

# The Global Market for Recyclable Packaging 2024-2035

<https://marketpublishers.com/r/G66CF93F8DC5EN.html>

Date: March 2024

Pages: 589

Price: US\$ 1,550.00 (Single User License)

ID: G66CF93F8DC5EN

## Abstracts

Plastics consumption continues to steeply increase worldwide, while resultant waste is currently mostly landfilled, discarded to the environment, or incinerated. Developments in mechanical and chemical recycling technology are changing the shape of the plastics industry and advanced materials and technologies are impacting glass, paper and metal recycling sectors. It's becoming increasingly possible to recover more materials in a closed-loop, helping to retain maximum value. The Global Market for Recyclable Packaging 2024-2035 examines recyclable packaging across paper, plastics, glass, and metals, including market size, drivers, applications, technologies, companies, sustainability, and future outlook. The markets is segmented by region and material type, and quantitative forecasts are provided through 2035.

Landscape analysis covers major brands, packaging manufacturers, waste management firms, and recycling technology innovators driving circularity. Technical processes are explained across mechanical and chemical recycling, sorting, and reprocessing. Packaging innovations in bio-based materials, smart packaging, and reusable models are highlighted. The report also examines adjacent spaces like e-commerce fulfillment and policy landscapes shaping recyclable packaging. Report contents include:

Recyclable Packaging Industry Overview

Markets, processes, technologies

Drivers and trends shaping growth

Plastics Recycling Analysis

## Mechanical and chemical recycling overview

Polymer demand forecasts by process

Pyrolysis, gasification, depolymerization techs

Bio-based and marine degradable plastics

Market challenges and innovations

Paper Packaging Recycling Analysis

Market size, processes, economics

Fiber sources, strength improvements

Compostable solutions, active packaging

Industry challenges and future outlook

Glass Packaging Recycling Analysis

Market size, suppliers, collection economics

Processing methods, end-use applications

Smart glass, hybrids, material advances

Participation challenges and opportunities

Metal Packaging Recycling Analysis

Market size, processes, economics

Aluminium, steel, and hybrid innovations

Active and smart metal packaging

Benefits driving growth and adoption

Digital Technologies Analysis

Blockchain, IoT, AI applications

Digital watermarking for advanced recycling

Markets and Applications Analysis

Food, beverages, CPG, retail, e-commerce

Industrial packaging, healthcare, automotive

Competitive Landscape

Profiles of over 340 companies. Companies profiled include Aduro Clean Technologies, Agilyx, Alterra, Amsty, APK?AG, Aquafil, Arcus, Axens, BASF Chemcycling, BiologiQ, Carbios, DePoly, Dow, Eastman Chemical, EREMA Group GmbH, Extractive, ExxonMobil, Fych Technologies, Garbo, gr3n SA, Hyundai Chemical, Ioniqa, Itero, Licella, Mura Technology, Neste, Notpla, Perflute, Plastic Energy, Plastogaz SA, Plastic Energy, Polystyvert, Pyrowave, Recyc'ELIT, RePEaT Co., Ltd., revalyu Resources GmbH, SABIC, Samsara ECO, Synova, TOMRA Recycling, and Waste Robotics.

Market Size and Forecasts

Regional and material type segmentation

Revenue and volume projections through 2035

Sustainability Analysis

Circularity, carbon footprint, and life cycle assessment

Energy use, water conservation, and social factors

## Contents

### 1 RESEARCH METHODOLOGY

### 2 INTRODUCTION

2.1 Recycling Process

2.2 Benefits

2.3 Types of Recyclable Packaging

2.3.1 Paper & Cardboard

2.3.2 Glass

2.3.3 Aluminium

2.3.4 Steel

2.3.5 Plastics

2.4 Recycling Rates

2.5 Barriers to Recycling

2.6 Market landscape

2.6.1 Raw Materials

2.6.2 Packaging Converters

2.6.3 Consumer Brands

2.6.4 Packaging Equipment

2.6.5 Waste Management

2.6.6 Recyclers

2.7 Waste plastics value chain

2.8 Market drivers

2.8.1 Circular Economy

2.8.2 Waste Reduction

2.8.3 Legislation

2.8.3.1 EU

2.8.3.2 United States

2.8.3.3 Asia/Pacific

2.8.4 Corporate Sustainability Commitments

2.8.5 Consumer Sentiment

2.9 Challenges

2.10 Future market outlook

2.10.1 Increased adoption of mono-material packaging

2.10.2 Growth of bio-based and compostable packaging

2.10.3 Mainstream Eco-Packaging

2.10.4 Expansion of recycling infrastructure

- 2.10.5 Adoption of advanced sorting and recycling technologies
- 2.10.6 Shift towards a circular economy
- 2.10.7 Digitized Supply Chains
- 2.10.8 Dematerialized Delivery
- 2.10.9 Integrated Policy Frameworks
- 2.10.10 Carbon Dioxide (CO<sub>2</sub>) as a renewable feedstock

### **3 PLASTICS PACKAGING RECYCLING**

- 3.1 Global production of plastics
- 3.2 The importance of plastic
- 3.3 Issues with plastics use
- 3.4 Plastic pollution
- 3.5 Mechanical vs. Chemical Recycling
- 3.6 Polymers used in packaging applications
  - 3.6.1 Polyethylene terephthalate (PET)
  - 3.6.2 Polyethylene
    - 3.6.2.1 Low density and linear low density polyethylene LDPE/ (LDPE)
    - 3.6.2.2 High density Polyethylene (HDPE)
  - 3.6.3 Polypropylene (PP)
  - 3.6.4 Polyamides (PA)
  - 3.6.5 Polyvinyl chloride (PVC)
  - 3.6.6 Cyclic olefin copolymers (COC)
  - 3.6.7 Polystyrene (PS)
  - 3.6.8 Thermoplastic elastomers
- 3.7 Global polymer demand 2022-2040, segmented by recycling technology
  - 3.7.1 PE
  - 3.7.2 PP
  - 3.7.3 PET
  - 3.7.4 PS
  - 3.7.5 Nylon
  - 3.7.6 Others
- 3.8 Global polymer demand 2022-2040, segmented by recycling technology, by region
  - 3.8.1 Europe
  - 3.8.2 North America
  - 3.8.3 South America
  - 3.8.4 Asia
  - 3.8.5 Oceania
  - 3.8.6 Africa

- 3.9 Thermoplastics recycling processes
  - 3.9.1 Collection and Sorting
  - 3.9.2 Cleaning and Shredding
  - 3.9.3 Melting and Extrusion
  - 3.9.4 Challenges and Limitations
  - 3.9.5 Advanced Recycling Technologies
- 3.10 Vulcanized elastomers recycling processes
- 3.11 Mechanical recycling
  - 3.11.1 Processes
  - 3.11.2 Closed-loop mechanical recycling
  - 3.11.3 Open-loop mechanical recycling
  - 3.11.4 Polymer types, use, and recovery
  - 3.11.5 Common plastics mechanically recycled
    - 3.11.5.1 PET
    - 3.11.5.2 HDPE
    - 3.11.5.3 LDPE
    - 3.11.5.4 PP
    - 3.11.5.5 PVC
    - 3.11.5.6 PS
  - 3.11.6 Optical and sensor technologies
    - 3.11.6.1 Near-infrared (NIR) sensors
    - 3.11.6.2 Mid-infrared (MIR) sensors
    - 3.11.6.3 Hyperspectral imaging
    - 3.11.6.4 Optical sorting
    - 3.11.6.5 Metal detectors
    - 3.11.6.6 X-ray detectors
    - 3.11.6.7 Melt Indexers
    - 3.11.6.8 Colourimeters
  - 3.11.7 Life cycle assessment
    - 3.11.7.1 Life Cycle Assessment of Virgin Plastic Production
    - 3.11.7.2 Life Cycle Assessment of Mechanical Recycling
    - 3.11.7.3 Life Cycle Assessment of Chemical Recycling
  - 3.11.8 Market trends
  - 3.11.9 Global mechanical recycling capacity
- 3.12 Advanced Chemical Recycling
  - 3.12.1 Capacities
  - 3.12.2 Chemically recycled plastic products
  - 3.12.3 Market map
  - 3.12.4 Value chain

- 3.12.5 Life Cycle Assessment (LCA)
- 3.12.6 Plastic yield of each chemical recycling technologies
- 3.12.7 Prices
- 3.12.8 Market challenges
- 3.12.9 Technologies
  - 3.12.9.1 Applications
  - 3.12.9.2 Pyrolysis
    - 3.12.9.2.1 Non-catalytic
    - 3.12.9.2.2 Catalytic
      - 3.12.9.2.2.1 Polystyrene pyrolysis
      - 3.12.9.2.2.2 Pyrolysis for production of bio fuel
    - 3.12.9.2.3 Used tires pyrolysis
      - 3.12.9.2.3.1 Conversion to biofuel
    - 3.12.9.2.4 Co-pyrolysis of biomass and plastic wastes
  - 3.12.9.3 Gasification
    - 3.12.9.3.1 Technology overview
      - 3.12.9.3.1.1 Syngas conversion to methanol
      - 3.12.9.3.1.2 Biomass gasification and syngas fermentation
      - 3.12.9.3.1.3 Biomass gasification and syngas thermochemical conversion
    - 3.12.9.3.2 Companies and capacities (current and planned)
  - 3.12.9.4 Dissolution
    - 3.12.9.4.1 Technology overview
    - 3.12.9.4.2 Companies and capacities (current and planned)
  - 3.12.9.5 Depolymerisation
    - 3.12.9.5.1 Hydrolysis
      - 3.12.9.5.1.1 Technology overview
    - 3.12.9.5.2 Enzymolysis
      - 3.12.9.5.2.1 Technology overview
    - 3.12.9.5.3 Methanolysis
      - 3.12.9.5.3.1 Technology overview
    - 3.12.9.5.4 Glycolysis
      - 3.12.9.5.4.1 Technology overview
    - 3.12.9.5.5 Aminolysis
      - 3.12.9.5.5.1 Technology overview
      - 3.12.9.5.5.2 Companies and capacities (current and planned)
  - 3.12.9.6 Other advanced chemical recycling technologies
    - 3.12.9.6.1 Hydrothermal cracking
    - 3.12.9.6.2 Pyrolysis with in-line reforming
    - 3.12.9.6.3 Microwave-assisted pyrolysis

- 3.12.9.6.4 Plasma pyrolysis
- 3.12.9.6.5 Plasma gasification
- 3.12.9.6.6 Supercritical fluids
- 3.13 3D printing
  - 3.13.1 Benefits
  - 3.13.2 Challenges
  - 3.13.3 Applications
- 3.14 Bio-plastics
  - 3.14.1 Bio-based or renewable plastics
    - 3.14.1.1 Drop-in bio-based plastics
    - 3.14.1.2 Novel bio-based plastics
  - 3.14.2 Biodegradable and compostable plastics
    - 3.14.2.1 Biodegradability
    - 3.14.2.2 Compostability
  - 3.14.3 Marine degradable plastics
  - 3.14.4 Polylactic acid (Bio-PLA)
  - 3.14.5 Polyethylene terephthalate (Bio-PET)
  - 3.14.6 Polytrimethylene terephthalate (Bio-PTT)
  - 3.14.7 Polyethylene furanoate (Bio-PEF)
  - 3.14.8 Polyamides (Bio-PA)
  - 3.14.9 Poly(butylene adipate-co-terephthalate) (Bio-PBAT)
  - 3.14.10 Polybutylene succinate (PBS) and copolymers
  - 3.14.11 Polyethylene (Bio-PE)
  - 3.14.12 Polypropylene (Bio-PP)
  - 3.14.13 Polyhydroxyalkanoates (PHA)
    - 3.14.13.1 Types
      - 3.14.13.1.1 PHB
      - 3.14.13.1.2 PHBV
    - 3.14.13.2 Synthesis and production processes
    - 3.14.13.3 Commercially available PHAs
- 3.15 Smart & Active Packaging
  - 3.15.1 Sensors
  - 3.15.2 RFID tags
  - 3.15.3 Oxygen scavengers
  - 3.15.4 Antimicrobial surfaces
  - 3.15.5 Moisture Regulators
- 3.16 Reuse Models
  - 3.16.1 Refillable Containers
  - 3.16.2 Reusable Transport Packaging



- 3.16.3 Concentrates
- 3.17 Circular Design
  - 3.17.1 Mono-material Packaging
  - 3.17.2 Colouring for Sorting
  - 3.17.3 Label Considerations
  - 3.17.4 Easy Opening for Consumer Access

## **4 PAPER PACKAGING RECYCLING**

- 4.1 Market overview
  - 4.1.1 Global market size
    - 4.1.1.1 Total
    - 4.1.1.2 By market
    - 4.1.1.3 By region
  - 4.1.2 Supply
  - 4.1.3 Demand drivers
  - 4.1.4 Prices
  - 4.1.5 Economics
- 4.2 Paper Packaging Types
- 4.3 Paper Packaging Recycling Process
- 4.4 Benefits of Paper Recycling
- 4.5 Issues Hampering Recycling
- 4.6 Renewable Materials
  - 4.6.1 Bagasse
  - 4.6.2 Bamboo
  - 4.6.3 Flax
  - 4.6.4 Mycelium
    - 4.6.4.1 Companies
  - 4.6.5 Starch-based materials
  - 4.6.6 Seaweed and algae-based materials
    - 4.6.6.1 Polysaccharides used in bioplastic production:
    - 4.6.6.2 Microalgae
    - 4.6.6.3 Macroalgae
    - 4.6.6.4 Companies
  - 4.6.7 Nano-fibrillated cellulose (NFC)
  - 4.6.8 Bacterial Nanocellulose (BNC)
  - 4.6.9 Micro-fibrillated cellulose (MFC)
  - 4.6.10 Compostable Packaging
  - 4.6.11 PLA Lining

- 4.6.12 Molded Fiber
- 4.6.13 Coated Papers
- 4.7 Active & Intelligent Packaging
  - 4.7.1 Benefits
  - 4.7.2 Challenges
  - 4.7.3 Oxygen Absorption
    - 4.7.3.1 Recyclability and Sustainability
  - 4.7.4 Moisture Regulation
    - 4.7.4.1 Recyclability and Sustainability
  - 4.7.5 Leak and Tamper Indicators
    - 4.7.5.1 Recyclability and Sustainability
  - 4.7.6 RFID Technology
    - 4.7.6.1 Recyclability and Sustainability
  - 4.7.7 Ethylene Absorbers
    - 4.7.7.1 Recyclability and Sustainability
  - 4.7.8 Antimicrobial Packaging
    - 4.7.8.1 Recyclability and Sustainability
  - 4.7.9 Time-Temperature Indicators
    - 4.7.9.1 Recyclability and Sustainability
  - 4.7.10 Freshness Indicators
    - 4.7.10.1 Recyclability and Sustainability
- 4.8 Strength Improvements
  - 4.8.1 Nanocellulose
  - 4.8.2 Synthetic Binders
  - 4.8.3 3D Molded Fiber
  - 4.8.4 Mineral Additives
- 4.9 Circular Design
  - 4.9.1 Mono-material packaging
  - 4.9.2 Water-based coatings
  - 4.9.3 Smart Dyes
  - 4.9.4 Digital Watermarking
- 4.10 Other technologies
  - 4.10.1 Robotics
    - 4.10.1.1 Automated Sorting
    - 4.10.1.2 Palletizing and Baling
    - 4.10.1.3 Benefits
  - 4.10.2 Enzymatic Pretreatment
    - 4.10.2.1 Benefits
  - 4.10.3 Advanced Membranes

- 4.10.3.1 Types and Mechanisms
- 4.10.3.2 Benefits
- 4.10.4 Black Liquor Valorization
  - 4.10.4.1 Recovery of Chemicals
  - 4.10.4.2 Bioplastics
  - 4.10.4.3 Benefits
- 4.10.5 Pressurized Hot Water Extraction
  - 4.10.5.1 Principles and Mechanisms
  - 4.10.5.2 Benefits
- 4.11 Market Challenges

## **5 GLASS PACKAGING RECYCLING**

- 5.1 Market overview
  - 5.1.1 Global market size
    - 5.1.1.1 Total
    - 5.1.1.2 By market
    - 5.1.1.3 By region
  - 5.1.2 Supply
  - 5.1.3 Demand drivers
  - 5.1.4 Prices
  - 5.1.5 Economics
- 5.2 Glass Packaging Recycling Process
- 5.3 Benefits of Glass Recycling
- 5.4 Participation Challenges
- 5.5 Use of Recycled Glass
- 5.6 Lightweighting
- 5.7 Active & Smart
- 5.8 Reuse Models
- 5.9 Cullet Processing
  - 5.9.1 Advanced optical sorting for cullet purification
  - 5.9.2 Decoating technologies
- 5.10 Other materials and technologies
  - 5.10.1 Optical Sorters
    - 5.10.1.1 Advanced Optical Scanning and AI
    - 5.10.1.2 Benefits
  - 5.10.2 Glass Foams
    - 5.10.2.1 Foamed Glass from Recycled Bottles/Jars
    - 5.10.2.2 Applications of Glass Foam

### 5.10.3 Bioglass

#### 5.10.3.1 Bioglass in Packaging

### 5.10.4 Glass-Polymer Hybrids

#### 5.10.4.1 Glass-Polymer Hybrids in Packaging

### 5.10.5 Digital Watermarking

#### 5.10.5.1 Digital Watermarking on Glass

## 5.11 Market Challenges

## 5.12 Future Opportunities

## **6 METALS PACKAGING RECYCLING**

### 6.1 Market overview

#### 6.1.1 Global market size

##### 6.1.1.1 By market

##### 6.1.1.2 By region

#### 6.1.2 Supply

#### 6.1.3 Demand drivers

#### 6.1.4 Prices

#### 6.1.5 Economics

### 6.2 Metal Packaging Recycling Process

### 6.3 Benefits of Glass Recycling

### 6.4 Innovation

#### 6.4.1 Aluminium

#### 6.4.2 Steel

#### 6.4.3 Active & Smart Packaging

#### 6.4.4 Hybrid Packaging

#### 6.4.5 Mono-Material Design

#### 6.4.6 Design for Disassembly

#### 6.4.7 Recycling-Friendly Coatings

#### 6.4.8 Advanced Sorting Technologies

## **7 DIGITAL TECHNOLOGIES**

### 7.1 Blockchain for Circularity

### 7.2 Internet of Things (IoT)

### 7.3 Artificial Intelligence

## **8 MARKETS AND APPLICATIONS**

- 8.1 Food Packaging
  - 8.1.1 Market Drivers
  - 8.1.2 Applications and materials
  - 8.1.3 Market Challenges
- 8.2 Beverage Packaging
  - 8.2.1 Market Drivers
  - 8.2.2 Applications and materials
  - 8.2.3 Market Challenges
- 8.3 Personal Care & Household Products
  - 8.3.1 Market Drivers
  - 8.3.2 Applications and materials
  - 8.3.3 Market Challenges
- 8.4 Retail & E-Commerce Packaging
  - 8.4.1 Market Drivers
  - 8.4.2 Applications and materials
  - 8.4.3 Market Challenges
- 8.5 Industrial Packaging
  - 8.5.1 Market Drivers
  - 8.5.2 Applications and materials
  - 8.5.3 Market Challenges

## **9 GLOBAL MARKET 2018-2035**

- 9.1 End use applications for global recyclate 2023
- 9.2 By material
- 9.3 By region
  - 9.3.1 Asia Pacific
  - 9.3.2 North America
  - 9.3.3 Europe
  - 9.3.4 South America

## **10 COMPANY PROFILES 299 (341 COMPANY PROFILES)**

## **11 REFERENCES**

## List Of Tables

### LIST OF TABLES

Table 1. Key benefits driving adoption of recyclable packaging solutions.

Table 2. Global Recycling Rates.

Table 3. Key factors limiting real-world recycling rates.

Table 4. Waste plastics value chain.

Table 5. Targets and progress of the top 10 plastic packaging producers.

Table 6. Market challenges in recyclable packaging.

Table 7. Key emerging application areas and opportunities for CO2 utilization.

Table 8. Issues related to the use of plastics.

Table 9. Mechanical vs. Chemical Recycling.

Table 10. Global polymer demand 2022-2040, segmented by recycling technology for PE (million tonnes).

Table 11. Global polymer demand 2022-2040, segmented by recycling technology for PP (million tonnes).

Table 12. Global polymer demand 2022-2040, segmented by recycling technology for PET (million tonnes).

Table 13. Global polymer demand 2022-2040, segmented by recycling technology for PS (million tonnes).

Table 14. Global polymer demand 2022-2040, segmented by recycling technology for Nylon (million tonnes).

Table 15. Global polymer demand 2022-2040, segmented by recycling technology for Other types (million tonnes).\*

Table 16. Global polymer demand in Europe, by recycling technology 2022-2040 (million tonnes).

Table 17. Global polymer demand in North America, by recycling technology 2022-2040 (million tonnes).

Table 18. Global polymer demand in South America, by recycling technology 2022-2040 (million tonnes).

Table 19. Global polymer demand in Asia, by recycling technology 2022-2040 (million tonnes).

Table 20. Global polymer demand in Oceania, by recycling technology 2022-2040 (million tonnes).

Table 21. Global polymer demand in Africa, by recycling technology 2022-2040 (million tonnes).

Table 22. Key recycling processes for effectively recovering and reusing vulcanized elastomers.

- Table 23. Polymer types, use, and recovery.
- Table 24. Life cycle assessment of virgin plastic production, mechanical recycling and chemical recycling.
- Table 25. Market trends in mechanical recycling.
- Table 26. Advanced plastics recycling capacities, by technology.
- Table 27. Example chemically recycled plastic products.
- Table 28. Life Cycle Assessments (LCA) of Advanced Chemical Recycling Processes.
- Table 29. Plastic yield of each chemical recycling technologies.
- Table 30. Chemically recycled plastics prices in USD.
- Table 31. Challenges in the advanced chemical recycling market.
- Table 32. Applications of chemically recycled materials.
- Table 33. Summary of non-catalytic pyrolysis technologies.
- Table 34. Summary of catalytic pyrolysis technologies.
- Table 35. Summary of pyrolysis technique under different operating conditions.
- Table 36. Biomass materials and their bio-oil yield.
- Table 37. Biofuel production cost from the biomass pyrolysis process.
- Table 38. Summary of gasification technologies.
- Table 39. Advanced recycling (Gasification) companies.
- Table 40. Summary of dissolution technologies.
- Table 41. Advanced recycling (Dissolution) companies
- Table 42. Depolymerisation processes for PET, PU, PC and PA, products and yields.
- Table 43. Summary of hydrolysis technologies-feedstocks, process, outputs, commercial maturity and technology developers.
- Table 44. Summary of Enzymolysis technologies-feedstocks, process, outputs, commercial maturity and technology developers.
- Table 45. Summary of methanolysis technologies-feedstocks, process, outputs, commercial maturity and technology developers.
- Table 46. Summary of glycolysis technologies-feedstocks, process, outputs, commercial maturity and technology developers.
- Table 47. Summary of aminolysis technologies.
- Table 48. Advanced recycling (Depolymerisation) companies and capacities (current and planned).
- Table 49. Overview of hydrothermal cracking for advanced chemical recycling.
- Table 50. Overview of Pyrolysis with in-line reforming for advanced chemical recycling.
- Table 51. Overview of microwave-assisted pyrolysis for advanced chemical recycling.
- Table 52. Overview of plasma pyrolysis for advanced chemical recycling.
- Table 53. Overview of plasma gasification for advanced chemical recycling.
- Table 54. Type of biodegradation.
- Table 55. Polylactic acid (PLA) market analysis-manufacture, advantages,

disadvantages and applications.

Table 56. Bio-based Polyethylene terephthalate (Bio-PET) market analysis-manufacture, advantages, disadvantages and applications.

Table 57. Polytrimethylene terephthalate (PTT) market analysis-manufacture, advantages, disadvantages and applications.

Table 58. Polyethylene furanoate (PEF) market analysis-manufacture, advantages, disadvantages and applications.

Table 59. Bio-based polyamides (Bio-PA) market analysis - manufacture, advantages, disadvantages and applications.

Table 60. Poly(butylene adipate-co-terephthalate) (PBAT) market analysis-manufacture, advantages, disadvantages and applications.

Table 61. Bio-PBS market analysis-manufacture, advantages, disadvantages and applications.

Table 62. Bio-based Polyethylene (Bio-PE) market analysis- manufacture, advantages, disadvantages and applications.

Table 63. Bio-PP market analysis- manufacture, advantages, disadvantages and applications.

Table 64. Types of PHAs and properties.

Table 65. Comparison of the physical properties of different PHAs with conventional petroleum-based polymers.

Table 66. Polyhydroxyalkanoate (PHA) extraction methods.

Table 67. Commercially available PHAs.

Table 68. Global paper packaging recycling market, 2018-2035 (million tonnes).

Table 69. Global paper packaging recycling market, by region, 2018-2035 (million tonnes).

Table 70. Global paper packaging recycling market, by region, 2018-2035 (million tonnes).

Table 71. Major paper packaging formats.

Table 72. Paper Packaging Recycling Process.

Table 73. Benefits of Paper Recycling.

Table 74. Issues that hamper the effective recycling of packaging materials.

Table 75. Overview of mycelium-description, properties, drawbacks and applications.

Table 76. Companies developing mycelium-based packaging.

Table 77. Common starch sources that can be used as feedstocks for producing biochemicals.

Table 78. Companies developing algal-based bioplastics.

Table 79. Applications of cellulose nanofibers (CNF).

Table 80. Applications of bacterial nanocellulose (BNC).

Table 81. Microfibrillated cellulose (MFC) market analysis-manufacture, advantages,



disadvantages and applications.

Table 82. Paper Recycling Challenges.

Table 83. Global glass packaging recycling market, 2018-2035 (million tonnes).

Table 84. Global glass packaging recycling market, by market, 2018-2035 (million tonnes).

Table 85. Global glass packaging recycling market, by region, 2018-2035 (million tonnes).

Table 86. Recycled glass demand drivers.

Table 87. Average prices of recycled glass cullet.

Table 88. Glass Packaging Recycling Process.

Table 89. Benefits of Glass Recycling.

Table 90. Applications of recycled glass.

Table 91. Glass Recycling Challenges.

Table 92. Global metal packaging recycling market, by market, 2018-2035 (million tonnes).

Table 93. Global metal packaging recycling market, by region, 2018-2035 (million tonnes).

Table 94. Demand drivers for metals packaging recycling.

Table 95. Metal Packaging Recycling Process.

Table 96. Benefits of Metal Packaging Recycling.

Table 97. Market Drivers for recyclable packaging in the food industry.

Table 98. Key applications and materials used in recyclable food packaging.

Table 99. Market challenges in recyclable packaging in the food industry.

Table 100. Market Drivers for recyclable packaging in the food industry.

Table 101. Key applications and materials used in recyclable beverage packaging.

Table 102. Market challenges in recyclable packaging in the beverage industry.

Table 103. Market Drivers for recyclable packaging in the personal care and household products industry.

Table 104. Key applications and materials used in recyclable personal care and household products packaging.

Table 105. Market challenges in recyclable packaging in the personal care and household products industry.

Table 106. Market Drivers for recyclable packaging in the Retail & E-Commerce industry.

Table 107. Key applications and materials used in recyclable Retail & E-Commerce packaging.

Table 108. Market challenges in recyclable packaging in the Retail & E-Commerce industry.

Table 109. Market Drivers for recyclable industrial packaging.

Table 110. Key applications and materials used in industrial packaging.

Table 111. Market challenges in recyclable industrial packaging.

Table 112. Global Recyclable Packaging Market 2018-2035, by material (billions USD).

Table 113. Global Recyclable Packaging Market 2018-2035, by region (billions USD).

## List Of Figures

### LIST OF FIGURES

- Figure 1. Recycling process for recyclable packaging.
- Figure 2. Global plastics production 1950-2021, millions of tonnes.
- Figure 3. Global production, use, and fate of polymer resins, synthetic fibers, and additives.
- Figure 4. Global polymer demand 2022-2040, segmented by recycling technology for PE (million tonnes).
- Figure 5. Global polymer demand 2022-2040, segmented by recycling technology for PP (million tonnes).
- Figure 6. Global polymer demand 2022-2040, segmented by recycling technology for PET (million tonnes).
- Figure 7. Global polymer demand 2022-2040, segmented by recycling technology for PS (million tonnes).
- Figure 8. Global polymer demand 2022-2040, segmented by recycling technology for Nylon (million tonnes).
- Figure 9. Global polymer demand 2022-2040, segmented by recycling technology for Other types (million tonnes).
- Figure 10. Global polymer demand in Europe, by recycling technology 2022-2040 (million tonnes).
- Figure 11. Global polymer demand in North America, by recycling technology 2022-2040 (million tonnes).
- Figure 12. Global polymer demand in South America, by recycling technology 2022-2040 (million tonnes).
- Figure 13. Global polymer demand in Asia, by recycling technology 2022-2040 (million tonnes).
- Figure 14. Global polymer demand in Oceania, by recycling technology 2022-2040 (million tonnes).
- Figure 15. Global polymer demand in Africa, by recycling technology 2022-2040 (million tonnes).
- Figure 16. Global mechanical recycling capacity 2018-2035 (million metric tonnes).
- Figure 17. Market map for advanced plastics recycling.
- Figure 18. Value chain for advanced plastics recycling market.
- Figure 19. Schematic layout of a pyrolysis plant.
- Figure 20. Waste plastic production pathways to (A) diesel and (B) gasoline
- Figure 21. Schematic for Pyrolysis of Scrap Tires.
- Figure 22. Used tires conversion process.

Figure 23. Total syngas market by product in MM Nm<sup>3</sup>/h of Syngas, 2021.

Figure 24. Overview of biogas utilization.

Figure 25. Biogas and biomethane pathways.

Figure 26. Products obtained through the different solvolysis pathways of PET, PU, and PA.

Figure 27. Coca-Cola PlantBottle®.

Figure 28. Interrelationship between conventional, bio-based and biodegradable plastics.

Figure 29. PHA family.

Figure 30. Global paper packaging recycling market, 2018-2035 (million tonnes).

Figure 31. Global paper packaging recycling market, by region, 2018-2035 (million tonnes).

Figure 32. Global paper packaging recycling market, by region, 2018-2035 (million tonnes).

Figure 33. Paper recycling process.

Figure 34. Bagasse Recyclable Pack.

Figure 35. Celebration Packaging's sustainable bamboo fibre cups.

Figure 36. Wine bottle made from flax fibres.

Figure 37. Typical structure of mycelium-based foam.

Figure 38. Biodegradable Mushroom Packaging.

Figure 39. Packaging made from Seaweed.

Figure 40. Bacterial nanocellulose shapes

Figure 41. SEM image of microfibrillated cellulose.

Figure 42. Global glass packaging recycling market, 2018-2035 (million tonnes).

Figure 43. Global glass packaging recycling market, by market, 2018-2035 (million tonnes).

Figure 44. Global glass packaging recycling market, by region, 2018-2035 (million tonnes).

Figure 45. Global metal packaging recycling market, by market, 2018-2035 (million tonnes).

Figure 46. Global metal packaging recycling market, by region, 2018-2035 (million tonnes).

Figure 47. End use applications for global recyclate 2022.

Figure 48. Global Recyclable Packaging Market 2018-2035, by market (billions USD).

Figure 49. Global Recyclable Packaging Market 2018-2035, by region (billions USD).

Figure 50. Pluumo.

Figure 51. NewCycling process.

Figure 52. ChemCycling™ prototypes.

Figure 53. ChemCycling circle by BASF.

- Figure 54. Recycled carbon fibers obtained through the R3FIBER process.
- Figure 55. Be Green Packaging molded fiber products.
- Figure 56. BIOLO e-commerce mailer bag made from PHA.
- Figure 57. Reusable and recyclable foodservice cups, lids, and straws from Joinease Hong Kong Ltd., made with plant-based NuPlastiQ BioPolymer from BioLogiQ, Inc.
- Figure 58. Fiber-based screw cap.
- Figure 59. B'Zeos packaging film.
- Figure 60. Cassandra Oil process.
- Figure 61. CuanSave film.
- Figure 62. CuRe Technology process.
- Figure 63. ELLEX products.
- Figure 64. CNF-reinforced PP compounds.
- Figure 65. Kirekira! toilet wipes.
- Figure 66. Rheocrysta spray.
- Figure 67. DKS CNF products.
- Figure 68. Photograph (a) and micrograph (b) of mineral/ MFC composite showing the high viscosity and fibrillar structure.
- Figure 69. FlexSea packaging materials.
- Figure 70. PHA production process.
- Figure 71. CNF gel.
- Figure 72. Block nanocellulose material.
- Figure 73. CNF products developed by Hokuetsu.
- Figure 74. Unilever Carte D'Or ice cream packaging.
- Figure 75. MoReTec.
- Figure 76. Molded Fiber Labeling applied to products.
- Figure 77. Chemical decomposition process of polyurethane foam.
- Figure 78. Compostable water pod.
- Figure 79. All PET" bottle cap produced by Origin Materials.
- Figure 80. Schematic Process of Plastic Energy's TAC Chemical Recycling.
- Figure 81. XCNF.
- Figure 82. Easy-tear film material from recycled material.
- Figure 83. Polyester fabric made from recycled monomers.
- Figure 84. Shellworks packaging containers.
- Figure 85. Sulapac cosmetics containers.
- Figure 86. A sheet of acrylic resin made from conventional, fossil resource-derived MMA monomer (left) and a sheet of acrylic resin made from chemically recycled MMA monomer (right).
- Figure 87. Sway seaweed-based Poly and retail bags.
- Figure 88. Teijin Frontier Co., Ltd. Depolymerisation process.

Figure 89. UPM biorefinery process.

Figure 90. The Velocys process.

Figure 91. The Proesa® Process.

Figure 92. Worn Again products.

## I would like to order

Product name: The Global Market for Recyclable Packaging 2024-2035

Product link: <https://marketpublishers.com/r/G66CF93F8DC5EN.html>

Price: US\$ 1,550.00 (Single User License / Electronic Delivery)

If you want to order Corporate License or Hard Copy, please, contact our Customer Service:

[info@marketpublishers.com](mailto:info@marketpublishers.com)

## Payment

To pay by Credit Card (Visa, MasterCard, American Express, PayPal), please, click button on product page <https://marketpublishers.com/r/G66CF93F8DC5EN.html>

To pay by Wire Transfer, please, fill in your contact details in the form below:

First name:  
Last name:  
Email:  
Company:  
Address:  
City:  
Zip code:  
Country:  
Tel:  
Fax:  
Your message:

**\*\*All fields are required**

Customer signature \_\_\_\_\_

Please, note that by ordering from marketpublishers.com you are agreeing to our Terms & Conditions at <https://marketpublishers.com/docs/terms.html>

To place an order via fax simply print this form, fill in the information below and fax the completed form to +44 20 7900 3970