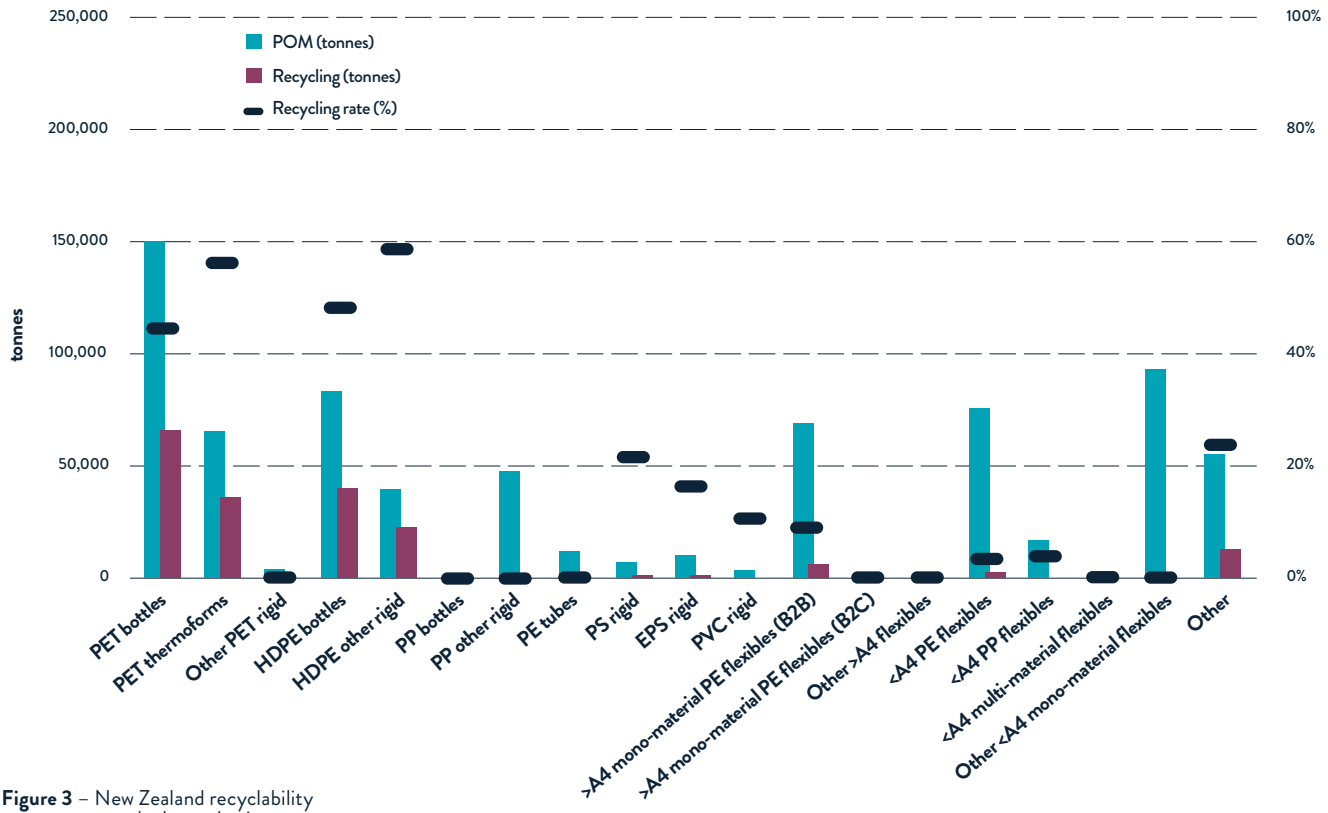

Figure 3 – New Zealand recyclability assessment results by packaging category

Table 6 – New Zealand recyclability assessment results by packaging category

Packaging category	POM	Recycling[1]	Recycling rate		
	(tonnes)	(tonnes)	(%)	(decile % range)	≥30% recycling rate
PET bottles	29,500	13,000	44.1%	40–50%	Yes
PET thermoforms	13,000	7,200	55.2%	50–60%	Yes
Other PET rigid	900	0	0.0%	0–10%	No
HDPE bottles	16,600	7,900	47.5%	40–50%	Yes
HDPE other rigid	7,800	4,500	57.7%	50–60%	Yes
PP bottles	500	0	0.0%	0–10%	No
PP other rigid	9,600	0	0.0%	0–10%	No
PE tubes	2,500	0	0.0%	0–10%	No
PS rigid	1,500	300	21.3%	20–30%	No
EPS rigid	2,000	300	16.1%	10–20%	No
PVC rigid	800	100	10.5%	10–20%	No
>A4 mono-material PE flexibles (B2B)	13,700	1,200	9.1%	0–10%	No
>A4 mono-material PE flexibles (B2C)	No data	0	0.0%	0–10%	No
Other >A4 flexibles	No data	0	0.0%	0–10%	No
<A4 PE flexibles	15,000	500	3.1%	0–10%	No
<A4 PP flexibles	3,400	100	3.5%	0–10%	No
<A4 multi-material flexibles	No data	0	0.0%	0–10%	No
Other <A4 mono-material flexibles	18,300	0	0.0%	0–10%	No
Other	11,000	2,600	23.3%	20–30%	No
Total	**146,200**	**37,700**	**25.8%**	**20–30%**	**No**

A qualitative (high/medium/low) assessment of New Zealand's data quality (evidence) is provided in **Table 7**. New Zealand's data quality, for the 2020 calendar year, was generally found to be:

- **POM: Low to Medium in quality**
- **Recycling: Low to Medium in quality (with respect to the identified common plastic packaging categories)**

Table 7 – New Zealand data quality assessment

Packaging category	POM	Recycling	Main reference		Assessment comment
	(rating)	(rating)	(POM)	(recycling)	
PET bottles	Medium	Medium	NZ FGC (2021)	WasteMINZ (2020)	> POM data is based on measured data for this polymer type, that is allocated to packaging categories using per capita estimates based on Australian data and is considered to have a 'Medium' data quality rating. > Recycling data is based on measured data for the packaging category, but is measured at the point of collection, not material recycling, so will be overstating material recycling to an unknown degree. So recycling is considered to have a 'Medium' data quality rating.
PET thermoforms	Medium	Medium	WasteMINZ (2020)	WasteMINZ (2020)	> POM data is based on measured data for this polymer type, that is allocated to packaging categories using per capita estimates based on Australian data and is considered to have a 'Medium' data quality rating. > Recycling data is based on measured data for the packaging category, but is measured at the point of collection, not material recycling, so will be overstating material recycling to an unknown degree. So recycling is considered to have a 'Medium' data quality rating.
Other PET rigid	Medium	High	NZ FGC (2021)	WasteMINZ (2020)	> POM data is based on measured data for this polymer type, that is allocated to packaging categories using per capita estimates based on Australian data and is considered to have a 'Medium' data quality rating. > Recycling data is based on assumed negligible recycling, which is likely to be accurate, and is considered to have a 'High' data quality rating.
HDPE bottles	Medium	Medium	NZ FGC (2021)	WasteMINZ (2020)	> POM data is based on measured data for this polymer type, that is allocated to packaging categories using per capita estimates based on Australian data and is considered to have a 'Medium' data quality rating. > Recycling data is based on measured data for the packaging category, but is measured at the point of collection, not material recycling, so will be overstating material recycling to an unknown degree. So recycling is considered to have a 'Medium' data quality rating.
HDPE other rigid	Medium	Medium	WasteMINZ (2020)	WasteMINZ (2020)	> POM data is based on measured data for this polymer type but is measured at the point of disposal+collection, not POM, so may be understating material POM to an unknown degree. So recycling is considered to have a 'Medium' data quality rating. > Recycling data is based on measured data for the packaging category, but is measured at the point of collection, not material recycling, so will be overstating material recycling to an unknown degree. So recycling is considered to have a 'Medium' data quality rating.
PP bottles	Medium	High	WasteMINZ (2020)	Scion (2021b)	> POM data is based on measured data for this polymer type, that is allocated to packaging categories using per capita estimates based on Australian data and is considered to have a 'Medium' data quality rating. > Recycling data is based on assumed negligible recycling, which is likely to be accurate, and is considered to have a 'High' data quality rating.

Table 7 – New Zealand data quality assessment

Packaging category	POM	Recycling	Main reference		Assessment comment
	(rating)	(rating)	(POM)	(recycling)	
PP other rigid	Medium	High	WasteMINZ (2020)	Scion (2021b)	> POM data is based on measured data for this polymer type, which is allocated to packaging categories using per capita estimates based on Australian data, and is considered to have a 'Medium' data quality rating. > Recycling data is based on assumed negligible recycling, which is likely to be accurate, and is considered to have a 'High' data quality rating.
PE tubes	Low	High	APCO (2021b)	WasteMINZ (2020)	> POM data is based on per capita adjusted Australian data and is considered to have a 'Low' data quality rating. > Recycling data is based on assumed negligible recycling, which is likely to be accurate, and is considered to have a 'High' data quality rating.
PS rigid	Medium	Low	NZ FGC (2021)	WasteMINZ (2020)	> POM data is based on measured data for this polymer type, that is allocated to packaging categories using per capita estimates based on Australian data, and is considered to have a 'Medium' data quality rating. > Recycling data is based on measured data for the packaging category, but is allocated to packaging categories using per capita estimates based on Australian data and is measured at the point of collection, not material recycling (so may be overstating material recycling to an unknown degree). So recycling is considered to have a 'Low' data quality rating.
EPS rigid	Medium	Low	NZ FGC (2021)	WasteMINZ (2020)	> POM data is based on measured data for this polymer type, that is allocated to packaging categories using per capita estimates based on Australian data, and is considered to have a 'Medium' data quality rating. > Recycling data is based on measured data for the packaging category, but is allocated to packaging categories using per capita estimates based on Australian data and is measured at the point of collection, not material recycling (so may be overstating material recycling to an unknown degree). So recycling is considered to have a 'Low' data quality rating.
PVC rigid	Medium	Low	NZ FGC (2021)	WasteMINZ (2020)	> POM data is based on measured data for this polymer type, that is specific to the packaging category, and is considered to have a 'High' data quality rating. > Recycling data is based on measured data for the packaging category, but is measured at the point of collection, not material recycling (so may be overstating material recycling to an unknown degree). So recycling is considered to have a 'Low' data quality rating.
>A4 mono-material PE flexibles (B2B)	Low	Low	APCO (2021b)	Blue Environment (2021)	> POM data is based on per capita adjusted Australian data and is considered to have a 'Low' data quality rating. > Recycling data is based on per capita adjusted Australian data and is considered to have a 'Low' data quality rating.
>A4 mono-material PE flexibles (B2C)	Not applicable	High	Not applicable	Blue Environment (2021)	> POM data is not estimated, so there is no data quality assessment. > Recycling data is based on assumed negligible recycling, which is likely to be accurate and is considered to have a 'High' data quality rating.
Other >A4 flexibles	Not applicable	High	Not applicable	Blue Environment (2021)	> POM data is not estimated, so no assessment of data quality. > Recycling data is based on assumed negligible recycling, which is likely to be accurate, and is considered to have a 'High' data quality rating.
<A4 PE flexibles	Medium	Low	NZ FGC (2021)	Blue Environment (2021)	> POM data is based on measured data, that is probably largely specific to this packaging category with some caveats and is considered to have a 'Medium' data quality rating. > Recycling data is based on per capita adjusted Australian data and is considered to have a 'Low' data quality rating.

Table 7 – New Zealand data quality assessment

Packaging category	POM	Recycling	Main reference		Assessment comment
	(rating)	(rating)	(POM)	(recycling)	
<A4 PP flexibles	Low	Low	APCO (2021b)	Blue Environment (2021)	> POM data is based on per capita adjusted Australian data and is considered to have a 'Low' data quality rating. > Recycling data is based on per capita adjusted Australian data and is considered to have a 'Low' data quality rating.
<A4 multi-material flexibles	Not applicable	High	Not applicable	Blue Environment (2021)	> POM data is not estimated, so no assessment of data quality. > Recycling data is based on assumed negligible recycling, which is likely to be accurate, and is considered to have a 'High' data quality rating.
Other <A4 mono-material flexibles	Low	High	APCO (2021b)	Blue Environment (2021)	> POM data is based on per capita adjusted Australian data and is considered to have a 'Low' data quality rating. > Recycling data is based on assumed negligible recycling, which is likely to be accurate, and is considered to have a 'High' data quality rating.
Other	Low	Low	NZ FGC (2021)	WasteMINZ (2020)	> POM data is based on measured data, that is of fairly unknown specificity and coverage to this packaging category and is considered to have a 'Low' data quality rating. > Recycling data is based on measured data for the packaging category, but is measured at the point of collection, not material recycling (so may be overstating material recycling to an unknown degree). So recycling is considered to have a 'Low' data quality rating.

A summary of recovery systems in place throughout New Zealand to collect each of the 18 identified plastic packaging formats is presented **Table 8**.

Table 8 – New Zealand recovery systems by packaging category

Packaging category	Municipal kerbside collection	CDS drop-off[1]	C&I collections[2]	In-store or depot drop-off
PET bottles	✓✓	✗	✓✓	✗
PET thermoforms	✓✓	Not applicable	✓	✗
Other PET rigid	✓✓	Not applicable	✓	✗
HDPE bottles	✓✓	✗	✓✓	✗
HDPE other rigid	✓✓	Not applicable	✓✓	✗
PP bottles	✓✓	Not applicable	✓✓	✗
PP other rigid	✓✓	Not applicable	✓✓	✗
PE tubes	✗	Not applicable	✗	✗
PS rigid	✗	Not applicable	✗	✗
EPS rigid	✗	Not applicable	✗	✗
PVC rigid	✗	Not applicable	✗	✗
>A4 mono-material PE flexibles (B2B)	Not applicable	Not applicable	✓✓	✗
>A4 mono-material PE flexibles (B2C)	✗	Not applicable	Not applicable	✓✓
Other >A4 flexibles	✗	Not applicable	✗	✓
<A4 PE flexibles	✗	Not applicable	✗	✓✓
<A4 PP flexibles	✗	Not applicable	✗	✓✓
<A4 multi-material flexibles	✗	Not applicable	✗	✗
Other <A4 mono-material flexibles	✗	Not applicable	✗	✗
Other	✗	Not applicable	✗	✗

Key:

✓✓	Generally good collection/drop-off coverage across New Zealand.
✓	Okay collection/drop-off coverage across New Zealand, but with some significant gaps.
✗	Poor or minimal collection/drop-off coverage across New Zealand.
Not applicable	Recycling system does not apply to the packaging category.

[1] No container deposit schemes (CDS) in place or planned in New Zealand.
[2] Assumed to be availability of a paid commercial collection, including commingled packaging or a single plastics packaging stream collection (e.g., pallet wrap).

PACIFIC ISLAND COUNTRIES

Pacific Island Countries (PIC) recyclability assessment results by packaging category are summarised in **Figure 4** and **Table 9**. The post-consumer recycling rate was 0.1% in the 2019 calendar year. The results cover the current PIC ANZPAC Members, which are Fiji, Samoa, Solomon Islands, Tonga and Vanuatu.

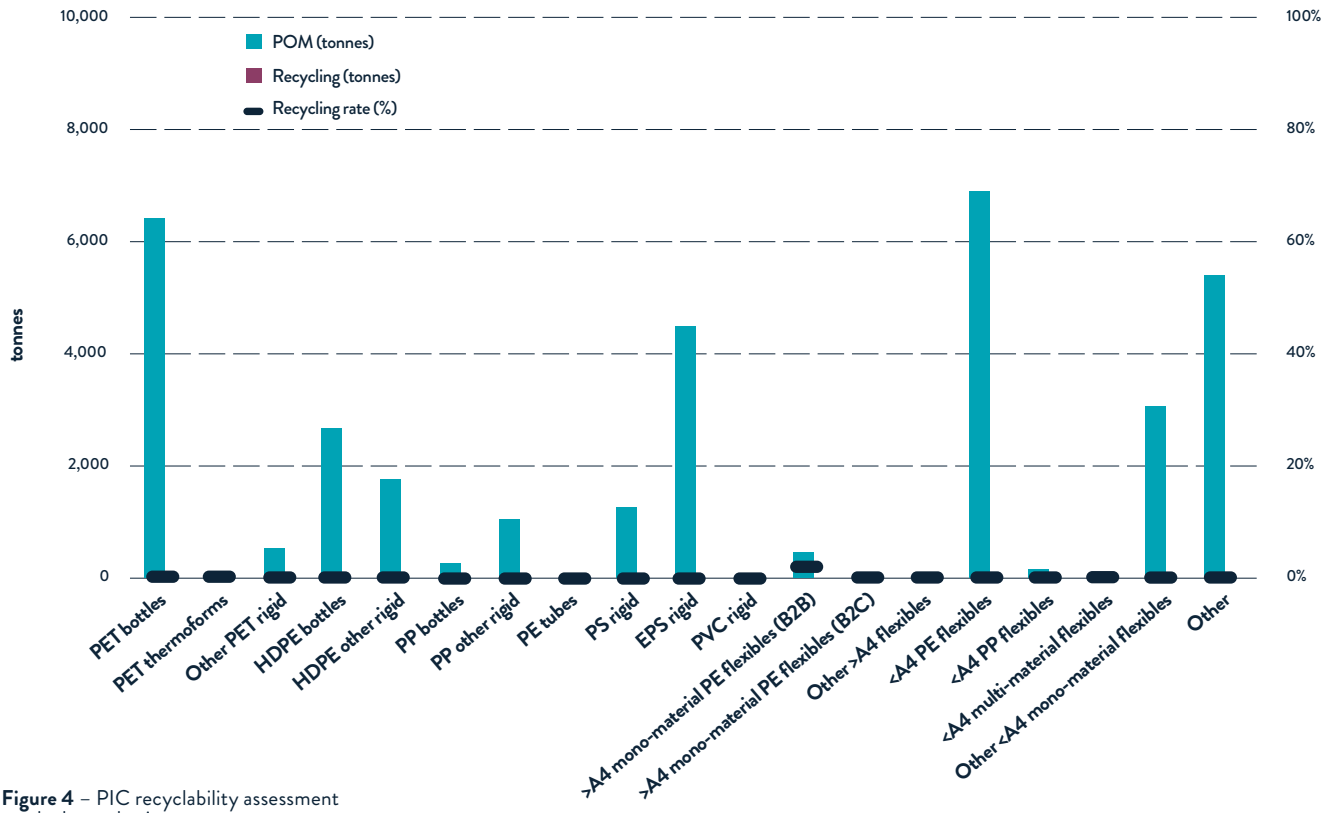

Figure 4 – PIC recyclability assessment results by packaging category

Table 9 – PIC recyclability assessment results by packaging category

Packaging category	POM	Recycling	Recycling rate		
	(tonnes)	(tonnes)	(%)	(decile % range)	≥30% recycling rate
PET bottles	6,400	20	0.3%	0–10%	No
PET thermoforms	0	0	0.0%	0–10%	No
Other PET rigid	600	0	0.0%	0–10%	No
HDPE bottles	2,700	10	0.2%	0–10%	No
HDPE other rigid	1,800	0	0.0%	0–10%	No
PP bottles	300	0	0.0%	0–10%	No
PP other rigid	1,100	0	0.0%	0–10%	No
PE tubes	100	0	0.0%	0–10%	No
PS rigid	1,300	0	0.0%	0–10%	No
EPS rigid	4,500	0	0.0%	0–10%	No
PVC rigid	0	0	0.0%	0–10%	No
>A4 mono-material PE flexibles (B2B)	500	10	2.6%	0–10%	No
>A4 mono-material PE flexibles (B2C)	0	0	0.0%	0–10%	No
Other >A4 flexibles	0	0	0.0%	0–10%	No
<A4 PE flexibles	6,900	0	0.0%	0–10%	No
<A4 PP flexibles	200	0	0.0%	0–10%	No
<A4 multi-material flexibles	0	0	0.0%	0–10%	No
Other <A4 mono-material flexibles	3,100	0	0.0%	0–10%	No
Other	5,400	0	0.0%	0–10%	No
Total	**34,800**	**40**	**0.1%**	**0–10%**	**No**

A qualitative (high/medium/low) assessment of the data quality (evidence) for the PIC geography is provided in **Table 10**. PIC data quality for the 2019 calendar year was generally found to be:

- **POM: Low in quality**
- **Recycling: Medium in quality**

Table 10 – PIC data quality assessment

Packaging category	POM	Recycling	Main reference		Assessment comment
	(rating)	(rating)	(POM)	(recycling)	
PET bottles	Low	Medium	Numerous source(s)	Numerous source(s)	> POM data is based on a combination of specific country data (where available), and for countries with no data identified, on population (per capita) and GDP adjusted estimates (drawing on the known data). Data quality rating is assessed as 'Low'. > Recycling data is based on assumed negligible recycling (with some exceptions), which is considered likely to be accurate across the majority of the PIC in scope. Data quality rating is assessed as 'Medium'.
PET thermoforms	Low	Medium	Numerous source(s)	Numerous source(s)	> POM data is based on a combination of specific country data (where available), and for countries with no data identified, on population (per capita) and GDP adjusted estimates (drawing on the known data). Data quality rating is assessed as 'Low'. > Recycling data is based on assumed negligible recycling (with some exceptions), which is considered likely to be accurate across the majority of the PIC in scope. Data quality rating is assessed as 'Medium'.
Other PET rigid	Low	Medium	Numerous source(s)	Numerous source(s)	> POM data is based on a combination of specific country data (where available), and for countries with no data identified, on population (per capita) and GDP adjusted estimates (drawing on the known data). Data quality rating is assessed as 'Low'. > Recycling data is based on assumed negligible recycling (with some exceptions), which is considered likely to be accurate across the majority of the PIC in scope. Data quality rating is assessed as 'Medium'.
HDPE bottles	Low	Medium	Numerous source(s)	Numerous source(s)	> POM data is based on a combination of specific country data (where available), and for countries with no data identified, on population (per capita) and GDP adjusted estimates (drawing on the known data). Data quality rating is assessed as 'Low'. > Recycling data is based on assumed negligible recycling (with some exceptions), which is considered likely to be accurate across the majority of the PIC in scope. Data quality rating is assessed as 'Medium'.
HDPE other rigid	Low	Medium	Numerous source(s)	Numerous source(s)	> POM data is based on a combination of specific country data (where available), and for countries with no data identified, on population (per capita) and GDP adjusted estimates (drawing on the known data). Data quality rating is assessed as 'Low'. > Recycling data is based on assumed negligible recycling (with some exceptions), which is considered likely to be accurate across the majority of the PIC in scope. Data quality rating is assessed as 'Medium'.
PP bottles	Low	Medium	Numerous source(s)	Numerous source(s)	> POM data is based on a combination of specific country data (where available), and for countries with no data identified, on population (per capita) and GDP adjusted estimates (drawing on the known data). Data quality rating is assessed as 'Low'. > Recycling data is based on assumed negligible recycling (with some exceptions), which is considered likely to be accurate across the majority of the PIC in scope. Data quality rating is assessed as 'Medium'.

Table 10 – PIC data quality assessment

Packaging category	POM	Recycling	Main reference		Assessment comment
	(rating)	(rating)	(POM)	(recycling)	
PP other rigid	Low	Medium	Numerous source(s)	Numerous source(s)	> POM data is based on a combination of specific country data (where available), and for countries with no data identified, on population (per capita) and GDP adjusted estimates (drawing on the known data). Data quality rating is assessed as 'Low'. > Recycling data is based on assumed negligible recycling (with some exceptions), which is considered likely to be accurate across the majority of the PIC in scope. Data quality rating is assessed as 'Medium'.
PE tubes	Low	Medium	Numerous source(s)	Numerous source(s)	> POM data is based on a combination of specific country data (where available), and for countries with no data identified, on population (per capita) and GDP adjusted estimates (drawing on the known data). Data quality rating is assessed as 'Low'. > Recycling data is based on assumed negligible recycling (with some exceptions), which is considered likely to be accurate across the majority of the PIC in scope. Data quality rating is assessed as 'Medium'.
PS rigid	Low	Medium	Numerous source(s)	Numerous source(s)	> POM data is based on a combination of specific country data (where available), and for countries with no data identified, on population (per capita) and GDP adjusted estimates (drawing on the known data). Data quality rating is assessed as 'Low'. > Recycling data is based on assumed negligible recycling (with some exceptions), which is considered likely to be accurate across the majority of the PIC in scope. Data quality rating is assessed as 'Medium'.
EPS rigid	Low	Medium	Numerous source(s)	Numerous source(s)	> POM data is based on a combination of specific country data (where available), and for countries with no data identified, on population (per capita) and GDP adjusted estimates (drawing on the known data). Data quality rating is assessed as 'Low'. > Recycling data is based on assumed negligible recycling (with some exceptions), which is considered likely to be accurate across the majority of the PIC in scope. Data quality rating is assessed as 'Medium'.
PVC rigid	Low	Medium	Numerous source(s)	Numerous source(s)	> POM data is based on a combination of specific country data (where available), and for countries with no data identified, on population (per capita) and GDP adjusted estimates (drawing on the known data). Data quality rating is assessed as 'Low'. > Recycling data is based on assumed negligible recycling (with some exceptions), which is considered likely to be accurate across the majority of the PIC in scope. Data quality rating is assessed as 'Medium'.
>A4 mono-material PE flexibles (B2B)	Low	Medium	Numerous source(s)	Numerous source(s)	> POM data is based on a combination of specific country data (where available), and for countries with no data identified, on population (per capita) and GDP adjusted estimates (drawing on the known data). Data quality rating is assessed as 'Low'. > Recycling data is based on assumed negligible recycling (with some exceptions), which is considered likely to be accurate across the majority of the PIC in scope. Data quality rating is assessed as 'Medium'.
>A4 mono-material PE flexibles (B2C)	Low	Medium	Numerous source(s)	Numerous source(s)	> POM data is based on a combination of specific country data (where available), and for countries with no data identified, on population (per capita) and GDP adjusted estimates (drawing on the known data). Data quality rating is assessed as 'Low'. > Recycling data is based on assumed negligible recycling (with some exceptions), which is considered likely to be accurate across the majority of the PIC in scope. Data quality rating is assessed as 'Medium'.

Table 10 – PIC data quality assessment

Packaging category	POM	Recycling	Main reference		Assessment comment
	(rating)	(rating)	(POM)	(recycling)	
Other >A4 flexibles	Low	Medium	Numerous source(s)	Numerous source(s)	> POM data is based on a combination of specific country data (where available), and for countries with no data identified, on population (per capita) and GDP adjusted estimates (drawing on the known data). Data quality rating is assessed as 'Low'. > Recycling data is based on assumed negligible recycling (with some exceptions), which is considered likely to be accurate across the majority of the PIC in scope. Data quality rating is assessed as 'Medium'.
<A4 PE flexibles	Low	Medium	Numerous source(s)	Numerous source(s)	> POM data is based on a combination of specific country data (where available), and for countries with no data identified, on population (per capita) and GDP adjusted estimates (drawing on the known data). Data quality rating is assessed as 'Low'. > Recycling data is based on assumed negligible recycling (with some exceptions), which is considered likely to be accurate across the majority of the PIC in scope. Data quality rating is assessed as 'Medium'.
<A4 PP flexibles	Low	Medium	Numerous source(s)	Numerous source(s)	> POM data is based on a combination of specific country data (where available), and for countries with no data identified, on population (per capita) and GDP adjusted estimates (drawing on the known data). Data quality rating is assessed as 'Low'. > Recycling data is based on assumed negligible recycling (with some exceptions), which is considered likely to be accurate across the majority of the PIC in scope. Data quality rating is assessed as 'Medium'.
<A4 multi-material flexibles	Low	Medium	Numerous source(s)	Numerous source(s)	> POM data is based on a combination of specific country data (where available), and for countries with no data identified, on population (per capita) and GDP adjusted estimates (drawing on the known data). Data quality rating is assessed as 'Low'. > Recycling data is based on assumed negligible recycling (with some exceptions), which is considered likely to be accurate across the majority of the PIC in scope. Data quality rating is assessed as 'Medium'.
Other <A4 mono-material flexibles	Low	Medium	Numerous source(s)	Numerous source(s)	> POM data is based on a combination of specific country data (where available), and for countries with no data identified, on population (per capita) and GDP adjusted estimates (drawing on the known data). Data quality rating is assessed as 'Low'. > Recycling data is based on assumed negligible recycling (with some exceptions), which is considered likely to be accurate across the majority of the PIC in scope. Data quality rating is assessed as 'Medium'.
Other	Low	Medium	Numerous source(s)	Numerous source(s)	> POM data is based on a combination of specific country data (where available), and for countries with no data identified, on population (per capita) and GDP adjusted estimates (drawing on the known data). Data quality rating is assessed as 'Low'. > Recycling data is based on assumed negligible recycling (with some exceptions), which is considered likely to be accurate across the majority of the PIC in scope. Data quality rating is assessed as 'Medium'.

A summary of recovery systems in place throughout the PIC geography to collect each of the 18 identified common plastic packaging categories is provided in **Table 11**.

Table 11 – PIC recycling systems in place by packaging category

Packaging category	Municipal kerbside collection	CDS drop-off[1]	C&I collections	In-store or depot drop-off
PET bottles	✗	✗	✗	✗
PET thermoforms	✗	Not applicable	✗	✗
Other PET rigid	✗	Not applicable	✗	✗
HDPE bottles	✗	✗	✗	✗
HDPE other rigid	✗	Not applicable	✗	✗
PP bottles	✗	Not applicable	✗	✗
PP other rigid	✗	Not applicable	✗	✗
PE tubes	✗	Not applicable	✗	✗
PS rigid	✗	Not applicable	✗	✗
EPS rigid	✗	Not applicable	✗	✗
PVC rigid	✗	Not applicable	✗	✗
>A4 mono-material PE flexibles (B2B)	Not applicable	Not applicable	✗	✗
>A4 mono-material PE flexibles (B2C)	✗	Not applicable	Not applicable	✗
Other >A4 flexibles	✗	Not applicable	✗	✗
<A4 PE flexibles	✗	Not applicable	✗	✗
<A4 PP flexibles	✗	Not applicable	✗	✗
<A4 multi-material flexibles	✗	Not applicable	✗	✗
Other <A4 mono-material flexibles	✗	Not applicable	✗	✗
Other	✗	Not applicable	✗	✗

Key:		
	✓✓	Generally good collection/drop-off coverage across the PIC.
	✓	Okay collection/drop-off coverage across the region, but with some significant gaps.
	✗	Poor or minimal collection/drop-off coverage across the PIC.
	Not applicable	Recycling system does not apply to the packaging category.

[1] No container deposit schemes (CDS) are in place or scheduled for introduction in any ANZPAC Member PIC.

CONCLUSIONS AND RECOMMENDATIONS

Summary

This assessment analyses plastic packaging consumption and recovery across Australia, New Zealand, and the Pacific Islands (the ANZPAC region). Through evaluating available information, results establish recycling rates for 18 identified common plastic packaging categories. This baseline dataset defines the point from which the ANZPAC Regional Plastics Targets should be measured and enables future results to be employed as key progress indicators towards 2025.

A key target for ANZPAC and all Plastics Pacts is to make 100% of plastic packaging reusable, recyclable or compostable by 2025. Aligned under the EMF, this commitment is underpinned by a 'recyclable packaging' definition that states (EMF, 2021a):

> *"A packaging or packaging component is recyclable if its successful post-consumer collection, sorting, and recycling is proven to work in practice and at scale."*

Moving beyond 'technical recyclability', this definition translates the need for on-the-ground results to achieve progress. Addressing recyclability 'in practice and at scale' under the global Plastics Pact Network means assessing whether a packaging format achieves a 30% post-consumer recycling rate in multiple regions, or locally, where the packaging is sold.

Interpreting results

Assessment methodology has been aligned with EMF and reconciled with APCO consumption and recovery data analysis. The regional scope was defined by ANZPAC signatory representation from seven countries: Australia, New Zealand, and the Pacific Islands Countries (PIC) of Fiji, Samoa, Solomon Islands, Tonga and Vanuatu. For ANZPAC Member Reporting, a system is considered to exist in the region if present in any of the three geographical areas.

Effective recycling requires responsible action from a wide range of stakeholders and systems, from design to collection, sorting and reprocessing. Therefore, it is not expected that all plastic packaging is proven to be recycled in every market where it is sold. Instead, results will be used to identify opportunities and, where recycling is being developed, proof that the packaging design is not a barrier to effective recycling.

The 2020 ANZPAC Baseline Recyclability Assessment provides data for next steps and to help inform the strategic priority areas for ANZPAC. Through understanding packaging categories with recycling rates <15%, 15-30% or >30%, ANZPAC can review trends across the region and global content. Through annual assessment, elimination opportunities for Members can be determined and areas of greatest potential for delivering high quality circular plastics outcomes identified.

Informing the global picture

The 2020 ANZPAC Baseline Recyclability Assessment results will inform the EMF's global dataset. Through aligned methodology, parallels can be drawn across the Plastics Pact Network to identify international trends, improve alignment across global supply chains and inform strategies to close recovery gaps. Recycling rate results are reported into EMF global dataset by geographical area (Australia, New Zealand and Pacific Islands), not as the ANZPAC region.

Recommendations

Further analysis is needed to understand assessment data implications across the ANZPAC region. Therefore, a second phase analysis of the 2020 ANZPAC Baseline Recyclability Assessment will be delivered through ANZPAC Member Workstream 1 (Effective Recovery Systems). The second phase will explore data implications on system capacity and relative scales across the region. Project outcomes will help inform activity planning and efforts in achieving the 2025 Regional Plastics Targets, mainly *Target 3: Increase plastic packaging collected and effectively recycled by at least 25% for each geography within the ANZPAC region.*

It is also recommended that annual national plastic packaging consumption and recovery quantification processes are explored in each geography to address the information gaps across the region.

Priorities for each ANZPAC Regional Plastics Target should also be identified. This process will support a consensus-building project to analyse the relevance of each Target to specific packaging formats, as seen in Table 2. Agreement should be sought on which formats should be eliminated (Target 1), which require more effort to improve recyclability (Target 2), the most appropriate recovery pathways – reuse, mechanical recycling, advanced recycling or composting (Target 3) and priorities for increased use of post-consumer recycled content (Target 4).

GLOSSARY

Table 10 – PIC data quality assessment		
EPS	Expanded polystyrene. Plastic identification code 6.	APCO (2021a, pp. 114-125)
HDPE	High-density polyethylene. Plastic identification code 2.	APCO (2021a, pp. 114-125)
LDPE	Low-density polyethylene. Plastic identification code 4.	APCO (2021a, pp. 114-125)
LLDPE	Linear low-density polyethylene. Plastic identification code 4.	APCO (2021a, pp. 114-125)
Material recycling	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. Source: ISO 18604:2013 - Packaging and the environment — Material recycling, modified (note to entry not applicable). These recycling rates, refer to the proportion of all packaging within the relevant category and geography that is effectively recycled according to this definition, and specifically should: - include both mechanical and chemical recycling - include both formal and informal recycling - exclude incineration - regardless of whether for energy recovery - and the use of product as a fuel - look at output of secondary material from recycling facilities, rather than input to facilities or rates of collection for recycling* *Note: While answers should look at rates in terms outputs from recycling facilities, data measured as inputs to recycling facilities or collection rates may be used to help estimate the outputs of recycling facilities and as such inform responses.	EMF (2021e)
Packaging	Packaging is defined in the National Environment Protection (Used Packaging Materials) Measure 2011 to mean all packaging products made of any material, or combination of materials, for the containment, protection, marketing or handling of consumer products. This also includes distribution packaging. For clarity, consumer packaging includes: • Primary packaging – materials directly containing the product. • Secondary packaging – materials used to contain single or multiple primary packed products. • Tertiary packaging – materials used to distribute packaged and unpackaged products.	APCO (2020a, p. 6)
PET	Polyethylene terephthalate. Plastic identification code 1.	APCO (2021a, pp. 114-125)
Placed on market (POM)	Packaging is defined as being 'placed on market' (POM) when it is first made available to the end-consumer, and disposal is following the intended full use of the packaging and can be considered 'post-consumer'. Packaging losses prior to the point of POM are considered pre-consumer losses.	APCO (2021a, pp. 114-125)
Plastic Identification Code (PIC)	A voluntary coding system for plastic polymers using the numbers 1–7. The PIC is used to identify the polymer composition of plastic products, potentially facilitating the post-consumer waste management of plastic goods. Also known overseas as the Resin Identification Code (RIC).	Envisage (2021, p. vii)
PP	Polypropylene. Plastic identification code 5.	APCO (2021a, pp. 114-125)
PS	Polystyrene. Plastic identification code 6.	Envisage (2021, p. viii)
PVC	Polyvinyl chloride. Plastic identification code 3.	APCO (2021a, pp. 114-125)

Table 10 – PIC data quality assessment		
Recyclable packaging	A packaging (1) or packaging component (2,3) is recyclable if its successful post-consumer (4) collection, sorting, and recycling (5) is proven to work in practice and at scale (7). Notes: 1. In the context of a 2025 timeframe in the Plastics Pact Network and the Global Commitment, a package can be considered recyclable if its main packaging components, together representing >95% of the entire packaging weight, are recyclable according to the above definition, and if the remaining minor components are compatible with the recycling process and do not hinder the recyclability of the main components. Otherwise, only the recyclable components of a package (or the recyclable parts of components – see footnote 3) can be counted towards achieving this commitment, and only when other components do not hinder or contaminate their recyclability. 2. A packaging component is a part of packaging that can be separated by hand or by using simple physical means (ISO 18601), for example a cap, a lid and (non in-mould) labels 3. A packaging component can only be considered recyclable if that entire component, excluding minor incidental constituents (see footnote 6), is recyclable according to the definition above. If just one material of a multi-material component is recyclable, one can only claim recyclability of that material, not of the component as a whole (in line with US FTC Green Guides 12 and ISO 14021) 4. ISO 14021 defines 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. This includes returns of material from the distribution chain. It excludes pre-consumer material (for example production scrap) 5. Packaging for which the only proven way of recycling is recycling into applications that do not allow any further use-cycles (for example plastics-to-roads) cannot be considered 'recyclable packaging'. 6. ISO 18601:2013: A packaging constituent is a part from which packaging or its components are made, and which cannot be separated by hand or by using simple physical means (for example a layer of a multi-layered pack or an in-mould label) 7. The test and threshold to assess if the recyclability of a packaging design is proven 'in practice and at scale' is to assess - to best possible extent - if the packaging category: • Either achieves a 30% post-consumer recycling rate in multiple regions, collectively representing at least 400 million inhabitants, • Or achieves a 30% post-consumer recycling rate in the Pact market. If the threshold is met either globally or locally then it can be concluded for the purposes of the Plastics Pact reporting that the recyclability of a packaging design is proven 'in practice and at scale'.	EMF (2021a, pp. 10-11)
Reusable packaging	Packaging or packaging component which has been designed to accomplish or proves its ability to accomplish a minimum number of trips or rotations in a system for reuse. Also see the related 'Compostable packaging' and 'Recyclable packaging' definitions. Supporting notes: 1. A trip is defined as transfer of packaging, from filling/loading to emptying/unloading. A rotation is defined as a cycle undergone by reusable packaging from filling/loading to filling/loading (ISO 18603). 2. The minimum number of trips or rotations refers to the fact that the 'system for reuse' in place should be proven to work in practice, i.e., that a significant share of the package is actually reused (measured e.g., by an average reuse rate or an average number of use-cycles per package). 3. A system for reuse is defined as established arrangements (organisational, technical or financial) which ensure the possibility of reuse, in closed-loop, open-loop or in a hybrid system (ISO 18603). 4. Reuse is an operation by which packaging is refilled or used for the same purpose for which it was conceived, enabling the packaging to be refilled (ISO 18603). Also refer to the 'Single-use packaging' entry.	APCO (2021a, pp. 114-125)
Single-use packaging	Single-use packaging is defined as a packaging system or packaging component which has been principally designed to accomplish a single trip, even if some form of reuse is possible. Single-use packaging does not meet the definitional requirements of ISO 18603:2013 (Packaging and the environment – Reuse) as reusable packaging. Also refer to the 'Reusable packaging' entry.	APCO (2021a, pp. 114-125)
Single-use plastic packaging	Single-use plastic packaging is likely to be designed or intended to be discarded after a single use and is routinely disposed of after its contents have been unpacked or exhausted.	APCO (2020a, p. 6)

REFERENCES

APCO, 2020a. Single-Use, Problematic and Unnecessary Plastic Packaging (version 2), Sydney: Australian Packaging Covenant Organisation.

APCO, 2020b. Action Plan for Problematic and Unnecessary Single-Use Plastic Packaging (version 1), Sydney: Australian Packaging Covenant Organisation.

APCO, 2021a. Australian packaging consumption & recovery data 2019–20, Sydney: Report prepared by Envisage Works, IndustryEdge, Randell Environmental Consulting and Sustainable Resource Use on behalf of the Australian Packaging Covenant Organisation.

APCO, 2021b. Australian packaging consumption and recycling data 2019–20 – Packaging data tool (MS Excel workbook) – Copy of the 'MAN-data-20' worksheet, Sydney: Workbook prepared by Envisage Works on behalf of the Australian Packaging Covenant Organisation.

APCO, 2021c. Australian packaging consumption and recycling data 2019–20 – Packaging data tool (MS Excel workbook) – Copy of the 'REP-data-20' worksheet, Sydney: Workbook prepared by Envisage Works on behalf of the Australian Packaging Covenant Organisation.

APCO, 2021d. Australian packaging consumption and recycling data 2019–20 – Packaging data tool (MS Excel workbook) – Partial copy of the 'Recyclability-20' worksheet (Tables A and B only)., Sydney: Workbook prepared by Envisage Works on behalf of the Australian Packaging Covenant Organisation.

APWC, 2019a. Solomon Islands – Best Practice Waste Management report – Overview and outcomes of the Best Practice Actions – November 2018-February 2019, North Sydney: Report prepared by Asia Pacific Waste Consultants on behalf of the Centre for Environment Fisheries and Aquaculture Science (CEFAS) under the Commonwealth Marine Litter Programme (CLiP).

APWC, 2019b. Solomon Islands – Waste Data report – Analysis of waste generation and disposal data collected in November 2018, North Sydney: Report prepared by Asia Pacific Waste Consultants on behalf of the Centre for Environment Fisheries and Aquaculture Science (CEFAS) under the Commonwealth Marine Litter Programme (CLiP).

APWC, 2019c. Vanuatu – Waste Data report – Analysis of waste generation and disposal data collected in November 2018, North Sydney: Report prepared by Asia Pacific Waste Consultants on behalf of the Centre for Environment Fisheries and Aquaculture Science (CEFAS) under the Commonwealth Marine Litter Programme (CLiP).

APWC, 2019d. Port Reception Waste Facilities Review – Vanuatu – The Commonwealth Marine Litter Programme, North Sydney: Report prepared by Asia Pacific Waste Consultants on behalf of the Centre for Environment Fisheries and Aquaculture Science (CEFAS) under the Commonwealth Marine Litter Programme (CLiP).

APWC, 2021a. Plastic Waste National Level Quantification and Sectorial Material Flow Analysis – Fiji, North Sydney: Report prepared by Asia Pacific Waste Consultants on behalf of the International Union for Conservation of Nature (IUCN).

APWC, 2021b. Plastic Waste National Level Quantification and Sectorial Material Flow Analysis – Samoa, North Sydney: Report prepared by Asia Pacific Waste Consultants on behalf of the International Union for Conservation of Nature (IUCN).

APWC, 2021c. Samoa Waste Audit Report – Analysis of Waste Generation and Disposal Data, North Sydney: Report prepared by Asia Pacific Waste Consultants (APWC) on behalf of The World Bank.

APWC, 2021d. Plastic Waste National Level Quantification and Sectorial Material Flow Analysis – Vanuatu, North Sydney: Report prepared by Asia Pacific Waste Consultants on behalf of the International Union for Conservation of Nature (IUCN).

Comtrade, 2021. New Zealand to the World export of scrap plastics under HS3915 codes in 2020, Online: UN Comtrade Database.

DAWE, 2021. National Plastics Plan 2021, Canberra: Department of Agriculture, Water and the Environment.

DFAT, 2021a. Cook Islands country fact sheet, Canberra: Department of Foreign Affairs and Trade (Australia).

DFAT, 2021b. Niue country fact sheet, Canberra: Department of Foreign Affairs and Trade (Australia).

EMF, 2020a. 2020 Plastics Pact Recyclability Assessment Tool (MS Excel workbook), Isle of Wight: Ellen MacArthur Foundation.

EMF, 2020b. Technical guidance on setting (virgin) reduction targets, Isle of Wight: Ellen MacArthur Foundation.

EMF, 2021a. The New Plastics Economy – Plastics Pact network, vision & definitions, Isle of Wight: Ellen MacArthur Foundation.

EMF, 2021b. Plastics Pact – 2021 reporting guidance for Plastics Pact lead organisations, Isle of Wight: Ellen MacArthur Foundation.

EMF, 2021c. New Plastics Economy 2021 Recycling Rate Survey results summary, Isle of Wight: Ellen MacArthur Foundation.

EMF, 2021d. New Plastics Economy 2021 Recycling Rate Survey – Full set of responses (MS Excel workbook), Isle of Wight: Ellen MacArthur Foundation.

EMF, 2021e. 2021 Plastics Pact Network Recyclability Assessment Tool (MS Excel workbook), Isle of Wight: Ellen MacArthur Foundation.

Envisage, 2021. Australian Plastics Flows and Fates Study 2019–20 – National report, Melbourne: Report prepared by Envisage Works on behalf of the Department of Agriculture, Water and the Environment.

MPS, 2021. Interview with Marine Plastic Solutions staff on PICs plastic packaging consumption and recovery [Interview] (12 November 2021).

NZ FGC, 2021. Designing a Circular Economy for Plastic Packaging, Wellington: New Zealand Food & Grocery Council.

PRIF, 2018. Pacific Region Solid Waste Management and Recycling – Pacific Country & Territory Profiles, Sydney: Pacific Region Infrastructure Facility (PRIF).

PRIF, 2021a. Waste Audit Report – Cook Islands, Sydney: Report prepared for the Pacific Region Infrastructure Facility (PRIF) by Tonkin & Taylor International Ltd.

PRIF, 2021b. Waste Audit Report – Tuvalu, Sydney: Report prepared for the Pacific Region Infrastructure Facility (PRIF) by Tonkin & Taylor International Ltd.

Scion, 2021a. 2020 Plastic Material flow through New Zealand's plastics industry, Rotorua: Scion (New Zealand Forest Research Institute Limited).

Scion, 2021b. Interview with Scion staff on plastics recovery in NZ [Interview] (19 November 2021b).

TNSO, 2017. Tokelau's Gross Domestic Product determined for first time this century. [Online] Available at: https://www.tokelau.org.nz/Bulletin/April+2017/GDP+first.html [Accessed 20 December 2021].

UN, 2019. World Population Prospects 2019, Online Edition. Rev. 1. Downloaded MS Excel workbook: 'Total Population - Both Sexes. De facto population in a country, area or region as of 1 July of the year indicated. Figures are presented in thousands.'. [Online] Available at: https://population.un.org/wpp/Download/Standard/Population/ [Accessed 6 December 2021].

UN, 2021. Country profiles (online database). [Online] Available at: https://data.un.org/CountryProfile.aspx/en/index.html/ [Accessed 20 December 2021].

UTS & APWC, 2020a. Environmentally responsible trade in waste plastics in the Asia Pacific region – Executive Summary, Sydney: Report prepared by the Institute for Sustainable Futures (ISF/UTS) and Asia Pacific Waste Consultants on behalf of the Department of Agriculture, Water and the Environment (DAWE).

UTS & APWC, 2020b. Environmentally responsible trade in waste plastics – Report 1: Investigating the links between trade and marine plastic pollution, Sydney: Report prepared by the Institute for Sustainable Futures (ISF/UTS) and Asia Pacific Waste Consultants on behalf of the Department of Agriculture, Water and the Environment (DAWE).

UTS & APWC, 2020c. Environmentally responsible trade in waste plastics – Report 2: Capacity gaps and needs for managing plastic waste in Asia Pacific, Sydney: Report prepared by the Institute for Sustainable Futures (ISF/UTS) and Asia Pacific Waste Consultants on behalf of the Department of Agriculture, Water and the Environment (DAWE).

UTS & APWC, 2020d. Environmentally responsible trade in waste plastics – Report 3: Case studies on plastic waste management and trade in Asia Pacific, Sydney: Report prepared by the Institute for Sustainable Futures (ISF/UTS) and Asia Pacific Waste Consultants on behalf of the Department of Agriculture, Water and the Environment (DAWE).

WasteMINZ, 2020. The Truth about Plastic Recycling in Aotearoa New Zealand in 2020, Auckland: WasteMINZ Territorial Authorities' Officers Forum (TAO Forum) and Ministry for the Environment.

World Bank, 2021a. World Development Indicators – Population by country 1960–2020. [Online] Available at: https://data.worldbank.org/indicator/SP.POP.TOTL [Accessed 6 December 2021].

World Bank, 2021b. World Development Indicators – GDP per capita (current USD) by country 1960-2020. [Online] Available at: https://data.worldbank.org/indicator/NY.GDP.PCAP.CD [Accessed 6 December 2021].

ANZPAC
PLASTICS PACT

GET IN TOUCH

If you have any questions about the ANZPAC Plastics Pact, please contact the ANZPAC Team via anzpac@apco.org.au