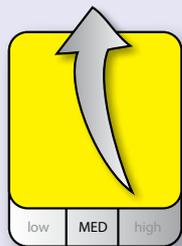


## INDICATOR Per capita generation of municipal solid waste



## Status

Fair

## Trend

Improving

## Data confidence

Medium



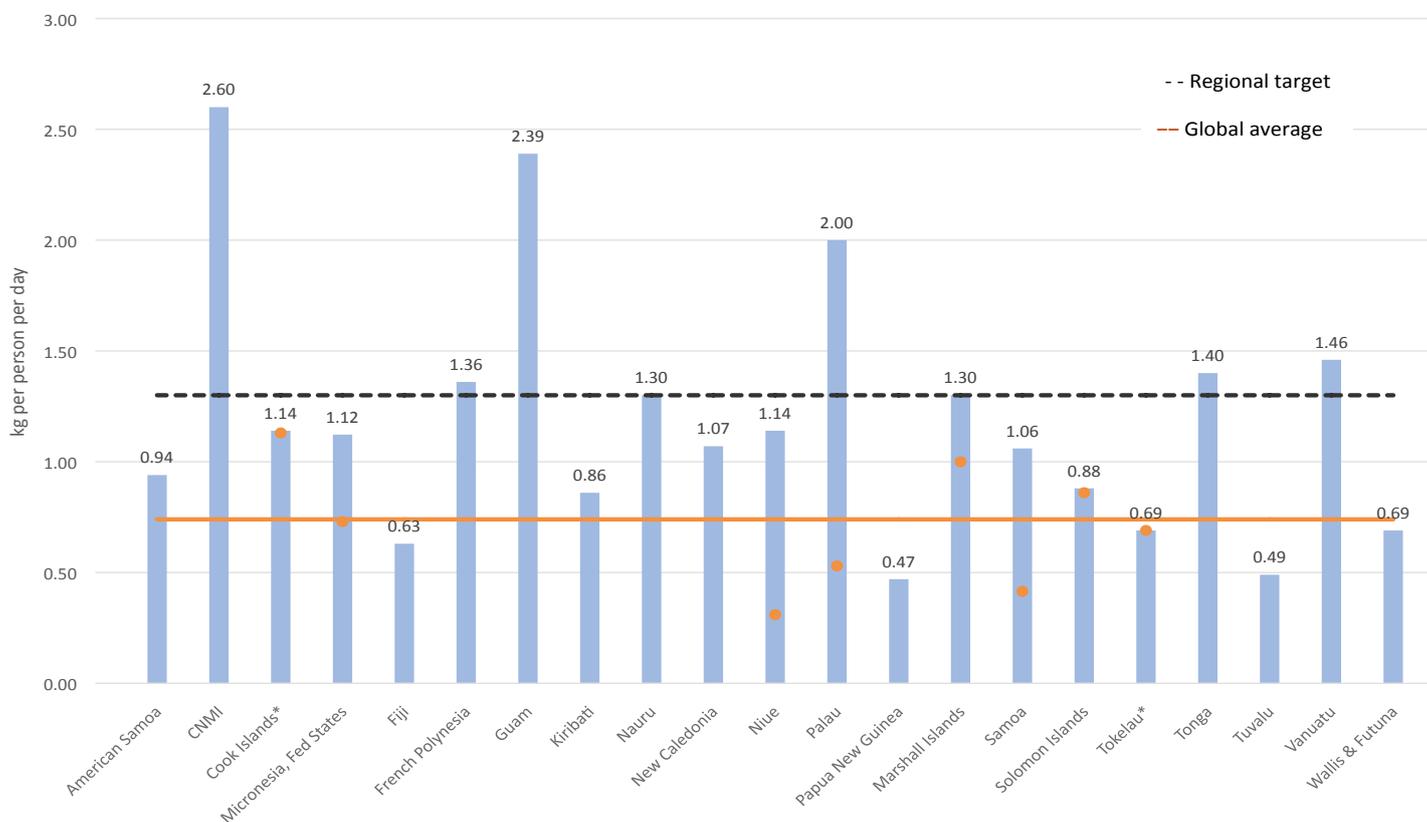
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## PRESENT STATUS

The regionally endorsed *Cleaner Pacific 2025* strategy set a target for the performance indicator *Per capita generation of municipal solid waste* of 1.3 kilograms or less per person per day by 2020.

The Pacific countries and territories have estimated waste production below this target, with the exception of the Commonwealth of the Northern Mariana Islands, French Polynesia, Guam, Palau, Tonga, and Vanuatu (Fig. 28.1). However, 16 countries and territories have estimated waste generation rates near or above the global average of 0.74 kilograms per day (Kaza et al. 2018), with far fewer resources to safely manage and dispose of this waste.

Between 2016 and 2019, the Pacific region reduced the (average) municipal solid waste generation per capita with an average of 1.2 kg produced per person per day (SPREP, forthcoming).



**FIGURE 28.1:** Municipal waste generation per person in the Pacific islands, 2019 or most recent year. Municipal solid waste includes household, commercial and institutional waste. Sources: (columns) SPREP (forthcoming), (dots) national State of Environment reports or estimates based on income status using Kaza et al. (2018) values for upper-middle income countries (Tokelau) or an averaged value of upper-middle and high-income status (Cook Islands). Dashed line: regional target; solid line: global average (0.74 kg per person per day)

**Status**

Fair to poor

**Trend**

Unknown

**Data confidence**

Low



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**PRESENT STATUS**

Between 2016 and 2019, the Pacific region increased the (average) national waste collection coverage, in other words the availability of waste-collection services to their population (SPREP 2020). Where information on waste capture rate was not available for any of the Pacific island countries and territories in 2014, data for seven of the 21 countries and territories was available in 2020 (Table 29.1).

As of 2020, 74% of the population received waste-collection services and 46% of the generated waste was captured. In addition, the (average) national recycling rate across the region increased to 60% of the recyclable material, which will reduce the share of waste entering landfills or incineration facilities. There is still loss of material from landfills, particularly in countries with limited soil and equipment for rapid burial of wastes. Wind and water movements, particularly during extreme events, can redistribute previously collected waste.

Lower waste-generation rates would have the effect of increasing the share of total waste captured without any additional effort for waste capture.

**CRITICAL CONNECTIONS**

Reducing waste at the household, community, and national level provides cross-cutting benefits to people and nature.

Reduced and 'smarter' packaging makes for more efficient transport of goods with greater value to consumers. Tropical conditions place challenges on standard packaging, but in many cases traditional uses of tropical resources make beautiful substitutes.

Our waste can pollute our water, from streams and drinking water sources to our lagoons and ocean.

Excess packaging, waste production and certain modes of waste management contribute to greenhouse gas emissions and the health of the protective ozone layer. For example, burning plastic releases persistent organic pollutants (POPs) that cause direct and indirect risks to human health through the release of carcinogens (cancer-causing chemicals). Other Pacific priorities include mercury, heavy metals, and the as yet unknown impacts of plastics.

Inadequate management of wastes and activities that contribute to pollution threaten the health of Pacific communities and degrade natural ecosystems, reducing their resilience to climate change impacts. The economic development of many Pacific islands is also adversely affected from the impacts of poor waste and pollution management because their economic bases (tourism, fishing, and agriculture) are heavily reliant on healthy environments.

When people see how their wastes affect Pacific biodiversity and ecosystems that they value, they can create a socio-cultural shift toward lower waste production and better waste management.

**TABLE 29.1: Waste collection coverage and capture rate in Pacific island countries and territories, 2020.**  
 ND: no data available. Source: SPREP (forthcoming).

	WASTE COLLECTION COVERAGE (% OF POPULATION)	WASTE CAPTURE RATE (AMOUNT COLLECTED / AMOUNT GENERATED) (%)
American Samoa	ND	ND
CNMI	ND	ND
Cook Islands	ND	ND
Micronesia, Fed States	29*	18
Fiji <sup>u</sup>	100 <sup>u</sup>	ND
French Polynesia	ND	ND
Guam	100*	ND
Kiribati	ND	76
Nauru	ND	ND
New Caledonia <sup>u</sup>	75	ND
Niue	100	ND
Palau <sup>u</sup>	100	24 <sup>a</sup>
Papua New Guinea <sup>u</sup>	67*	55 <sup>b</sup>
Marshall Islands <sup>u</sup>	91	56 <sup>c</sup>
Samoa	61	ND
Solomon Islands <sup>u</sup>	51	41 <sup>d</sup>
Tokelau	99	ND
Tonga	ND	ND
Tuvalu	80	ND
Vanuatu	50 <sup>e</sup> , 100 <sup>u</sup>	50 <sup>f</sup>
Wallis & Futuna	ND	ND

<sup>u</sup> Urban only

\* Waste collection coverage: Federated States of Micronesia's national value is the unweighted average of the state values. Fiji's estimate for waste collection coverage is for Suva only. In Guam, 100% collection coverage is assumed, with the Guam Solid Waste Authority providing curb-side collection services plus residential transfer stations for those who do not pay for curb-side collection. Papua New Guinea's estimate for waste collection coverage is for Port Moresby only.

<sup>a</sup> Palau's waste capture rate is for Koror and Babeldaob only

<sup>b</sup> Calculated as the average of waste capture rate values across 5 areas in PNG – NCDC 66.8%, Alotau ULLG 65.3%, Goroka ULLG 45.3%, Kokopo-Vunamami ULLG 49.1%, Lae ULLG 49.4%. All data are from 2018 J-PRISM II waste flow surveys.

<sup>c</sup> 2017 estimate based on an average of the capture rates for Majuro (50.8%) and Ebeye (60.8%)

<sup>d</sup> Mid-point of waste capture rate range, 37–45%, based on comparative data from JICA and APWC

<sup>e</sup> Luganville only.

<sup>f</sup> Mid-point of waste capture rate range, 30–70%, based on comparative data from JICA and APWC

## PRESSURES & OPPORTUNITIES

Pacific leaders adopted the *Cleaner Pacific 2025: Pacific Regional Waste and Pollution Management Strategy 2016–2025*. The mid-term review of CP2025 progress (SPREP, forthcoming) indicated:

Some progress was made towards achieving all four strategic goals in CP2025 (1. prevent and minimise generation of wastes and pollution; 2. recover resources from wastes and pollution; 3. improve life-cycle management of residuals; and 4. improve monitoring of the receiving environment).

Only 7 of 20 performance indicators exceeded or met their 2020 targets. Between 2016 and 2019, the Pacific region achieved: reduced (average) municipal solid waste generation per capita, an increased number of container deposit programmes, an increased number of Extended Producer Responsibility programmes for used oil, increased number of national chemicals and pollution inventories, increased (average) national waste collection coverage, an increased (average) waste recycling rate, and an increased number of national environmental monitoring programmes.

Given that 44% of Pacific household waste is organic material (food and yard waste) that could be recaptured into healthy soil through composting and that another 43% is potentially recyclable material, there are great opportunities for waste reduction and successful management (see *Cleaner Pacific 2025*). Safe waste management has a direct impact on human health not only through the reduced spread of pollutants but also through reductions of disease-carrying pest populations (such as mosquitoes) that thrive in poorly managed dump sites. See Regional Indicators: [Fresh water quality](#), [Lagoon water quality](#), and [Access to and quality of sewage treatment](#).

Distance to recycling facilities and markets is a significant barrier to Pacific recycling, due to high transport fees. On-island facilities could increase the rate of re-use of recyclable materials, which can be as simple and elegant as artisanal paper from recycled fibres, crushed glass for urban roadways, or reclaimed plastic pellets for production of new items. There are signs of growth in initiatives to support recycling in the region, such as the public-private Moana Taka Partnership<sup>1</sup> and consideration of a regional recycling network. SPREP is planning to propose a Regional Recycling Association during the 2021 Clean Pacific Roundtable. There are ongoing initiatives to identify recycling hubs in the Pacific as part of establishing a regional recycling network through the Pacific Regional Infrastructure Facility although little progress has been made beyond a scoping study.

<sup>1</sup> The Moana Taka partnership, initiated in 2017 between the China Navigation Company and SPREP, takes advantage of empty cargo containers on return voyages to remove recyclable materials. Such containers are common because Pacific islands rely on imports while exporting comparatively little. The cost of shipping is the greatest barrier to local recycling collection companies.

The Pacific commitments to renewable energy production (see Regional Indicator: [Renewable energy](#)), combined with the growing use of modern technologies, create an electronic waste recycling and waste management challenge. The rare earth elements used in many modern technologies and the potential danger of disposal of certain components, such as batteries, make recycling, landfill diversion, and landfill management critical issues of the 4th Industrial Revolution. More subtly, demand for these materials also creates pressure for mining, including seabed mining.

Disaster waste management is increasingly essential for changing Pacific islands. Low-lying islands with limited land have reduced capacity to bury waste, and unprotected wastes can be easily scattered by wind and water. Severe and frequent extreme events are becoming common throughout the Pacific islands region. Disaster waste management is essential in facilitating humanitarian responses and recovery efforts post-disaster. Priority actions include clearing access roads, reducing exposure to toxic wastes, re-using construction debris to rebuild, and not overloading the capacity of disposal facilities, among others.

Reducing per capita waste generation provides financial benefits and greater safety for people and ecosystems, even during disasters. Safe management of the excess wastes produced following a disaster is a long-term planning priority for Pacific islands.

Pacific leaders have introduced several waste-reducing policies and legislation to curb the import, production, and uncontrolled release of waste. Plastics are one focal material, and Pacific communities like those around the world are using the management of plastics to advance waste reduction (see Table 12.2).

## REGIONAL RESPONSE RECOMMENDATIONS

*Cleaner Pacific 2025* sets out national and regional recommendations. Building on these recommendations, countries can:

- maintain participation in the biennial, regional Clean Pacific Roundtable to coordinate and facilitate waste management and pollution-control dialogue and networking in the region;
- strengthen national and regional cooperation and coordination on waste and pollution management activities, including improved coordination with:
  - the private sector to enhance resource recovery efforts;
  - agricultural entities to promote better utilisation and recycling of organic waste;
  - disaster risk reduction entities to reduce risks associated with landfills and waste disposal sites;
  - climate change entities to promote GHG emission reductions through low-emission recycling technologies and waste treatment as well as organic waste diversion from dumps and landfills; and
- conservation groups to promote improved ecological monitoring around waste, chemical, and pollutant facilities;
- cooperate to ensure timely monitoring of the *Pacific Regional Waste and Pollution Management Strategy 2016–2025*; and
- build awareness of the importance of improving waste and pollution management with politicians, decision-makers, and communities. Informed politicians and decision-makers are more likely to prioritise funding for waste and pollution management, and an informed populace is more likely to support relevant initiatives.
- When measuring national spending on waste management, countries should include the cost of landfill space, to quantify benefits from waste-reduction measures, in addition to national and project funds toward waste management programmes.

### INDICATOR IN ACTION

SDGs 3.9, 11.6.1, 12.4 • Basel (Art. 4 obligations 2c); Rotterdam; Stockholm (BSR) Conventions • SAMOA Pathway Outcome 71(a) • Noumea Convention • Pacific Regional Environment Objectives 3.1, 3.2, 3.3, 3.4 • Pacific Islands Framework for Nature Conservation Objectives 2, 5

### FOR MORE INFORMATION

Kaza S., Yao L., Bhada-Tata P., Woerden F. (2018) *What a Waste 2.0: A Global Snapshot of Solid Waste Management to 2050*. Urban Development Series. Washington, DC: World Bank. doi:10.1596/978-1-4648-1329-0

SPREP (forthcoming) Mid-term review report: *Cleaner Pacific 2025 Pacific Regional Waste and Pollution Management Strategy 2016–2025*. Bradley M (author). Apia, Samoa: Secretariat of the Pacific Regional Environment Programme.

SPREP (2016) *Cleaner Pacific 2025: Pacific Regional Waste and Pollution Management Strategy 2016–2025*. Apia, Samoa: SPREP.

Indicators 28 and 29 of 31 in *State of Environment and Conservation in the Pacific Islands: 2020 Regional Report*



The Secretariat of the Pacific Regional Environment Programme (SPREP) supports 14 countries and 7 territories in the Pacific to better manage the environment. SPREP member countries and members of the Pacific Roundtable on Nature Conservation (PIRT) have contributed valuable input to the production of this indicator. [www.sprep.org](http://www.sprep.org)

National and regional environment datasets supporting the analysis above can be accessed through the Pacific Environment Portal. [pacific-data.sprep.org](http://pacific-data.sprep.org)

For protected areas information, please see the Pacific Islands Protected Area Portal. [pipap.sprep.org](http://pipap.sprep.org)