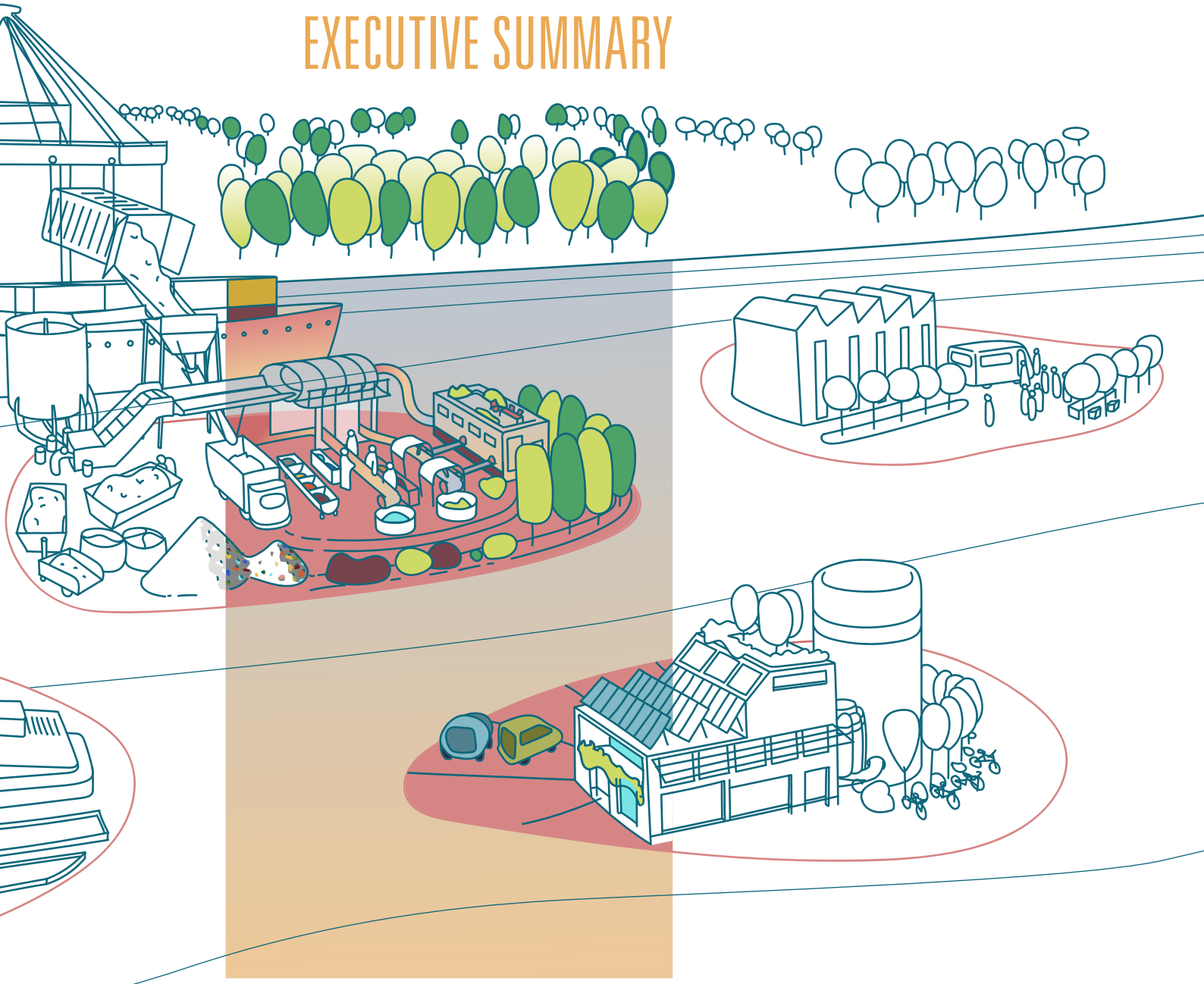
REPORT 2022
ON THE STATE OF THE GREEN ECONOMY
EXECUTIVE SUMMARY

Focus
Italian companies
and the **ecological transition**

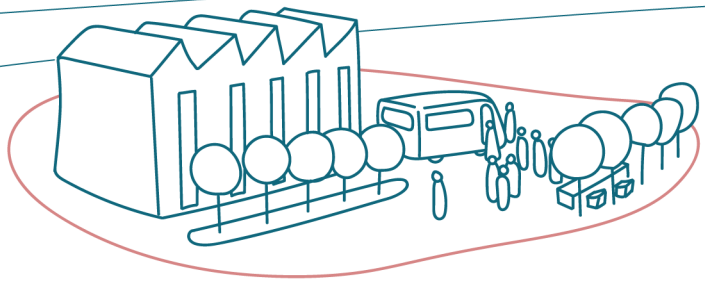


STATI GENERALI della Green Economy

FONDAZIONE PER LO SVILUPPO SOSTENIBILE
Sustainable Development Foundation

ECOMONDO
THE GREEN TECHNOLOGY EXPO

ITALIAN EXHIBITION GROUP



Report on the **state** of the **green economy 2022**

Presentation by **Edo Ronchi**
President of the Sustainable Development Foundation

Focus: Italian companies and the ecological transition

Let's give a say to companies. This year's Report opens with a survey, carried out by EY and the Sustainable Development Foundation, focusing on how companies are facing the ecological transition, right in these months characterized by high costs of energy and raw materials, an increased inflation and uncertainties about the future of the economy, and a war in Europe caused by the Russian invasion in Ukraine.

The survey clearly shows a widespread attention to the ecological transition: a significant 45% of entrepreneurs interviewed state they devote a high level of attention to the ecological transition and some 41% a quite good one. As little as a 14% minority admit to have an inadequate level of attention. Also, a significant request for greater information clearly emerges, as the 60% of entrepreneurs interviewed have a general level of information and the 5% a lacking one; only 35% of entrepreneurs interviewed believe they have a good level of knowledge.

As regards the concerns about the perspectives for the companies, a well-known information is confirmed: 86% on of entrepreneurs show a very high level of concern about the high costs of energy. According to 72%, second among the concerns are the supply difficulties and the high costs of raw materials. Third, 60% are concerned about social and economic crisis around the world. The increase of extreme weather events, caused by the climate crisis, ranks fourth, with percentages that are now significant: 75% have a medium or high level of concern and as little as 25% declare no concern.

In the opinion of entrepreneurs, a significant 83% believe that the ecological transition is a necessary change, needed to face the climate crisis and the scarcity of resources and to aim for a more prosperous future; 76% believe that Italy should promote the ecological transition, as this would allow Italy to be among the leading world economies.

The expectations of entrepreneurs about the effects of the measures for the ecological transition on their companies are mostly positive: 51% believe that such measures will contribute to the positioning of the company and 61% believe that they will promote innovation investments. It should not be overlooked that a share of entrepreneurs, a quarter on average, show uncertainty (neither agree nor disagree) and a third are worried about a possible increase in production costs.

Where do Italian companies stand in the implementation of typical ecological transition measures? On some of them, a good level has been reached: 55% of companies have already adopted measures for a more efficient use of energy and water, while 49% have implemented measures to reduce and recycle waste. Some, not a high number but still a significant one (40% on average), have planned or are evaluating additional initiatives: the employment of renewable energy (34%), a reduction in GHG emissions (21%), a high ecological quality of products and processes (22%). However, a small share of entrepreneurs is implementing a communication strategy for ecological transition measures (14%) or have planned to do so (18%). Such data apparently show that companies implementing ecological transition measures are a higher number than those communicating it.

According to those implementing a strategy towards the ecological transition, the most significant benefits include the reduction of the operational costs (27%), an improvement in the reputation (24%), and strengthened partnerships (15%). A significant 42% of those interviewed declare that no significant benefit derives from the implementation of ecological transition measured: this shows that these are either investments with long breakeven periods or measures with no direct advantages for the company, but rather for the general interest only.

Detailing the levels of commitment in the ecological transition, 45% of companies were ranked as “advanced”, as they are already employing relevant resources for measures aimed at the ecological transition: in particular, a high share of them uses effectively renewable sources of energy, materials and water, and implement recycling. While most of them operate in Northern Italy, they are spreading all over the country and are mostly medium and large sized, and usually operate on both the national and the international market.

Those companies that started activities aimed at the ecological transition at a lesser level, but are actively planning their implementation are ranked as “starters”: they account for 36% of the sample. They are mostly medium-sized companies, based in Northern and Central Italy, and operating in the national market.

Finally, the 19% of the sample is ranked as “delayed”, composed of companies that have not adopted measures for the ecological transition and do not plan to do so at the moment. As expected, these are mostly small companies, based in Southern Italy and operating on the national market.

Which are the most relevant obstacles encountered in the path towards the ecological transition? Bureaucracy is the most mentioned one, by a significant 50% of those interviewed, especially referring to authorizations, as well as to the access to resources needed. Funding ranks second (27% of those interviewed), followed by technical and implementation measures (17%), and adaptation in the business model (15%).

Key areas of the green economy

Italy severely affected by the climate crisis

GREENHOUSE GASES EMISSIONS

According to ISPRA estimates, in 2021, during the economic recovery, GHG emissions in Italy started increasing again by 6.8%, voiding most of the 2020 decrease due to the pandemic: an increase greater than the European one (6%). With extended drought, heat waves and hot temperatures in many parts of the country, especially in cities, many fires in the first part of the year, then heavy concentrated rain with floodings in many areas and cities in autumn, in 2022 the climate crisis hit Italy hard.

GREEN CITY

The path towards climate neutrality, despite being an obligation for European countries set out in Regulation n. 1119 of 30 June 2019, is not clearly outlined. A climate law is still to be adopted and the involvement of cities is still limited, despite the key role they are supposed to play: very few of them set such a target and, consequently, adopted measures for its implementation with a greater commitment towards a robust increase in renewable energies, as well as with measures aimed at the decarbonization of local transport.

A too small and too slow increase

RENEWABLES

In 2021, energy consumption from renewable sources accounted for 22.6 mln toe (tonnes oil equivalent), increasing as little as 3% as compared to the previous year. As energy consumption increased significantly, the share of renewables compared to the final consumption decreased: from 20.4% in 2020 to 18.9% in 2021.

Thermal renewables, led by solid biomass, accounted for 10.9 Mtoe in 2021, slightly increasing as compared to 2020, with a steady trend over the last years. Heat pumps also see a little increase, stable at 2.5 Mtoe. In transport, non-electric renewables are low: 1.6 Mtoe in 2021, with a 0.2 Mtoe increase as compared to 2020. A significant increase in biomethane should also be noted, that reached 159 mln cubic meters in 2021 (+60% compared to 2020), but is still produced in limited quantities, well far from the 1.1 bln cubic meters target set by the incentives decree.

In 2021, electricity production from renewable sources, accounting for 117 terawatt-hours, was the same as in 2020, as the increase in wind and solar photovoltaic compensated the decrease in water and geothermal. As a consequence of the increase in the overall electricity consumption, the share of renewables decreased from 42% in 2020 to 36% in 2021, with an increase in thermoelectric production from gas, as well as in imports. Regrettably, data in the first semester of 2022 are even worse than 2021, with a significant 10% decrease in the share of renewables, due to an additional increase in electricity consumption and a reduction in water energy production, that was not compensated by the little increase registered in wind and solar photovoltaic energy.

The permits granted to new wind and solar plants lead to expectations of an improvement in new installed plants by the end 2021 and even more over the next year, with 4-5 GW. However, should these estimates be confirmed, this would cover as little as half of the additional installed power needed to meet the trajectory of the new European target.

Small improvements, despite the high prices

ENERGY SAVINGS

In 2021, the final energy consumption increased, recovering the decrease occurred during the pandemic and reaching the highest level since 2012: 114.8 mln toe. All sectors saw an increase in energy consumption: especially transport, but also tertiary, industry, agriculture, and residential buildings. The 110% Superbonus, fully operational in 2021, helped in the relaunch of some sectors, but was not effective in the reduction of energy consumption: with a total investment of well over 16 bln euros and almost 100.000 interventions financed, less than 200.000 toe were saved overall.

Given the great rise in the demand in the international markets, the significant increase in energy consumption in 2021, particularly in gas, contributed to the price rise, especially in natural gas: month after month, its price increased on average by 0.20 cents per cubic meter in January reaching 1.2 in December, thus increasing by a factor six. Also, the average electricity price on the Italian market increased, led by the rise of gas prices: from 61 euro per MWh in January to 281 in December. The war unleashed by Russia against Ukraine and the resulting European sanctions then further pushed, in 2022, the price of electricity and gas.

Good performances are confirmed

CIRCULAR ECONOMY

The update of the overall data on production and management of both special and urban waste is a complex process and it needs time. Complete data are thus limited to 2020: an incredibly unique pandemic year, with a decrease in production, consumption and, thus in waste production as well. The most recent data, referring to 2021, are available with non-consolidated estimates, as well as with consolidated estimates for some sectors only. Steel production in Italy increased in 2021 by 20%, as compared to the previous year, with a 78% of the production deriving from recycling of ferrous scrap. Packaging released for consumption increased from 13.1 mln ton to 14.3 in 2021, while the quantity recycled increased from 9.5 mln ton to 10.5, with a 10.5% increase; paper packaging increased in 2021 by 11%, and recycling increased by 9.7%; plastic packaging increased by 3%, and recycling increased by 4.4%; glass packaging increased by 4.4%, and recycled increased by 1.8%; electrical and electronic equipment sold increased by 16%, while recycled WEEE increased by 5.3%.

The list could well go on, but the trend is clear: in 2021, with a significant economic recovery, recycling kept pace with good performances, contributing to the reduction of the demand for virgin raw materials as well as of the difficulties due to supply and high prices. In the light of the robust recovery, this would have happened anyway, but it would have had a stronger impact without a sector as consolidates as the recycling one in Italy.

In 2022, with an economic downturn and the beginning of a period of inflation and recession, recycling activities are experiencing difficulties in placing recycled materials on the market, requiring greater attention to the development of the uses of such materials and thus of their market. Circularity indicators require at least a European comparison, and such data are as old as 2020. However, indicators confirm a good Italian performance in circularity in European Economies: it leads the ranking in resources productivity with 3.5 euro of GDP per kg of consumed resources (60% more than the European average); the overall recycling rate for all waste, special and urban, in 2018 is 67.5% (Germany is at 40.9%); the circular material use index in 2020 was 21.6% (the EU average is as low as 12.8%, Germany is at 13.4%).

Delays in a critical situation

NATURAL CAPITAL

The results of a study published by ISPRA in 2021 about the conservation status of species and habitats show a situation that is mostly critical, with no significant improvements as compared to the previous edition: 54% of land flora and 53% of land fauna are in an inadequate or bad state of conservation, while 89% of protected habitats are in inadequate or bad conditions. Only 21.4% of the territory is protected, well below the European target of 30% by 2030, but also below the European average of 26.4%.

Land use and water resources: two weaknesses

LAND USE

When speaking about circularity and use of natural resources, two weaknesses should not be overlooked: the elevated levels of land and water use. In 2021, the highest land use of the last decade was recorded: some 19 additional hectares on average per day, resulting in 69.1 sq kilometers over the year. Our country, with 7.13% of artificial soil covering, is still well above the European average (4.2%).

WATER RESOURCES

As a consequence of the climate crisis, the heat waves and long-lasting drought, a proper use, saving, and protection of water resources are increasingly important. Strengthening the reservoirs system should also be included in in the context of a more rational and moderate water use in agriculture. Also, the adoption of climate change adaptation measures cannot be postponed, including an increased protection and resilience of water bodies, and a rationalization of consumption, as well as the removal of leakages. It is not acceptable that 4 bln cubic meter of water is lost during distribution, compared to a total of 10 bln cubic meter of water released in aqueducts every year.

Organic surface increases

AGRICULTURE

In 2021, the organic agricultural area increased by 4.4% as compared to 2020, reaching 17.4% of the total: a satisfactory level, though far from the 25% European 2030 target. In the proposal for the National Strategic Plan for CAP, currently discussed in Brussels, Italy prosed an anticipation to 2027 of the 25% target of the certified agricultural surface, compared to the European 2030 deadline.

The Italian car market is changing

SUSTAINABLE MOBILITY

One of the most debated changes in Italy in the ecological and climate transition is the one in the car sector. A predictable discussion, considering: 675 cars per 1.000 inhabitants; a relevant industrial role in the production of traditional combustion engine cars (today mostly in components); the significant delay in the production of electric cars. Some data for our country should be noted: in 2021, 450,000 cars less than those sold in 2019 were registered, diesel cars decreased by 29% as compared to the previous year and petrol cars decreased by 16%; in 2021, 136,000 electric cars were registered (+127%) and 423,000 hybrid cars (+91%), while shared mobility is again increasing.

Those nostalgic of old combustion engine cars should put their souls to rest: we need to shift, and are indeed shifting, towards a more sustainable and decarbonized mobility, in order to move better in more livable cities, with less cars, sweet mobility, more walking, bicycles, kick scooters, and a more shared, collective, and electric mobility.

The European and international framework

The ecological transition between the war in Ukraine and the worsening climate crisis

At the beginning of 2022, on 24 February, the Russian Federation invaded Ukraine, causing a devastating war in a European country. The world, that was recovering from the terrible Covid-19 pandemic and that was experiencing an economic upturn in 2021, fell into a complicated geopolitical crisis, with an unsustainable increase in gas and electricity prices, a rise in the inflation and the world economy experiencing difficulties. In 2022, we were also hit hard by the worsening of the global climate crisis that caused the highest temperatures ever recorded: heat waves affected the northern hemisphere, especially Europe, the United States, and China. The worsening of the climate crisis is caused by the delays, the slowness of mitigation measures and, thus, by the continuing increase in GHG concentrations: in 2021 the global CO2 emissions jumped to the highest level ever recorded. In 2022 the report by the Second IPCC working group on the impacts of the climate crisis was released: the climate crisis is worsening faster than expected and extreme weather events "will increase significantly".

What will be the effects of both the war and the climate crisis on the ecological transition? Are European choices going to have a strategic role in the design of the global way forward?

At the beginning of 2022, the European Union presented a broad package of measures. After the 2019 European project of a Green Deal, aimed at facing the recession caused by the Covid-19 pandemic, an ambitious program, the Next Generation EU, was launched, promoting and financing national plans for recovery and resilience based on two pillars: the ecological and climate transition on the one hand, and digitalization on the other. The EU also adopted programs and packages of directives for circular economy, as well as the Fit for 55 package of measures and the 2021 regulation that obliges all European countries to adopt a binding path towards climate neutrality by 2050.

In the face of the difficulties generated by the Russian war against Ukraine, the EU scattered: on the one hand, a cohesive and forceful reaction on political, humanitarian, economic, and military support to Ukraine, on the other a less solid reaction in the light of the unsustainable rise in gas and electricity prices and supply difficulties due to the cut in Russian gas supplies. Rather than a common European vision, most important were the different national interests, the diverse exposure to Russian gas imports and the different margins in national finances available to support companies and citizens, hit by the increase in gas and electricity prices.

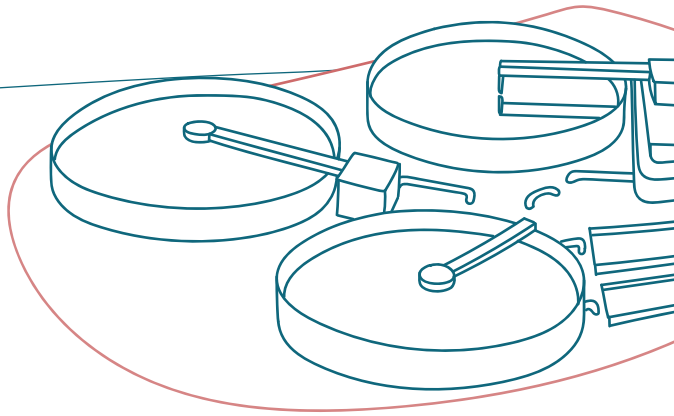
It is also true that the idea that union makes strength is gaining support, and it is thus not excluded that, though with a delay, it could eventually result in a common European action to mitigate gas and electricity prices with reasonable limits as well as in some forms of support to the most affected sectors. For sure, a weakening of the European community dynamics and an upswing of national pushes by member states would result in weakening of the measures for the ecological and climate transition.

The action on prices, as well as the difficulties on gas supplies, might have effects not only in the short term, but also, more relevantly, in the medium term in various directions. In the short term, they are pushing towards increased savings and energy efficiency, and an increase in the use of renewable sources of energy, in particular for electricity production. They are also causing the reopening of coal plans, or the delaying of planned closures, as well as and increase the use of

gas supplies and, thus, of its use, also thanks to and increased use of liquefied gas tankers and regasifiers. A debate on nuclear energy is also going on, but due to the extended construction times, as well as its high costs, it remains an idea rather than a concrete plan.

The reasons for an acceleration in the ecological transition are all there: it would be a way to structurally decrease both costs and dependency on energy supplies; it would also be a way to act more effectively to tackle the climate crisis that has increasingly heavy and unsustainable effects; it would be the way to relaunch investments and to achieve a solid and sustainable recovery. However, the high profits in the gas sector, its current relevance and the need to guarantee supplies, together with an upswing in coal, are the reasons presented by some to support a relaunch of investments in fossil fuels and to support hostility towards renewables, that are presented as unable to meet energy needs in both the short term and in the future. Some not only support the measures needed to face the emergency, but they also explicitly support a halting in the decarbonization path, putting aside the ecological transition and shifting back towards the old model based on fossils, with a small share of renewables and even nuclear, towards the relaunch of an economic growth with no quality and, thus, no future.

The debate between these two tendencies, an acceleration or a halt to the ecological transition, is ongoing on at the European and global level. Not only it is a debate of opinions, it is also one of economic choices impacting on companies. The report on the opinions and choices of Italian companies that we are publishing shows that the ecological transition is now a consolidated mission for a very significant number of companies, especially those most innovative, most successful, and that operate both nationally and internationally. From the Italian point of view, stepping back appears to be difficult and unlikely, and definitely not desirable.



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