Italy
Country Profile

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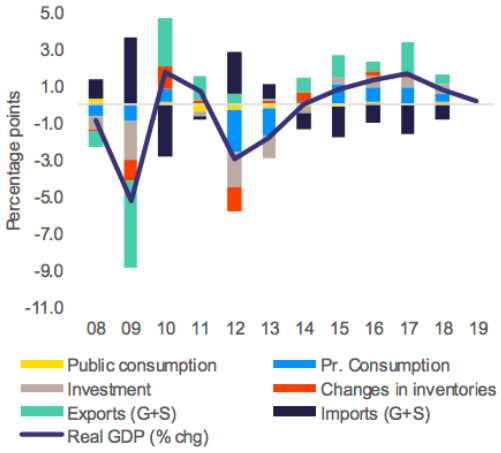
1. Introduction

Italy is a technologically advanced country "blessed with widespread creativity and entrepreneurship", the worldwide promoter of the *made in Italy*, that historically used to compete thanks to innovation and sustainability. Today, the economic activity in Italy remains weak compared to the main European economies and it is moving slowly showing few signs of rebounding from its slowdown in 2018.

After real GDP growth of 0.8% in 2018, GDP expanded by 0.2% in 2019 and it was expected to grow by 0.3% and 0.6% in 2020 and 2021 respectively, before the pandemic crisis. In 2019, there were signs of economic recovery and with many specific Decrees, released by the Government in the last two years, aiming to increase public investment and move the economy towards a circular one. However, high public debt, high unemployment rate, especially among young people, represents an important element of vulnerability for the Italian economy.



In the Global Competitiveness Index 4.0 (2019)[1], Italy reached the 30th position globally and maintains competitive advantages in terms of Innovation capability and Health standards.

According to Infocamere there are 10.027 startups in Italy[2] (concentrated mainly in the northern regions), a number that has increased since 2012, when the government put in place a policy strategy to promote the creation and the development of hi-tech companies introducing a set of fiscal benefits. About 2,000 startups in Italy and 300 just in the Lombardy region are *green* thus tackling environmental challenges. Furthermore, the recent **Law Decree 19 May 2020 no. 34** (also known as "Relaunch Decree" -"Decreto Rilancio"), provides further fiscal incentives for investments in start-up and innovation SME's with an allocation of €10 million for 2020 for the creation of start-ups, incubators etc.

The domestic material consumption (DMC) equal to about 10 tons per capita[3], is among the lowest in the G7 countries and in the EU28 area. The manufacturing sector in Italy is strong, but the cost of imported raw materials and their impact on the final cost of products is high. For this reason, eco-innovative initiatives might be a way to increase the productivity of resource use and promote eco-innovation in processes, products and consumption.

[1]Klaus Schwab 2019. World Economic Forum. Insight Report. The Global Competitiveness Report (2019), p.17. http://www3.weforum.org/docs/WEF_TheGlobalCompetitivenessReport2019.pdf

[2] Unioncamere: https://www.infocamere.it/documents/10193/114876492/Innovazione%2C+startup+oltre+quota+10.000/ccf7f250-6954-41f9-9c9c-d3deb688654d?version=1.0

[3] Towards a model of Circular Economy for Italy 2017. http://consultazione-economiacircolare.minambiente.it/sites/default/files/TOWARDS%20A%20MODEL%20eng%20COMPLETO.pdf

Italy has high natural capital with its coasts, mountain and natural areas, as well as an unparalleled urban heritage. Its high density of population (60.5 millions) leads to strong environmental pressures which have made environmental protection a matter of serious public concern. According to the Italian Circular Economy Report 2020, carried out by *Circular Economy Network* in collaboration with *ENEA (*the *Italian National Agency for New Technologies, Energy and Sustainable Economic Development),* Italy ranks first among the five main European economies in terms of circularity index implementation[4]. In particular, the report provides an analysis of the state of art of the circular economy in Italy compared with the four major economies in EU: Germany, France, Spain and Poland. Summing up the score for each sector a "complex index of circularity" is obtained, that confirms for year 2020, the first position of Italy (100 score) followed by Germany (89 score), France (88 score), Poland (72 score) and Spain (71 score).

Quick Facts[5]		
	Population	60.5 millions
	GDP per capita	34,260.3 USD
	10-year average annual GDP growth	0.2 %
	Ecological footprint	4.4 gha/capita
	Renewable energy consumption share	16.5%
	Unemployment rate	10.2%
	Global Gender Gap Index0-1 (gender parity)	0.7

2. Policy and regulatory framework

In Italy, the transition towards a circular economy is already underway and many legislative acts have been adopted in the last years and will be adopted in the next few months (i.e. Recovery and Resilience National Plan) in line with the EU Circular Economy Action Plan. However, at present, compared to other EU countries, Italy has still not developed an overall National Strategy and an

[4]Circularity index implementation: the value attributed according to the degree of efficient use of resources in five categories: production, consumption, waste management, second raw materials market, investments and employment. Italy is in the first position (100 score) followed by Germany (89 score), France (88 score), Poland (72 score) and Spain (71 score). Report available at: https://circulareconomynetwork.it/wp-content/uploads/2020/04/Rapporto-sulleconomia-circolare-in-Italia-2020_r04.pdf

5 Source: The Global Competitiveness Report 2019. World Economic Forum.
http://www3.weforum.org/docs/WEF_TheGlobalCompetitivenessReport2019.pdf

Action Plan for the country's transition to circular economy. Most of the recent laws and decrees aim to: reduce the waste management cost; reduce material cost for business (i.e. End of waste); increase digitalization in the public sector which will help to reduce bureaucracy problems; boost private sector digitalization thus incrementing market opportunities through the adaptation of innovation and clean technologies; raise Corporate Social Responsibility for companies; and enhance skills and competences in sustainability.
Based on all the collected information, the main initiatives and legislative acts are summarized below.

- **Italian 2020 Budget Law**

Italy's 2020 Budget Law[6] includes some first measures in line with the "European Green Deal" such as the establishment of a public investment fund with a budget of € 4,24 billion (for the years 2020 to 2023) for the decarbonisation of the Italian economy, the adaptation and mitigation of climate change, sustainable tourism and the regeneration of urban areas. The 2020 Budget Law includes also the provision of a plan of €33 billion to support the conversion of the Italian economy over the next 15 years. The fund will be used to support innovative and sustainable projects/programmes.

- **Decree-Law No n. 111 of 15 October 2019** (also known as **"Climate Decree"**–"Decreto Clima")

In the *Climate Decree*[7] several incentives have been set mainly concerning mobility, recycling and the use of plastic. These incentives include: a specific fund "experimental programme for a good mobility" - with a contribution of €70 million for the years 2020-2021 (art. 2); experimental programmes aimed at implementing hybrid or electric transport for schools for Councils with over 50,000 habitants- with a contribution of €20 million divided for years 2020 and 2021 (art. 3); incentives for councils that install trash compactors for reducing plastic with a specific fund called "Eating plastic experimental programme"- with a contribution of € 27 million for the period of 2019-2024 (art. 4-quinquies); the creation of a "green concern" within small and medium shops that sell bulk products, detergents or food, aimed to reduce the use of plastic bags and stimulate the use of recycled containers- with a contribution of a maximum € 5.000.

- ***Decree-Law No n. 34 of 19 May 2020****, (also known as* ***"Relaunch Decree"****– "Decreto Rilancio")*

With the "Relaunch Decree" - "Decreto Rilancio"[8], different measures have been adopted by the Italian Government to support the national economy facing the effects of Covid-19 epidemic. These measures are in line with the provisions set out in the European Green Deal on the pathway towards the renovation boosting the construction sector as an opportunity to support SMEs and local jobs. The "Relaunch Decree" includes: a tax deduction equal to 110% (Superbonus) of the relevant costs for the building requalification, in terms of energy efficiency and anti-seismic

[6] https://www.mef.gov.it/en/focus/Less-taxes-and-more-focus-on-the-environment-and-welfare-the-2020-Budget-Law-00001/

[7] https://www.gazzettaufficiale.it/eli/id/2019/10/14/19G00125/sg

[8] http://www.governo.it/it/dl-rilancio

protection measures (art. 119 and 121); the creation of a "fund for technological transfer", with an allocation of €500 million for 2020, aimed at increasing the collaboration of public and private sectors in the realization of innovative projects and spin-off (art.42); the "plastic tax", a tax of €0,45 per kilogram of disposable plastic items.

- Decree-Law No. n. 76 of 16 July 2020 (also known as "**Simplification Decree**"– "Decreto Semplificazione")

The "Simplification Decree"[9] establishes a set of measures aimed to simplify business, environment and green economy. The measures include: an optimization of the procedures for Environmental Impact Assessment (EIA) associated to public works and Economic Environmental Zone (ZOE[10]); simplification for intervention on projects or existing plants fed with renewable energy sources; simplification of regulations for the realization of charging stations for electronic vehicles; the introduction of a new legal framework for transferring renewable energy from Italy to other EU countries with benefits for Italian state coffers.
The decree also includes a simplification for issuing public guarantees by SACE[11] towards green new deals (for a maximum limit of €2,500 million for the year 2020) for projects aimed to facilitate green economy transition integrating industrial cycle with low emission technologies to produce sustainable products/services, and projects aimed to increase the transition towards a sustainable and intelligent mobility, with particular interest on reducing pollution and intelligent traffic systems.

- Law N. 128 of 3 November 2019 - **End of Waste**

A set of specific regulations, led by the Ministry of the Environment, have been set for the recovery of waste[12]. With the implementation of this new law[13], Italian regions will be able to define criteria "case by case" in terms of End of Waste authorization, considering the new criteria introduced in the European Directives. Furthermore, ISPRA (The Italian Institute for Environmental Protection and Research) and ARPA (Regional Agencies for Environmental Protection) have been delegated to control the End of Waste authorization, by informing the Ministry of the Environment through the creation of a national register. Also the new Guidelines of the National Environmental Protection System (SNPA) provide information on how ISPRA and ARPA have to carry out control on waste treatment plants in an homogenous way across the entire Italian territory.

- ***Industrial Plan 4.0*** *(Piano Industria 4.0) included into the Budget Law 2017*

The *Industry Plan 4.0* includes an overall review of the tax support measures, such as the introduction of the tax credit as an incentive for investments in capital goods, research and development and trainings related to the ecological transition and digital innovation. Other fiscal measures include a series of incentives to encourage both the reuse and recycling of packaging and the purchase of products that can be recycled and reused. The "Enterprise 4.0 plus" plan[14]and the

[9]https://www.mise.gov.it/index.php/it/per-i-media/notizie/it/198-notizie-stampa/2041297-dlsemplificazioni-le-misure-per-le-imprese
[10]ZOE are zone/areas, within the National Parch, that provide economic and cultural benefits. https://www.minambiente.it/comunicati/il-ministro-costa-visita-al-parco-nazionale-della-sila-presentare-le-zone-economiche
[11]SACE is a joint stock of Cassa Depositi e Prestiti (https://www.sacesimest.it/en/about-us/corporate-governance)
[12](https://www.isprambiente.gov.it/files2020/pubblicazioni/rapporti/rapporto_rifiuti_speciali_2 020_dati_di_sintesi.pdf).
[13] https://www.gazzettaufficiale.it/eli/id/2019/11/02/19G00137/sg
[14]https://www.mise.gov.it/images/stories/documenti/investimenti_impresa_40_eng.

Transition Plan 4.0 put innovation and green investments at the core. "Enterprise 4.0 plus" provides €7 billion to companies that will invest in innovation, green investments, research and development, design and training 4.0[15].

- The Inter-Ministerial Decree of 8 May 2008 (Piano d'Azione Nazionale sul **Green Public Procurement** GPP NAP)

The important role of Green Public Procurement (GPP) as emphasized in the EU Green Deal is a major instrument not only for environmental policies but also for the promotion of technological innovation. The use of the GPP, may produce significant strategic environmental results, such as a reduction in climate-changing gas emissions, the production of wastes and the production of hazardous substances. The GPP was introduced in Italy in the year 2006 (Budget Law 2017) aiming at developing a "Plan of actions for the environmental sustainability consumption in the Public administrations" (from now on GPP NAP). The GPP NAP was adopted in 2008, with the Inter-Ministerial Decree of 8 May 2008, with the definition of Minimum Environmental Criteria (CAM) for 11 sectors and the aim of increasing the diffusion and implementation of GPP in the Public administrations. The Law No. 221/2015[16] "Environment provisions to promote Green Economy measures" established the mandatory application of Green Public Procurement (GPP) in all the sectors for which Minimum Environmental Criteria (CAM) were issued by decree.
The mandatory application of GPP was subsequently confirmed by art. 34 of the Legislative Decree 50/2016, n. 50 (the new **Italian Public Procurement Code**)[17]. Furthermore, the Legislative decree n. 50/2016 includes some articles aimed to stimulate the implementation of environmental labels (i.e. art. 69), Environmental management system (art.87) and the presence of environmental products/services on the Italian market.

3. Market demand and investment climate

Circular economy is a relatively new concept in Italy and it is generally associated mainly to waste issue (reduction, reuse and elimination of waste). Due to climate change and extreme weather events becoming more frequent, the perception in consumers, as in the rest of EU, is changing towards sustainability.
In fact, in Italy, consumer awareness of the circular economy concept is boosting together with opportunities of implementing the Green New Deal leading to improve sustainability in the country . Some examples of this growing awareness are described in the report '100 Italian circular economy stories'[18], which lists best practices from large companies, small and medium sized enterprises (SMEs), local authorities and civil society.
Important events aiming at raising awareness around circular economy models and benefits are taking place nationally such as the Forum Compraverde Buygreen[19], since 2007 the most important Italian and European event for public and private policies, projects and initiatives on

[15]https://www.mise.gov.it/index.php/en/202-news-english/2036690-national-industry-4-0-plan
[16] https://www.minambiente.it/sites/default/files/archivio/allegati/GPP/legge_28_12_2015_221.pdf
[17] https://www.gazzettaufficiale.it/atto/serie_generale/caricaDettaglioAtto/originario?atto.dataPubblicazioneGazzetta=2016-04-19&atto.codiceRedazionale=16G00062
[18] https://circulareconomy.europa.eu/platform/sites/default/files/100storie_def_web_pag_singole_25-05-18_1527247969.pdf
[19] https://www.forumcompraverde.it/en

green and sustainable procurement (GPP) and Ecomondo[20], a huge international event with an innovative format that brings together all sectors of the circular economy on a single platform: from the recovery of materials and energy to sustainable development.
Among the most important platforms and networks on circular economy in Italy, there is the Italian Circular Economy Stakeholders Platform (ICESP) promoted by ENEA *(*the *Italian National Agency for New Technologies, Energy and Sustainable Economic Development)*; the Circular Economy Network aimed to stimulate green economy and exchange of experience and knowledge between different actors like institutions, research bodies and enterprises; and the Italian Alliance for Sustainable Development (ASviS) network aimed to increase awareness on the 2030 Agenda for Sustainable Development Goals and promoting sustainable development.
Another significant development in Italy's promotion of the circular economy is the entry into force in June 2018 of 'Made Green in Italy', a voluntary system for assessing the environmental footprint of products. It is also important to mention ReMade in Italy, a non-profit, non-governmental organization that promotes recycled products through independent third party certification. It was founded in 2009 and in 2013 Accredia (Italian National Accreditation Body) recognized it as the first certification scheme in Italy and Europe to verify the recycled content in a product. ReMade in Italy represents a useful tool for Public Administrations and companies, to identify the recycled products for "Green public procurement" (GPP). With the introduction of the law (Legislative Decree 50/2016) . Italy has become the first EU Members State in which the GPP is mandatory.

The level of sustainable public procurement in Italy represents about 10-15% of the total expenditure. Green Public Procurement (GPP) has become an important instrument towards circular economy by its mandatory application included in the new Public Procurement Code, Legislative Decree 50/2016, at art. 34.

This has resulted in an increase, in the last two years, of the number of organizations awarded with European or International sustainable schemes (i.e. EU Ecolabel, EMAS, ISO 14001) with, also, an increase of sustainable products/services available on the market. In 2019 it was presented a GPP Monitoring Report carried out by Punto 3 with the collaboration of Consorzio Ecopneus e Sumus Italia Srl..The analysis, referred to the year 2017, was carried out on n° 40 Municipalities out of 102. It appears that 34% of the total public procurement analysed provides general indication of applying CAM criteria, however only 21% of the public procurement included CAM criteria in the call for tenders. A more detailed GPP Monitoring Report has been published in July 2020 within the CReIAMO PA project.
The goal of the project Competences and Networks for Environmental Integration and Improvement of the Public Administration Bodies (CReIAMO PA), is to strengthen the capacity of local and regional Public Administration in order to integrate sustainable environmental principles into public policy.
Italy is the third EU country[21] for the number of EU Ecolabel licences (n. 179), after Germany (n° 282) and France (n. 328). With reference to the number of products/service awarded with the EU Ecolabel, Italy is in the second position with n° 8.560 after Spain with n°27.832\. Many products

[20] https://en.ecomondo.com/events/program/themes and https://en.ecomondo.com/ecomondo/info/presentation

[21]https://www.isprambiente.gov.it/files2020/pubblicazioni/stato-ambiente/annuario2020/17_Certificazione_ambientale_Finale_2019.pdf

with EU Ecolabel certification are on sale in markets and stores and more and more organic shops offers refilling products to avoid packaging waste.

Overall, around 345 000 Italian companies invested in the green economy between 2011 and 2017, and around 24.9 % of all Italian businesses and 30.7% of manufacturing can be considered 'green' in 2017. The rate of innovation of these green businesses was twice that of other businesses in 2017[22]. However, only 16% of SMEs, the backbone of the Italian economy, offer green product or services, less than the EU average (25%)[23].
From the study conducted in 2017 by Legambiente and University of Padua[24], based on a sample of 231 manufacturing companies in Italy, it emerges that among the main reasons that encourage a company towards the circular economy actions there are both ethical and corporate social responsibility reasons (88.5%) and market reasons (increase in the value of the product offered, 80.4%). With greater detachment emerges: the desire to enter new markets (69.2%), to improve competitiveness in the markets (55.8%), the growing interest of consumers or clients (55.8%), requests from buyers and/or large clients (42.3%), the need to align with existing and future regulations (39.2%) and to reduce production costs (35.3%), to take advantage of tax benefits and contributions (17.6%) and finally to align with competition (11.8%). The investment on the circular economy was mainly made with equity capital for 81.5% of companies. 38.9% said that they used bank financing, 18.5% for European funding, 14.8% for regional funding and only 3.7% for crowdfunding and fundraising.

4. Socio-cultural context

In Italy the workforce is quite old and there are not many opportunities for young skilled talents which is the reason why many find work abroad. According to Eurostat, Italy's gender pay gap is a little over 5%, lower than any other EU country except Romania, which is explained by the fact that Italy has some of the fewest women in the workforce compared to any developed economy, meaning that those who do work are more likely to be better educated and in higher-paying jobs. More than half of all Italians getting a degree are women. Nearly 59% of bachelor's graduates are women, while women make up just over 52% of PhD grads, according to national statistics office ISTAT. Education is a key challenge, especially in southern Italy, hindering the quality of skills. Italy has a much higher rate of early-school leavers and low achievers compared to the EU average, especially in the South.
While the risk of poverty and social exclusion is declining, income inequality increased in 2018. In-work poverty has been steadily rising and stabilised at high levels in 2018. Access to services such as childcare and healthcare is close to the EU average. However, it varies widely across regions.

In the special Eurobarometer survey of October 2017[25]on attitudes of EU citizens towards the environment, Italians appear to support circular economy initiatives and environmental protection measures. 93% of Italians said they were highly concerned about the effects of plastic products on

[22] https://ec.europa.eu/environment/eir/pdf/report_it_en.pdf
[23] The Environmental Implementation Review- Italy. EU https://data.consilium.europa.eu/doc/document/ST-8302-2019-ADD-14-REV-1/en/pdf
[24] https://www.economia.unipd.it/sites/economia.unipd.it/files/Rapporto_economiacircolare_industria4.0_Legambiente_LMD_2.pdf
[25]https://www.europarl.europa.eu/pdf/eurobarometre/2017/2019ee/two_years_until_ee2019_synthesis_en.pdf

the environment (the EU-28 average is 87%), and 93% of Italians said were concerned about the impact of chemicals (the EU-28 average is 90%). Indeed, with the **Law Decree 19 May 2020 no. 34** (also known as “Relaunch Decree” -"Decreto Rilancio"), art.**133** introducing the “plastic tax”: aiming to reduce the plastic in the environment . A tax of €0,45 per kilogram of disposable plastic items has been stablished. This new tax will enter into force in 2021 thus responding to the public concerns.

Younger generations appear even more concerned about environmental issues, as showed in the recent initiatives (i.e. Fridays for Future movement) mobilizing many young people asking for more participation and actions to tackle environmental challenges.

5. Opportunities & Obstacles

Based on all the collected information, the main opportunities and obstacles identified for Italy’s circular economy businesses can be summarized in the following table:

	Opportunities	**Obstacles**
General economic context	The development of the EU taxonomy and the increased interest in sustainable finance in Italy could result in a boost for the green economy.	“Unpriced environmental externalities” and “limited access to finance for enterprises, especially for SMEs” represent some of the factors that hinder the process of transforming the Italian economy in a sustainable perspective.[26]
	Fostering financial innovation (e.g. green bonds) and greater transparency on the markets (reporting of non-financial information on companies).	Scarcity of investments which translates into a lack of eco-innovation (Italy is last for number of patents)[27] - and critical issues on the regulatory front: the National Strategy and the Action Plan for the circular economy are still missing, two instruments which could help the country draw an exit path from the economic and social damage caused by the ongoing coronavirus epidemic.
	Implementation of measures such as taxation on carbon emissions (carbon tax), on landfill disposal (landfill tax), pollution in general (pollution tax).	

[26] “Financing the Future - Report of the Italian National Dialogue on Sustainable Finance” (MATTM & UN Environment, 2017) http://www.minambiente.it/sites/default/files/archivio/notizie/report_financing_the_future_ en_2.pdf.
[27] https://ec.europa.eu/environment/ecoap/sites/ecoap_stayconnected/files/field/field-country-files/italy_eio_country_profile_2016-2017.pdf

General political context	The Recovery fund can lead to a great opportunity for Italy since most of the investments will have to be made towards a circular economy. At present the Italian Government is working on the Recovery and Resilience National Plan (Piano nazionale di ripresa e resilienza) that should be issued in the second part of 2020 (i.e. October-November).	High level of bureaucracy and delay in the normative process thus resulting in a limitation for the market and European/International investors.
Policy and regulatory (both national and regional/local)	Creation of models of "circular economies" at local level (e.g. industrial symbiosis), thus offering companies an alternative to defensive (and failing) strategies, such as worsening the quality of products, lowering wages, and exacerbating working conditions, or carrying out relocations of their production in newly industrialized countries.	Absence of environmental symbiosis or a "cluster" of key stakeholders (companies, universities and research bodies) which rely on the collaboration among enterprise through exchange of knowledge, experience and/or secondary materials towards a circular business model. The attractiveness of conversion to sustainability clashes with both inadequate and contradictory legislation both with the fear of changing processes as companies perceive their efforts, in terms of change in production cycles and investment, disproportionate in the absence of a national strategy and specific incentives and/or recognition to support the sector.
Subsidies and fiscal benefits	A possible reduction of VAT should be considered for sustainable services/products thus increasing the demand and request (i.e. consumers interest).	Absence of guidelines for specific sectors to support businesses on how to implement incentives/loans, etc.
Public procurement	Formulation of concrete objectives to reduce raw materials use and waste production, to increase reuse, repair and sharing which allows a country like Italy, poor in raw materials, to be less dependent on foreign procurement, with lesser vulnerability to price volatility. An increasingly widespread promotion of green purchases can be a stimulus for companies to innovate. Italy the first EU Members State in which the GPP is mandatory	The concept of life cycle costing (LCC) is still not well settled. It is only referred in the Legislative decree n. 50/2016 (see GPP section), but in reality it is often not considered in the call for tenders for public procurement since it requires specific skills that often are not present in small or local administrations (i.e. small councils). Lack of appropriate knowledge/training of the mandatory application of CAM in public procurements decreases the positive effects expected from the mandatory application of the GPP.
	Over the last years Italy has made important progress in improving	There are no disincentives to avoid greenwashing in Italy and due to slow

General knowledge and awareness about Circular Economy	education and training system thanks to the Law .107 "La Buona Scuola". This progress reflected also on environmental education, education to sustainability and on climate change and adaptation by the issue of new "Guidelines for Environmental Education and Sustainable Development by the Ministry of Environment, Land and Sea (IMELS) in collaboration with the Ministry for Education, University and Research (MIUR) covering a number of thematic issues (biodiversity, food, climate change, transport, water, cities..). Moreover, with the introduction of "environmental education" (ref. "Climate Decree") awareness about circular economy should increase and improve the environmental culture in Italy.	legal bureaucracy often it takes years before an illegal activity is recognised, and the remedy actions are implemented.
Consumer demand (linked to previous point)	The preservation of natural capital - and of the related ecosystem services – is also achieved through a reduced pressure on resources and a reduced use of land for the disposal of waste in landfills. This goal is fundamental in a country like Italy, where the natural factor can be one of the main levers of economic development, as shown by the growing demand for sustainable and cultural tourism.	Lack of transparency - it is necessary to provide more information on production processes (use of resources, quantity of recycled material used or not sent to landfill, etc.). The resulting greater transparency on the one hand helps reduce illegal practices, both in phase of production and waste disposal, on the other hand, thanks to traceability, allows consumers, who are increasingly attentive and aware, to reward virtuous enterprises for the quality of their productions.
Public-private partnerships	Creation of "circular hubs", i.e. multi-stakeholder initiatives in public-private partnerships aiming to accelerating the transition to a circular economy by providing support to SMEs and companies for the implementation of circular models at local, regional and national level.	The discontinuity of policies to support knowledge transfer and innovation ecosystems hampers innovation performance. In 2019[28], only 2% of Italy's publications were public-private co-publications (a proxy for research-business collaboration), compared to 4% for the EU. Technology clusters and private public partnerships, have been discontinuous and fragmented, thus engendering uncertainty.

[28] https://ec.europa.eu/info/sites/info/files/2020_compilation_research_and_innovation_sections_in_country_reports.pdf

Support programs or platforms for green and circular businesses	There are different initiatives in Italy, like "incubator events" that help to stimulate exchange of information and technologies among private and public sectors. The number of national events aiming at raising awareness towards circular economy practices is increasing even in the south regions. Lombardy has the highest concentrations of accelerators and incubators in the Country and Veneto is home to one of the most innovative development hubs in Europe (PoliHub, H-Farm, Luiss Enlabs, BioUpper, Impact Hub[29]). Central regions are doing well too, with Lazio and Emilia Romagna closely following Lombardy as for number and quality of their startup accelerators and incubators .Other important incubator events are Compraverde Buygreen and Ecomondo	
Professional training and education on Circular Economy / Skilled labour	The Industrial plan 4.0 invests also in University training thus aiming at increasing skilled workforce in relation to environmental technologies or sustainable techniques. The Climate Degree includes the creation of a specific fund called "Programma #iosonoAmbiente", with the contribution of €2 million for each year for 2020, 2021 e 2022, aimed to promote an environmental education program in the Italian schools at all levels. The training offer in Italy is nowadays very diversified and spread throughout the Italian territory: long-distance training, Graduate Programs, Summer and Winter Schools, PhD programmes, Master Degrees are active in many Italian Universities as Venice, Padua, Milan, Rome, Bologna, Turin, Genoa and Calabria.	Inequalities among Italian regions in terms of quality and access to education. Low level of education and access to capital and resources by SMEs in relation to understanding and evaluating sustainability practices. Italy's public sector's weak administrative capacity, including inadequate human capital, continues to represent an investment barrier, especially at local level, and prevents for the implementation of EU funds.

[29] https://www.italianbusinesstips.com/startup-accelerators-incubators-italy/

Specific economic sectors	A wider diffusion of "pay-as-you throw" waste management model should be encouraged. When applied, this model has given excellent results by increasing recycling rates to almost 90% in some municipalities as in the emblematic case of Treviso.	Absence of guidelines for specific sectors to support businesses on how to implement incentives/loans, etc.
Other socio-cultural factors (incl. gender issues)	The level of awareness of younger generations about environmental issues is increasing steadily and also their active involvement to tackle environmental challenges	Language - the increase of digitalization in the SME's business will help the enlargement of marketplace however most of the information (i.e. website) is in Italian thus it makes it hard to attract European/International investors.
Other commercial or legal challenges	The mandatory application of GPP is an important tool not yet fully exploited towards the promotion of green purchases that are a real opportunity for companies toward Eco-innovation.	Presence of clientelism and corruption. The time to resolve civil and commercial litigious cases in Italy remains the highest in the EU at higher instances. Lengthy civil proceedings can hinder entrepreneurial activity and foreign direct investment.
Available technologies and infrastructure	Investment in technologies 4.0 is closely linked to the implementation of "circular" paths. Technologies of the industry 4.0 can positively support circular economy in their effectiveness about measurement and traceability, and monitoring of processes and products.	For an advanced economy, Italy has very few natural resources. Italy has a strong manufacturing sector, but the cost of imported raw materials and their impact on the final cost of products is high. This is considered as a barrier to eco-innovation.

6. Appendix: bibliography

Below are some of the policies and strategies promoting in a way or another green and circular economy and other relevant reports:

Document	Year	Source
Rapporto sull'economia circolare in Italia Com focus sulla bioeconomia. Circular Economy Network, ENEA	2020	https://circulareconomynetwork.it/wp-content/uploads/2020/04/Rapporto-sulleconomia-circolare-in-Italia-2020_r04.pdf
Rapporto Economia Circolare Legambiente / Industria 4.0	2020	https://www.economia.unipd.it/sites/economia.unipd.it/files/Rapporto_economiacircolare_industria4.0_Legambiente_LMD_2.pdf
Rapporto Rifiuti Speciali. ISPRA	2020	https://www.isprambiente.gov.it/it/pubblicazioni/rapporti/rapporto-rifiuti-speciali-edizione-2020
Italian 2020 Budget Law. MEF	2020	https://www.mef.gov.it/en/focus/Less-taxes-and-more-focus-on-the-environment-and-welfare-the-2020-Budget-Law-00001/
Relaunch Decree	2020	http://www.governo.it/it/dl-rilancio
Simplification Decree	2020	https://www.mise.gov.it/index.php/it/per-i-media/notizie/it/198-notizie-stampa/2041297-dlsemplificazioni-le-misure-per-le-imprese
Environment: Circular Economy, Italy still first but losing ground	2020	https://www.enea.it/en/news-enea/news/environment-circular-economy-italy-still-first-but-losing-ground
Il piano nazionale per la ripresa e la resilienza (PNRR), linee guida della Presidenza del Consiglio dei Ministri, Dipartimento per le Politiche Europee	2020	http://www.politicheeuropee.gov.it/media/5355/linee-guida-pnrr-482020.pdf
End of waste-law	2019	https://www.gazzettaufficiale.it/eli/id/2019/11/02/19G00137/sg
Climate Decree	2019	https://www.gazzettaufficiale.it/eli/id/2019/10/14/19G00125/sg
Ecopreneur European sustainable Business Federation Final Report Circular Economy Update Overview of Circular economy in Europe	2019	https://circulareconomy.europa.eu/platform/sites/default/files/ecopreneur-circular-economy-update-report-2019.pdf
The EU Environmental Implementation Review 2019 – Italy	2019	https://data.consilium.europa.eu/doc/document/ST-8302-2019-ADD-14-REV-1/en/pdf
The Global Competitiveness Report 2019. World Economic Forum	2019	http://www3.weforum.org/docs/WEF_TheGlobalCompetitivenessReport2019.pdf
Report On Circular Economy in Italy. Circular Economy Network, ENEA.	2019	https://circulareconomynetwork.it/wp-content/uploads/2019/04/Proposals-and-Research-Summary-Report-on-circular-economy-in-Italy-2019.pdf
The Environmental Implementation Review- Italy. EU	2019	https://ec.europa.eu/environment/eir/pdf/report_it_en.pdf
The Global Competitiveness Report 2019. World Economic Forum	2019	http://www3.weforum.org/docs/WEF_TheGlobalCompetitivenessReport2019.pdf
Misure Urgenti per la crescita económica. MEF	2019	https://www.mef.gov.it/focus/Misure-urgenti-per-la-crescita-economica/
Il percorso tecnico-specialistico per l'attuazione del Green Public Procurement nelle Pubbliche Amministrazioni.	2019	https://www.slideshare.net/ProgettoCReIAMOPA/creiamo-pa-l1wp1-percorso-tecnicospecialistico-gpp-2019
100 Italian Circular Economy Stories. Symbola foundation, & Enel S.p.A.	2018	http://www.symbola.net/assets/iles/100storie_DEF_Web_pag%20singole_25-05-18_1527247969.pdf
National Industry Plan. Ministry of Economic Development	2018	https://www.mise.gov.it/index.php/en/202-news-english/2036690-national-industry-4-0-plan
Towards a model of Circular Economy for Italy	2017	http://consultazione-economiacircolare.minambiente.it/sites/default/files/TOWARDS%20A%20MODEL%20eng%20COMPLETO.pdf
Guidelines GPP for the National Environmental Protection System (SNPA)	2017	https://www.isprambiente.gov.it/files2017/pubblicazioni/manuali-lineeguida/MLG_150_17_linee_guida_GPP.pdf

Policy Options for a circular economy. An EEB Report and recommendations for the Italian ministry for the Environment, Land and Sea. European Environmental Bureau	2017	file:///Users/michelapaolicelli/Downloads/Report-on-policy-options-for-the-Circular-Economy-for-the-Italian-Government.pdf
Financing the Future - Report of the Italian National Dialogue on Sustainable Finance. MATTM & UN Environment	2017	http://www.minambiente.it/sites/default/files/archivio/notizie/report_financing_the_future_ en_2.pdf.
Legislative decree n. 50/2016	2016	https://www.gazzettaufficiale.it/atto/serie_generale/caricaDettaglioAtto/originario?atto.dataPubblicazioneGazzetta=2016-04-19&atto.codiceRedazionale=16G00062
Law No. 221/2015 "Environment provisions to promote Green Economy measures"	2015	https://www.minambiente.it/sites/default/files/archivio/allegati/GPP/legge_28_12_2015_221.pdf

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