

# 5<sup>th</sup> REPORT ON CIRCULAR ECONOMY IN ITALY 2023

## SUMMARY



in partnership with



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ECONOMY  
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Agenzia nazionale per le nuove tecnologie,  
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Ministero delle Imprese  
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## 5TH REPORT ON CIRCULAR ECONOMY IN ITALY - 2023/SUMMARY

By the Circular Economy Network

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The study on the choices of Italian consumers for the circular economy has been conducted by the CEN and Legacoop in collaboration with IPSOS

*Graphic design and layout*

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### CIRCULAR ECONOMY NETWORK

The Circular Economy Network, promoted by a group of enterprises and organizations in collaboration with the Sustainable Development Foundation, works to sustain the transition to a circular economy. To this end:

- it establishes a network of debate, exchange of information and good practices to strengthen a shared vision and a common action on various aspects of the circular economy;
- it analyzes criticalities and barriers that restrain the ecological transition; it elaborates proposals to enhance the potential of development of the circular economy in Italy;
- it provides studies and research on various aspects of the circular economy, being careful about the elaboration and about the European and international ventures. It also provides particular attention to the positive repercussions of the circular economy, for new prospects of development, wealth and employment for saving the natural resources, the climate, innovation and digitalization;
- it elaborates strategies' proposals, policies and measures addressed at policy makers, promoting a constant and constructive dialogue with the various institutional levels.

[www.circulareconomynetwork.it](http://www.circulareconomynetwork.it)

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### CIRCULAR ECONOMY NETWORK PROMOTERS



### MEMBERS OF THE CIRCULAR ECONOMY NETWORK

Acciaierie Arvedi, AgriBiom, AIRA, AIRP, Ambiente spa, Ancitelea, Arbos, Ass.I.E.A, Assoambiente - sez. Unicircular, Assocarta, Assovetro, B-Plas, Buy Circular, Castalia, COMIECO, CONOE, COREPLA, Cyrkl, Dussmann Service srl, Ecocerved, Ecoped, Ecotyre, ERICA soc. coop., ESO società benefit arl, Eventi di Cartone, Ferrovie dello Stato, Fichtner Italia Srl, Giflex, Giunko, Mercatino, Mercato Circolare, OXINT, Rubber Conversion, SISEA SRL - Logistica e Ambiente, Spinlife Srl, Tramonto Antonio – Servizi per l'ambiente



## Accelerating the transition

In 2022, only 7.2% of the

world economy could be regarded as being circular, compared to 9% five years ago. The global economy consumption amounts to 100 billion tons of materials per year. According to estimates, these figures are expected to grow or even double by 2050 compared to 2015 levels.

In this worrisome framework, accelerating transition to circular economy would significantly contribute to improving our planet conditions. In particular, the mining of virgin materials could decrease by more than a third (-34%) and greenhouse gas emissions could be substantially reduced, thus helping to limit the global temperature rise to below 2°C.

The importance of promoting the circularity of our economies is therefore increasingly evident. This need is further highlighted by the critical international context, which should push Europe and Italy to accelerate the transition not only for environmental and economic reasons but also for geopolitical ones.

The 2023 Report on circular economy in Italy provides an updated picture of our country's performance and the policies adopted at European and national level, together with a focus on consumption circularity and an in-depth analysis of critical raw materials, to conclude with the proposals made by the Circular Economy Network.

## Consumption at the crossroads of circularity

An issue that is too often underestimated concerns consumption methods, which are fundamental

for circular economy development. In fact, consumer choices and habits influence both the production of goods and services, and their use at the end of their life cycle.

The publication "Enabling consumer choices for a circular economy" by the European Environment Agency has raised attention and reflection on this subject. It has provided the reference grid for a survey, carried out by CEN and Legacoop in collaboration with IPSOS, on a representative sample of Italian citizens. A few results are summarized here below. (The full text is available on the website [www.circulareconomynetwork.it](http://www.circulareconomynetwork.it)).

### Survey on Italian consumers' habits for circular economy

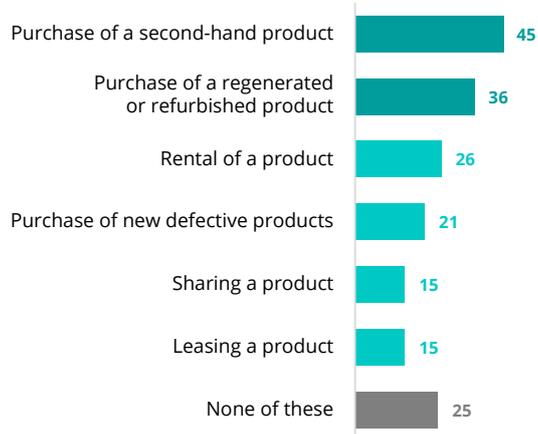
Over the last three years, except for the purchase of more commonly used second-hand consumer products (45%), both rental (26%), sharing (15%) and leasing (15%) services were used by a minority of the population. However, the propensity towards more circular consumption patterns is on the rise, considering how many consumers in the future intend to buy a

second-hand product (82%), but also rent a product (64%), resort to sharing (52%) and leasing (55%). People will opt for the rental, sharing and leasing services more in the case of motorcycles

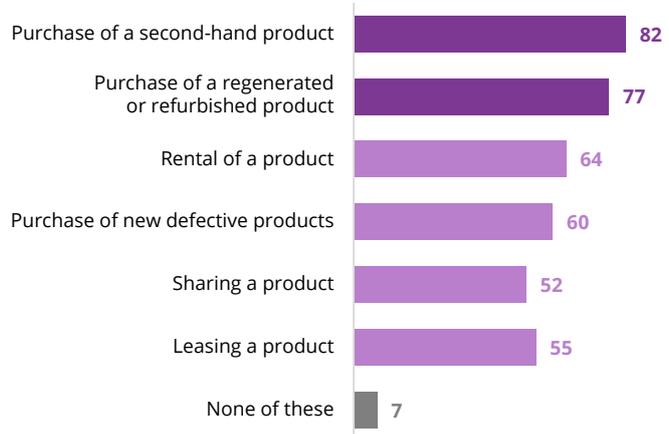
and cars, while they will tend to buy second-hand products with special reference to clothing and accessories and second-hand regenerated technological products.

**Utilization of some services in the last three years and propensity to use them in the future (%)**

FOR THE PAST 3 YEARS, CONSUMERS HAVE OPTED FOR...



IN THE FUTURE CONSUMERS INTEND TO OPT FOR...

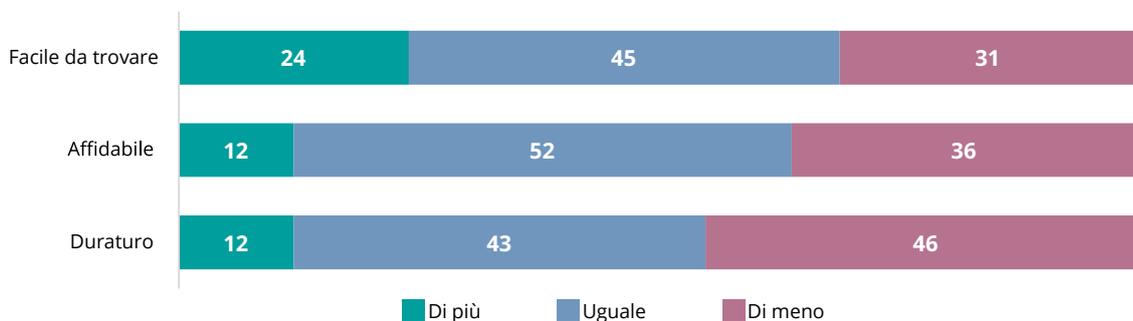


Source: IPSOS

Even if seven out of ten Italians believe that the purchase of second-hand refurbished or regenerated products entails more environmental benefits due to less resource consumption and less waste production, the percentage of those who consider these products less easy to find (31%), less reliable (36%) and less lasting (46%) is significant. Even the range of prejudices against the purchase of refurbished or regenerated se-

cond-hand products is quite widespread. We live in a society that is not accustomed to reuse (32%). People always prefer to buy the latest model released on the market (28%), many products are designed to last a short time (25%), the possibility of purchasing second-hand refurbished or regenerated products is little known (25%), the purchase of second-hand products is associated with a low social status (24%).

**Second-hand reprocessed or regenerated products are more or less easy to find, reliable or lasting, compared to brand new products (%)**

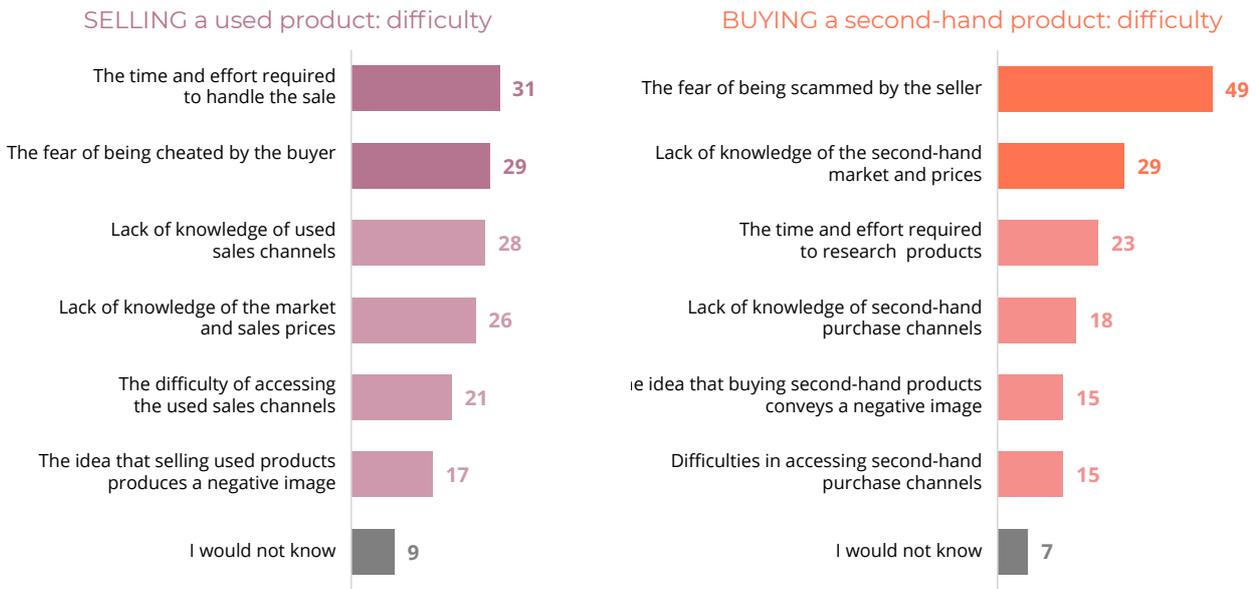


Source: IPSOS

Among the difficulties in buying second-hand products, people are afraid of being scammed by sellers (49%). When selling second-hand products, instead, sellers complain, for example, about the time ne-

cessary to manage sales (31%), to the extent that 38% of interviewees state they prefer to donate second-hand products to friends and acquaintances rather than taking the trouble of selling them.

**Difficulties experienced by consumers in Selling/Buying second-hand products (%)**



Source: IPSOS

Specific initiatives are therefore required to encourage circular choices, for which the interviewees themselves express broad consensus (83-86%), with regard to: price reductions, discounts and promotions; learn more about reliability; economic incentives; increase of online sales; information campaigns; issue of certification systems.

Significant attention is paid to packaging: 82 to 85% of Italians believe that packaging, if made with recycled materials, must guarantee safety when used in contact with food; it must be made with recyclable material and

must result from recycling and that, if it is made with reusable materials, it should be reused several times and reduced to the bare minimum.

Italians are widely aware (71%) of the scarcity of natural resources and therefore of the need to take greater care of them in order to use them better and longer, reducing waste. An even higher percentage (81%) of the interviewees believe that there is a habit of linking well-being to the amount of new goods being purchased, rather than the greater care of the goods that are used.

**Scarcity of natural resources is an incentive to take better care of products (%)**

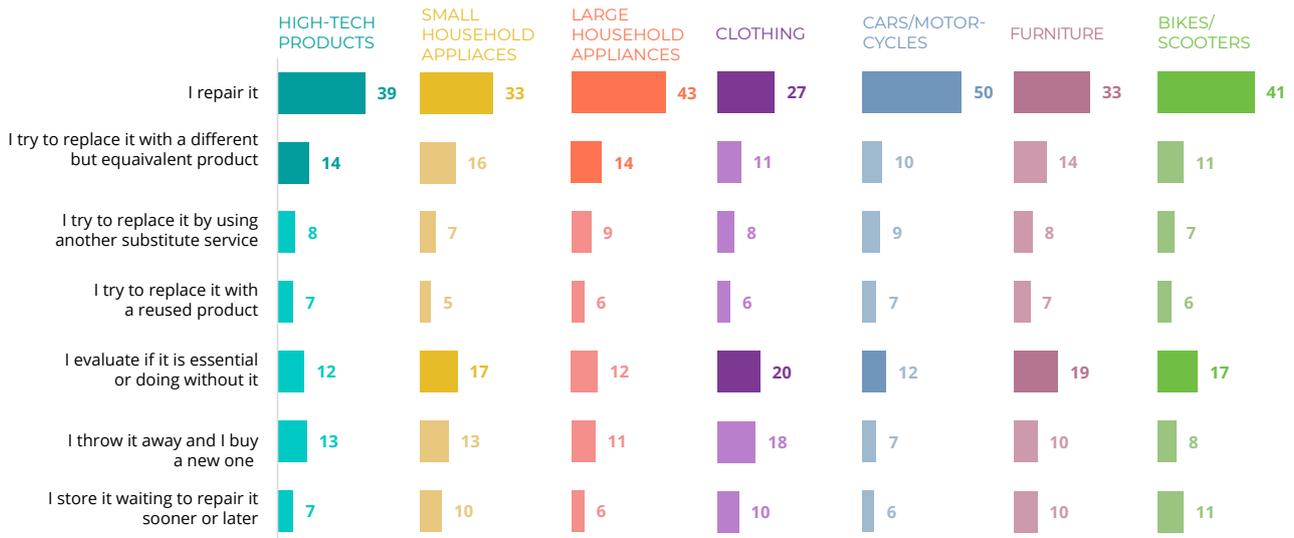


Source: IPSOS

What do Italian consumers usually do if a product no longer works? They try to repair it in higher percentages with regard to cars and motorcycles (50%), large household appliances (43%), bikes and scooters (41%), to a lesser extent as regards high-tech products

(39%), furniture ( 33%) and clothing (27%). If a product cannot be repaired, it will be disposed of through separate collection for it to be recycled in most cases (69%), but also with a relevant willingness to dispose of it for future reuse (52%).

**What consumers do if a product no longer works (%)**



Source: IPSOS

## CIRCULAR ECONOMY NETWORK'S PROPOSALS

### MEASURES TO PROMOTE CIRCULAR CONSUMPTION MODELS

- 1.** Define and publish a national education and communication programme on circular conscious consumption models, as a specific part of a national environmental education and communication programme.
- 2.** Implement the European guidelines defined and drafted in new directives, adopt rules that establish the contents of correct and effective communication and labelling on product circularity characteristics, limiting the risks and damages deriving from misleading advertising.
- 3.** Improve the legislation on guarantees for product duration and repairability.
- 4.** Promote the repair, regeneration and sale of second-hand products with simplified authorization procedures and tax allowances. Create repair and reuse centres, also through PNRR (National Recovery and Resiliency Plan) funding.
- 5.** Promote sharing, leasing and rental by means of tax measures and economic incentives, as well as through a regulatory reform.
- 6.** Strengthen waste production prevention by reducing the amount of waste to be disposed of, strengthening conscious consumption models, participation in separate waste collection schemes, purchase of recyclable products and products made with recycled materials, increasing the reuse of reusable products and packaging.
- 7.** Enhance the compliance with circularity requirements in green public procurement (GPP) and in ministerial decrees on the related Minimum Environmental Criteria (MEC), also by strengthening the monitoring of their actual enforcement.
- 8.** Implement a reform to zero the net consumption of new green land, to promote the reuse of already urbanized areas, the existing building stock and urban regeneration.
- 9.** Implement a reform for the efficient circular management of water resources, promoting the efficient use and saving of water for various municipal, agricultural and industrial uses, restoring the water network to stop the huge losses and leakages and enhancing purified waste water treatment and reuse processes.
- 10.** Adopt a national programme for sustainable and circular consumption, envisaged by the National Strategy, following the establishment and consultation of a stakeholder forum.

# Italy's performance and comparison with the main EU countries

The war in Ukraine has entailed, among its repercussions, also increases in prices of raw materials, in particular of fossil fuels. Despite the consequent economic slowdown starting from the third quarter of 2022, Italy still managed to achieve an average +3.8% GDP increase. This growth was accompanied, again in 2022, by an increase in imports of raw materials.

From a circular economy perspective, it is important to evaluate in what terms the economic recovery recorded in 2022 was also followed by a growth in net imports of materials: a more efficient use of resources can in fact be deduced from a decoupling of these two indicators.

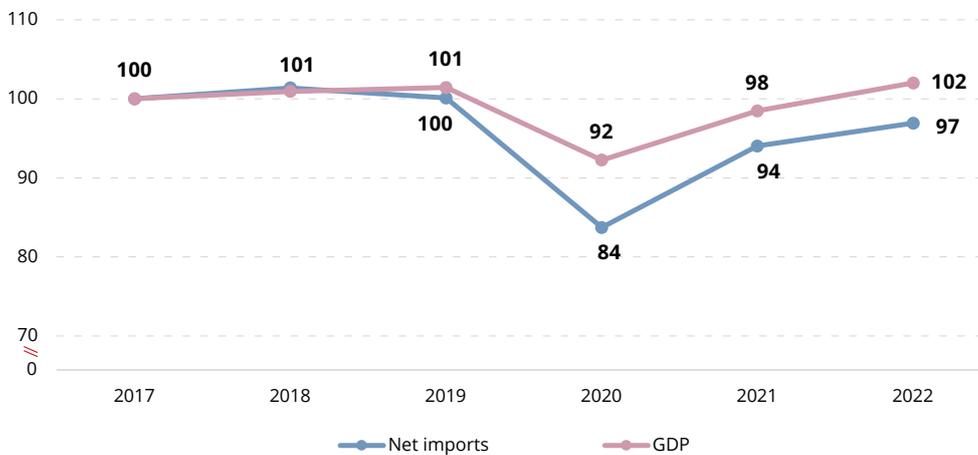
To evaluate it, the GDP and net import trend (resulting from the difference between imports and exports) in Italy over the last six years (2017-2022) was analysed, also including what happened during the Covid-19 pandemic and the subsequent crisis resulting from the Russian aggression against Ukraine.

The choice of this indicator to evaluate the consumption of materials at a national level is motivated by the fact that Italy is a country historically poor in raw materials, which has always depended on a high supply from abroad to meet its needs.

As can be seen in the following Figure, starting from an index value of 100 in relation to 2017, over the last six years there has not been a significant decoupling between these two parameters. The overall stability until 2019 was followed by a substantial decrease in these two indicators during the first year of the Covid-19 pandemic (-16 points for imports, -9 points for GDP in 2020). Then, the foreseeable rebound in 2021-2022 highlighted the difficulty in decoupling the consumption of materials from the GDP, which went back to the pre-pandemic values in 2022.

The circular economy trend in Italy and in the rest of Europe is represented through a set of indicators, based on the application of the Bellagio Charter (related to material and waste flows and the environmental, economic and social impacts of the circular economy), as well as on the analysis of processes, behaviours and the most recent policies relating to the circular economy.

Material net import trends compared to GDP, in 2017-2022 (2017=100)



Source: ISTAT - Coeweb

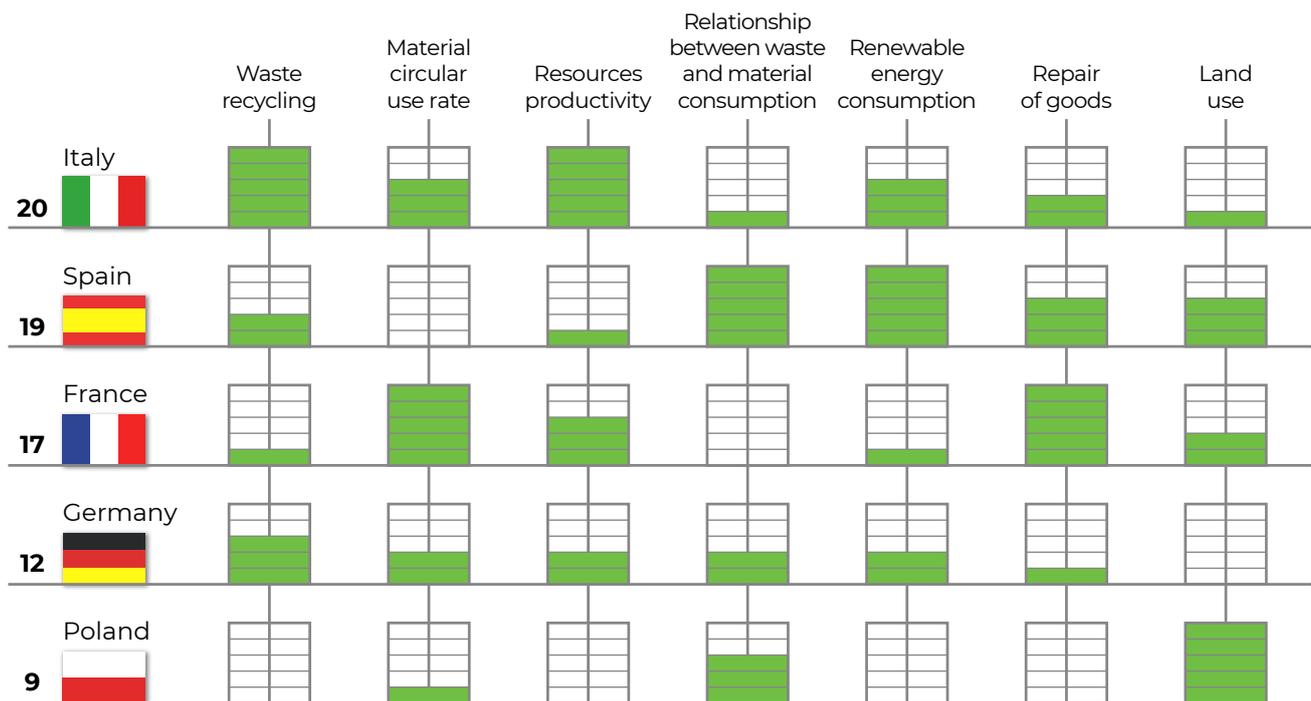
## Italy confirms its leadership among the top five EU economies

The overall ranking of circularity in the top five economies of the European Union (France, Germany, Italy, Poland, Spain) is based on seven indicators: waste recycling rate; utilization rate of materials from recycling; resource productivity; waste production and

material consumption ratio; share of energy from renewable sources in total gross energy consumption; repair; soil consumption.

Once again, Italy ranks first, with 20 points, followed by Spain with 19 points and France with 17, while Germany (12 points) is definitely behind and Poland even more so with 9 points.

### Classifica complessiva di circolarità nelle principali cinque economie dell'UE nell'ultimo anno disponibile



## Circularity trends

### Overall ranking of circularity trends of the top five EU economies

Country	Overall ranking (in the past five years)
Poland	19
Spain	17
Italy	15
France	15
Germany	13

The circularity trend makes it possible to observe which country has reached the greatest increase in performance over the last five years. The indicators are the key ones used for the previous ranking.

Italy improves less than Poland, which starts from very low circularity levels, and less than Spain, which is speeding up faster, while keeping the same pace as France and proceeding a little faster than Germany.

Below are the results of Italy and of the main European countries in the seven key circularity indicators that determined the overall rankings shown above.

### Waste recycling rate

In 2020 the waste recycling rate was 53% in Europe and 72% in Italy, with one of the highest recycling rates in the EU.

Compared to the other main four European economies, Italy consolidated its leadership

in 2020, performing better than Germany by about 17 percentage points, ranking second. Yet, the most interesting aspect is the growth rate recorded over the past ten years: this growth rate has remained unchanged for the EU, but it has risen by +8% in Italy and by +3% in Spain. Negative performances were however recorded for Poland and France.

In 2020, in quantitative terms, Germany ranked first in terms of the largest waste quantity recycling, with just over 76 Mt, followed by Italy with 57 Mt and France with 42 Mt. The other two countries are decidedly lagging behind: Poland with 27 Mt and Spain 22 Mt.

As far as per capita values are concerned, Italy ranks first with as many as 969 kg/inhabitant\* year recycled waste, followed by: Germany with 921 kg/ inh\*year, Poland with 726, France with 625 and finally Spain with 472.

	Score (last available year 2020)	Circularity trend (2020-2016)
 Italy	<b>5</b>	↑
 Germany	<b>3</b>	↑
 Spain	<b>2</b>	↑
 France	<b>1</b>	↓
 Poland	<b>0</b>	↓

### Utilization rate of materials deriving from recycling

A less positive trend was recorded in Italy in relation to the utilization rate of recycled materials, defined as the ratio between the circular use of materials and the overall use (i.e. from virgin raw materials + recycled materials).

In the EU, in 2021, the latest year available, the utilization rate of recycled materials was 11.7%, down by 0.1% compared to 2020, after the reduction already noted compared to 12% in 2019.

For the first time since Eurostat has recorded this figure, Italy suffered a significant drop in 2021, settling at 18.4% (a good 2.2% reduction as against the previous year), whereas it had

historically always achieved an excellent performance. It also lost its lead among the EU top five economies, overtaken by France, leading by 1.4 percentage points. Spain's ranking also decreased (from 11.1 to 8%), Germany remained constant (12.7%), while Poland increased (9.1%, +1.6%).

Italy's performance may have been influenced by a remarkable growth in the construction sector, linked to special incentives for building renovations, which is characterized by a low circular use of materials.

	Score (last available year 2021)	Circularity trend (2021-2017)
 France	<b>5</b>	↑
 Italy	<b>3</b>	=
 Germany	<b>2</b>	↑
 Poland	<b>1</b>	↓
 Spain	<b>0</b>	↓

### Resource productivity

The indicator shows that in 2021 on average in Europe, at purchasing power parity, 2.1 euro of GDP were generated for every kg of resources consumed. Also as far as this indicator is concerned, Italy's leadership can no longer be confirmed (-7% in the last two years), joined by France, which has kept its constant value: both are at 3.2 €/kg. Followed by Germany (2.7 €/kg) and Spain (2.6 €/kg), while Poland is away down the line (0.8 €/kg).

Italy's decline is mainly due to a significant increase in the levels of internal consumption of materials (+14.7%), not accompanied by an equal economic growth (GDP +6.7%) between 2020 and 2021. Another reason can be traced back to the significant increase in the consumption of minerals, featuring a lower resource productivity than GDP, among the materials analyzed.

An average increase in resource productivity stems from the analysis of the trend over the last ten years: +9% in Europe, +13% in Italy. Po-

land, while remaining far below the other four countries, grew by +30% compared to 2012. In comparison with 2020, however, none of the main countries improved, except for Spain (+3%).

	Score (last available year 2021)	Circularity trend (2021-2017)
 Italy	<b>5</b>	↓
 France	<b>3</b>	↑
 Germany	<b>2</b>	↑
 Spain	<b>1</b>	↓
 Poland	<b>0</b>	↑

### Waste production and material consumption

The ratio between waste production and material consumption points out the intensity index of pressure generated by a production system in place for the raw materials supply: the lower the ratio value, the better the performance.

In 2020 this indicator was 35% for the whole European Union (-2% compared to 2018). Italy was at 38.1%, with an increase of 12 percentage points compared to 2012. In comparison with the top five European economies, the best performance was recorded in Spain (24.9%, -6% in the 2018- 2020 period). Followed by Poland (26.4%), Germany (34.8%) and finally France (45.4%).

Observing the trend over the last decade, only Spain recorded a decrease (-3.8%), France and Poland maintained almost the same performances as in 2012, while Italy (+12%) and Germany (+6% ) showed an increase.

	Score (last available year 2020)	Circularity trend (2020-2016)
 Spain	<b>5</b>	↑
 Poland	<b>3</b>	↑
 Germany	<b>2</b>	↓
 Italy	<b>1</b>	↓
 France	<b>0</b>	↓

### Renewable energy consumption

As regards the renewable energy rate used as against the total gross energy consumption, a +7.5% rising trend was observed on average in Europe between 2011 and 2020 (up to 22.1% in 2020). However, the five countries analyzed are very far from the recent European targets (32% of renewables by 2030). Spain is in the lead (21.2%), followed by Italy with 20.4%, by Germany (19.3%) and France (19.1%), and finally by Poland (16.1%). In the last year, the renewable energy rate increase has concerned every country, even significantly, as in the case of Spain (+3.4%), Italy (+2.2%) and Germany (+2 %).

In Europe, the countries showing the best performances are Sweden with 60.1% of renewables, Finland with 43.8% and Latvia with 42.1%.

	Score (last available year 2020)	Circularity trend (2020-2016)
 Spain	<b>5</b>	↑
 Italy	<b>3</b>	↑
 Germany	<b>2</b>	↑
 France	<b>1</b>	↑
 Poland	<b>0</b>	↑

### Repair of goods

The goods repair indicator takes three aspects into account: number of businesses, turnover, number of employees.

In 2020, Italy, with almost 24,000 companies engaged in repair activities, ranked third among the top five European economies, behind France (over 35,300 companies) and Spain (just over 29,100).

Over the last ten years, however, the number of Italian enterprises has decreased: 2,622 fewer than in 2011, almost -10%. The number also fell in Poland (minus 1,394), whereas it grew in Spain (+8,707), France (+1,261) and Germany (+946).

In terms of the production value generated

by companies, in Italy it exceeds 2.1 billion euros (+122 million euros compared to 2011), placing itself behind France (4.5 billion euros), standing on an equal footing with Spain (€2.1 billion) and slightly ahead of Germany (€2 billion).

Finally, in 2020, repair businesses in Italy employed almost 10,800 workers in (down by approximately 1,500 compared to 2019 and by approximately 2,300 compared to 2011), while Germany, Spain and France employed more than double the number of workers compared to Italy.

	Score (last available year 2020)	Circularity trend (2020-2016)
 France	<b>5</b>	↓
 Spain	<b>3</b>	↓
 Italy	<b>2</b>	↓
 Germany	<b>1</b>	↓
 Poland	<b>0</b>	↓

### Soil consumption

In 2018, 4.2% of the total EU27 area was covered by artificial surface. During the same year, among the five main economies in question, Poland achieved the lowest value (3.6%), Spain recorded a slightly higher rate (3.7%), France reached a higher value (5.6%), yet less than Italy (7.1%), while Germany attained the highest value (7.6%).

In the period between 2009 and 2018, all five EU countries recorded an increase in soil consumption, with the smallest increase in Italy (+0.07%), compared to +0.7% in Germany.

	Score (last available year 2018)	Circularity trend (2018-2015)
 Poland	<b>5</b>	↓
 Spain	<b>3</b>	↓
 France	<b>2</b>	↓
 Italy	<b>1</b>	=
 Germany	<b>0</b>	↓

## Strategic raw materials

Since 2011, every three years, the European Commission has drawn up a list (the last one published in March 2023) which defines the critical raw materials (CRM) at risk of shortage of procurement (with reference to the critical raw materials EU countries depend on for imports from countries with unstable political situations) and with high economic relevance, given the fact that these materials are now indispensable for our economies. These raw materials are fundamental for the energy and digital transition, electric mobility, and defence, with a constantly increasing demand. For example, it is estimated that the demand for rare earths might increase tenfold by 2050.

Hence the interest in analyzing, in summary, four especially strategic raw materials for the Italian industry.

### Cobalt

Cobalt (Co) is an element that has always been included in the list of critical raw materials. It is usually not mined, but recovered as a by-product derived from the extraction of minerals that contain traces of cobalt (for example, iron, nickel, copper, etc.). On a global scale, cobalt is mainly used to produce battery chemicals, while in the EU its most common use is the production of superalloys (36%), followed by hard materials (14%) and catalysts (12%). These are the most common applications also in Italy.

Cobalt substitution options are heavily researched due to its high price volatility, geopolitics of supply, cost and environmental concerns, but many of them lead to underperformance. Globally, more than half of cobalt resources are located in the Democratic Republic of the Congo (DRC). Currently, despite increased demand mainly for the green transition, estimates indicate that it will not outstrip supply before 2025.

Thanks to the recycling process of end-of-life products (cobalt alloys, batteries, hard metals and catalysts), the EU has an important source of supply: in 2016, around 22% of annual

consumption came from scrap. Studies are currently under way to recover cobalt from scrap metal deriving from the production of alloys, industrial by-products (for example, the sludge generated by nickel refineries and zinc smelting scraps) and mining tailings.

## Lithium

Lithium (Li) is a metal that is not found as a self-standing material in nature but it is enclosed in minerals. It delivers a high electrical conductivity. It was introduced in the European list of critical raw materials in 2020. It is mostly used to manufacture rechargeable batteries worldwide, while in the EU it is mainly used for glass and ceramics (66%), lubricating greases (9%) and cement production (9%). In Italy, the most common applications of lithium are in the production of basic iron and steel and ferroalloys and lubricating greases. The Italian data therefore only partially reflect the use at European level and the related lithium needs for the national industry.

Lithium substitutes for different applications are available, such as zinc for primary batteries, nickel and lead for rechargeable ones. Compared to its substitutes, lithium often remains more attractive due to its low price and guaranteed supply. As far as lithium applications in rechargeable batteries for electric vehicles and energy storage is concerned, no substitution seems possible yet and lithium batteries may even replace traditional lead-acid car batteries in the next future.

World lithium reserves are concentrated in Bolivia (45%), Chile (25%) and Australia (8%), but the main suppliers for Europe are: Australia (87%) and Portugal (13%) for the raw material, Chile (78%) for the refined product. The main lithium producer in Europe is Portugal.

In most cases, lithium cannot be recycled or requires an excessively expensive technology. An exception is the recycling of lithium from lithium-ion batteries, which is technically possible and economically viable. A way for the EU to be less dependent on lithium imports in the future. Even more so if we consider that as early as 2024 supply may not meet demand, given the forecast of a sharp increase in goods

containing lithium as early as 2023.

## Phosphorus

Phosphorus (P) is part of the list of critical raw materials updated in 2023 and is a non-renewable and non-replaceable resource. The main use is in the agri-food chain: fertilizers (82%), animal feed (7%), products for food production (2%), detergents and technical phosphates (4%), pesticides (glyphosate, 1%) and products derived from P<sub>4</sub>, i.e. from elemental phosphorus or white phosphorus (2%). Recent estimates also indicate that almost all elemental phosphorus (90%) is used in the chemical industry in various sectors and only to a residual extent in the metallurgy (5%) and electronics (5%) sectors.

About 95% of phosphorus in the earth's crust is present in phosphate rocks (or phosphorites) and rocks rich in apatite as well as in various organic sources, such as guano. The main reserves of phosphate rocks are located in North Africa and China, although they are also found in the United States, South Africa, Russia, Australia and Europe, particularly in Spain, Great Britain, Finland, Norway, Ukraine, Estonia and Greece.

However, the actually exploitable reserves are only a small fraction of those estimated globally and Europe's primary supply very often depends on non-EU countries with unstable geopolitical conditions. All these factors have determined the EU and member countries action towards the recovery of phosphorus from effluents, waste and scraps.

## Aluminium/Bauxite

Bauxite is a naturally occurring heterogeneous mineral and listed as a critical raw material since 2020. Its prevalent uses are aluminium refining (90%) and use in refractories and cement (both 3%), abrasives and chemicals (both 2%). Specifically, the use of aluminium is crucial to implement the ecological transition, given that 75% of the total metal is used in transport, construction, packaging and the electricity sector (with uses above all in wind and solar power): hence the forecast of an increase in global demand by almost 40% by 2030.

There are substitute materials for bauxite, such

as anorthosite, alunite, kaolin and low grade clay, coal fly ash and nepheline concentrates, but so far no commercial scale substitution is available.

World bauxite reserves are concentrated in Australia (52%), Guinea (11%) and Brazil (11%). The main suppliers to Europe are Guinea (64%), Greece (12%) and Brazil (10%). In Europe the main producer of bauxite is Greece. Ireland is the main producer of aluminium. 25% of the necessary primary aluminium is currently produced in the EU, but the European Commission reports a very low risk of supply.

The main limiting factor of aluminium lies in the cost of energy, which makes it more expensive to produce. Producing aluminium from scratch has an energy cost of 13 kWh/kg, which also translates into climate-changing emissions, while it is much lower if one starts from recycled raw materials.

Aluminium is an extremely suitable material for recycling: the European recycling rate is 70-90%, the highest in the world. Aluminium scrap mainly comes from packaging, technology, construction and the transport industry: it is estimated that around 7 Mt is not recovered every year, with forecasts to increase up to 17 Mt by 2050.

Aluminium prices have been quite volatile over the last decade, up around 15% since the beginning of last year, surpassing the all-time high reached in October 2021: an increase by more than 60% compared to January 2021. The cause lies not only in the increase in demand, but mostly in the decline in production in Europe and China as well as the Russian-Ukrainian war, since Russia is among the largest producers after China. For all these reasons and for the simultaneous increase in energy costs, stocks have drastically decreased. An increase in the volume of recycled aluminium will help reduce the imbalance between supply and demand.

## Circular economy policies

difficult international context, marked by the war in Ukraine, has pointed out the need for Europe

During 2022, circular economy policies underwent a further important evolution, both at European and national level. The

and Italy to accelerate the transition towards the circular economy, not only for environmental and economic reasons, but also for geopolitical ones.

On March 30, 2022, with a view to implementing the European Union Action Plan, the Commission adopted four important measures on eco-design and sustainable products, a strategy for sustainable and circular textile products, construction products, consumer rights and empowerment. These measures were followed by the new draft regulation on packaging and packaging waste, the new draft regulation on repair and measures on critical raw materials, in a broader context of ecological transition policies, including the provision on the carbon border tax and the Industrial Plan for the Green Deal. New measures are expected in the coming months, including the circularity delegated act required by the taxonomy regulation.

For its part, Italy has adopted two key strategic and programmatic documents, essential to help step up the transition towards the circular economy. The national strategy for circular economy is especially important. It should now be fully and effectively implemented, by adopting the envisaged measures in compliance with the time schedule. The National Waste Management Programme was also launched in 2022, which serves as a key reference framework for regional planning and for the achievement of the objectives set by the framework directive on waste.

Between the end of 2022 and the beginning of this year, rankings were also published and funds were allocated under the PNRR to projects to be completed by 2026 (EUR 1.5 billion for waste recycling plants and increase of separate collection, EUR 600 million for circular economy 'flagship projects').

On the other hand, less satisfactory steps have been undertaken to meet the need to ensure and develop effective industrial and tax policies to support circular economy.

From this point of view, a few priority measures are the updating of the Transition 4.0 Plan and other investment support actions within the framework of the business incentives reform law, and the need to provide for ecological taxation measures to promote circular production and consumption in the enabling act on tax reform.

## CIRCULAR ECONOMY NETWORK'S PROPOSALS

### THE IMPLEMENTATION OF THE NATIONAL STRATEGY FOR THE CIRCULAR ECONOMY

#### 1. Comply with the time schedule and timely transpose the European Union measures

Full and timely implementation of the scheduled actions and measures, complying with the time schedule and integrating the Strategy with the European Union provisions that are currently being adopted.

#### 2. Strengthen support for business investment

The tax credit envisaged by Transition 4.0 and other industrial policy measures should be clearly and effectively aimed at the development of the circular economy, with particular attention to SMEs, as part of the incentive reform law submitted by the Government (Incentives Code).

#### 3. Provide for ecological taxation measures in the enabling act

Include incentive measures for the use of secondary raw materials, recycling and repair in the enabling act for the tax system reform, filling a gap in the text submitted by the government, and eliminate environmentally harmful subsidies hindering the circular economy.

#### 4. Develop the circular economy of critical raw materials

In line with the objectives set by the EU Critical material raw act, adopt national measures on eco-design and the recovery and recycling of critical raw materials, necessary for the energy and digital transition, also using resources from the REPowerEU plan for this purpose.

#### 5. Guarantee the development of the systems envisaged by PNRR

Speed up the implementation of the recycling plants and 'flagship projects' already funded by the PNRR (NRP). Make special efforts to bridge the gap between the Centre-South and the North of the country and ensure adequate plant equipment according to high technological standards. Any additional resources must be allocated to high-tech projects and strategic supply chains promoting circularity.

#### 6. Fully implement the National Waste Management Programme

Implement the actions envisaged by the National Waste Management Programme (PNGR) and update, where necessary, the regional plans to achieve the recycling and landfill reduction targets envisaged by the European directives, by the end of 2023.

**7. Establish new EPR systems**

Establish extended producer responsibility schemes in sectors, such as textiles, construction, furniture, automotive sector and spare parts, industry and food distribution.

**8. Accelerate and simplify end-of-waste regulations**

Ensuring the end-of-waste status for materials whose reuse can contribute to the development of the circular economy, in a context where the rapid evolution of recycling technologies and solutions requires an equally rapid and constant regulatory evolution. Top priority must be given to the provisions on construction and demolition waste, as well as those on mixed plastics, textiles, batteries and accumulators, and street sweeping dirt.

**9. Develop industrial symbiosis**

Promote industrial symbiosis through circular-oriented business networks, regeneration of “brown areas” in circular districts, digital platforms for a better matching between supply and demand for secondary raw materials, simplified procedures for the recognition of by-product status.

**10. Promote waste prevention and reduction**

Adopt the new National Waste Prevention and Reduction Programme by 2023.

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## CIRCULAR ECONOMY NETWORK **PROMOTERS**



Uliveto and Rocchetta waters, promoters of the Circular Economy Network, are committed to protecting the environment starting with the choice to use only 100% clean energy. All the bottles of our water are in 100% recyclable PET and Uliveto. Rocchetta has also adopted an eco-sustainable design cap, which reduces the use of plastic. At the same time, we have started the industrialization process of the “tethered cap”. Furthermore, we take care of the environment by protecting our water sources, which are located in pristine and protected contexts.



Burgo Group is a leading European manufacturer of papers for communication, speciality papers and paper for corrugated cardboard. The Group constitutes an actual ‘system’ developed around the world of paper: production, distribution, paper recycling and processing of forest products, but also factoring and energy use. For Burgo Group, sustainable development and the principles of the circular economy correspond to the corporate vision present in all its processes, from the purchase and use of resources to the recovery of waste water, up to the optimisation and reuse of waste for energy production. The Burgo Group carries out its industrial activity through 10 plants, 9 in Italy and one in Belgium, with 13 production lines.



Cobat is the large Italian circular economy platform. With the strength of 30 years of leadership and experience in the collection of spent batteries and accumulators, Cobat now provides not just an efficient end-of-life product management service, but also solutions, advice, and training to increase companies’ sustainability. Cobat offers companies integrated and customised services for the collection, treatment and recycling of spent batteries and accumulators, WEEE, and end-of-life tyres (ELTs), and textile waste.



In 1998, less than a year after the birth of the CONAI system, Italy was recycling just over 3,300,000 tons of packaging waste per year: about 30% of the amount released for consumption. In recent years, this number has tripled, exceeding 73%. More than seven out of ten packages every year can have a second life.



In the midst of the current resources scarcity, the EU holds an average 40% of burnt waste oil vs the Italian which is less than 2% (the remaining 98% is regenerated). The reason for such discrepancy is the previous establishment of a non-profit consortium model, the strict quality assurance of both waste as well as recycled oil and the use of incentives to maximise collection everywhere. Our future challenges include: Digitalisation, i.e a dedicated App to better link and engage with waste producers; Further quality improvements of the processes, even going beyond oil quality alone; Better focus on bio-lubricants by the establishment of a separate collection system.



Ecomondo, The Green Technology Expo, is the reference event in Europe and the Mediterranean basin for green and circular economy technologies, services and industrial solutions. It is the international tradeshow for the operators and communities involved in the ecological transition, a research and innovation hub offering information, sharing and co-design on the policies of the European Green Deal through the creation of public-private partnerships used in national, European and international planning. It takes place in Rimini from 7th to 10th November 2023.



Combining environmental sustainability and economic efficiency, ELT recycling plays a primary role in the transformation of production and consumption systems, essential for the country's transition to a more circular economy. This is why Ecopneus, a non-profit company for the tracking, collection, processing and final destination of about 200,000 tons of end-of-life tyres (ELTs) each year, is committed to promoting the market for recycled rubber applications and raising consumer awareness of its many advantages.



Erion is the largest Italian System for the management of waste associated with electronic products and for the waste of tobacco products. Erion is driving the transition to a circular economy by running innovative projects for new business models and for exploiting the possibility offered by digitalization.



Cement and concrete are essential for everyday life and socio-economic development. The cement and concrete industry plays a central role in the decarbonisation challenge. Among the technologies and solutions identified to achieve carbon neutrality by 2050, some concern the circular economy such as the use of alternative fuels to replace fossil fuels (-12% CO2 emissions) and the use of secondary materials to replace a quota of raw materials (-6% CO2 emissions).



The sustainable resource management: this is the mission that has guided the Hera Group for over 20 years, ensuring quality and continuity of essential services. For the multiutility, the circular economy embraces not only waste management, but also other areas such as water, energy and biodiversity. From the biomethane plant in Sant'Agata Bolognese and the most recent one in Spilamberto (MO), to the plastic recycling at Aliplast and the reuse and regeneration of water resources in agriculture: the Hera Group confirms its commitment to the circular economy.



Iren, the leading Italian multiutility company, aims to play a leadership role in the circular economy, thanks to a long experience in the integrated waste management with separate waste collection, rates in its territories up to 80% national best practices and over 70 waste treatment and disposal plants. Iren, whose Business Plan to 2030 targets accelerating the energy transition and improving the company's results in the environmental management activities, includes almost 2 billion euros of investments dedicated to the integrated waste cycle.



Montello S.p.A. transforms 80% of incoming waste into Secondary Raw Materials and End of Waste Products, far beyond the minimum recycling target of 65% set by Europe by 2030. The remaining non-recyclable 20% is converted into energy for self-consumption, making the recycling activity self-sustainable in terms of energy. Montello's commitment to the Circular Economy is to continue to progress in the objectives of maximizing the percentages of waste recovery and recycling, implementing technologies and constantly improving processes.



Novamont is a Benefit Company certified B Corporation, leader in the production of bioplastics and the development of biochemicals and bioproducts through the integration of chemistry, environment and agriculture. Novamont promotes a circular approach to the bioeconomy, based on three pillars: the regeneration of industrial sites; the construction of integrated agricultural supply chains and the creation of products that are catalysts for change, representing a solution to environmental problems.



**5<sup>th</sup> REPORT  
ON CIRCULAR  
ECONOMY IN ITALY**

**20  
23** *SUMMARY*



**CIRCULAR  
ECONOMY  
NETWORK**

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