GREEN PARTICIPATION, GREEN EUROPE

A9 – The Importance of Recycling



HANDBOOK

PROJECT NUMBER : 2023-2-TR01-KA154-YOU-000168735

WHAT IS RECYCLING?



Recycling is any process of recovery that turns waste materials into novel materials, goods, or substances, either for their original use or for new purposes.

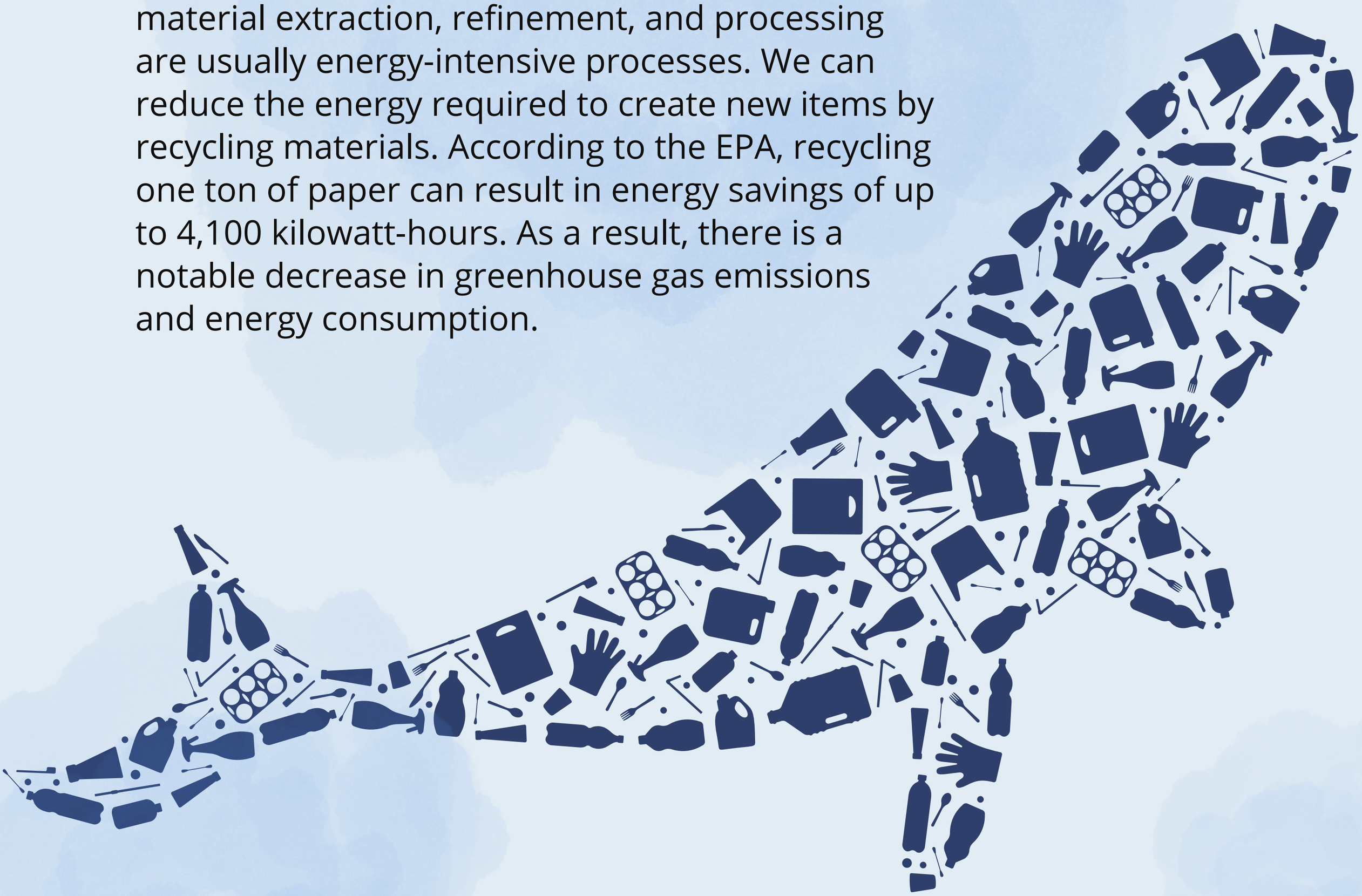


Environmental Benefits of Recycling

Recycling contributes to reducing the quantity of waste dumped in landfills, which in turn reduces environmental pollution. By reducing the need for new material extraction, which frequently results in runoff and other types of contamination, it can help lessen water pollution.

The Role of Recycling in Reducing Greenhouse Gas Emissions

Energy can also be saved through recycling. Raw material extraction, refinement, and processing are usually energy-intensive processes. We can reduce the energy required to create new items by recycling materials. According to the EPA, recycling one ton of paper can result in energy savings of up to 4,100 kilowatt-hours. As a result, there is a notable decrease in greenhouse gas emissions and energy consumption.



BENEFITS OF RECYCLING





REDUCES DEMAND FOR RAW MATERIALS

Recycling reduces our reliance on harvesting raw materials.



PROTECTS ECOSYSTEMS AND WILDLIFE

- Recycling helps minimize disruption to the natural world. By cutting down fewer trees and forests, we protect animals from harm.



CONSERVES NATURAL RESOURCES

Recycling paper helps preserve forests and trees, while recycling plastic reduces solid waste, which can take centuries to decompose.



THE CHALLENGES OF RECYCLİNG

Low-quality recycling due to a lack of education

Non-recyclable materials, such as liquids or plastic bags, entering the recycling stream can contaminate recyclable items and damage recycling machinery.

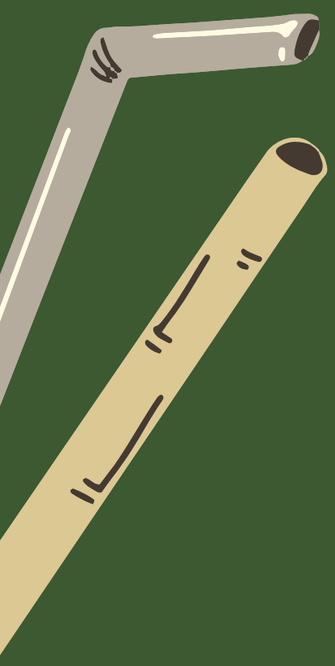
Safety for workers

- Exposure to chemicals
- Risks of combustible dust explosions
- Hazards from inadequate machine guarding

Expensive or inadequate services

Some cities do not have the resources or government backing needed to provide adequate recycling services.

Low demand for recycled materials on the market



WHAT CAN BE RECYCLED?





Paper

Batteries





Plastics

Electronics





Glass

Food





Metal

Textile





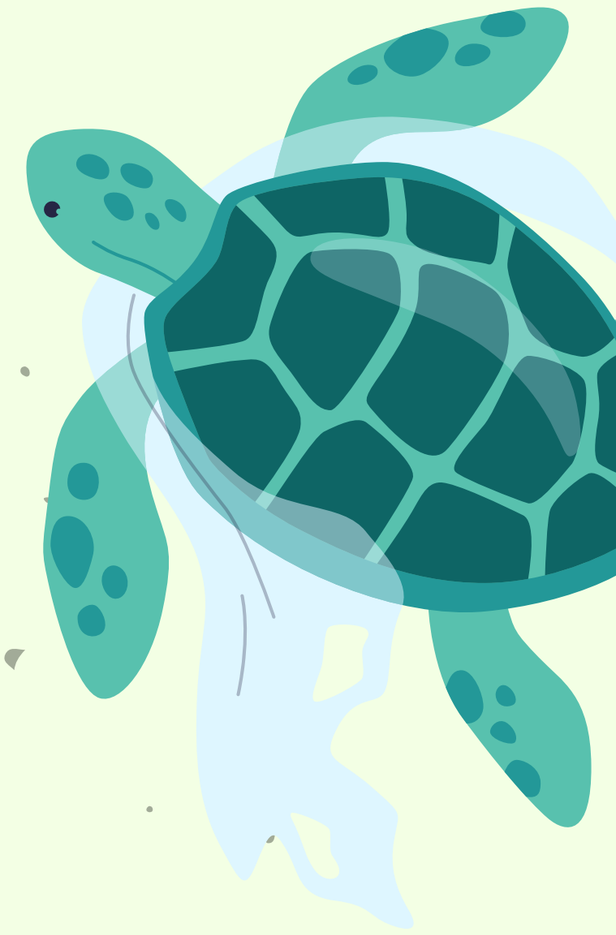


3 BASIC RECYCLING RULES



Rule 1

Recycle paper, cardboard, bottles, and cans.



Rule 2

Do not include food or liquids in your recycling.

Rule 3

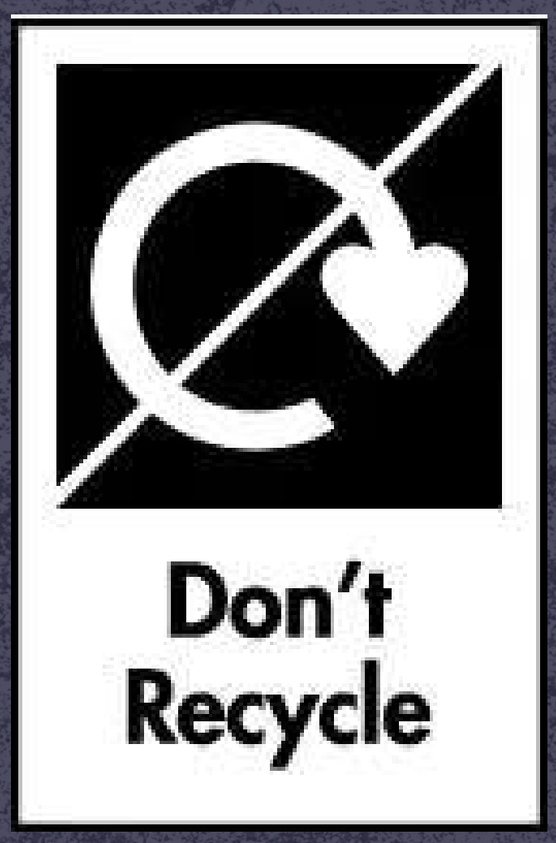
Do not put loose plastic bags or recyclables in bags into the bin.



RECYCLING SYMBOLS AND NUMBERS

THE ON-PACK RECYCLING LABEL (OR OPRL)













Plastic Recycling Codes



Polyethylene Terephthalate (PET)

Commonly used for drink bottles and food packaging. Commonly recycled.



High Density Polyethylene (HDPE)

Used for bottles of cleaning products, milk cartons, etc. Commonly recycled.



Polyvinyl Chloride (PVC)

Used for car parts, window fittings, and similar items: Difficult to recycle.



Low Density Polyethylene (LDPE)

Used for plastic bags, wrapping, etc. Recycle at dedicated collection points.



Polypropylene (PP)

Used for certain tubs, trays, and similar items: Commonly recycled.



Polystyrene (PS)

used for takeaway boxes, disposable cutlery, etc. Difficult to recycle.



Other

Used for snack packets, rice bags, etc. Recycle at dedicated collection points.

THE RECYCLING PROCESS



01

COLLECTION

Recyclables can be collected through various methods, such as **curbside pickup, drop-off centers,** or **deposit** and **refund programs**.

02

PROCESSING

After collection, recyclables are transported to a recovery facility, where they are **sorted, cleaned,** and **processed** into raw materials for manufacturing.

03

MANUFACTURING

Manufacturing **new products** from recycled materials. Many of today's products are now made with recycled materials.

04

PURCHASING

You contribute to closing the recycling loop by purchasing new products made from **recycled materials**.



RECYCLED MATERIALS





RECYCLED BAG



RECYCLED BOTTLE



RECYCLED BATTERY



RECYCLED PAPER



RECYCLED CLOTHING

RECYCLING FACTS FROM AROUND THE WORLD

1. **Germany is the world's top recycler.**

2. **Switzerland and Austria impose fines on citizens who do not recycle.**

3. **Norway is 10 years ahead of the EU's recycling goals set for 2029.**

4. **Sweden is targeting zero waste through the Panta.**

Sweden's "panta" system rewards people for recycling bottles and cans, with labels on recyclable containers. In Sweden, around 1.8 billion bottles and cans are recycled annually, preventing them from being discarded.

WHAT CAN YOU DO?

You can help combat climate change by making recycling a key part of your daily routine and lifestyle.

- **Purchase products made from recycled materials to support the market for recycled goods and promote the ongoing recycling of materials and production of recycled items.**

- **Recycle everything you can and familiarize yourself with what can be recycled.**

- **Replace disposable items with reusable alternatives. Use reusable water bottles, shopping bags, food storage containers, and other eco-friendly products.**

EU WASTE POLICY

THE WASTE FRAMEWORK DIRECTIVE

EU waste policy seeks to support the circular economy by maximizing the extraction of high-quality resources from waste.

No Plastic Bottle

Recycle Product

5 tonnes of waste is produced

Only 38% of waste is recycled

in the EU

The European Green Deal aims to foster growth by shifting towards a modern, resource-efficient, and competitive economy.

The Waste Framework Directive provides the EU's legal structure for waste treatment and management, establishing a "waste hierarchy" to guide waste management practices in order of preference.

OVER

60%

OF HOUSEHOLD WASTE STILL GOES TO LANDFILL IN SOME EU COUNTRIES

GOAL 12

RESPONSIBLE CONSUMPTION AND PRODUCTION



KEY TARGETS

- **Minimizing waste production by prioritizing prevention, minimization, recycling, and reuse.**
- **Effective use of natural resources and sustainable management.**
- **Managing chemicals and waste responsibly to prevent harmful releases into air, water, and soil.**

GOAL 13

CLIMATE ACTION



KEY TARGETS

- **Integrating climate change initiatives into local and national planning, strategies, and policies.**
- **Strengthen education, raise awareness, and build the capacity of individuals and institutions to effectively address climate change mitigation, adaptation, impact reduction, and early warning systems.**

The Future of Recycling

Carbios, a French company, is one of several start-ups pioneering alternatives to traditional recycling methods. They are questioning the effectiveness of conventional plastic recycling in reducing environmental impact.

Carbios is advancing depolymerization, a chemical recycling method using enzymes to break plastics into monomers, creating new material at the molecular level. This process enables infinite reuse of plastic items, such as bottles and packaging, without compromising quality. It offers a groundbreaking alternative to traditional recycling methods.

CARBIOS

WHICH WORLD DO YOU WANT TO LIVE IN?

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