



## BITS ON SUSTAINABILITY

# Recycling, biodegradation and compostability. How to choose?

Paper is a material primarily made up of cellulose fiber, the most widespread naturally occurring biomass.

The most environmentally sustainable procedure for recovering cellulose fiber is paper recycling, which allows the biomass of the cellulose element not to be lost by using its fiber shape. Conversely compostability and biodegradation only allow the total biomass to be recovered without enhancing its fiber shape.

**Recovering fiber through recycling** is therefore the leading strategy since based on the core principle of the circular economy, namely recovering raw material for an equivalent use.

In 2019, Europe reached 64.8% recycling rate; 80.7% including waste heat recovery [source: Eurostat]. The paper supply chain **in Italy** proves to be one of the best examples of the circular economy: **the recycling rate in 2019 reached the 81%** of the input for consumption, above the 75% recycling target set for 2025 by the European directive and in line with the 85% target for 2030 [source: Assocarta].

As a biomass, paper is also **biodegradable** and composting is an additional end-of-life option for paper; this is useful in particular for food wrapping papers overly littered or in any specific situation where high-quality waste sorting is difficult.

Once again, the importance of **waste collection streams** and **end-of-life** (e.g., paper plates along with food scraps in paper waste collection) are key elements to be considered in terms of sustainable choices.

All Fedrigoni paper products are **recyclable** as defined in art. 3/para. 7 of European Directive No. 94/62/EC on packaging and packaging waste

Bits on sustainability are written by Fedrigoni's Sustainability Team and are part of the Group commitment to spread the culture of sustainability.

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Water purification tank.

and recyclable according to the harmonized technical standard UNI EN 13430:2005 (Packaging - Requirements for Recyclable Packaging). Moreover, since the technical standards are in constant evolution, we are testing our product families according to the Aticelca 501/2019 regulation.

Our paper products are **entirely biodegradable and compostable** according to EN 13432:2002 (Requirements for packaging recoverable by composting and biodegradation) except for coated papers whose compostability and biodegradability we continue to explore and work on.

We are also working on our Fedrigoni self-adhesive materials, promoting the mono-material approach and exploring opportunities for improvement through the content of recycled and/or non-fossil-based plastics.

## Definitions:

### Recycling

Recyclables are waste materials that **can be used again in production processes**. Examples include glass, paper and cardboard, aluminum, plastic, and wood. By sorting recyclables, these waste elements can be turned into a resource, giving them new life and nullifying the materials that end up in garbage dumps. Before being considered recycled fiber, it must always exist as virgin; and, in any case, recycled fiber has a shorter lifespan, and its strength gradually declines.

### Biodegradation

Materials that **naturally decompose** through the action of microorganisms and bacteria combined with sunlight or other weathering of nature. Depending on the presence or absence of oxygen, degradation can occur aerobically or anaerobically. This process must take place over a period of 6 months, and the resulting elements can be absorbed into the soil in the form of water, carbon dioxide, mineral salts, and other elements. A biodegradable material is compostable if the process is accomplished within 3 months.

### Compostable

Materials that, after degrading, are turned into compost, a nutrient-rich substance usually used as manure to enrich the soil. An example of compost is pruning waste, fruit and vegetable scraps. According to European regulations, for a product to be labeled “compostable,” it must be biodegradable within 3 months and pass eco-toxicity tests.

#### Sources:

[Group Code of Ethics](#)

[Group Sustainability Policy](#)

[Group Sustainability Report](#)

[Eurostat](#)

[Assocarta](#)

[Comieco](#)

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