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Italy of Recycling 2021

The 2021 Report is opened by a focus on textiles, among the most relevant sectors in Italian manufacturing, although with critical sustainability aspects. It is no coincidence that the EU 2020 Circular Economy Action Plan has identified textiles among key sectors for action, while also announcing the release of a Strategy for textiles by 2021. In the Italian Recovery and Resilience Plan, a specific line of action aims at boosting the separate collection network, as well as the management plants, thus contributing to reach a 100% recycling target in textiles.

With regard to the results in the various national packaging sectors, it is stressed that the restrictions imposed, together with a loss of confidence by consumers, resulted in a significant reduction in the internal demand in the first semester of 2020, with a partial recovery at the end of the year. This context highly affected the sector of packaging released for consumption, with differences among the various materials, also depending on the share of packaging production for industrial or commercial exchanges. According to the 2020 data analysis, a 4.6% decrease is recorded in the amount released for consumption, as compared to 2019. The overall amount of packaging released for consumption is little below 13.1 Mt, with higher difficulties for those sectors devoted to business-to-business channels, penalized by the current scenario.

Despite the crisis, packaging recycling in 2020 maintained a good level, with about 9.6 Mt of recycled packaging waste (unchanged as compared to 2019). The recycling rate reached 73% of the amount released for consumption, increasing by 3% as compared to the previous year, mainly as a consequence of the reduction in the amount of packaging released for consumption (tab. 1). Nonetheless, it should be noted that recycling data for the year 2020 are calculated according to the

methodology existing before the changes introduced in the context of the Waste Package, the implementation of which is being discussed by a table coordinated by ISPRA.

Below is a synthesis of trends in the various national sectors.

In 2020, **paper and paperboard packaging** released for consumption decreased by 6% as compared to 2019 (-1%), reaching 4.6 Mt; such decrease is a consequence of the reduction in transport and exchanges, strongly affected by the economic context. The amount recycled is little higher than 4 Mt, accounting for 87% of the amount released for consumption. Overall, paper collection in Italy in 2020 amounted to 6.7 Mt, stable compared to previous years.

The sector of **glass packaging** is the only one showing an increase in the amount released for consumption in the year 2020 (+2% compared to 2019), reaching 2.7 Mt; over the same year, separate collection of glass packaging waste increased by 3%, reaching 2.4 Mt. Recycled glass packaging amounted to over 2.1 Mt in 2020, increasing by 4% as compared to 2019, reaching a 79% share of recycling, as compared to the total amount released for consumption.

Plastic packaging released for consumption in 2020 decreased by 5% as compared to 2019, with a total amount of over 2.2 Mt. Separate collection amounted to 1.4 Mt, with a 4% increase compared to 2019. The overall amount of recycled packaging is little over 1 Mt, 49% of the amount released for consumption, increasing by 3% as compared to the previous year.

The **wood sector**, among the others, was affected by the effects of the Covid-19 pandemic: the amount released for consumption in the year reaches 3 Mt, with a 7% decrease as compared to the previous year. Wood waste collected

Italy of Recycling 2021

in 2020 amounted to 1.9 Mt, with a 45% share of packaging. The amount of wood packaging waste recycled, amounting to 1.8 Mt, decreased by 7%, accounting for 62% of the amount released for consumption.

Aluminium packaging released for consumption decreased by 6% (69 kt) as compared to 2019. The most penalized applications are those employed in the hospitality industry (*HoReCa*) and tourism, due to the significant slowdown derived from the pandemic. The amount of recycled

aluminium packaging waste decreased by 9%, reaching 47 kt and accounting for 69% of the amount released for consumption (-1%).

Steel packaging released for consumption in 2020 decreased by 6%, reaching 465 kt. Steel packaging collection increased by 6% as compared to 2019, reaching 451 kt. The amount of waste recycled also decreased in 2020 as compared to 2019, amounting to 371 kt (-7% compared to 2019), 80% of the amount released for consumption.

Table 1. Packaging recycling (kt and % of the amount released for consumption) - 2019/2020

	2019		2020		Amount % change 2020/2019	Percentage points change 2020/2019
	kt	%	kt	%		
Steel	399	81	371	80	-7	-1
Aluminium	51	70	47	69	-9	-1
Paper	3,989	81	4,047	87	1	6
Wood	2,008	62	1,873	62	-7	0
Plastic	1,044	45	1,076	49	3	4
Glass	2,069	77	2,143	79	4	2
Total	9,560	70	9,557	73	0	3

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

In 2019, 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 370 kt and, in the same year, 499 kt of End-of-Life Tires (ELTs) were treated, increasing by 8% compared to 2018. According to

data by the two main consortia in the sector (ECOPNEUS and ECOTYRE), it is estimated that over 82.4 kt of ELTs derived material were treated for recycling in 2020, including 61 kt of rubber, 19.6 kt of steel, and 1.8 kt of textile fibers. At the same time, the recovery of waste for energy purposes accounted for 119 kt of material.

Italy of Recycling 2021

In 2020, 1.1 Mt 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 38.4% of the average amount released for consumption in the previous three years, as calculated according to the new methodology set by the latest regulation. This data is still very far from the 2019 65% target. As regards the per-capita collection rate, Italy reaches 6.14 kg/inhabitant. The total amount collected in 2020, compared to 2019, reached an overall 6% growth.

According to CDCNPA data, 340.6 kt of **batteries and accumulators** were released for consumption in 2020 (-1% compared to 2019), of which: 28 kt of portable batteries and accumulators, 107.6 kt of industrial accumulators, 205 kt of automotive batteries. In 2020, 11.1 kt of batteries and accumulators were collected, with a 1% increase compared to 2019. According to Eurostat, in 2020 the collection data for end-of-life batteries and accumulators in Italy 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 and automotive accumulators decreased in 2020, compared to 2019, reaching 156 kt (-12%).

Waste mineral oils released for consumption in 2020 significantly decreased due to the pandemic, reaching 369 kt (-10% compared to 2019). Similarly, the amount of waste oils collected and recycled decreased considerably: in 2020, 171 kt were collected, -11% compared to 2019, reaching a total 46% of the amount released for consumption, with a 1% reduction. 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 2020, 167 kt

of waste oil were regenerated, resulting in 109 kt of oil.

In 2020, 290 kt of **waste vegetable oils** were produced in Italy. 62% of the total amount derives from households, while 38% derives from businesses (catering, industry and handicraft). The amount of collected and recycled waste vegetable oils decreased due to the pandemic, from 83 kt in 2019 to 73 kt in 2019 (-12%).

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). In 2019, the system comprised 345 plants: integrated plants (anaerobic digestion and composting) process 51% of organic waste, almost equaling 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 68 Mt in 2019, increasing by 13% as compared to 2018. As per the economic activities, data show that C&D waste accounts for 45.5% of the total amount of special waste produced in Italy in 2019. Waste treated for material recovery accounted for 62%. According to the 2011/753/CE Decision calculation methodology for meeting the target set by the law (70% by 2020), Italy reached in 2019 a 78% rate in material recovery.

Italy of Recycling 2021

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, 451 kt of street sweeping waste were recycled in 2018, equivalent to 7.49 kg/inhabitant, with a 1 kg/inhabitant increase compared to 2018.

Separate collection of **textile waste** amounted to 158 kt in 2019 (latest available data), increasing by 8% compared to 2018. The collection increased in all the macro-regions in Italy, with a very significant increase in Central Italy, from 29.6 kt in 2018 to 35.4 kt in 2019, increasing by 20%.

According to available data by ISPRA, the percentage of reuse and recycling of **end-of life vehicles** increased in 2019, reaching 85% of the average vehicle weight, thus meeting the target set by Legislative Decree 209/2003. On the other hand,

the 2015 target of 95% overall recovery is 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. In 2020 the chemical industry was rapidly affected by the effects of the pandemic, and so did the employment of solvents, though with different trends over the year; such data cannot be estimated, as the Eurostat update is not yet available.