

REPORT ON CIRCULAR ECONOMY IN ITALY

10 Proposals and Research Summary

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19



REPORT ON CIRCULAR ECONOMY IN ITALY - 2019

By the Circular Economy Network

Working group of the Network and of the Sustainable Development Foundation

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www.circulareconomynetwork.it

www.fondazionevilupposostenibile.org

10 PROPOSALS FOR A CIRCULAR ECONOMY IN ITALY

1 SPREAD AND ENRICH THE VISION, KNOWLEDGE, RESEARCH AND GOOD PRACTICES OF A CIRCULAR ECONOMY.

The saving and the most efficient use of raw materials and energy; the use of materials and renewable energy; longer lasting repairable and reusable products, based more on shared use; the reduction in waste production and disposal and the development of its recycling: these are all qualifying factors of a circular economy that is now essential for environmental sustainability, to reduce greenhouse gas emissions and for Italy's competitiveness. A circular economy, fundamental pillar of a green economy, must be promoted and enriched through research, sustained with information and training initiatives, with the research and dissemination of good practices, and monitored with suitable indicators for measurement and assessment.

2 IMPLEMENT A NATIONAL STRATEGY AND ACTION PLAN FOR A CIRCULAR ECONOMY,

in line with the European strategy and with the most advanced international experiences, aiming at enhancing Italy's significant potential and address any shortcomings and delays. These tools should promote the circular model within production, consumption and waste management in an organic and efficient way, without burdensome procedures and bureaucracy, focusing on innovation and the development of investments and employment. The Strategy and Action Plan must be defined through a broad participatory process involving all interested stakeholders, so that all actors, both public and private, do their part in a systemic and coordinated manner.

3 IMPROVE THE USE OF ECONOMIC INSTRUMENTS FOR A CIRCULAR ECONOMY.

It is necessary to assess existing public incentives and re-allocate those generating effects not in line with a circular economy. The extended responsibility of producers for the life cycle - including the end of life - of products and the shared responsibility of all entities involved in consumption, are important economic tools to guide the market towards circularity. A re-balancing of the tax levy that, on the one hand, penalizes the inefficient consumption of materials and energy and, on the other, reduces the cost of labour and encourages the use of secondary raw materials, is necessary to encourage the development of investments in a circular economy.

4 PROMOTE A REGENERATIVE BIO-ECONOMY.

To protect and enhance its natural capital and soil fertility, Italy must focus more on the development of a regenerative bio-economy - an important element of a circular economy - with the priority of ensuring food security and quality agriculture as well as feeding into innovative supply chains, integrated in the territories, of biomaterials, returning organic matter to soils and producing renewable energies, with crops in marginal areas, sustainable withdrawals of forest biomass and the use of bi-products and organic waste.

5 EXTEND CIRCULAR ECONOMY TO PUBLIC PROCUREMENT.

Green Public Procurement (GPP) must play an important role in directing a significant part of public investments towards circular models. To this end, incisive and binding criteria need to be applied to public procurement. It is necessary to direct and train the contracting stations, monitor the application of circularity criteria, assess the results and be able to carry out checks and provide, if necessary, corrective guidelines.

6 PROMOTE THE INITIATIVE OF CITIES FOR A CIRCULAR ECONOMY.

Cities have an important role in the consumption of natural resources such as soil and water and in the production and management of waste; they therefore must lead the transition towards a circular economy. We need to focus on relaunching the quality of cities with integrated urban regeneration programs, in line with the European model of green cities. This regeneration must aim at satisfying the diverse needs and a high ecological functionality of the urban system with the rehabilitation, redevelopment, and reuse of abandoned or degraded areas and of the building stock no longer in use.

7 ENSURE A RAPID AND EFFECTIVE IMPLEMENTATION OF THE NEW EUROPEAN DIRECTIVES ON WASTE AND CIRCULAR ECONOMY.

Italy, despite some areas still lagging behind, has a regulatory system relating to waste that has led us among the European countries with the best results. The adoption of the new directives must aim at improving prevention, increasing recycling by going beyond all new European targets, using energy recovery in support of recycling and making landfill disposal residual. A single model cannot be applied to consortia, a real strength of the Italian system, designed for the different types of waste. They can be improved with precise measures that incorporate the precise contents of the new European directives, aimed at achieving advanced environmental targets, and in compliance with criteria of economy and transparency.

8 RAPIDLY ACTIVATE AN EFFECTIVE END OF WASTE REGULATION: AN ESSENTIAL TOOL FOR A CIRCULAR ECONOMY.

In order to develop the recycling of urban and special waste, it is essential to have in place an effective and timely regulation on end of waste status (EoW) after the appropriate treatment. While implementing the new European directive on this matter, it is necessary, on the one hand, to enable faster procedures for ministerial decrees and, on the other, to entrust Regions, based on European conditions and criteria, with the authorizations for those cases not yet regulated at a national level. Given the continuous innovation of technologies and types of waste treated, so as to not hinder the recycling activities that involve more than 7 000 plants in Italy, it is essential for Regions to be able to authorise, in a complementary manner and on a case-by-case basis, those activities not regulated at a national level, as envisaged by the new European directive.

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ENSURE THE NECESSARY INFRASTRUCTURE FOR A CIRCULAR ECONOMY.

The circular design of products, the use of shared assets - such as with shared mobility - the sale of services provided by products, the industrial symbiosis achieved with the exchange of by-products, the functioning of second-hand markets in coordination with verification and repair activities, the development of secondary raw material markets: these are all circular economy activities that require adequate infrastructures to be in place. The dissemination and implementation of innovation and good practices, in particular for small and medium-sized enterprises, need to be supported with the establishment of an Agency for the efficient use of resources using existing infrastructures and skills. In order to go beyond the new European targets for circular waste management it is also necessary to enable investments and quick procedures to grant authorizations so as to increase and strengthen the selection and treatment plants and improve the technologies used, as well as to increase and improve the quality of separate collection schemes, overcoming existing territorial imbalances.

10

EXTEND CIRCULAR ECONOMY ALSO TO ONLINE COMMERCE (E-COMMERCE).

Affordable prices, ease of purchase and home delivery are fuelling a strong growth in the online commerce of short term, single-use, unrepairable, hard to recycle, disposable products delivered with bulky packaging. This type of commerce tends to feed a linear economy model that increases the waste of resources and, in a substantial manner, the production of waste, often eluding the extended responsibility of producers and generating waste management cost burdens for citizens. The indications and rules of a circular economy should therefore also be extended to those products distributed through online commerce, even if not manufactured in European countries.

SUMMARY OF THE REPORT

Based on the methodology used, comparing the 5 most important European economies, Italy is the top performer in terms of circular economy implementation, ahead of the United Kingdom, France, Germany and Spain (in this order).

While Italy's position has remained unchanged compared to the previous year, there are some small signs of a slowdown which must be taken into account.

Production In this sector, Italy ranks first in terms of circularity of production compared to the top 5 European economies, a stable position compared to last year. The good result does not, however, exempt us from the assessment of the individual items.

Our country, in fact, in terms of **resource productivity** in 2017 ranked among the first European countries, with the greatest economic value generated per unit of consumption of material: at purchasing power parity, every kg of resource consumed generates € 3 of GDP, compared to a European average of 2.24 and values between 2.3 and 3.6 in all other major European economies. In this sector, however, our country, not only did not manage to match the performances recorded in 2014 (3.24 €/kg), but has substantially seen no change in recent years. This trend, on the one hand shows that Italy can do more and, on the other, highlights that in recent years the growth recorded up to 2014 has essentially stopped.

The same analysis can be made for **energy productivity** as, also in this case, a substantial stagnation in growth has been observed: from 2014 onwards, the value fluctuates around 10.2 €/koe. It must also be noted, however, that our country records values that are above the European average (8.5 €/koe) and ranks second among the major European economies, though with an increasing gap from the first country (Ireland amounts 17 €/koe).

It should also be noted that in terms of the **share (%) of renewable energy** used compared to total energy consumption in 2017 Italy, at 18.3% (GSE), is in line with the European average and sits ahead of the other four major European economies.

In terms of the trade balance between the **import and export of materials**: the trend for Italy is an increase - in terms of weight - of the import of materials compared to exports. The gap in this case is of around 150 Mt. This means that the dependency on supply from abroad is growing.

An overall analysis of the production trend from a circular economy perspective is provided by the **index on the total productivity of resources** (materials, water, energy and CO₂ emission intensity) which places Italy in first place compared to the 5 main European countries, with an index of 180, well above the European average of 100.

The **index of total socio-economic benefits** (eco-business exports, employment in eco-companies and the circular economy, eco-company turnover and the circular economy) sees Italy in second place, behind Germany, with values slightly above the European average.

The analysis of **total waste production** (%) compared to domestic material consumption (DMC) sees Italy achieve a value of 22.7%, compared to a European average of 12.8%. In the 2004-2014 period, the indicator grew considerably in Italy, which in this decade has increased the ratio between total waste production and DMC by 56%. Despite this considerable increase, Italy in 2014 had the worst performance compared to the 5 largest European economies.

The **eco-innovation activity** index sees Italy in second place after Germany, with a value 10 points over the European average.

In conclusion of this section dedicated to the analysis of production, it should be noted that in Italy, as of 2018, there are 963 **EMAS certifications** for organizations and 4.832 certified sites. At a geographical level, both organizations and sites that have obtained the certification are concentrated primarily in northern regions (more than half of the organizations and certified sites). The remaining part is divided more or less equally between the central and southern regions of Italy. The overall assessment for this sector shows Italy well ahead compared to competing economies, also considering the fact that the second economy in this particular ranking is the United Kingdom, the country with the lowest rate of manufacturing economy among the 5 countries considered and, thus, with the lowest consumption of resources during production processes.

	2019	Variation from 2018
1° Italy	35	↔
2° United Kingdom	31	↔
3° Germany	25	↔
4° Spain	24	↔
5° France	20	↔

Consumption In this sector, considering the trends of the various indicators analysed, Italy ranks third ahead of Germany.

Domestic material consumption for Italy in 2017 was of 514 Mt, a 36% reduction in 9 years. It is however important to note that, considering the last year of analysis, Italy, France, Spain and the United Kingdom all showed a trend reversal, recording a slight increase in consumption compared to previous years.

Italy is the fourth country in Europe in terms of **final energy consumption** with annual uses reaching 116 thousand TOE. From 2007 to 2016, the indicator is on the whole decreasing for Italy (- 14%).

Energy consumption by households has the same trend of final energy consumption: Italy is fourth with a total consumption of 32.000 TOE.

As far as the **share of renewable energy consumed for domestic purposes** is considered, from 2007 to 2016 there was an overall average growth at a European level of 19%. Italy, with 6.300 TOE, is behind France with 7.000 TOE and Germany with 6.500 TOE. Italy, for the period analysed, and in contrast with the average European trend, is the only country to record an overall decrease in domestic consumption of renewable energy, equal to about 4%, and with a worrying decrease particularly in the last year of analysis.

The development of a circular economy can also be encouraged by innovative forms of consumption that promote the use of products and services rather than the ownership of products or infrastructures. **Sharing economy** services allow an increase in the use of products and improve their overall efficiency. Regarding the rental and lease of office equipment, including computers, compared to the 4 largest European economies, we see that Italy boasts the highest number of companies (599 in 2016), though with a much lower turnover (€ 1.228.2 million). At a national level, the shared mobility sector is growing both in size and strength, with the 2015-2017 period seeing a 17% increase in the total number of shared mobility services, considering all the main activity sectors.

Considering the **collection of used clothes**, Italy, despite a fairly high consumption of textile products, has a low collection rate compared to other European countries: collection rates vary from 11% in Italy to over 70% in Germany.

In Italy, according to Eurostat data, almost 25 000 companies perform **repairs** on electronic goods, as well as on other personal possessions (clothing, footwear, watches, jewellery, furniture ...), placing our country in third place among the five most important economies in Europe. If, on the other hand, we consider the value of production, these 25.000 Italian companies generated €2.2 billion at a national level in 2016, with a reduction of around € 800 million compared to 2008. Moving on to the analysis of the average profitability of the companies, it stands out that on average in Italy a repair company generates an annual value of almost € 92.000, an amount lower than the average in competing economies. Moreover, it should be noted that on average a repair company in Italy reduced its production value by around €10 000 from 2008 to 2016. Finally, in terms of employment, we find that workers in the repair companies operating in Italy in 2016 were over 12,000, with a slight decrease compared to 2008, while France, Germany and Spain managed to employ twice as many employees compared to Italy. This highlights an unexpressed potential for the sector.

Regarding **Ecolabel licenses**, Italy ranks second for licenses obtained (325), behind France. Also in terms of the total number of certified products, Italy is in second place (9.406), but is, in this case, behind Spain.

The observed trend shows that Italy can make some progress in terms of consumption. The best results achieved by competing economies show that this is especially possible in the repair and sharing sectors.

		2019	Variation from 2018
1°	France	18	↔
2°	Spain	17	↑
3°	United Kingdom	15	↓
3°	Italy	15	↔
4°	Germany	10	↔

Waste management

From the overall analysis of waste management performance, Italy ranks joint 1st with Germany.

The **per capita production of urban waste** in Italy in 2016 was 497 kg per inhabitant (-1.6% compared to 2015), compared to an average European production of 483 kg. Compared to GDP, from 2009, year in which we observed a negative peak between the production of urban waste and GDP, an increasingly marked decoupling can be observed, with a significant gap particularly in the last year: despite a decline in waste production, gross domestic product (values compared to the 2010 reference year) grew by 1.6%.

The **per capita production of all waste produced** in 2016 is of 2 706 kg, half of the average of the EU 28, but a decoupling from GDP can be observed.

In Italy, **urban waste recycling** in 2016 reached 45.1%, in line with the European average and ranking second, after Germany. The **percentage of recycling of all waste** was 67%, a much higher percentage than the European average (55%), taking Italy to first place when comparing to the main European economies. **Landfill disposal** for Italy is down to 25%, in line with the European average, but with still high values compared to other countries such as Germany, France and the United Kingdom.

In terms of waste management, it was already observed that Italy can be considered among the best performing countries in the EU. This is true despite some critical issues that have long been known, such as the delays in some areas in urban waste management and a not always balanced geographical distribution of treatment plants. Lately, the End of Waste emergency has also emerged - in particular regarding the case-by-case authorisations, the effects of which have not been picked up by the data collected, as the data goes up to 2017, one year prior to this critical issue emerging.

		2019	Variation from 2018
1°	Germany	20	↑
1°	Italy	20	↑
2°	France	19	↑
3°	United Kingdom	18	↓
4°	Spain	13	↓

The market for secondary raw material

In this sector, Italy ranks third, one position down compared to the previous year.

The parameter that was used to evaluate this sector is the **rate of circular material use**, which for Italy in 2016 equates to 17.1%. In the 2010-2016 period, however, the rate did not show a uniform trend: after a growth leading up to 2014, with a maximum rate value of 18.5%, there was a decrease in the 2015-2016 period where it lost 1.4 percentage points.

It was also possible to carry out a **balance between the export and import of recycled material** in our country. From the overall movement - within and outside the EU - it emerges that Italy imports 700.000t more than what it exports. In 2017, 96.3 Mt of material was **recycled and re-injected within production cycles in Italy**, an amount higher than what was recycled nationally. This data provides two signals, one positive and the other negative. The first tells us that the Italian production system is capable of exploiting recycled material and that there is therefore a demand for it. The second, on the other hand, shows that we are not able to fully satisfy this demand through a greater exploitation of waste in our territory. Considering that in Italy, as of today, around 18 Mt of combined urban and special waste end up in landfill, we can reasonably claim that our economy is ready to sustain a further decrease in this form of disposal. This will only be possible, however, by strengthening the treatment sector infrastructures aimed at waste valorisation.

	2019	Variation from 2018
1° France	10	↔
2° United Kingdom	8	↑
3° Italy	6	↓
4° Germany	4	↔
5° Spain	2	↔

Investments and employment

In the overall assessment of the performances linked to investments and employment, Italy ranks second, after Germany.

A weak point is the **number of patents** deposited by the first five European economies related to waste recycling. Italy has a limited activity in this area: 15 patents were deposited in 2015, placing Italy in last place.

Another element of weakness is the low **eco-innovation input index**, which places Italy well behind competing economies with a value approximately three times lower than Germany and two times less than France, implicitly highlighting a low level of public financing and private investments in this sector, as well as a lack of workers actively employed in eco-innovative research and development. This limit is partially compensated by a satisfactory **eco-innovation output index**, which sees Italy second only to Germany. Overall, the **eco-innovation index** sees Italy above the European average with a value of 113, in third place compared to the other major economies.

As far as the **employment in sectors of the circular economy** is considered, Italy ranks first with an employment rate of 2.05% as compared to the total employment, even if a continuous - albeit minimal - decline has been observed since 2008, allowing Spain to close the gap with Italy.

The **added value** for circular economy sectors in Italy reached € 18.020 million in 2016, 1.07% of GDP, in line with the European figure. Since 2010, Italy has registered a higher percentage of added value compared to France, Germany and Spain.

Gross investments in tangible assets reached € 2.201 million in Italy, ranking 4th after the United Kingdom, Germany and France; the figure in GDP terms for Italy equates to 0.13%, in line with the European figure but significantly lower than that of most European countries.

The data collected, although placing Italy in an advanced position compared to the main European partners, highlights some contradictions. Italy seems to be making best use of scarce resources aimed at technological advancement, allowing the country to recover a delay that would otherwise be significant. This ability therefore highlights a creative force capable of translating good intuitions into solid realities. This, however, leaves us also with the legitimate doubt on whether the setting up of a program of policies in support of the development of eco-innovation around circular economy would be able to offer opportunities to initiatives as valid as those currently being supported, which do not have equal access to finance or other forms of support.

		2019	Variation from 2018
1°	Germany	29	↔
2°	Italy	27	↔
3°	Spain	25	↑
4°	France	20	↓
5°	United Kingdom	18	↓

CIRCULAR ECONOMY NETWORK

The Circular Economy Network (CEN) is a project that aims, in the wake of the European strategy, to stimulate in our country the development of a circular economy capable of supporting the social, ecological and climate challenges that arise from the green economy, while at the same time increasing the competitiveness of our companies within international markets. CEN stems from an initiative by the Sustainable Development Foundation and is open to all companies that intend to share these goals by taking concrete actions and commitments. As of today, it counts 13 promoters and a couple dozen members. The work of the Circular Economy Network is based on some fundamentals:

- promote, collect and disseminate studies, research and elaborations on circular economy;
- define the key indicators for circularity and analyse national performances;
- evaluate the main critical issues and barriers to be removed, indicating the possible solutions;
- develop strategies, policies and measures to be proposed to political decision makers, enabling a positive dialogue between the business world and institutions;
- enhance and contribute to the dissemination of good practices and of the best techniques.

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CIRCULAR ECONOMY NETWORK PROMOTERS



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