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## Italy of Recycling 2020

The COVID-19 pandemic led to severe restrictions, which also influenced the waste management sector.

This 11<sup>th</sup> *Italy of Recycling* Report provides an early overview of the consequences of the pandemic on waste recycling, for both municipal and special waste, as well as on the measures implemented and possible developments in the light of the new EU Action Plan for the Circular Economy released by the European Commission in March 2020. This in-depth analysis was conducted by the Sustainable Development Foundation and FISE Unicircular between September and October 2020.

During the months of the pandemic emergency and in the following ones, the priority for waste management and recycling operators was to guarantee waste collection and recycling in the entire country, so to avoid the saturation of plants and a crisis derived from the decreased demand for recycled materials as well as from a reduction in operations in downstream sectors.

Delays and budget cuts for planned investments in the waste management sector are certainly among the mid-term effects of the pandemic.

In order to compensate for the reduced amount of waste processed and/or the reduction in secondary raw materials sales, companies are primarily trying to reduce direct costs and to identify new users/customers in new markets. This is done by supply and commercial policies diversification, partnerships with costumers from previous years, supplying users/customers logistics, stock monitoring, and increasing awareness among policy-makers.

With regard to the results of the various national sectors of packaging waste recycling, it can be highlighted that recycling remained at a good rate in 2019,

with 9.6 Mt of recycled packaging waste (+3% as compared to 2018), accounting for 70% of the amount released for consumption (table 1). The trend of the various sectors is summarized below.

In 2019, **paper and paperboard** packaging released for consumption slightly decreased as compared to 2018 (-1%), reaching 4.9 Mt: the recycled share is approximately 4 Mt, 81% of the amount released for consumption. Overall, paper collection in Italy in 2019 amounted to 6.6 Mt, remaining stable compared to previous years.

**Glass** packaging in 2019 increased by 4% in the amount released for consumption, reaching 2.7 Mt; over the same year, separate collection of glass packaging waste increased by 9%, reaching 2 Mt. Recycled glass packaging amounted to over 2 Mt in 2019, increasing by 10% as compared to 2018, thus reaching a 77% share of recycling, as compared to the total amount released for consumption.

In 2019, the **plastic** sector increased the total amount of packaging released for consumption by 1%, as compared to 2018, reaching a total amount of over 2.3 Mt. Separate collection, managed by COREPLA Consortium, amounted to 1.4 Mt, with a 13% increase compared to 2018. The total amount of recycled packaging is about 1.1 Mt, accounting for 46% of the amount released for consumption, with an increase by 5% compared to the previous year.

In the **wood** sector, the amount of packaging released for consumption was 3.2 Mt, with an increase by little less than one percentage point. Wood waste collected in 2019 amounted to 2 Mt, with a 46% share of packaging. The amount of wood packaging waste recycled, amounting to 2 Mt, increased by 1% and accounts for 63% of the amount released for consumption.

## Italy of Recycling 2020

**Aluminium** packaging released for consumption increased by 6% (73.4 kt) in 2019 compared to 2018, while the amount of aluminium packaging waste decreased by 5%, reaching 51 kt and accounting for 70% of the amount released for consumption (-8%). The decrease in the recycling rate in 2019 compared to the previous year is considered a consequence of the fact that many businesses stored significant quantities of materials, especially in the last part of the year, in the light of the decrease in prices of secondary aluminum,

waiting for an increase in sale prices.

**Steel** packaging released for consumption in 2019 decreased by 1%, reaching 486 kt. Steel packaging collection increased by 5% as compared to 2018, reaching 481 kt. Collection shares from public and private areas both increased by 5% compared to 2018. In 2019, recycled steel packaging waste increased as compared to 2018 (+3%) and amounted to 399 kt, accounting for 82% for the amount released for consumption.

**Table 1.** Packaging recycling (kt and % of the amount released for consumption) - 2019 compared to 2018

	2018		2019		Amount percentage change (2019 compared to 2018)	Percentage points change (2019 compared to 2018)
	kt	%	kt	%		
Steel	387	79	399	82	3%	4
Aluminium	54	78	51	70	-5%	-8
Paper	3,981	80	3,989	81	0%	1
Wood	1,945	62	1,997	63	3%	1
Plastic	1,005	44	1,054	46	5%	2
Glass	1,886	73	2,069	77	10%	4
<b>Total</b>	<b>9,258</b>	<b>70</b>	<b>9,559</b>	<b>70</b>	3%	0

Source: Analysis by Sustainable Development Foundation based on CONAI data.

In 2018, according to the latest data published by the Ministry for the Environment, Land, and Sea, the quantity of **tires** released for consumption in the replacement market amounted to 384 kt and, in the same year, 351 kt of End-of-Life Tires (ELTs) were treated, increasing by 1% compared to 2017. According to data

by the two main consortia in the sector (ECOPNEUS and ECOTYRE), in 2019 over 151 kt of ELTs derived material were treated for recycling, including 120 kt of rubber, 29 kt of steel, and 2 kt of textile fibers. At the same time, the recovery of waste for energy purposes accounted for 116 kt of material.

## Italy of Recycling 2020

In 2019, 989 kt of **electrical and electronic equipment (EEE)** were released for consumption. According to the latest official Eurostat data, the national WEEE collection rate (for both household and non-household) accounted for 38% of the average amount released for consumption in the previous three years, as calculated according to the new methodology set by the latest regulation. As regards the per-capita collection rate, Italy reaches 4.89 kg/inhabitant. The total amount collected in 2019, compared to 2018, reached a 10% growth rate for the first time, with an extremely positive trend.

According to CdCNPA data, 342 kt of **batteries and accumulators** were released for consumption in 2019 (-0.4% compared to 2018), of which: 26 kt of portable batteries and accumulators, 111 kt of industrial accumulators, 206 kt of automotive batteries. In 2019 11 kt of batteries and accumulators were collected, with a 5% increase compared to 2018. According to Eurostat, in 2018 the collection data for end-of-life batteries and accumulators reached 43% of the total amount released for consumption in the last three years, 2 percentage points below the 2016 target (45%). The collection rate of industrial automotive accumulators decreased in 2019, compared to 2018, reaching 176 kt (-4%).

**Waste mineral oils** released for consumption in 2019 increased by 3% as compared to 2018, reaching 411 kt. Waste oils collected and recycled increased by 2%, reaching a total 47% of the amount released for consumption. It should be noted that the most part of the oil is destroyed during use, due to combustion and leaks; collectible waste oil is thus about 45-50% of the amount released for consumption. In 2019, 191 kt of waste oil were regenerated, resulting in 128 kt of base oil.

In 2019, 260 kt of **waste vegetable oils** were produced in Italy. 62% of the total amount derives from households, while 38% derives businesses, namely from catering, industry and handicraft. The amount of collected and recycled waste vegetable oils increased from 76 kt in 2019 to 83 kt in 2019 (+9%).

The **organic waste** has always been the most recycled part of municipal waste. In 2019 over 7 Mt of organic and garden waste were collected (+7.5% compared to 2018). The system comprised, in 2019, 339 plants: integrated plants (anaerobic digestion and composting) process 49% of organic waste, almost equalling composting plants in terms of processed quantities. A study conducted by CIC between 2019 and 2020 shows that organic waste plants treated about 83,000 t/year (dry waste) of bioplastics, compared to 27,000 t/year in the years 2016/2017. It consists almost exclusively of flexible bioplastics derived from organic waste collection bags and over 70% of it consists of flexible packaging (shopping bags and fruit and vegetables bags) and of other hard compostable items (catering, food packaging and coffee pods).

According to ISPRA, **inert construction and demolition waste (C&D)** (excluding soil and stones) in Italy amounted to 60 Mt in 2018, increasing by 20% as compared to 2014. As per the economic activities, data show that C&D waste accounts for 45% of the total amount of special waste produced in Italy. Waste treated for material recovery accounted for 61%. According to the 2011/753/CE Decision calculation methodology for meeting the target set by the law (70% by 2020), Italy reached in 2018 a 77% rate in material recovery.

## Italy of Recycling 2020

**Street sweeping waste** is estimated to amount to 17-22 kg/inhabitant/year: based on a population of 60 mln, the potential production of street sweeping waste is estimated to be about 1.02-1.32 Mt/year. According to ISPRA, 384 kt of street sweeping waste were recycled in 2018, equivalent to 6.37 kg/inhabitant.

Separate collection of **textile waste** amounted to 146 kt in 2018 (latest available data), increasing by 10% compared to 2017. The collection increased in all the macro-regions in Italy, with a very significant increase in Central Italy, from 22.5 kt in 2017 to 29.6 kt in 2018, increasing by 30%.

According to available data by ISPRA, the percentage of reuse and recycling of **end-of life vehicles** did not change, compared to the previous year, and is below the target

set by Legislative Decree 209/2003 (at least 85 % of average weight per vehicle). The 2015 target of 95% is also very far away, highlighting the lack of energy recovery, greatly undermining the possibility to meet overall recovery targets. Shredding plants waste accounts for the most part of the disposed waste and is one of the main problems in the sector.

In 2018, solvents recycling decreased from 163 kt in 2016 to 152 kt. With an overall steady production of 200 kt/year, data are certainly influenced by the suspension of operations in two plants in 2017. However, recycling is the main form of waste treatment for this kind of waste, reaching 77% in 2018, as compared to 21% disposed of in landfills, and 2% treated for energy recovery.