INTERNATIONAL ALUMINIUM

Aluminium, shaping a better tomorrow

GERMANY, BELGIUM, SOUTH KOREA, SWEDEN, FINLAND AND NORWAY STAND OUT IN GLOBAL RECYCLING LEAGUE

A study by Eunomia Research & Consulting reveals aluminium cans' superior recyclability, surpassing other beverage containers in global recycling rates.

Aluminium cans outperform other beverage containers in "separated for recycling" rates in 19 out of 35 countries/territories, while plastic bottles show the highest collection rates in five countries/territories and glass bottles in 11 countries/territories, according to the latest research by Eunomia Research & Consulting.

Once losses during the recycling process are included in the modelling, aluminium cans consistently outperform other beverage container materials in recycling rates across various countries/territories, except for New Zealand, France and Slovenia, where glass shows the highest recycling rates. These findings highlight the superior recyclability of aluminium cans in the global beverage packaging landscape.

The study was funded by organisations, including the International Aluminium Institute, which carried out the second part of the study (adding losses), and Can Manufacturers Institute. It examined municipal waste recycling rates in 48 countries/territories worldwide. The research aimed to better understand waste management on a global scale and contribute to national and supranational policy.

Eunomia's research team collected and standardised data on municipal, packaging and beverage container waste and recycling. It adjusted official recycling rates to ensure consistent comparisons across countries/territories, applying uniform definitions of municipal waste and recycling based on EU standards.

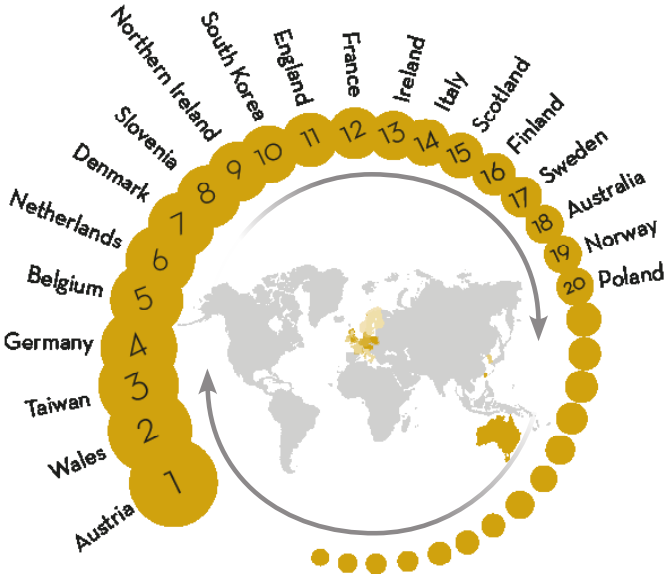
Even the world's top recyclers are not exceeding a 60 per cent recycling rate for municipal waste, once differences in reporting practices are accounted for.

GLOBAL RECYCLING LEAGUE TABLE

KEY FINDINGS

- The top 10 performing countries/territories for adjusted municipal recycling rates are predominantly in Western and Central Europe.
- Austria is the best performing country, followed by Wales.
- Taiwan and South Korea are the only two non-European territories or countries in the top 10, with Australia the only non-European country in the rest of the top 20.
- There are significant discrepancies between reported and adjusted recycling rates in some countries/territories, emphasising the need for more consistent and accurate data collection methods globally.

These insights provide valuable information for policymakers and industry stakeholders. The superior recyclability of aluminium cans not only benefits the environment, but also offers economic advantages in terms of resource efficiency and waste management.



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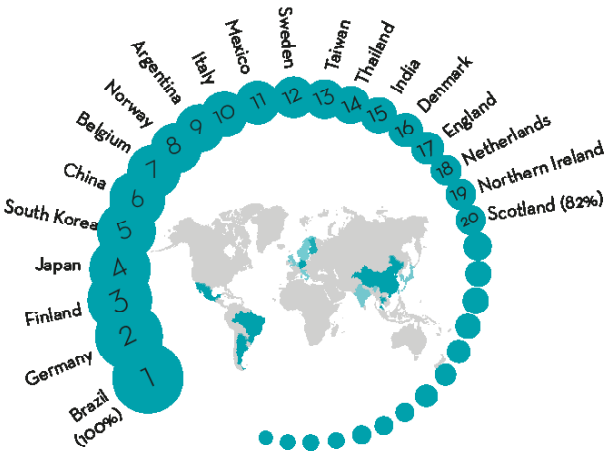
GLOBAL RECYCLING LEAGUE TABLE FOR ALUMINIUM

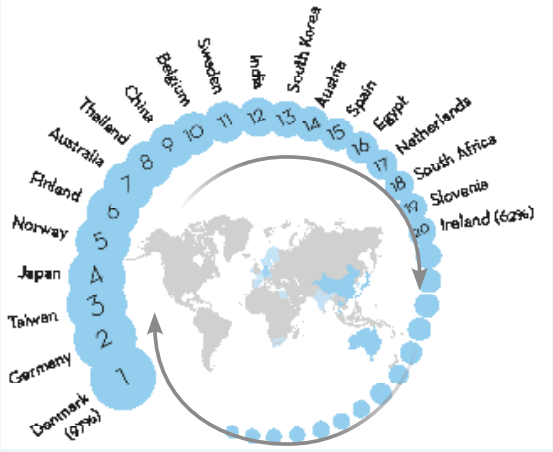


All top 20 countries/territories achieve separated for recycling rates above 80%. Brazil is the global leader in aluminium containers separated for recycling. It does not appear in the top 20 for any other container type or overall waste recycling.

Germany and Finland demonstrate their consistent performance across various waste categories. Germany is second for PET bottles separated for recycling and in the top 20 for glass bottle recycling; Finland is in the top six for all three containers.

In Brazil, while the overall municipal waste recycling rate is much lower, aluminium cans boast a remarkable 100 per cent separated for recycling rate.

GLOBAL RECYCLING LEAGUE TABLE FOR PET

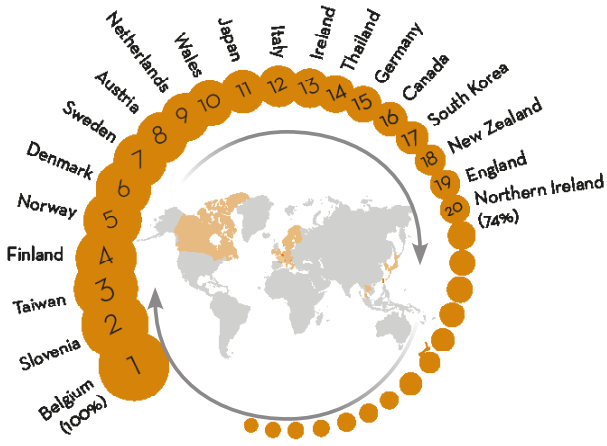


All top 20 countries/territories achieve separated for recycling rates above 60%.

A mix of European and Asian countries/territories lead the way. Denmark and Germany top the list, followed closely by Taiwan and Japan. Some countries that excel in PET recycling, such as Australia and Egypt, don't feature in other recycling categories.

There appears to be a correlation between PET and municipal solid waste rates. Five countries – Finland, Japan, Norway, Germany and Denmark – and Taiwan (a self-governing territory) achieve a separated for recycling rate of 90% or more for plastic containers.

GLOBAL RECYCLING LEAGUE TABLE FOR GLASS



Belgium leads the glass container separated for recycling list with 100%, followed by Slovenia and Taiwan. All top 20 countries/territories achieve separated for recycling rates above 70%.

The list is dominated by European countries. Japan is the highest-ranked non-European country (11th). Other non-European entries include Thailand (14th), Canada (16th), South Korea (17th), and New Zealand (18th).

The UK is well-represented with Wales, England, and Northern Ireland all featuring in the top 20. Notably, Belgium, Finland, Norway, Slovenia and Taiwan also demonstrate particularly high glass collection rates, reaching or surpassing 90%, aligning with the EU's 2025 target for glass packaging recycling. These nations have established strong policies that promote effective separate collection systems for glass waste.

Across all lists, there's a noticeable presence of Northern and Western European countries. Several countries/territories – Germany, Belgium, South Korea, Sweden, Finland, Denmark, Netherlands, Taiwan and Norway – appear in the top 20 for all four categories. Only Belgium appears in the top 10 for beverage containers and overall municipal solid waste.

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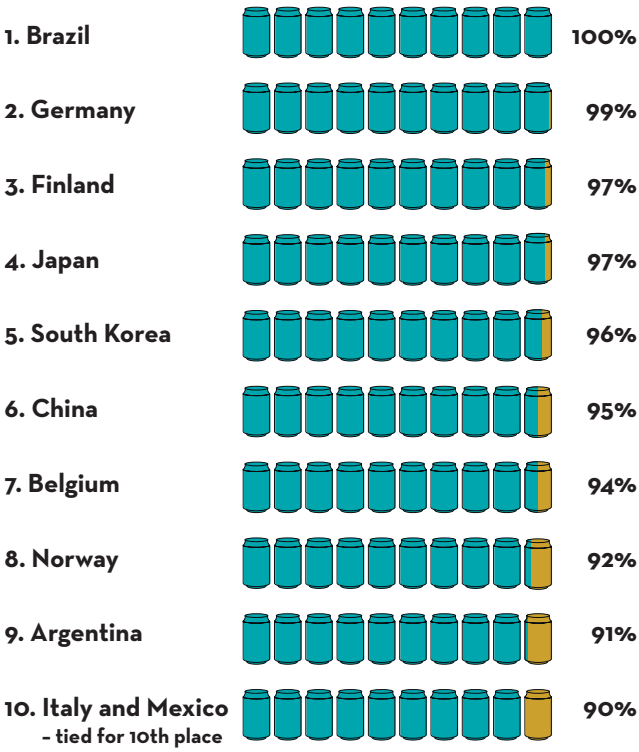
Eunomia's Global Recycling League Table report, using data from 2021, focuses on beverage container separated for recycling rates across 48 countries/territories.

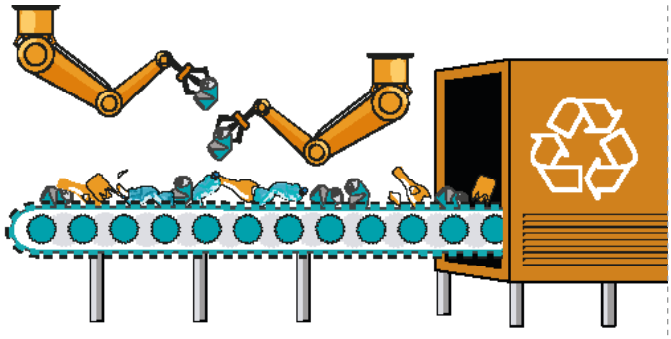
"Separated for recycling rates" measures the percentage of beverage containers collected separately for potential recycling. This differs from actual recycling rates, focusing on collection rather than final outcomes. It reflects how well a country/territory's system captures these materials, often through dedicated bins or deposit schemes.

High rates generally indicate strong recycling efforts, though some collected materials may still be lost in the process.

GLOBAL LEADERS IN SEPARATING ALUMINIUM CANS FOR RECYCLING

TOP 10 COUNTRIES – RATE OF SEPARATION OF ALUMINIUM CANS FOR RECYCLING

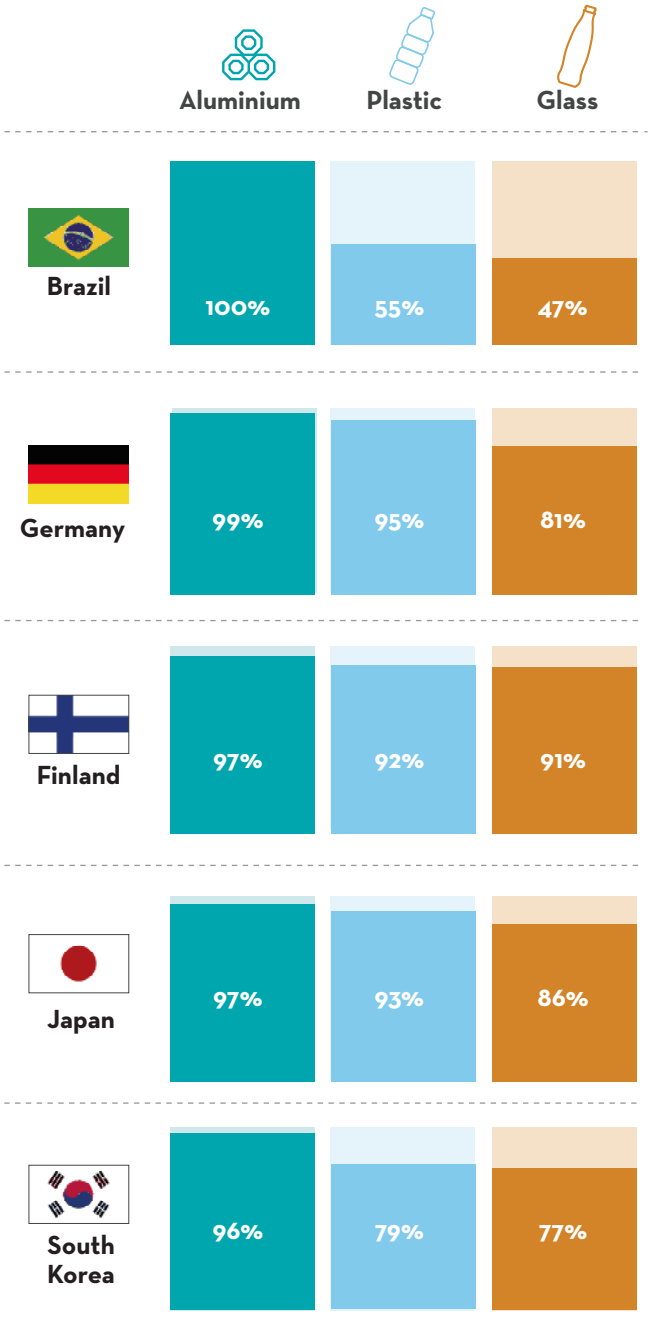




ALUMINIUM CANS VS. OTHER MATERIALS

Across 19 countries/territories, aluminium beverage containers outperform other beverage container materials in separation for recycling rates.

TOP 5 COUNTRIES FOR ALUMINIUM SEPARATED FOR RECYCLING: COMPARISON WITH PLASTIC AND GLASS BASED ON RATE OF SEPARATION



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TOP CONSUMER OF METAL BEVERAGE CANS: THE USA

The Eunomia study includes 4.8 million tonnes of aluminium beverage cans, 12.5 million tonnes of PET bottles and 49.7 million tonnes of glass bottles. For aluminium and glass, the USA represents the biggest market. For PET, China is the biggest market, with the USA in second position.

STATE RECYCLING RATE EXTREMES

The below figures represent the recycling rates specifically for aluminium beverage cans across the highest and lowest performing US states, Maine and West Virginia respectively. The national average of 45% aligns with the overall USA aluminium can recycling rate shown above.

Maine **83%***

US average: **45%**

West Virginia **6%***

**Real recycling rate, including all losses*

Factors influencing high recycling rates:
- Enforced extended producer responsibility and deposit return systems.
- Effective policies encouraging recycling.
- Public awareness and participation.

DATA QUALITY CHALLENGES

The study highlights variations in data quality across countries/territories, posing challenges for accurate international comparisons.

Denmark, Finland, Sweden, South Korea and **Norway** were the countries with the best data quality, according to the Eunomia report. **Singapore, Ghana, Egypt, Nigeria, Pakistan, Timor-Leste** and **Colombia** had the poorest data quality.

Many nations lack comprehensive waste management data, and inconsistent definitions and measurement methods further complicate analysis. Notably, recycling by the informal sector is often underreported, especially in lower-income countries/territories. In some statistics aluminium cans are not split up from all metal packaging.

These issues underscore the need for standardised data collection and reporting practices to ensure more reliable global waste management assessments and to inform effective policy decisions. For example, the separated for recycling rates are not always reflective of what is recycled.

RECOMMENDATIONS FOR ALUMINIUM CAN MANUFACTURERS

By acting on these recommendations, aluminium can manufacturers can leverage the findings of this study to further enhance the sustainability profile of their product and contribute to improved global recycling practices.

1. **ADVOCATE FOR STANDARDISED REPORTING:** Push for consistent, transparent reporting methods across countries/territories to accurately showcase aluminium's recycling advantages.
2. **INVEST IN COLLECTION INFRASTRUCTURE:** Support the development of efficient collection systems, particularly in countries/territories with lower recycling rates.
3. **PROMOTE CLOSED-LOOP RECYCLING:** Emphasise and expand closed-loop recycling programmes for aluminium cans to maintain material quality and reduce environmental impact.
4. **EDUCATE CONSUMERS:** Develop campaigns to inform the public about the high recyclability of aluminium cans and the importance of proper disposal.
5. **COLLABORATE WITH POLICYMAKERS:** Work with governments to implement policies that incentivise aluminium recycling and penalise less recyclable packaging options.
6. **INNOVATE FOR SUSTAINABILITY:** Continue research and development efforts to further improve the sustainability of aluminium can production and recycling processes.