

ANNUAL REPORT 2024



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WELCOME

BY THE CHAIRMAN OF RECYCLASS

2024 was a crucial year to accelerate our transition towards a circular plastic future. Following the adoption of the Packaging and Packaging Waste Regulation (PPWR), the plastic industry is facing a turning point to build the basis for the sustainable use of plastics.

RecyClass has established itself as a reference point in discussions across Europe when it comes to recyclability and the use of recycled plastic. This is clearly visible in the PPWR revision, where the recyclability ranking

established by RecyClass years ago has been followed. However, this is only the beginning of the legislative work. We hope that the development of the secondary legislation will be based on a transparent and science-based approach.

43 RECYCLASS DELIVERED
43 RECYCLABILITY
APPROVALS IN 2024,
SETTING A NEW
YEARLY RECORD! ??

In 2025, RecyClass will investigate even deeper the material characteristics limiting the recyclability of plastic products with the support of experts from the entire value chain. Based on this work, RecyClass aims to find innovations that can overcome such limits and inspire the definition of secondary legislation.



CROSSROADS, BUT THE ONLY WAY TO
PRESERVE THE COMPETITIVENESS OF OUR
INDUSTRY IS BY JOINING FORCES AND
ACCELERATING CIRCULARITY, WITHOUT
GETTING TEMPTED TO CUT CORNERS. **

RecyClass delivered 43 Recyclability Approvals in 2024, setting a new yearly record! Together with 18 finalised testing campaigns, the knowledge generated on the recyclability of plastic packaging technologies is invaluable. These science-based findings are key to providing transparent, reliable guidance for our industry and policymakers.

When it comes to RecyClass Certifications, the network of certified companies, as well as recognised and accredited third-party Certification Bodies has seen a continuous increase throughout 2024. Due to the dynamic legislative landscape in Europe, the growing interest in all three certifications is evident. Additionally, the growing number of Extended Producer Responsibility Schemes joining RecyClass and using our methodologies is a clear sign of the reliability and utility of our platform.

Building on the vast experience of our network over the last 10 years, RecyClass has extended its activities in 2024 to cover the topic of recyclability for the Automotive and Electrical & Electronic sectors. Activities for this group were officially kicked off in September 2024, and I am thrilled to see the progress in the years to come.

As we look ahead to 2025, many challenges and opportunities lie in front of us. The plastic value chain is at a crossroads, but the only way to preserve the competitiveness of our industry is by joining forces and accelerating circularity, without getting tempted to cut corners.

My heartfelt thanks go to all the Members, Supporters, Recognised Testing Laboratories, Certification Bodies and all other stakeholders for continuously helping us achieve the RecyClass mission & vision. An essential pillar in facilitating this progress is the growing RecyClass Team. Their dedication and meticulous work are commendable and essential in the transition of the industry as much as the involvement of the value chain.

PAOLO GLEREAN

WELCOM

BY THE ADVISORY BOARD CHAIR

As we wrap up 2024, the mission and vision of RecyClass have never been clearer nor more important for the value chain players who want to stay ahead of the circular plastic transition.

In my two years as the RecyClass Advisory Board Chair, I have had the pleasure of watching the initiative grow in its activities, scope and number of members, supporters, and other partners. After observing the active engagement of RecyClass members during Technical Committees and Advisory Board, I can firmly state that collaboration is key in advancing the harmonisation of recyclability principles and boosting the transparent uptake of recycled plastics in new products.

Throughout 2024, new Testing Campaigns and Recyclability Approvals have helped generate an even greater understanding of plastic packaging technologies and their compatibilities with recycling processes. Based on this knowledge, we can guide the industry toward achieving the upcoming targets outlined in the Packaging and Packaging Waste Regulation (PPWR).

Moreover, collaboration has marked the accomplishments of 2024, with the release of the first APR-RecyClass Cooperation Report, as well as the extension of the scope of



the RecyClass Online Tool to include metal packaging with the help of CIRCPACK.

Similarly, the growing interest in RecyClass Certifications is a testament to its position as a leading European hub for certifying circular plastics. The Audit Schemes undergo regular evaluation to ensure their robustness and, therefore, prove their reliability to the industry.

RecyClass' remarkable growth and increasing importance highlight the unwavering support from all of you. Together, we are driving meaningful progress toward a sustainable, science-based and circular future for plastics. As we approach 2025, I am eager to continue this journey with you. Let's unite our efforts to create a lasting impact.

MARK ROBERTS

RECYCLASS:

PIONEERING PLASTICS CIRCULARITY



VISION

RecyClass vision is to make plastic circular by ensuring all products are recyclable & by promoting a transparent use of recyclates in new products.



MISSION

RecyClass strives to enable the industry to accelerate the transition toward a circular plastic future. This is done by providing a set of ready-to-use tools both for boosting the recyclability of products and the uptake of recycled plastic.

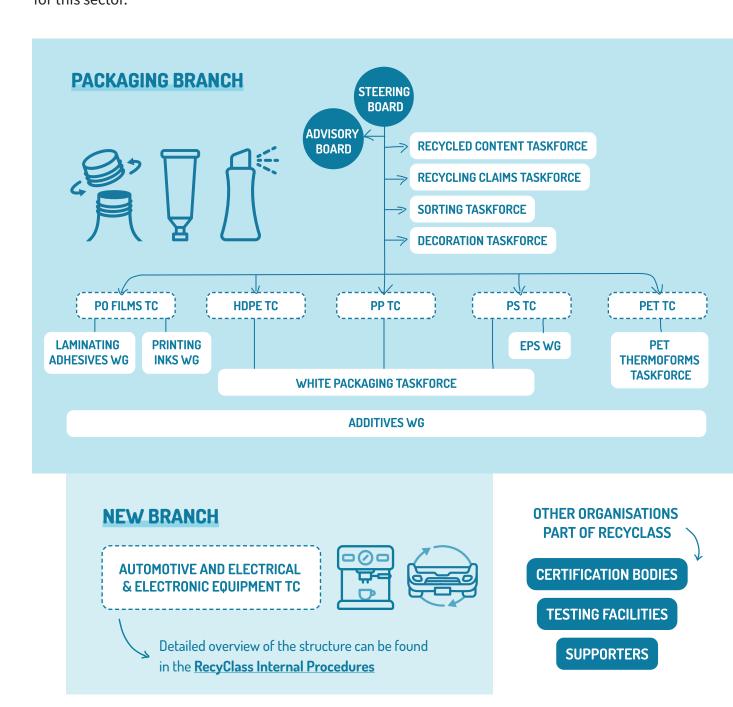
STRUCTURE & GOVERNANCE

The most notable addition to the RecyClass

Automotive and Electrical & Electronic Equipment (EEE) Technical Committee. This Technical Committee marks the first step in the extension of RecyClass activities to a new branch. The expertise of existing and new members will fuel the establishment of testing protocols and Design for Recycling Guidelines for this sector.

When it comes to extending activities within the packaging sector, the RecyClass Steering Board has approved the creation of the Industrial Packaging Taskforce which will start its activities in Q1 2025.

Based on the interest of the value chain players, RecyClass will continue to evaluate the possibilities of broadening its activities throughout 2025 and beyond.



COOPERATING ON A GLOBAL SCALE TO PROMOTE HARMONISATION

RecyClass continued its collaboration with the Association of Plastic Recyclers (APR) to promote global harmonisation for recyclability. RecyClass and APR joined forces in 2023 to close the gap between their recyclability evaluation protocols and Design for Recycling Guidelines, as well as to collaborate on different test campaigns. In March 2024, a report celebrating the first year of collaboration was published, and during

the year, more work was done on topics such as foamed olefin parts for HDPE & PP rigid packaging or additives for PET packaging. This global harmonisation was also supported by several companies that decided to perform tests according to both APR and RecyClass Recyclability Evaluation Protocols, therefore helping highlight the similarities and differences of the testing methods and their impact on the results.



MEMBERS & SUPPORTERS

During 2024, our network welcomed 24 new members and 12 supporters who actively participated in RecyClass activities with the shared objective of advancing plastic circularity. By assisting RecyClass Technical Committees and Taskforces, each member brings their expertise toward reaching the RecyClass vision and mission.

NEW RECYCLASS MEMBERS & SUPPORTERS IN 2024

MEMBERS

















































SUPPORTERS















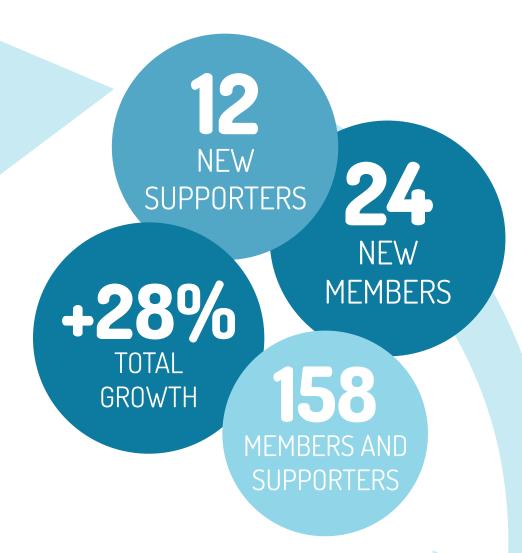


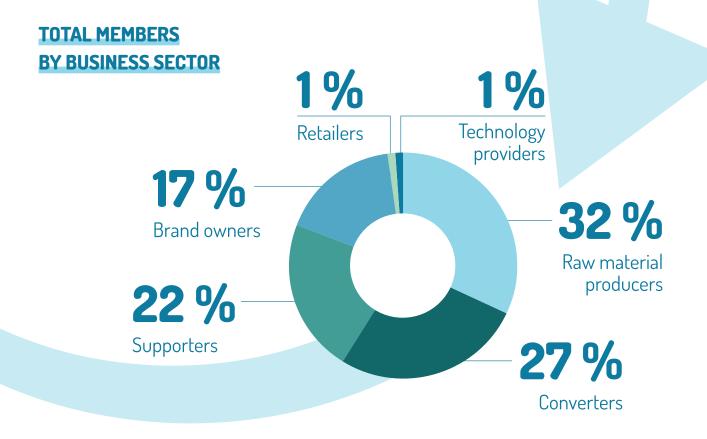












TECHNICAL DEVELOPMENTS

RECYCLABILITY EVALUATION

TESTING PROTOCOLS & FACILITIES

Recyclability Evaluation Protocols

RecyClass developed a series of Recyclability **Evaluation** Protocols to evaluate compatibility of innovative packaging components with existing recycling streams across Europe. RecyClass annually reviews all existing Protocols, incorporating feedback from the different actors of the value chain, as well as from RecyClass Recognised Testing Facilities. This year, a panel of academics, among which Prof. Luciano Di Maio (Università di Salerno), Dr. E.U. Ulphard Thoden van Velzen (University of Wageningen - The Netherlands), and Prof. Michael P. Shaver (The University of Manchester), peer-reviewed the Recyclability Evaluation Protocols to continue increasing their robustness and reliability.

In response to market demand, RecyClass publishes new protocols every year, targeting specific packaging components. In line with this, the Recyclability Evaluation Protocol for Labels & Adhesives applied on HDPE containers was released in July 2024.



releasability during the grinding and coldwashing stages of the recycling process.

In early 2024, the RecyClass PO Films Technical Committee also released a Recyclability Evaluation Protocol dedicated to laminating adhesives applied on PE films. This protocol was developed following 3 years of tests on laminating adhesives, focusing on the most affected properties of the recyclate.

In 2024, RecyClass advanced its efforts in understanding PET recycling, particularly on thermoformed PET, with the goal of publishing a Recyclability Evaluation Protocol for PET trays in early 2025.

Sorting Evaluation Protocol

The Sorting Evaluation Protocol serves as the basis for the Recyclability Certification Scheme, the Recyclability Approvals, and RecyClass sorting test campaigns. It plays a critical role in assessing the recyclability of plastic packaging, taking into consideration the impact various features such as mass colouration, decorations, size, and others can have during the sorting and recycling processes. In 2024, new testing facilities began the process of gaining recognition for applying the protocol. These additions will ensure adequate capacity to manage the increasing requests from companies aiming to test their packaging.

RECOGNISED SORTING TESTING FACILITIES







Recognised Testing Facilities

RecyClass has enhanced its collaboration with Recognised Testing Facilities over the past year to ensure the reliability and accuracy of the tests conducted. Sorting activities significantly expanded, with a new sorting centre recognised and three additional centres currently undergoing the recognition process. **RecyClass currently collaborates with 11 Testing Facilities for recyclability tests and 3 for sorting tests**. Some of the already Recognised Testing Facilities are in the process of extending their recognition to other streams, and several facilities are in the pipeline to be recognised during 2025, particularly for film and PS protocols. A complete list of all Recognised Testing Facilities by stream can be found on the *RecyClass website*.

RECOGNISED RECYCLABILITY TESTING FACILITIES























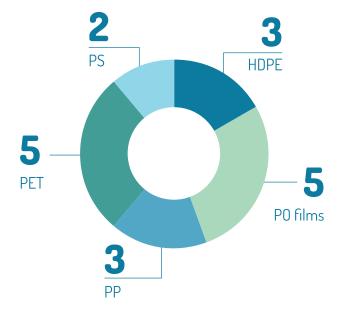


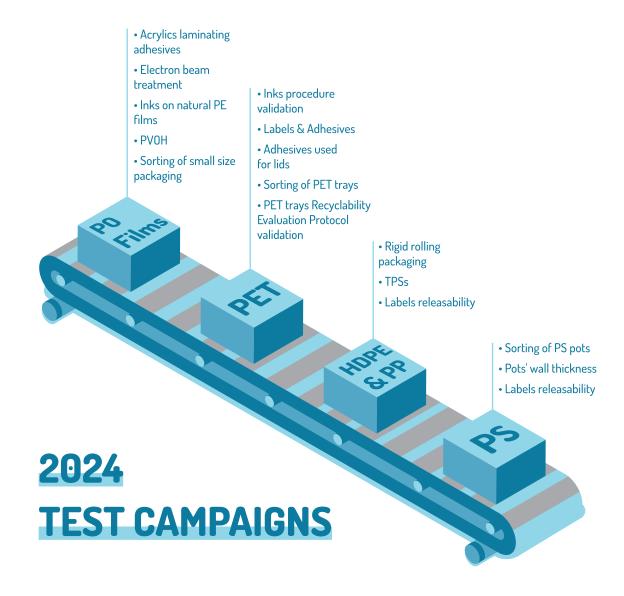
TEST CAMPAIGNS

In 2024, RecyClass conducted 18 testing campaigns covering various streams of plastic packaging. Several packaging features have been examined in greater detail following the 2023 test campaigns, including label releasability on rigid packaging or acrylic laminating adhesives for flexible packaging.

Test campaigns on PET bottles have significantly grown, addressing a broad range of topics, particularly the impact of inks, but also labels and adhesives applied on PET bottles. Under the umbrella of the new PET Thermoform Taskforce, new initiatives related to PET trays, have been developed, including comprehensive test campaigns focused on adhesives used for lids, the validation of a Recyclability Evaluation Protocol, and the impact of specific elements present in the trays on their sorting.

REPARTITION OF TEST CAMPAIGNS BY TECHNICAL COMMITTEES





Several analyses on PS packaging were conducted to understand the effect of pots' wall thicknesses on the recycling process. As sorting is a crucial aspect of proper packaging recyclability, several test campaigns were conducted to better understand the problematic behaviour of certain packaging types, for example, small-size packaging, the effect of different decorations and the rigid rolling behaviour. Building on the test carried out in 2023, further investigations on inks have emerged as necessary and this topic is expected to be a key focus in 2025. Part of RecyClass test campaigns were done in collaboration with other organisations, as in the case of research performed on elements affecting HDPE and PP cosmetic packaging in

cooperation with SPICE, or investigations on the impact of electron-beam treatment on PE films, with the support of ESI.

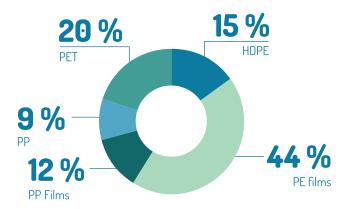
Based on the results of the test campaigns, RecyClass has strengthened its Design for Recycling recommendations to address more specific packaging features, as outlined in the latest versions of the <u>Design for Recycling Guidelines</u>.

RECYCLABILITY APPROVALS

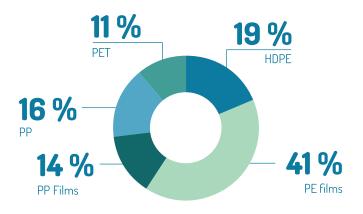
In 2024, the number of requests for recyclability tests to obtain a Recyclability Approval rose, surpassing 70. The distribution of recyclability tests conducted under RecyClass Recyclability Evaluation Protocols reveals a split with 55 % focused on flexible packaging and 45 % on rigid packaging. The number of PP flexible packaging tests has increased, representing 12 % of all tests performed. The same analysis can be made for the PET stream, which has seen a growing number of tests, accounting for over 20 % of the total tests conducted throughout the year. The number of tests related to HDPE and PP rigid packaging remained consistent compared to 2023.

In 2024, RecyClass Technical Committees issued a total of 43 Approval Letters to companies for their plastic packaging technologies, reflecting a 50 % increase compared to the previous year. The PE film recycling stream is the most represented, with 15 Approval Letters delivered, followed by the HDPE (7) and PP rigid (6) streams. Overall, 72 % of the innovations were endorsed as fully compatible with their respective recycling streams, 23 % were classified as limited compatible, and 5 % were considered not compatible.

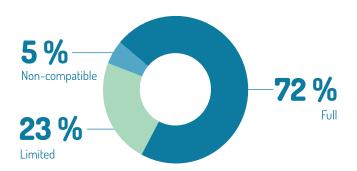
SHARE OF RECYCLABILITY APPROVALS STARTED IN 2024



APPROVAL LETTERS DELIVERED IN 2024



LEVELS OF COMPATIBILITY OF APPROVALS IN 2024



DESIGN FOR RECYCLING GUIDELINES

The results of the test campaigns and Recyclability Approvals, reviewed by the respective Technical Committees, led to the update of the Recyclass Design for Recycling Guidelines in January and July. In 2024, a major revamp of the Guidelines focused on the decoration section, including clarifications regarding adhesives, labels and inks.

RecyClass is committed to continuously updating the Design for Recycling Guidelines to support the industry in improving the overall recyclability of plastic products.

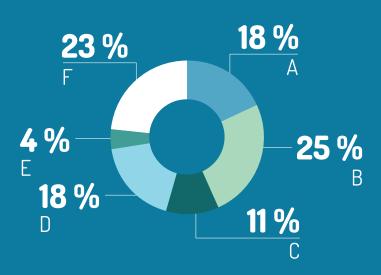
THE ONLINE TOOL

The RecyClass Online Tool has been designed to help the industry self-assess the recyclability of plastic packaging before proceeding with the formal certification process. Regularly updated in line with the latest RecyClass Design for Recycling Guidelines, which are revised twice per year, the tool provides users with the most up-to-date information on recyclability. It also features a comprehensive mapping of recycling infrastructure availability across Europe, tailored to various packaging streams. This mapping is continuously refreshed based on insights from RecyClass Certification Bodies and EPR supporters, ensuring accuracy and reliability.

In the last months, the Online Tool expanded its scope to include new packaging materials, beginning with aluminium and steel, in collaboration with Circpack by Veolia. Users can now assess both plastic and metal packaging.

TEST YOUR PACKAGING >

DISTRIBUTION OF THE RECYCLABILITY RESULTS OBTAINED VIA THE ONLINE TOOL





RECYCLASS CERTIFICATIONS

RECYCLABILITY CERTIFICATION

Over 500 certificates, encompassing thousands of plastic packaging products, have been issued under the RecyClass Recyclability Certification Scheme. This achievement reflects the engagement of more than 130 companies across the plastics value chain. In 2024 alone, the total number of certificates issued—including the Letter of Compatibility, Design for Recycling, and Recyclability Rate — has surpassed 170.

To address the growing demand for RecyClass certifications, two training courses for prospective auditors were conducted in March and July. Additionally, three new Certification Bodies — Ecocert, Interzero, and PIEP — were recognised in 2024 to evaluate the recyclability of plastic packaging. This expansion of the auditor network enhances the capacity to certify companies and meets the increasing needs of the plastics industry. **RecyClass now boasts 51 auditors from 16 Certification Bodies for Recyclability Certification.** Check the whole network of RecyClass Certification Bodies for Recyclability Certification on *RecyClass website*.

CERTIFICATES FROM THE RECYCLASS RECYCLABILITY

CERTIFICATION SCHEME



RECYCLING PROCESS CERTIFICATION

The Recycling Process Certification focuses on certifying the origin of waste and its traceability along the recycling process in line with the European standard EN 15343:2007. Moreover, this certification includes requirements to assess the environmental performance of recycling processes. RecyClass Recycling Process Certification also includes a specific add-on module for food contact applications aligned with Regulation (EU) N° 2022/1616.

In February 2024, RecyClass published Module D as part of the Recycling Process Certification Scheme, introducing new add-on requirements specifically designed for the PVC industry. The new module is available to all PVC recyclers to fulfil the requirements related to controlled loops for PVC applications.

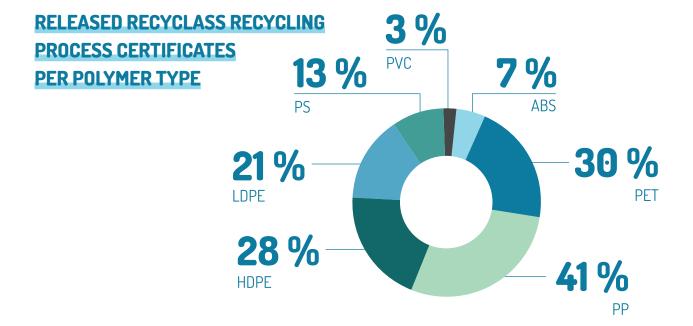
Recognised Certification Bodies issued 324 certificates for the RecyClass Recycling Process Certification in 2024. Certificates were mainly issued in EU27 countries, plus the UK, Switzerland and Norway. Additionally, valid certificates were also issued outside EU in Turkey, Vietnam, Indonesia, Serbia,

Myanmar, China, Egypt, Brazil, Chile, Tunisia, Algeria, Israel and Thailand.

RecyClass organised 2 Auditor Training Courses in 2024. As a result, RecyClass recognised a total of 24 new auditors, raising the number to 107 auditors active at the end of 2024. An additional Auditor Training Course took place in November 2024 where 15 participants joined.

Overall, RecyClass counts with 37 recognised Certification Bodies for this Certification Scheme.

Certification Bodies continued the RecyClass accreditation process for certifications in line with the international standard ISO 17065 throughout 2024. The following Certification Bodies are currently accredited: Kiwa Nederland BV by RvA, Kiwa IVAC by ENAC, Control Union Spain by ENAC, Envacir by ENAC, Silk Road Certification by PCA, Almaland by PCA, Ecogrant by NAB and ACE-ESG-PLAS by IPAC. The full list of Certification Bodies can be found here.





RECYCLED PLASTIC TRACEABILITY CERTIFICATION

The RecyClass Recycled Plastic Traceability Certification focuses on certifying the traceability and the use of recycled plastics along the plastics value chain following a controlled blending approach. The certification was developed in line with the principles described in EN 15343:2007 and the controlled blending model as described in ISO 22095.

In September 2024, RecyClass published version 2.3 of the Recycled Plastics Traceability Audit Scheme and Quality Management and Procedures. This new version includes clarifications for audit evaluations for traders, multisite operations and brand owners. The revised audit documents also include a dedicated annexe for the eco-modulation of products where information on certified recycled plastics is required. The requirements for recycled input coming from certified suppliers were also revised to facilitate the addition of new suppliers of recycled plastics in the chain of custody. **Finally, a module for closed and controlled loops was published in February 2024.** This add-on module to the general requirements extends the audit criteria to include PVC products using recycled plastics in a

controlled loop, as well as plastic products that would like to claim the use of recycled plastics in the same applications from which they originated.

RecyClass issued more than 196 valid certificates for the Recycled Plastic Traceability Certification in 2024. Certified products include films, sheets, containers, preforms, bottles, bags, and tubes, among others.

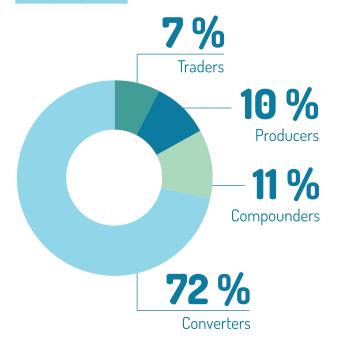
During 2024, Kiwa Nederland BV by RvA, Kiwa IVAC by ENAC, Control Union Spain by ENAC, Envacir by ENAC, Silk Road Certification by PCA, Almaland by PCA, Ecogrant by NAB and ACE-ESG-PLAS by IPAC, were accredited to issue RecyClass Recycled Plastic Traceability certificates in line with ISO 17065. They joined DQS in Greece, accredited by The Hellenic Accreditation System (ESYD). These accreditation efforts allow Certification Bodies to issue RecyClass certificates to demonstrate the use of recycled plastics in compliance with the requirements stated in the Spanish National legislation for the exemption from the Spanish Plastic Tax.

Overall, RecyClass counts with 9 accredited Certification Bodies that work with a total network of 130 recognised auditors from 22 countries. Furthermore, additional Certification Bodies are in the process of accreditation.

RecyClass organised 2 Auditor Training Courses in 2024. These resulted in the addition of 33 recognised auditors and the recognition of one new Certification Body – Applus+ from Spain. The full list of Certification Bodies for Recycled Plastics Traceability Certification can be found here.



PLASTIC TRACEABILITY CERTIFICATES DIVIDED BY ACTOR OF THE PLASTIC VALUE CHAIN



COMMUNICATION & EVENTS

EXTERNAL COMMUNICATION



PUBLICATIONS

Design Book

A new version of the RecyClass Design Book was released in January 2025 to incorporate all the modifications made to the Design for Recycling Guidelines in 2024! This document serves as a practical guide for the plastic industry and clarifies the importance of recyclability and Design for Recycling for plastic circularity. With detailed explanations of the various recycling steps, the document outlines the key elements that stakeholders in the value chain should consider when designing plastic packaging. The revision of the document was carried out to align with the latest available RecyClass Design for Recycling Guidelines.

DOWNLOAD >

APR & RecyClass Cooperation Report

In March 2023, APR and RecyClass signed a 3-year cooperation agreement with the objective of driving global harmonisation on the Design for Recycling of plastic packaging. After a year of collaboration, the two associations evaluated the results of their successful partnership based on scientific findings and a fact-based approach.

DOWNLOAD >

22



PODCASTS

This year, Paolo Glerean, RecyClass Chairman, was featured in the Sustainability Spotlights podcast by Carboledger, a platform focused on helping businesses track and manage their carbon emissions. During this podcast, Paolo Glerean shed light on the main roadblocks to plastics recycling and the added value RecyClass brings when it comes to recyclability and the uptake of recycled plastics in new products.

LISTEN TO THE PODCAST >



PRESS RELEASES

RecyClass has consistently made its presence known in the media by announcing Recyclability Approvals, sharing laboratory findings, and providing updates on various certification schemes and activities. With a 30% increase in opening rates, RecyClass is successfully reaching its target audience.

SUBSCRIBE TO RECYCLASS NEWSROOM >





SOCIAL MEDIA

With more than 3,200 new followers in one year on the RecyClass LinkedIn account, which represents a 46 % increase from 2023, we are creating content that is interesting and relevant for the plastic value chain globally. This has led to an increase in social media engagement (6.3 % on average for the year, well above



industry benchmarks), in the participation in our webinars and downloads of our guidelines on plastics circularity.



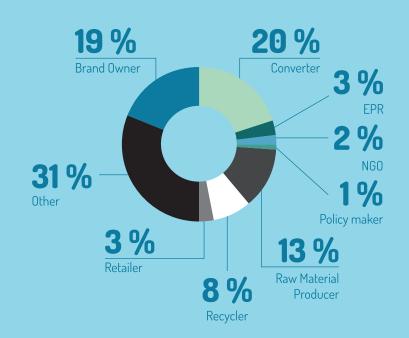


RECYCLASS WEBINARS SERIES

With a total attendance of more than 1000 participants, the RecyClass webinar series has effectively delivered science-based information to both newcomers and experts in the field through four informative sessions. The sessions covered various subjects, including Extended Producer Responsibility (EPR) schemes, adhesives for packaging labels, and challenges in PET recycling.

Presentations of all webinars can be found on the RecyClass website, while recording can be accessed by clicking on the sessions below.

WEBINAR ATTENDANCE 2024



RecyClass Unwrapped

The role of EPR schemes for plastics circularity

RecyClass for Beginners

Recyclability Certifications

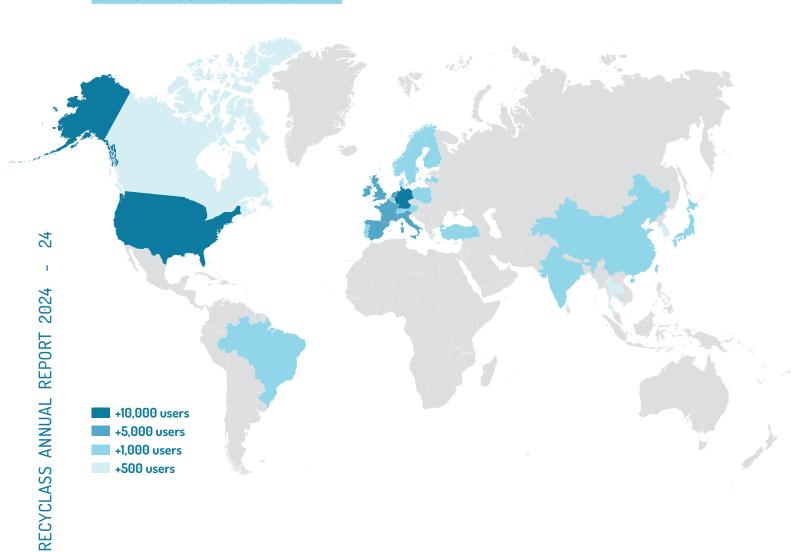
Science behind Recyclability

- Adhesives for packaging labels
- Unlocking challenges in PET recycling

WEBSITE

At RecyClass, we use cross-channel communications to make sure that the right people receive the science-based information we produce in our Technical Committees and Taskforces, or via collaboration with external laboratories, recognised certification bodies and other partners. In addition to social media activities, webinars, and media collaborations, the RecyClass website is the primary source of knowledge for our audience. With 20,000 active users, our website significantly exceeds industry benchmarks. Our Design for Recycling Guidelines holds the record for the most visited page, with over 713,000 views. This demonstrates the increasing interest in the circularity of plastic recycling and motivates us to pave the way for all the actors of the value chain.

WEBSITE USERS BY COUNTRY



THANKS TO ALL

OUR MEMBERS & SUPPORTERS

BRANDS & RETAILERS

























































CONVERTERS

























































































RAW MATERIALS PRODUCERS

























































































SUPPORTERS







































































TECHNOLOGY PROVIDERS





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www.recyclass.eu

