

GREEN ECONOMY PERSPECTIVES

Italy Outlook 2017



FONDAZIONE
PER LO SVILUPPO
SOSTENIBILE

Sustainable Development Foundation

IN COOPERATION WITH



The Sustainable Development Foundation is a “not for profit” think-tank based in Rome, aimed at encouraging the transition towards a green economy, with more than 100 member companies and associations of companies.

As a reference research center on thematic areas such as climate change, renewable energy, resource efficiency, sustainability strategies, sustainable mobility, green companies, the Foundation publishes technical reports and has developed an original concept for Sustainability Reporting, named “Green economy report”.

The Foundation is a member of UNEP-Ministry of Environment National Observatory for sustainable finance.

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Introduction

There is a silent and clean revolution going on in the world: the “green economy”, one of the core principles of sustainable development. It means promoting solutions the climate crisis and to economic needs, while aiming for a better and inclusive welfare and protecting natural capital and ecosystem services.

The peculiarity of this revolution is that companies, including the finance sector, are leading the transition, by developing and supporting sustainable solutions and green innovation.

No real improvement for a green economy can be achieved without sustainable finance. The world of finance and investments is crucial in

this revolution, and it is rapidly increasing its support to green economy and sustainable businesses.

Italy is a very active country in this scenario, and Italian companies are showing great potentials for the next coming future. The purpose of this handbook, realized by Fondazione per lo Sviluppo Sostenibile in cooperation with ING Italy, is to make the results of the Italian green economy visible and clear.

A sign of hope for all of us.



Climate change is the greatest risk, even for businesses

In the Global Risk Report 2017, the World Economic Forum has classified extreme weather events caused by climate change as the top risk in terms of likelihood.

Moreover, global warming effects combine with other risk factors, such as large-scale involuntary migration, food crises, energy crises etc.

As presented in the WEF's analysis, the ecological and climate crisis is increasingly affecting the strategic and economic choices of Governments and businesses.

5 GLOBAL RISKS

Top 5 Global Risks in terms of impact and likelihood

	Impact	Likelihood
1st	Weapons of mass destruction	Extreme weather events
2nd	Extreme weather events	Large-scale involuntary mitigation
3rd	Water crises	Major natural disasters
4th	Major natural disasters	Large-scale terrorist attacks
5th	Failure of climatechange mitigation and adaptation	Massive incident of data fraud/theft

 Economic  Environmental  Geopolitical  Societal  Technological

Source: WEF



The Paris Agreement's goal is to decarbonize the economy

With the Paris Climate Agreement, Governments around the world have pledged to limit global warming "well below 2°C", and strive to keep temperatures at 1.5°C above pre-industrial levels.

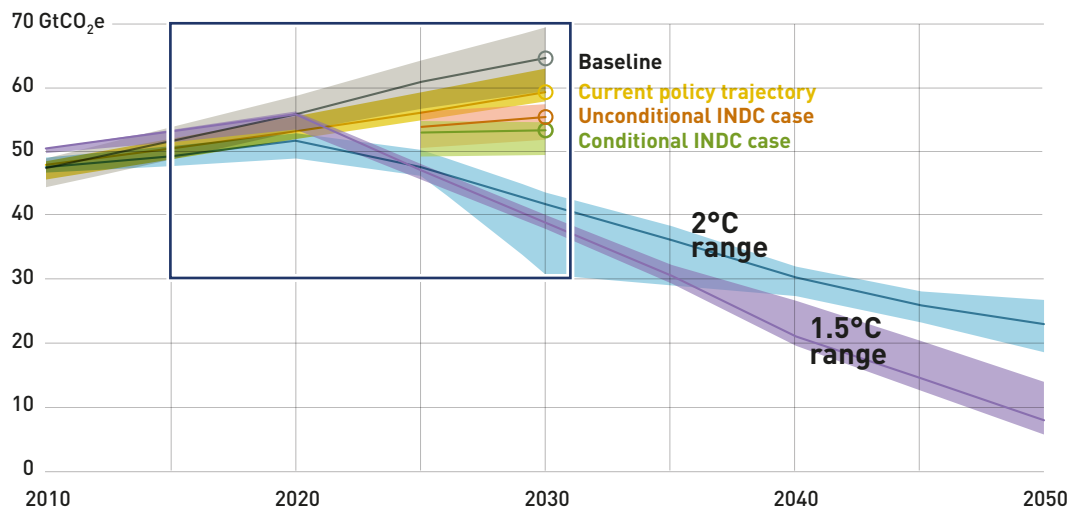
Today we have already passed the +1°C threshold and years with record temperatures are following one another.

To achieve the Paris goal, it is necessary to halt greenhouse gas emissions growth as early as possible, starting with CO₂ emissions from fossil fuels.

In 2018, Governments will review their targets and they will have to put in place even more effective measures to decarbonize the economy.

+1.5°C

Global greenhouse gas emissions under different scenarios



Source: UNEP



Global investments in renewable energy have exceeded those in fossil fuels

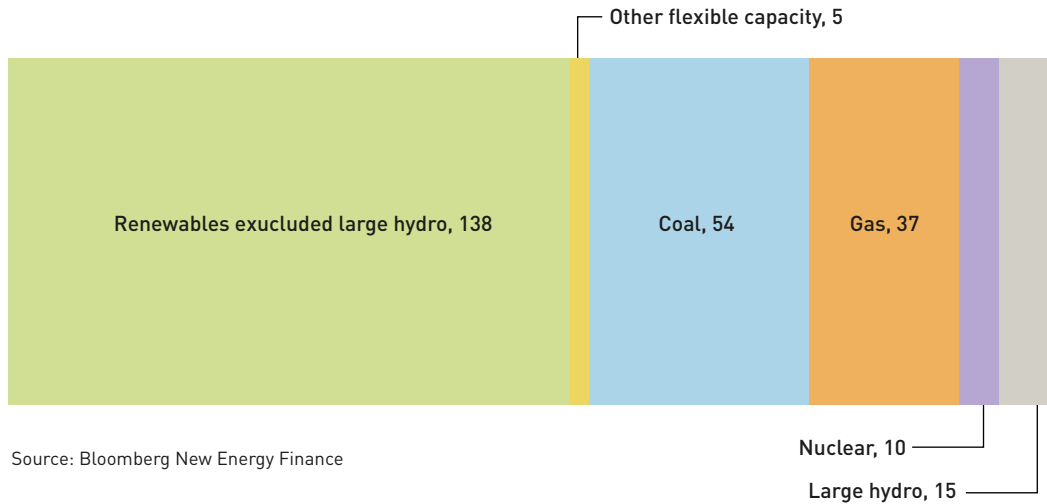
In 2016, according to Bloomberg New Energy Finance analysis, renewable energy accounted for 55.3% of new electricity generating capacity added, surpassing fossil fuels sources. Not later than ten years ago it did not even reach 20%.

Overall, in 2016, less than 140 GW of wind, sun, water, biomass and waste generation, and geothermal power plants were installed: an absolute record with a significant leap forward compared to 127.5 GW of the previous year.

In 2016, investments in renewables, also affected by the decline in technology costs, amount to over \$ 240 billion, driven mainly by China, Europe and the US, exceeding investments in coal, oil and natural gas.

55% NEW GENERATING CAPACITY FROM RENEWABLES

Net power generating capacity added in 2016 by main technology, (GW)



Source: Bloomberg New Energy Finance



Green finance is growing exponentially

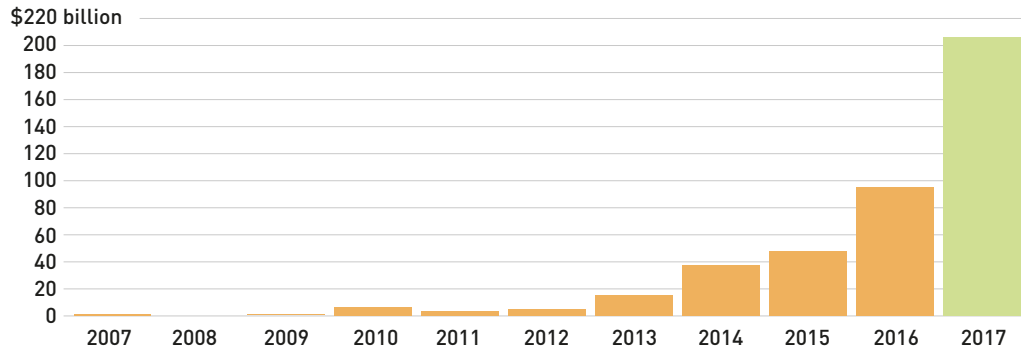
Over the last few years, there has been a major change: the involvement of the credit and finance sector in the green economy is growing, thanks to its propensity to evaluate strategies by going beyond short and medium terms.

Large investors are reviewing their products as well as reducing exposure to climate change risks, including those related to stranded assets - investments in highly polluting technologies.

For instance, according to Moody's projections, green bonds, which finance projects for the environment, have gone from a few billion \$ world-wide market in 2012 to a value of more than \$ 200 billion in 2017.

\$200 BILLIONS OF GREEN BONDS

Global market of green bonds



Source: data from Bloomberg New Energy Finance, 2017 Moody's projection



The electric car: a revolution is occurring

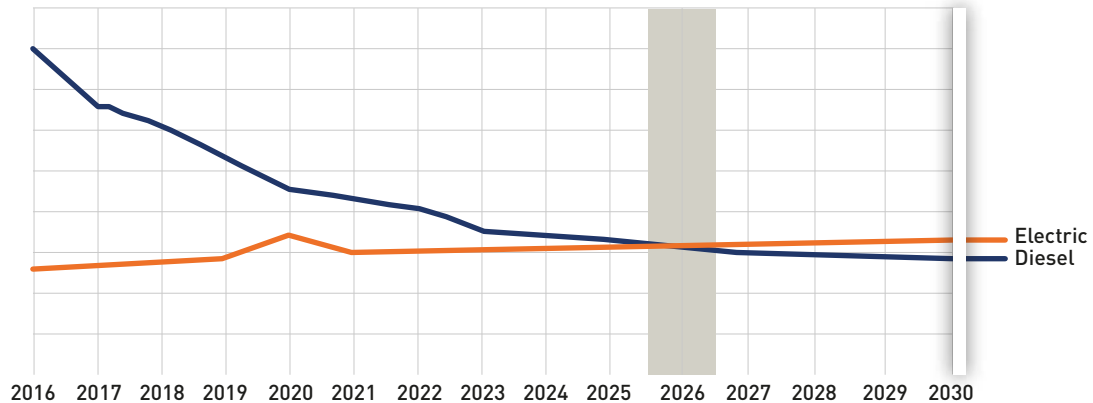
Many electric vehicle manufacturers have announced that in 2017, thanks to the rapid reduction of battery costs, an autonomy of at least 300 km will be achieved.

It is expected that battery costs will drop considerably, reducing the cost gap between electric vehicles and traditional fuel vehicles, and that recharging power will increase (up to 350 kW), decreasing the time length to do a "full of electricity".

Some of the world's leading automakers have confirmed their intention to present to the market a list of minimum 10 different types of 100% electric vehicles by 2025, with the goal of reaching a share between 15 to 25% of total sales.

2026 ELECTRIC = DIESEL

Production costs of diesel
and electric cars in China



Source: EV100 Conference, Beijing 2017



In Italy the green economy is moving forward: «green» businesses have reached 42%

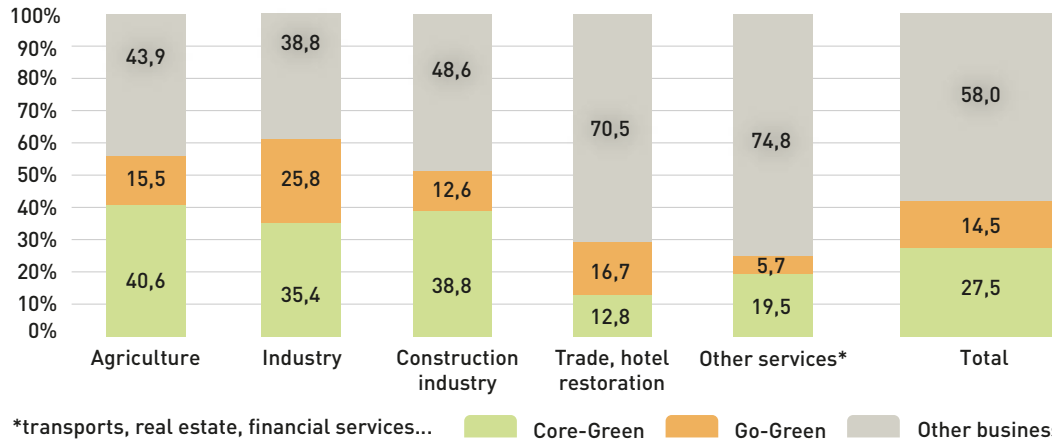
The transition towards a "green economy" - a low-carbon, resource-efficient and natural resource conservation model - is already underway.

In Italy, the share of "Core-Green" businesses (those that produce goods or environmental services) and of "Go-Green" companies (which do not invest in products with environmental value, but still innovate their processes and strategies, including the "green theme" in their industrial strategies) has grown.

In 2012, according to the research conducted by the Foundation, "Core-Green" and "Go-Green" companies represent 42% of all Italian businesses.

42% GREEN COMPANIES

Green businesses by sector in Italy



Source: Sustainable Development Foundation (Using Pragma data, 2015)



Italy is a champion of green economy...

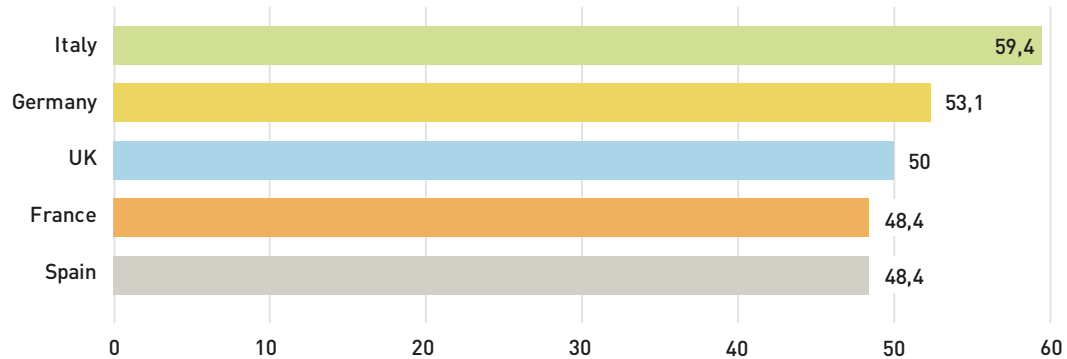
Although this figure is not well-known, the green economy in Italy has reached very high levels.

The "Green Economy Report 2016" compares green economy performances of major European economies in eight key areas: greenhouse gas emissions, renewable energy, energy efficiency, waste recycling, eco-innovation, eco-food production, protection of natural capital and sustainable mobility.

The Italian industry performance index, based on 16 indicators, stands at 59.4 on a scale from 0 to 100, where 100 is the highest result (i.e. best performance in all 16 indicators) and 0 is the lowest (i.e. worst performance for all key indicators). Italy is best performer compared to other major European countries. In particular, the most advanced sectors are renewables, waste management / circular economy and high quality agricultural production.

N°1 ITALY AND THE GREEN ECONOMY

Industry performance indexes of the five major European economies



Source: Sustainable Development Foundation



...but it is not very good at «selling» this record internationally

There is still a significant gap between Italy's performance and how the country is perceived at international level, as illustrated in the analysis conducted by the Dual Citizen research centre in collaboration with the Foundation.

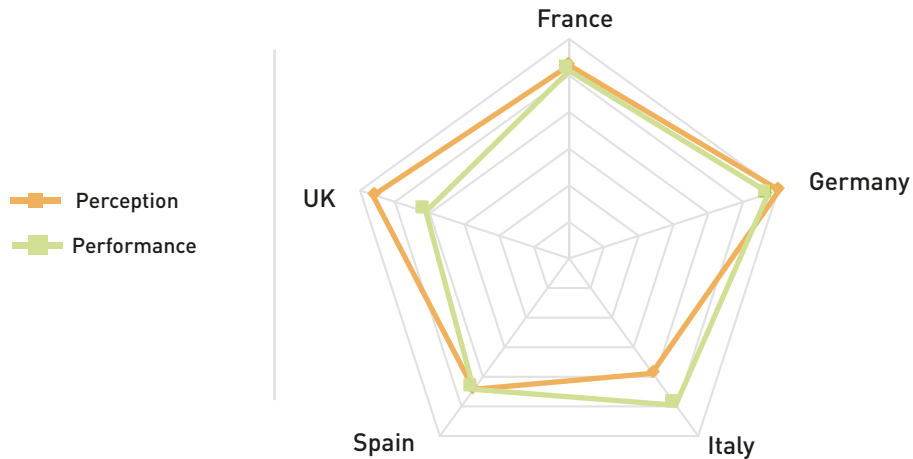
In the Global Green Economy Index (GGEI), Italy is ranked No.29 in the perception survey, which has been conducted on a sample of selected international experts and decision makers.

In particular, Italy receives limited recognition on specific aspects, including leadership and climate change, despite its good performance.

Contrarily, other countries (e.g. Germany and UK) have higher levels of perceived "green" performance than their actual one.

N°29 THE PERCEPTION OF ITALY WORLDWIDE

Italian performance and perception positioning indexes compared with main European countries



Source: Dual Citizen



European leader in renewable energy and energy efficiency

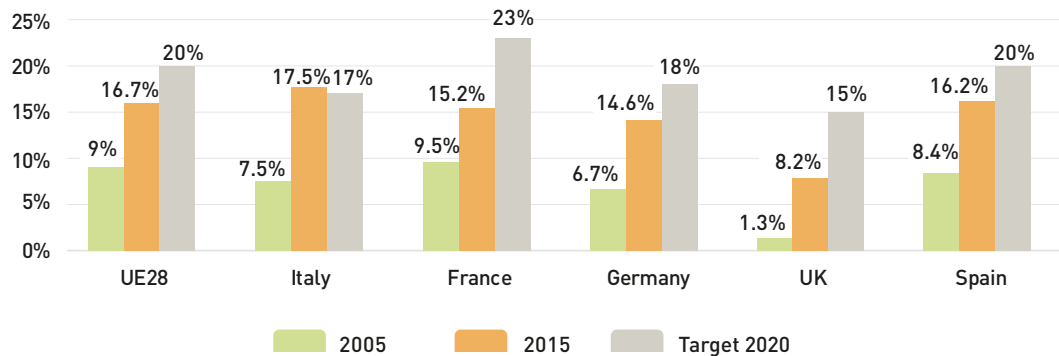
Since 2005, renewable energy sources in Italy have known a period of great development. In 2015, according to Eurostat, 17.5% of national energy consumption was covered by renewables, more than France, Germany and UK and the share of renewable energy in electricity production reached 40%. Such result, has made Italy the only major European economy to achieve the 2020 target five years ahead.

However, it should be recalled that in the last three years, due to revisions of the regulatory framework and incentives, and to the impact of climate change, particularly on hydroelectric production, the positive trend of renewables in Italy has slowed down.

In terms of energy efficiency Italy has a good performance: our energy intensity - the amount of energy needed to produce one euro of GDP - is second only to that of UK among main european countries.

Nº1 IN RENEWABLES

Share of renewable energy in gross final energy consumption of major European economies and EU28 average: data 2005, 2015 and 2020 target



Source: Eurostat



It is one of the best performer in the recycling sector

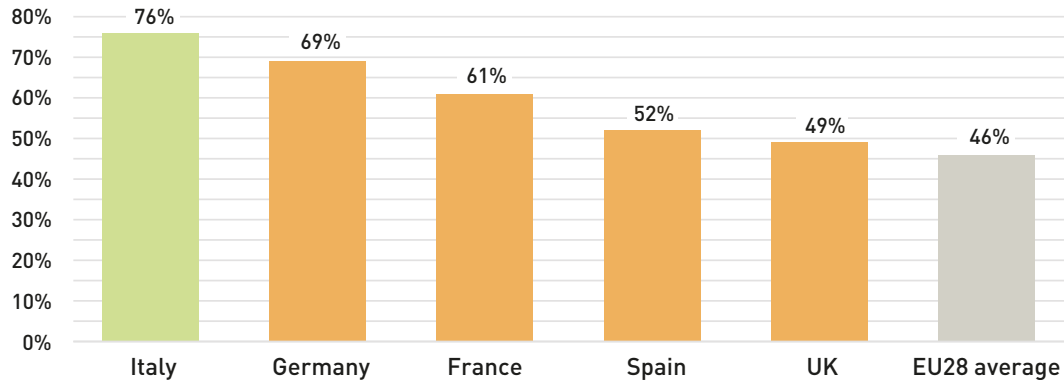
The Italian economy is characterized by relatively low commodity consumption, which has led to a high level of productivity: for every kg of energy used, our economy produces 3 euros of GDP, against 2 euros of the European average. The growth in waste sorting and recycling, and the organization of virtuous waste management chains has led our country to have, for instance, the highest rate of inert waste recycling, which represent the largest share of waste produced by a country, reaching 76% against 69% of Germany and 61% of France.

In regards to urban waste, Italy is at European average level, ahead of France and Spain but quite far from Germany. Furthermore, thanks to the Consortium system and to the growth in waste sorting, Italy is the EU country which has seen the rate of recycling and recovery packaging grown the most.

76%

SPECIAL* WASTE RECYCLING

Special* waste recycling rate (%) in major European countries and EU28 average, 2012



* Uses other than private households" Directive 2002/96/EC on Waste Electrical & Electronic Equipment (WEEE)

Source: Eurostat



The italian excellence of quality food production

Italy is one of the world's leading producers of quality food products, also for the environment. The organic agricultural land is about 1.4 million hectares, 11% of all agricultural land used in Italy, one of the most extended in the world, with more than 50,000 workers employed in the sector.

Certified food products, Italian PDO and PGI, account for 33% of the EU total production, showing excellence with a production value in 2014 of over 13 billion euros and an export value of 7 billion euros. These data are continuously growing. These products are well-known and appreciated overseas, with high rate of plagiarism. On the contrary, the domestic market, which needs investments, is not growing at same rate: organic products still account for only 1.5% of national food consumption. The average per capita spending on organic products, equal to 35 euros, is about a third of Germany and half of France.

11% ORGANIC PRODUCTION

Certified production in Italy (million euros)

		2013	2014	2014/2013 [%]
AGRIFOOD PRODUCTS	production value	6,220	6,378	+2,5%
	export	2,444	2,762	+13%
WINE	production value	6,650	7,000	+5,5%
	export	4,155	4,339	+4,4%
TOTAL	production value	12,870	13,378	+3,9%
	export	6,599	7,101	+7,6%

Source: Ismea



The sharing mobility boom in Italian cities

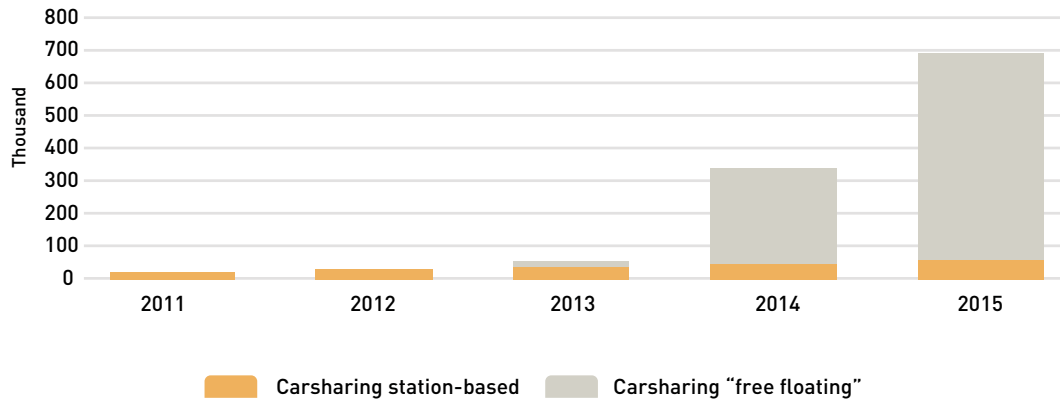
Since the introduction of the «Free Floating» system in Milan by Enjoy and Car2Go in 2013, the Italian carsharing has experienced a real boom.

New providers, from the private sector, have entered the sharing mobility market with different products like scooter sharing, bike sharing, car pooling, park sharing, bus sharing, peer-to-peer etc. This new offer of services has had an immediate positive response from citizens who, thanks to Apps and smart phones, are experiencing new ways of transport.

As a result of a considerable increase in the number of shared vehicles, since 2013 the number of subscribers and rentals has increased, respectively by twelve and thirty times.

700,000 CARSHARING SUBSCRIBERS

Carsharing subscribers in Italian cities



Source: Sharing Mobility Observatory



Environmental certifications and sustainability reports of italian businesses

In the ISO Survey 2015, Italy is the 3rd country, after China and Japan, for the number of ISO 14001 certified businesses worldwide (1st in Europe). In 2016, almost 1.800 Italian companies are EMAS – environmental management system – registered.

According to the European Commission's study on the costs and benefits of EMAS registrations, one of the benefit is "greater market opportunities, increased productivity, financial savings" (32%) and "energy / resources savings" (21%).

An EMAS or ISO 14001 Certification, is the first requirement demanded by contracting agencies that apply CAMs (minimum environmental criteria) in line with the new Procurement Code.

There is a net improvement in the quality of sustainable reporting both in quantitative and qualitative terms.

25,000 CERTIFIED COMPANIES

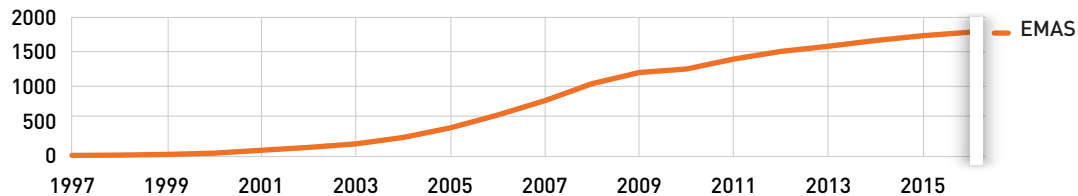
CERTIFIED COMPANIES

ISO 14001 Certifications

1. CINA 114.303	2. JAPAN 26.069	3. ITALY 22.350	4. UK 17.824
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Source: ISO Survey of Management System Standard Certifications 2015

EMAS Certification granted in Italy



Source: elaborated by Sustainable Development Foundation (using ISPRA data)



A new 2030 National Strategy

Growth potentials of the Italian green economy are significant, and in the coming years the share of investments will increase.

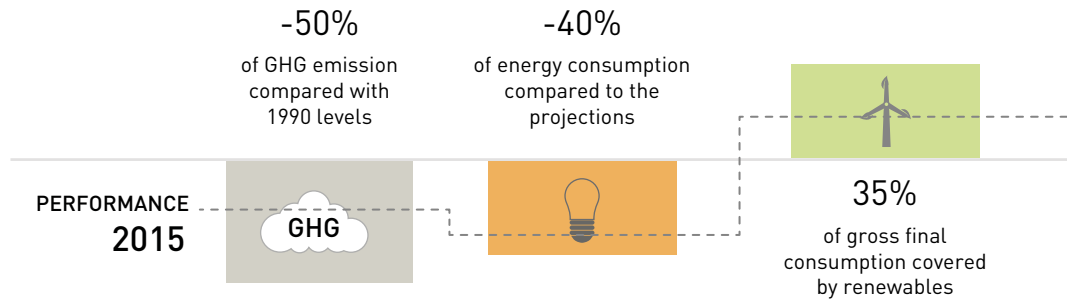
In order to meet the commitments of the Paris Agreement, Italy will have to continue reducing greenhouse gas emissions. According to the scenario elaborated by the Foundation, this will be possible by stabilizing best performances of recent years in terms of energy efficiency and renewables, with electric power growing up to 8TWh every year.

Last but not least, it is necessary to promote quality food production, which also has a significant growth potential in the domestic market, and to develop recycling chains.

As stated by the European Commission, the application of the Circular Economy Package, could create almost 200,000 new jobs only in Italy.

-50% GHG EMISSIONS

A proposal for a new 2030 National Energy Strategy (SEN) for Italy consistent with the Paris Agreement



Source: elaborated by Sustainable Development Foundation



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