The plastics packaging consumption and waste data used for the belgian graph were extrapolated based on 2019 available figures. The belgian data are mainly originating from the plastics conversion and from plastic production (polymerisation) to final products.

1. Does not include elastomers, adhesives, coatings and sealants.
2. Based on interviews with recyclers.
3. Comprising 2,151 kt from plastics arising from the plastics conversion and from plastic production (polymerisation) to final products.
4. Process losses are usually sent to energy recovery or landfill. Parts of plastics waste could be generated by re-use & repair.
5. Carbon Capture and use (e.g. CO2) is for plastics production is not yet realised.

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CIRCULAR ECONOMY FOR PLASTICS
FRANCE - 2020

COLLECTION AND TREATMENT OF POST-CONSUMER PLASTIC WASTE

- **CONSUMPTION** (private and industrial end-users)
  - **6,450 kt**
  - 27% - 44% - 29%

- **PRODUCTS IN USE** (<1 to >50 years)
  - **170 kt**
  - 18% - 12% - 70%

- **WASTE** (collection & sorting)
  - 3,760 kt

  - 31%

  - **1,159 kt**
    - 36%
    - Energy recovery

  - **1,672 kt**
    - Sent for recycling

  - **929 kt**
    - Recycled plastics

  - **929 kt**
    - Export surplus

  - **690 kt**
    - Input into national recycling plants

  - **44%**

  - **25%**

  - **4%**

  - **5%**

  - **36%**

  - **31%**

  - **44%**

  - **59%**

- **LANDFILL**
  - **1,159 kt**

- **ENERGY RECOVERY**
  - **1,672 kt**

- **POST-CONSUMER RECYCLED PLASTICS**
  - **4,977 kt**

- **RE-USE & REPAIR**

- **PROCESS LOSSES**
  - **~250 kt**

POST-CONSUMER RECYCLED PLASTICS IN MANUFACTURED PRODUCTS

- **4,977 kt**

- **PLASTICS**
  - Production (polymerisation)
  - 4,780 kt

- **PLASTICS IN MANUFACTURED PRODUCTS**
  - 36% (2,350 kt)
  - 6% (170 kt)
  - 3% (130 kt)
  - 8% (255 kt)
  - 7% (190 kt)
  - 3% (140 kt)
  - 20% (525 kt)

- **RENEWABLE FEEDSTOCKS**
  - Chemically recycled feedstock
  - Bio-based feedstock
  - Carbon-captured feedstock
  - Fossil feedstock

- **PLASTICS PRODUCTS CONSUMPTION**
  - 20% (1,672 kt)
  - 3% (354 kt)
  - 7% (426 kt)
  - 6% (387 kt)

- **POST-HYPER-CASE CONSUMER RECYCLED PLASTICS**
  - 3% (123 kt)
  - 2% (44 kt)
  - 22% (354 kt)
  - 14% (387 kt)

- **RECYCLING PLANTS**
  - **~240 kt**

- **EXPORT SURPLUS**
  - **~240 kt**

- **PROCESS LOSSES**
  - **~250 kt**

- **LANDFILL**
  - **1,159 kt**

- **ENERGY RECOVERY**
  - **1,672 kt**

- **POST-CONSUMER RECYCLED PLASTICS**
  - **4,977 kt**

- **RE-USE & REPAIR**

- **PROCESS LOSSES**
  - **~250 kt**

- **LANDFILL**
  - **1,159 kt**

- **ENERGY RECOVERY**
  - **1,672 kt**

- **POST-CONSUMER RECYCLED PLASTICS**
  - **4,977 kt**

- **RE-USE & REPAIR**

- **PROCESS LOSSES**
  - **~250 kt**

- **LANDFILL**
  - **1,159 kt**

- **ENERGY RECOVERY**
  - **1,672 kt**

- **POST-CONSUMER RECYCLED PLASTICS**
  - **4,977 kt**

- **RE-USE & REPAIR**

- **PROCESS LOSSES**
  - **~250 kt**

- **LANDFILL**
  - **1,159 kt**

- **ENERGY RECOVERY**
  - **1,672 kt**

Post-consumer recycled plastics and waste data used for the ultimate goal was extrapolated based on 2020 available figures. The totals data were rounded.

1. Does not include elastomers, adhesives, coatings and specialty plastics and waste data used for the beside materials.

2. The consumer plastic waste is mainly originating from the plastics conversion and from plastic production (extrapolation to a present extent).

3. Comprising 4,262 kt from plastics production (polymerisation), 379 kg consumer-recycled plastics and 507 kg post-consumer recycled plastics. Compared to recycling plastics from polymerisation may occur prior to the conversion.

4. Adhesive recycling not yet seeing place in France.

5. Process losses are usually sent to energy recovery or landfill. Parts of plastics instead could be synthesised or used in other applications.

6. Carbon Capture and Use (CCU) is for plastics production not yet used in France.
CIRCULAR ECONOMY FOR PLASTICS
GERMANY - 2020

COLLECTION AND TREATMENT OF POST-CONSUMER PLASTIC WASTE

- **CONSUMPTION** (private and industrial end-users)
  - 10,670 kt

- **PRODUCTS IN USE** (<1 to >50 years)
  - 5,419 kt

- **WASTE collection & sorting**
  - 3,163 kt

- **LANDFILL**
  - 39 kt

- **ENERGY recovery**
  - 3,120 kt

POST-CONSUMER RECYCLED PLASTICS IN MANUFACTURED PRODUCTS

- **Conversion** to plastic parts and products
  - 12,522 kt

- **Recycling & Repair**
  - 2,264 kt

- **Export Surplus**
  - ~650 kt

- **Process Losses**
  - ~540 kt

POST-CONSUMER RECYCLED PLASTICS

- **Pre-consumer** recycled plastics output
  - 900 kt

- **Post-consumer** recycled plastics output
  - 1,050 kt

PLASTICS

- **Production** (polymerisation)
  - 9,910 kt

- **Chemically recycled feedstock**

- **Bio-based feedstock**

- **Carbon-captured feedstock**

- **Fossil feedstock**

The plastics packaging consumption and waste data used for the brochure are based on Eurostat data (retail and industry). The European Commission has calculated the data from the following sources:

1. Does not include containers, adhesives, coatings and sealants.
2. Based on interviews with recyclers. The consumer packaging waste is a mixture of pre-consumer waste and post-consumer waste. The consumer plastic waste is mainly originating from the plastics packaging. Pre-consumer waste includes any waste resulting from the production of plastics to a lesser extent.
3. Comprising 10,644 kt from plastics packaging and 190 kt from other plastic waste. 100% of post-consumer recycled plastics and 75% of pre-consumer recycled plastics. Recyclers of recycled plastic and plastics conversions from polymerisation may occur prior conversion.
4. Surplus exports usually go to energy recovery or landfills. The share of plastics residues could be a potential future source of chemical recycling.
PLASTICS IN MANUFACTURED POST-CONSUMER RECYCLED

PLASTICS PRODUCTS CONSUMPTION

POST-CONSUMER RECYCLED PLASTICS IN MANUFACTURED PRODUCTS

CONVERSION to plastic parts and products

COLLECTION AND TREATMENT OF POST-CONSUMER PLASTIC WASTE

CONSUMPTION

PRODUCTS IN USE

WASTE

CONVERSION

6% (180 kt)

17% (230 kt)

3% (4 kt)

3% (15 kt)

24% (91 kt)

3% (10 kt)

8% (513 kt)

2020

CO2E OF PLASTICS

5,840 kt

6% (32 kt)

26% (148 kt)

9% (225 kt)

22% (216 kt)

9% (159 kt)

18% (113 kt)

7% (475 kt)

5%

38%

3%

11%

20%

15%

5%

8%
The plastic packaging consumption and waste data used for the timeline graph were extrapolated based on 2019 available figures. The waste data were included:
1. Plastic include containers, packaging, and waste;
2. Based on interviews with recyclers;
3. Comprising 1,966 kt from plastics collection and 3,124 kt from plastics recycling; 165 kt from pre-consumer and 99 kt from post-consumer recycled plastics and plastics from polymerisation may occur from in-house recycling activities;
4. Process losses are usually sent to energy recovery or landfill. Parts of plastics residues could be a potential future source of chemical recycling. Recycling and composting are likely to be the main route for plastics production is not yet used in the NL in 2020;
5. Some quantities of plastics packaging were collected in 2019, due to a fire in a local recycling facility in 2019.

**CIRCULAR ECONOMY FOR PLASTICS**

**NETHERLANDS - 2020**

<table>
<thead>
<tr>
<th>Feeds</th>
<th>Chemically recycled feedstock</th>
<th>Bio-based feedstock</th>
<th>Carbon-captured feedstock</th>
<th>Fossil feedstock</th>
</tr>
</thead>
<tbody>
<tr>
<td>(kt)</td>
<td>280</td>
<td>300</td>
<td>5,390</td>
<td>1,710</td>
</tr>
</tbody>
</table>

**Post-consumer recycled plastics**

- **Output**
  - 280 kt for recycling
  - 300 kt for recycling
  - 5,390 kt for recycling

**Recycling plants**

- Input into national recycling plants: 500 kt
- Import surplus: ~20 kt
- Process losses: ~190 kt

**Conversion**

- To plastic parts and products: 2,363 kt

**Collection and treatment of post-consumer plastic waste**

- **Consumption (private and industrial end-users)**: 2,070 kt
- **Products in use**
  - (+1 to +20 years) 1,058 kt
- **Waste**
  - Collection & sorting 1,058 kt
  - Landfill 3 kt
  - Energy recovery: 55% (537 kt)
- **Import/Export**
  - Import 320 kt
  - Export ~280 kt

**Post-consumer recycled plastics in manufactured products**

- **Output**
  - 6% (63 kt)
  - 19% (180 kt)
  - 3% (24 kt)
  - 23% (216 kt)
  - 3% (27 kt)
  - 5% (45 kt)
- **2020**
CIRCULAR ECONOMY FOR PLASTICS

POLAND - 2020

COLLECTION AND TREATMENT OF POST-CONSUMER PLASTIC WASTE

CONSUMPTION

11% (32 kt)

3% (9 kt)

5% (46 kt)

6% (38 kt)

34% (1,150 kt)

25% (126 kt)

37% (100 kt)

19% (82 kt)

38% (173 kt)

13% (105 kt)

26% (315 kt)

PLASTICS PRODUCTS CONSUMPTION

PRODUCTS IN USE

<1 to >50 years

3,400 kt

3,400 kt

POST-CONSUMER RECYCLED PLASTICS IN MANUFACTURED PRODUCTS

CONVERSION to plastic parts and products

4,102 kt

1,710 kt

Chemically recycled feedstock

Bio-based feedstock

Carbon-captured feedstock

Fossil feedstock

POST-CONSUMER RECYCLED PLASTICS

output

340 kt

~270 kt

PROCESS LOSSES

180 kt

RECYCLING PLANTS

520 kt

INPUT INTO NATIONAL RECYCLING PLANTS

~20 kt

PLASTICS production (polymerisation)

1,150 kt

126 kt

100 kt

82 kt

173 kt

105 kt

315 kt

CONVERSION

6% (38 kt)

3% (9 kt)

21% (382 kt)

3% (46 kt)

2020

Poland

PLASTICS RECYCLED PLASTICS

41% (844 kt)

32% (664 kt)

3% (17 kt)

19% (326 kt)

5. Process losses are usually sent to energy recovery or landfill. Parts of plastics from polymerisation may enter the circular economy.

6. Carbon Capture and storage (CCS) is not a source of chemical recycling.

7. Does not include elastomers, adhesives, coatings and sealants.

8. Based on interviews with recyclers.

9. Comprising 3420 kt from plastics from polymerisation to a lesser extent.

10. Excluding ferrous metals, carbon, and copper.

11. Includes production and external recovery (e.g., chemical recycling).

12. The plastic packaging consumption and waste data used for the bar graph were extrapolated based on 2019 available figures. The beside data were rounded. The plastic packaging consumption data were estimated as follows: 19% for household, 25% for retail trade, 24% for food services and accommodation, 19% for transport and 15% for public administration. The plastic packaging waste data have been extrapolated based on the amount of end-user plastic packaging. 2. Post-consumer plastics waste is mainly originating from the plastics conversion and non-plastic production. The national figures refer to a subset of the overall EU data. 1. Pre-consumer plastics waste is mainly originating from plastic plants and 5% for non-plastic production (polymerisation) to a lesser extent. The plastic packaging consumption data were estimated as follows: 19% for household, 25% for retail trade, 24% for food services and accommodation, 19% for transport and 15% for public administration. The plastic packaging waste data have been extrapolated based on the amount of end-user plastic packaging. The plastic packaging consumption data were estimated as follows: 19% for household, 25% for retail trade, 24% for food services and accommodation, 19% for transport and 15% for public administration. The plastic packaging waste data have been extrapolated based on the amount of end-user plastic packaging. The plastic packaging consumption data were estimated as follows: 19% for household, 25% for retail trade, 24% for food services and accommodation, 19% for transport and 15% for public administration. The plastic packaging waste data have been extrapolated based on the amount of end-user plastic packaging. The plastic packaging consumption data were estimated as follows: 19% for household, 25% for retail trade, 24% for food services and accommodation, 19% for transport and 15% for public administration. The plastic packaging waste data have been extrapolated based on the amount of end-user plastic packaging. The plastic packaging consumption data were estimated as follows: 19% for household, 25% for retail trade, 24% for food services and accommodation, 19% for transport and 15% for public administration. The plastic packaging waste data have been extrapolated based on the amount of end-user plastic packaging.
CIRCULAR ECONOMY FOR PLASTICS
SPAIN - 2020

COLLECTION AND TREATMENT OF POST-CONSUMER PLASTIC WASTE

PLASTICS PRODUCTS CONSUMPTION

CONVERSION to plastic parts and products

CONVERSION

PRE-CONSUMER RECYCLED PLASTICS

POST-CONSUMER RECYCLED PLASTICS

PLASTICS' production (polymerisation)

CIRCULAR FEEDSTOCKS

Chemically recycled feedstock

Bio-based feedstock

Carbon-captured feedstock

Fossil feedstock

The plastics packaging consumption and wastage figures are based on 2019 available data. The data for some categories:
1. Does not include elastomers, adhesives, coatings and sealants.
2. Based on interviews with recyclers.
3. Compounding of recycled plastics and plastics from polymerisation may occur from prior conversion.
4. Process losses are usually sent to energy recovery or landfill. Parts of plastics recovery or landfill. Parts of plastics residues could be a potential future source of chemical recycling.
5. Carbon Capture and Use (e.g. CO2) is for plastics production is not yet used in Spain.