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Brief Report





Lombardy Report 2020

Introduction by Armando De Crinito



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Index

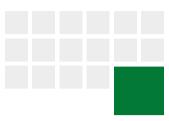
		luction
_	INTRO	HICTION

Armando De Crinito

15 — Positioning and performance of Lombardy: comparison with the 21 OECD-EU countries

Gisella Accolla, Federica Ancona, Federica Nicotra

- 20 Lombardy performance in summary
- 23 Goal 1 No poverty
- 25 Goal 2 Zero hunger
- 27 Goal 3 Good health and well-being
- 29 Goal 4 Quality education
- 31 Goal 5 Gender equality
- 33 Goal 6 Clean water and sanitation
- 35 Goal 7 Affordable and clean energy
- 37 Goal 8 Decent work and economic growth
- 39 Goal 9 Industry, innovation and infrastructure
- 41 Goal 10 Reduced inequalities
- 43 Goal 11 Sustainable cities and communities
- 45 Goal 12 Responsible consumption and production
- 47 Goal 13 Climate action
- 49 Goal 15 Life on land
- 51 Goal 16 Peace, justice and strong institutions
- 53 Goal 17 Partnership for the goals



Introduction

This year it's not easy to approach the reading of the last available data thanks to the 17 Goals that create as a tradition the Lombardy report 2020: psychologically, and it couldn't be different, we are influenced by the sanitary emergency and anyhow we are led to search and to catch especially the aspects occurred as consequences of the pandemic. We cannot not valorise completely, as it happens every year since 2017, the attentive and extensive statistical analysis proposed thanks to which we can dwell on the pre-existent elements that can orient us to weight up, in normal and in emergency conditions, the strengths and the criticality point that have occurred at Lombardy level. We aren't yet able to elaborate mid-term and long-term predictions concerning the storm that fell on our existence and we cannot assess the consequences. We are lacking of certainty concerning the duration, the intensity and the relapse of its effect. But let us entrust the complementary work «Studio per la ripartenza dei territori lombardi» to the as specific as possible detailed study thanks to the valuable listening work of the best competences on our territory, and we point out here some aspects that seem to strongly come to light in a comprehensive analysis of the sustainability elements present or not present on our region.

If we completely consider in its etymology the concept of sustainability as a development that on one hand has to meet the needs of the present generation but at the same time to preserve the possibilities for the future generations, first of all unfortunately we cannot help but verify as in the reality described in 2020 Report stand out signals of the opposite direction. As a matter of fact, are strongly enlightened various and accentuated conditions of **generational disparity**, especially stressed by the uncertain status of the younger population, that is the one that should or – better must have – the possibility to give their best to lay the foundations for the world of tomorrow. First of all this appears in the high percentage of exposure to the risk of limited poverty and social exclusion that characterizes the age group from 18 to 34, which is the most in difficulty both at national (33.3%) and regional

level [16.9%]. The exam of the precariousness of the working positions, worsened after the 2008 crisis and at risk of worsening because of the consequences of Covid-19, enlightened that also in Lombardy the 61.5% of the youngster of the age group from 15 to 24 are hired with a fixed-term contract percentage that reach the 20.7% for the age group from 25 to 34. The numbers of employment rate are also worrying, the employment rate amounted in 2019 to 24.3% for the age group from 15 to 24 and to 78% for the age group from 25 to 34. Both cases represent better values compared to the national average, but worse than the present situation in the EU28. The average incomes received tell us that the youngster (18-34 years) earn half of the age group 35-49 years. The weakness of the youngsters is also witnessed by the 14.8% of those who, between the age group 15-29, are not included neither in an employment system nor in an education system, risking therefore a social and employment exclusion. On the contrary partial positive signs come from the age group 15-24, from the increased participation in the education and training system (64%, higher value than the average EU28) and from the decrease of the school drop-out rate (the age group from 18 to 24 has gone from 19.5% in 2008 to 11.5% in 2019). However, it's obvious that the financial difficulties influence the present and the future of a generation that is founding many obstacles even in starting a family and having children. As a matter of fact, when the number of family members increases the probability of being in a state of poverty increase as well: the percentage goes from 2.8% in the three-member family up to 9.2% in the four-member family and even to 15% in the families with five or more members. Among difficulties borne by the youngster and by their family, who represented the bulwark of the society during the lockdown, the difficulties of the female universe stand out even more: «even if in some target Lombardy has better results compared to national level where the gender gap is one of the highest in Europe, equality is still far». Despite the increase of 1.6% of women employed in Lombardy, the regional female employment rate (60.4%) is well below the male one [73.2%] in the age group 15-64 years. We have also to consider that in this context 33% of women is in a part-time position often unwanted. On the other hand such a part-time position is denied when women request more flexibility (7246 are the negative responses received on the whole in 2019 by female/male employees). Another disturbing data concern the number of resignation and consensual resolution have more than doubled in Lombardy with an increase of 123% between 2012 and 2019, this element proves the difficulty of conciliating working time with family time causing some women, for example after a child birth, to leave their job. Positive signs, that must be reinforced and confirmed in order to cope with the necessities during the pandemic, come from the gradual increase in the women-owned business and from measures to support parenthood and work-life balance adopted by some companies. Such measures are mainly adopted by those companies that are more attentive to welfare policies and adopted by network present at local level such as the plans promoted as plans of the guidelines given by Regione Lombardia. Talking about national and regional policies positive effects in particular from the Family Act and «Pacchetto Famiglia» are expected.

Great attention has been devoted to **home** protection with measures adopted to help families that can't afford to pay the rent or mortgage payments of the primary residence. Home has always been a key element in the economic and social life of the Italian families even more important during the lockdown weeks that made important the problem of the quality of living. Residences in Lombardy have been improved during the years (the percentage of people living in houses with structural or moisture problems decreased from 13.2% in 2017 to 9.6% in 2019), but in 2018 they had overcrowding problem for the 27.3%, growing rate. The overcrowding phenomenon is suffered the most by almost 1.2 million foreigners living in Lombardy with far superior percentage.

Home key element in the sustainability policies, focal point of policies of urban regeneration and energy efficiency. On the other hand according to the data the residential sector is the most energy-consuming one, thus justifying the great attention devoted to this sector both at a national and regional level. Its consumptions are equal to 7.3 million toe per year corresponding to 29.2% of the total consumptions of the region. The increase in the energy efficiency allowed to move closer to the desired reduction goals also thanks to the actions dictated by the Programmazione Energetica Regionale PEAR (regional energy planning). This good result was achieved even if the building stock in Lombardy (400 million m² for about 4.7 million of residential units) registered since 2010 a steady increase - given by both new building and, even though in a lower percentage, by the extension of the existing buildings evaluated at one +0.7 (%?) per year compared to the previous year. The time series shows a significant trend to the reduction of the specific consumption on m2, thus supposing a greater energy efficiency. This evolution is mainly attributable to the processes of redevelopment and efficiency of the building stock that characterize a good part of the building market. This element is positive for the sustainability and is associated with the one that consider Lombardy constantly growing as far as the renewable energy sources production is concerned with a contribution of 14.9% of the national total amount, mainly for the electricity sector. Moreover it is important to stress the in 2017 in Lombardy the percentage of renewable energy sources is equal to 13.8% of the gross final consumption, a higher value compared to the goals fixed for 2020 by the Climate Change Package 20-20-20.

The subject of housing is indissolubly linked to that of **land consumption**: the constant redevelopment of abandoned areas, of degraded urban outskirts, of areas of large and small-medium sized firms that can limit the waste of this fundamental resource is encouraging. But Lombardy is still one of the regions that have a high soil consumption which is close to 290,000 ha, equal to about 12% of the regional area (Italian average 7.1%). In such a context it appears more than ever necessary the implementation of the following policies: the policies aimed at protecting the habitat conditions, at thickening the **urban green** as a balance and prevention instrument (such as heat islands, in a context of increase in the average temperatures, for example in Milan is equal to +2.65° in the last decade compared to the period 1880-1909, as recorded by the monitoring station in Brera) as well as the policies aimed at keeping not only unchanged but also extending the **forest areas**. With 619,893ha

these areas represent 26% for the regional district, that is 616 square meter for every inhabitant: datum that is lower than the EU28 average and distributed on the territory in a very unequal way, considering a high concentration mainly in the provinces Brescia, Sondrio and Bergamo (there are 6908 m² for each resident in Sondrio but only 27m² for a resident in Milan). Most of the Lombardy forests enjoys some form of protection: 84% are subject to hydrogeological constraint, 12% to environmental constraints. A greater protection is given by the fact that 26% of the forests is included in the Regional or National Park, while 21.6% falls on the network Natura 2000 thanks to which more than 77000 ha of forest area have the status of community interest granted. The many functions carried out - from the positive effects on the ecosystem service (at present the Lombardy forest area can absorb 4.9 MT of carbon) to the hydrogeological risk control, from the biodiversity conservation to the welfare guarantees etc. - show their importance and justify the introduction of specific instruments such as Piani di Indirizzo Forestali (the Forestry Plans) that at present affect 72.6% of the regional area. The share of timber obtained from the forest areas deserves a mention: 565,237 m³ 2018 datum, 73% of that share is destined to energy use and 25% to commercial use. It is wood which is not for honourable use (80% of the processed timber is in fact imported, within a region which handles nine billion euros and holds the national record of industries and workers in wood processing), but most of it comes from woods managed in a responsible way as far as the environment and the chain of custody are concerned. It must be stressed that Lombardy is the first Italian region in terms of necessary certifications. A virtuous path is also the restoration of wood that in Lombardy for example concerns more than 500,000 tons of collected and reclaimed packaging: this business is worth 1.4 billion euros and creates 6,000 jobs. On the contrary a use that causes concerns is that of wood biomass for combustion which turned out to be very pollutant. The use of wood biomass led to bans in order to respect the re-entry of all the pollutants monitored provided for in 2025 by the Piano Regionale degli Interventi per la Qualità dell'Aria (Regional Plan of Interventions for the Air Quality) (PRIA). The pellet systems threaten the air quality in Lombardy where the infringement procedures opened by the European Commission as for PM₁₀ and nitrogen dioxide limits are still pending. The Report contains the ARPA data that confirm that in addition to the above-mentioned there is not yet a full compliance with as for the PM2 s and the tropospheric ozone. If we consider the dusts and in particular the PM₁₀ that is often the centre of attention of administrators and public opinion, the PM₁₀ respected in all the monitoring stations of the region, the concentration yearly average of 40 µg/m³. On the other hand, as for the daily limit of 50 µg/m³ that must not exceed more than 35 days per year most provincial capitals such as Brescia, Cremona, Lodi, Mantua, Milan, Monza, Pavia.

For the study of the phenomena pertaining the **air quality**, it appears interesting that during the emergency period- that we hope unrepeatable - the reduction of anthropic activities in the lockdown weeks and in particular the decrease of vehicular traffic (estimated since March 9 at 75% of cars and at 50% of heavy goods vehicles in the Po valley basin).

A detailed study of ARPA showed once again that the phenomena linked to the particulate

is very complicated as for both the primary element and, above all, the secondary element produced in atmosphere (on the contrary the reduction of nitrogen dioxide and benzene are very significant). The PM₁₀ recorded in fact variable reductions during the period considered, homogeneous throughout the region, often hardly noticeable because of dusty air of desert origin (event of the end of march), because of both the derivatives of the combustion of timber and pellet as for the primary element, and for the presence of high levels of ammonia attributable to the **agricultural sector**.

This element that is the only source of carbon dioxide, allows us to highlight the importance of a sustainable agricultural production, also considering the important regional numbers of the sector: Lombardy is first in the national ranking with 7.64 billion euros (59.3 is the national datum) taking into account 931,600 ha. At present in Lombardy the organic farming is not so widespread since it concerns only 2.8% of the cultivated areas, but much is expected from the initiatives undertaken to support the organic chain of production (for example think of the decree to support organic school meals that allocates 1.3 billions in favour of Local Agencies). Also animal farming has an impact on the environment, this is a sector which is economically important but it also causes considerable and important values of greenhouse gas.

The sustainability in the food business involves also the idea of «right to food», recognised by a specific regional law of 2006, and the problems of waste of food, which has not only environmental implications but also economic, social and ethical implications. Unfortunately the amount of food that has become waste is still very copious. In Italy it is worth one point of GDP, far from the goals of Agenda 2030. We need to completely change the consumption and production patterns. Just consider that 13-16% of the school meals, equal to 107 g of food per day per capita, are thrown away and that before the real distribution there is an excess of 500,000 meals every year (conveniently distributed to needy persons, an initiative which is carried out with others initiatives in order to reduce waste upstream and downstream). A virtuous example is linked to the first weeks of the medical emergency when the local administrations gave to Banco Alimentare about 3,000 tons of products before they had to stop the supply. On the other hand, always with reference to that period, it is possible to estimate a waste index 30% higher than normal form the families due to the out of control and frantic race to the supermarkets (on February 23rd in Lombardy the sales of the largescale distribution recorded +87% compared to 2019). The increase in rubbish contrasts with the intents of the UN Agenda and with the dictates of the circular economy (at the heart of the CircE project of which Lombardy is the leader), only partially balanced by a undeniable better management (in Lombardy recycling reached the amount of 71% in 2019, but the amount of recycling per capita is increasing: 6.43 kg/inhabitant, +8.28% compared to 2018).

Leaving to the work «Studio per la ripartenza dei territori lombardi» the accurate examination of the **criticality level exploded during the medical emergency** (or with medium/long term consequences) with which some proposed solution or projects well outlined and financed have been countered; even the Rapporto 2020 transversely specify underway

phenomena intensified later on by the pandemic. Concerning the food waste, the Goals offer us many additional examples in the different areas that arrange the survey, some of them arouse concerns and require urgent measures and changes of trend. Starting from the health division, object of specific study achieved during other analysis, for which the Report accompanied the usual statistical basis with interesting indications. First of all, data give awareness of the tsunami which has struck our region. Before Covid-19 Lombardy could praise, uniformly among the provinces and constantly growing in time, a hope of life expectancy at birth higher than the European States (EU21): with 83.4 years (95.7 years for women; 81.3 for men) in 2018 it was at the first places among the Italian regions. Equally even the mortality rate was constantly decreasing due to progresses achieved by Lombardy in all health areas. For example, in Lombardy, compared to the rest of the nation a lower alcohol, smoke consumption, lower levels of obesity and better lifestyle. At the same time pollution, impacting for the increase and the worsening of some pathologies, has recorded a constant decrease of PM₁₀ and nitrogen dioxide concentrations. Furthermore, the year 2020 started with a percentage of -11.6% of death compared to the average 2015-2019. Then the pandemic started. Therefore, at the beginning of March this trend is reversed - a trend directly or indirectly tied to Covid-19 or not linked to this but determined by the crisis in our public hospital system - and in Lombardy a considerable increase in death. During the period January 1st-May 15th 63,712 persons died, +24,392 compared to the average of the years 2015-2019 with a peak of +189.3% in March. Rapporto 2020 reports some consideration that PoliS-Accademia as scientific-technical and training Committee, has elaborated for the public health service reinterpreting it from a sustainability point of view. «The emergency has thrown our frame of mind and organizational outline off course and has indicated the elements for a possible change. Hospitals are back to be hospitale the patient is back to the spotlight and the specialists indicate again the priorities. The priority of the need for health has guided choices of rationalization of services that for years seemed to be impossible». In the future, having realized the negligence that have weakened public health, it will be necessary to efficiently face the health condition in different health environments and in different moments of life of persons. In this context a reorganized family practice, which is not isolated but well connected to the system, must have the leadership. Public health that works in team in cooperation with all the hospital specialists and equipped with the most innovative telemedicine tools. This logic supervises the measures assumed by the Council for the «reorganisation of the primary healthcare and of the territories as well as the introduction of the family and community nurse».

A reprehensible phenomenon emerging from the analysis of the direct or indirect consequences of the pandemic, is the one concerning **domestic abuse** in particular against women. The lockdown has increased the calls to 1522 of episodes of violence and/or stalking (+73% compared to the same period of last year). As further proof of the fact that these are not unprecedented events (every year the Osservatorio Regionale Antiviolenza – (Anti-abuse Regional Centre) offers an accurate analysis) but that they have only got worse: most people

stated that the reported abuse was not a sporadic event but they were behaviours reiterated in time: 3 cases out of 4 violence lasts for years. Home is one of the places where these events take place more frequently, therefore also in this particular case the lockdown has exploded episodes arisen before, as well as a considerable increase of crime in the digital world that damage also children and teenagers not very aware of the risks of the online activities. Scams, frauds, stalking characterise the recent informational technology trend of criminality that cause to rise a high feeling of insecurity present in an unjustified way among the Lombard population. In fact, the **safety** topic, excluding the already mentioned crimes, stresses that in Lombardy crimes such as voluntary manslaughter, housebreak, thefts in shops, theft of car, house robbery. There are instead worries for the near future, caused by the emergency health and the evolution of the economic crisis, of an increase of the risk of mafia and criminal infiltrations in the economic and social fabric of the region. The high availability of financial resources at disposal of criminal organisations can give rise to forms of loan to companies and families that can lead to forms of extortion and usury.

As regards the **air quality**, which partially benefited from the traffic restriction (considerable reductions of nitrogen dioxide didn't correspond, as above-mentioned, to a remarkable reduction of the particulate for the motivation already expressed) one can be concerned for the percentage attributable to the transport sector, where it is possible to predict an increase of the usage of the private vehicle from citizen worried by the promiscuity on the public transportation. The challenge will be to reorganize the transfers «reconciling the diseconomies caused by an inadequate shortage of the offer and the insolvency of the demand», confirming if not increasing the number of commuters — workers and students — using the public transport (for the employed workers 14.2% compared to the national average of 10.1%), assuring attractive solutions and different means of developing sharing services and using for the small distances the sustainable mobility system. An optimum management of schedule of roles in towns and an intelligent recourse to the remote working, studying and social relationship run not only because of the emergency but based on analysed and productive planning will certainly have a main role.

On the other hand remote activities require an efficient digital network, with the wide-spread use of the optical fibre and with an efficient wireless network as emerged from the «Riparti», and adequate **digital expertise**. A 20190ECD report pointed out that Italians do not the necessary expertise to face the digital process in the job market: the risk is a gradual marginalisation. The lockdown emphasised the low level of digital expertise and infrastructures that resulted in low percentages of remote workers: the estimate is about 35% at national level at the end of March.

More precisely, from a survey of Assolombarda based on 1414 companies the percentage during the same period in Milan, Lodi, Monza and Brianza was 49%. Not so clear data from a report of Milan Politecnico about the digitalisation of the Public Administration. Lombardy even if it is below the European average, is the most digitalised region in Italy. The performances of the Lombard municipalities as for the access to the digital services and the

provision of local wireless network are good, on the other hand the use by the municipalities of the videoconference tools (till the health emergency only 16%) and the ICT training for the employees.

Therefore, it appears to be extremely necessary to enhance the human capital by a continuing training to recover and develop the needed skills. The policies of Lombardy Region must continue in this direction in order to get a continuous learning throughout working life and an integration of working training policies and active policies. As far as didactic work is concerned, after the emergency measures of last months, innovative methods of supply and use of remote learning and judgement of students must support traditional systems. Challenges to overcome completely not to run the risk that whole generations are excluded from educational and working scenarios of the near future, thus missing one of the main goals of the sustainability concept.

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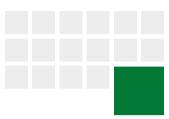


Lombardy Report 2020

Positioning and performance of Lombardy: comparison with the 21 OECD-EU countries

Gisella Accolla, Federica Ancona, Federica Nicotra





The monitoring of the 17 sustainable development Goals forecast by Agenda 2030 continues at an international level thanks to the definition of a list of indicators approved in March 2017 by the UN Statistical Commission and yearly updated (UN, 2020). In fact, in the last few years the official list of indicators allowed institutions, national statistical institutes and scientific communities to try to measure the indicators by suggesting different interpretations that gave a varied picture of the sustainable development level, reaching the different territorial levels that have been examined. In line with what has been fulfilled in the previous editions of Lombardy report, this chapters intends to submit an update of the path undertaken by Lombardy, region among the most advanced at European level, in terms of development according to the sustainability proposed by Agenda 2030.

It is useful to briefly mention the approach adopted in the proposed benchmarking work. Starting from the list of indicators defined by the UN, we chose to refer to the subset of indicators adopted by Eurostat and Istat by sharing the criteria underlying choices made: relevance to official statistics, comparability at a European level, significance for the territorial context, relevance to the targets. Such indicators are available every year in special reports (Eurostat, 2020; Istat, 2020). Another parameter followed concerns the availability of statistical information at regional level¹.

Similar to what presented in the previous editions of Lombardy report (Polis-Lombardia, 2019), the measurement of the 16 sustainable development goals² is made by comparing Lombardy with the 21 European countries of the OECD resorting to the analysis in time series and to the composite indexes³. The composite indexes calculated for each Goal, allowed to establish a ranking among territories and the positioning of Lombardy in each goal and the concise reading of trends.

The values of established composite indexes have as point of reference the threshold value equal to 100 composed of the composite index of Lombardy in the first year of ob-

¹ In order to ensure the coverage of the 17 goals with a multiplicity of indicators, if the regional Eurostat datum is not available, we resort to the equivalent data from Istat or ad hoc processing carried out on Istat microdata.

² The Goal 14 – Preserve and sustainably use oceans, sea and marine resources for a sustainable development – has been excluded since it cannot be applied to Lombardy because it has no coast on the sea.

³ The methodology adopted is the methodology called AMPI (Adjusted Mazziotta-Pareto Index) already adopted by ASviS (ASviS, 2019) for the calculation of national concise indexes and bequallyy ISTAT for the concise reading of the dimensions of BES -special education needs- (Massoli P. et al., 2014).

servation: therefore, they have a lower value than 100 in the case of worse positioning or worsening trend, compared to the benchmark and higher than 100 in the case of better positioning or improving trend.

The results of the analysis are shown in 16 information design charts, one for each goal, structured as follows:

- cartographic representation of the composite index of the goal where a darker colour shows the territories with a better positioning since the value of the index is superior to the median;
- trend reading of the positioning of Lombardy and of Italy compared to the other countries through the composite index, reminding that the index for Lombardy during the first year of examination has a value of 100.

Further in-depth analysis will be available in the section of Polis-Lombardia site, dedicated to the Report-In particular, indicators at sub-regional level will be presented in addition to the updating of the elementary indicators for each Goal. In the previous edition of the Report there was already this part concerning these indicators that now is enriched and broadened. Wherever it was impossible to calculate at sub-regional level the indicators used for the benchmark with the 21 OECD-EU countries, we drew on the list of the indicators adopted by the Sustainable Development National Strategy defined by the Ministry in connection with Istat and SDGs or by the Lombardy Regional Programme of Development.

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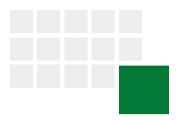
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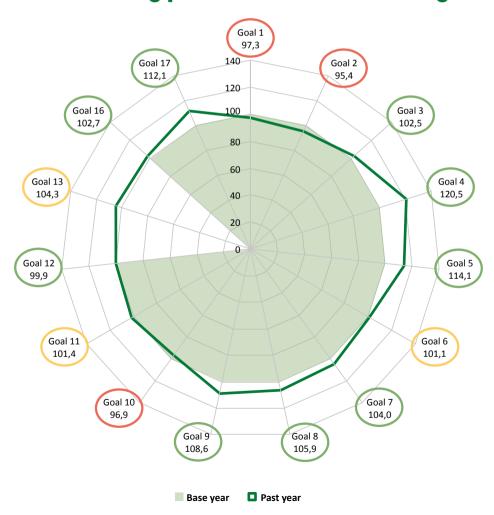
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Lombardy performance in summary



The radar allows a concise interpretation of the performance of Lombardy compared to the first year of examination:

- For most of the goals, 9 to be exact, signs of improvement are recorded (value higher than 100 in green): Goal 3 Good Health and Well-Being; Goal 4 Quality education; Goal 5 Gender equality; Goal 7 Affordable and energy; Goal 8 Decent Work and Economic Growth; Goal 9 Industry, Innovation and Infrastructure; Goal 12 Responsible Consumption and Production; Goal 16 Peace, Justice and Strong Institutions; Goal 17 Partnership;
- For 3 goals a worsening of the performance is recorded (value lower than 100 in red): Goal 1 No poverty; Goal 2 Zero hunger; Goal 10 Reduce Inequalities.
- For 3 goals a substantial stability comes to light (value near 100 orange): Goal 6 Clean Water and Sanitation; Goal 11 Sustainable Cities and Communities; Goal 13 Climate Action.

Note: for each composite indicator, the last year of examination and the first year used as a basis, are the following:

	1	2	3	4	5	7	8
Last	2018	2017	2016	2019	2019	2018	2017
Basis	2008	2008	2013	2008	2008	2017	2013

	9	10	11	12	15	16	17
Last	2019	2018	2017	2018	2015	2018	2018
Basis	2008	2008	2013	2013	2010	2011	2008

For Goal 14 as already said before, the composite indicator has not been calculated, while for Goal 15, having just one year of examination available, the datum of the composite indicator for Lombardy (equal to 100) has not been reported in the radar since it only allows the positioning reading and not the reading of Lombardy performance.



No poverty

Indicators in the OECD-EU comparison

Poverty is a multidimensional phenomenon that affects not only the private sphere of the individual but also on the whole community in terms of social cohesion and economic development. It tends to last in time and to spread between generations.

The composite indicator presented is composed of 4 indicators:

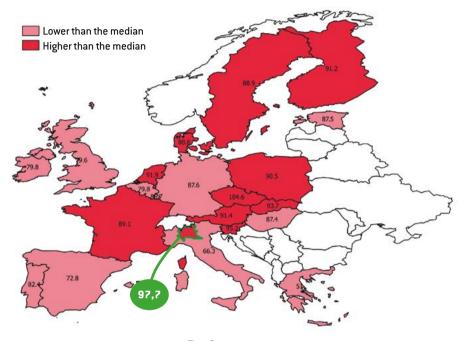
- 1. Population at risk of poverty or of social exclusion.
- 2. Population in severe material deprivation.
- 3. People living in low-labour intensive families.
- 4. Population at risk of income poverty after social transfers.

Among the EU countries Lombardy ranks high confirming a good positioning, nevertheless the monitoring underlines a worsening for the second consecutive year. Starting from 2008 the indicator has been continually diminishing mainly during the years 2016-2017 and then it recorded an improvement in 2018 without reaching however the level of the beginning of the period.

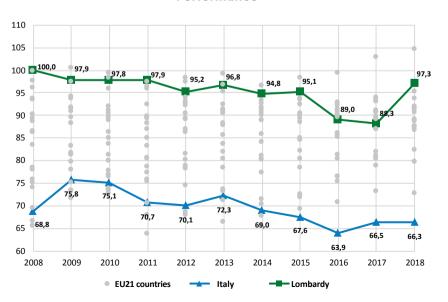
NOTES:

- 1. Percentage of individuals belonging to families at risk of poverty or social exclusion out of the total population. Source: elaborations PoliS-Lombardia on Eurostat data.
- 2. Percentage of individuals belonging to families in conditions of severe material deprivation out of the total population. Source: elaborations PoliS-Lombardia on Eurostat data.
- 3. Percentage of individuals belonging to low-labour intensive families out of the total population. Source: elaborations PoliS-Lombardia on Eurostat data.
- 4. Percentage of individuals belonging to families at risk of poverty out of the total population. Source: elaborations Polis-Lombardia on Eurostat data.

Concise index Last update 2018



Performance





Zero hunger

Indicators in the OECD-EU comparison

The goal challenge is to reach, in the long run, a right balance, so as to safeguard the environmental sustainability of agricultural production ensuring at the same time adequate levels of productivity in order to meet the food demand.

The composite indicator presented consists of 1 indicator:

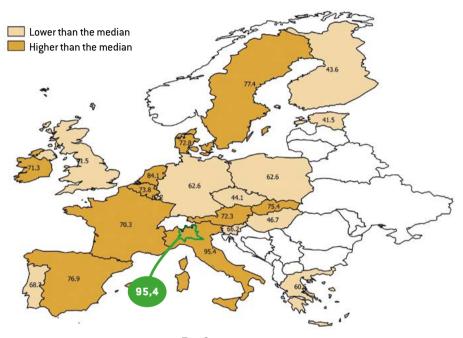
1. Overweight persons aged 18 and over.

For this goal too, Lombardy positioning, compared to the 21 OECD-EU countries, is good. However, even in the presence of a reduced series between 2014 and 2017, a clear worsening of the indicator is observed, this indicator in the last available year reached the average national value.

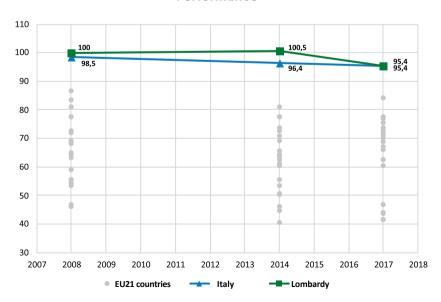
NOTES:

1. Percentage of overweight persons aged over 18 out of a population aged over 18 years. Source: elaborations PoliS-Lombardia on Eurostat and ISTAT data.

Concise index Last update 2017



Performance





Good health and well-being

Indicators in the OECD-EU comparison

The condition of good health, besides being fundamental for a good quality of the life of an individual, contributes to the socio-economic growth of a Country. To ensure a long life in good health, it is necessary to remove the main causes that contribute to mortality and at the same time to favour health care for all citizens.

The composite indicator presented consists of 5 indicators:

- 1. Life expectancy at birth.
- 2. Neonatal mortality rate.
- 3. Mortality rate for chronic diseases.
- 4. Mortality rate for suicide.
- 5. Mortality rate for tuberculosis, HIV and hepatitis.

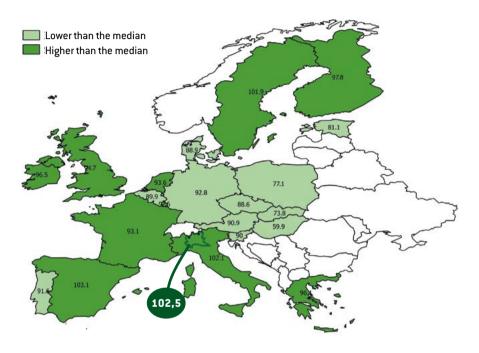
The composite index confirms the supremacy of Lombardy during the monitored period, records a continuous improvement.

NOTES:

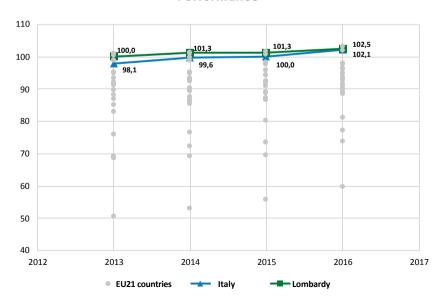
- 1. Life expectancy after birth. Source: elaborations PoliS-Lombardia on Eurostat data.
- 2. Number of deceased children within the first month of life per 1000 born alive. Portugal datum is updated to 2013. Source: elaborations PoliS-Lombardia on Eurostat data.
- 3. Comparison between deaths due to chronic diseases under 65 years and the total population under 65 years (standar-dised rate per 100,000 citizens). The following pathologies are taken into account: malignant neoplasia, brittle diabetes, ischemia, cerebrovascular diseases, chronic respiratory diseases of the lower tract and chronic liver diseases. Source: elaborations PoliS-Lombardia on Eurostat data.
- 4. Standardised rate per 100,000 citizens, triennial average. Suicides and intentional self-harm are included. Source: elaborations PoliS-Lombardia on Eurostat data.
- 5. Standardised rate per 100,000 citizens, triennial average; the datum Slovenia is updated to 2015, the one from Finland to 2014. Source: elaborations PoliS-Lombardia on Eurostat data.

Concise index

Last update 2016



Performance





Quality education

Indicators in the OECD-EU comparison

Education and training promote employment, innovation, productivity and as a consequence growth and competitiveness. The access to high quality education has positive effects on social well-being since it contrasts poverty and inequalities and on healthy and sustainable behaviours and lifestyles.

The composite indicator presented is composed of 3 indicators:

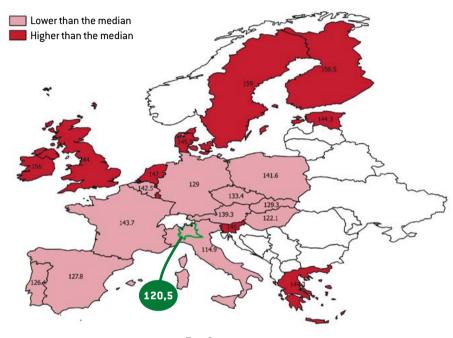
- 1. Youngsters who abandoned education and training early.
- 2. Population with tertiary degree.
- 3. Participation of adults in education and training.

In the course of a decade the composite indicator for Lombardy increases by about twenty points with a considerable improvement that interests to the same extent both the rest of the country and the 21 OECD-EU countries. Therefore, in terms of regional positioning there is not any progress, and Lombardy still remains at the bottom of the European ranking, however ahead of Italy.

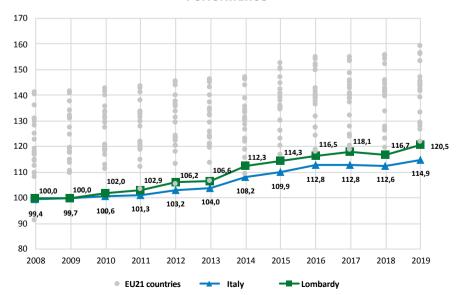
NOTES:

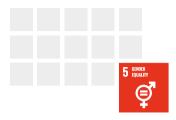
- 1. Percentage on the 18-24 years population. Source: elaborations PoliS-Lombardia on Eurostat data.
- 2. Percentage on the 25-64 years population. Source: elaborations PoliS-Lombardia on Eurostat data.
- 3. Percentage on the 25-64 years population. Participation during the 4 weeks preceding the interview. Source: elaborations PoliS-Lombardia on Eurostat data.

Concise index Last update 2019



Performance





Gender equality

Indicators in the OECD-EU comparison

A sustainable development is also pursued eliminating each kind of gender discrimination and ensuring that women have equal opportunities of access to all political and economic levels of government. In order to achieve this goal, it is necessary to remove obstacles that prevent men and women from participating in the same way to education, especially the tertiary one. It is also necessary to fight against gender violence and ensure adequate protection and support to the victims.

The composite indicator presented is composed of 2 indicators:

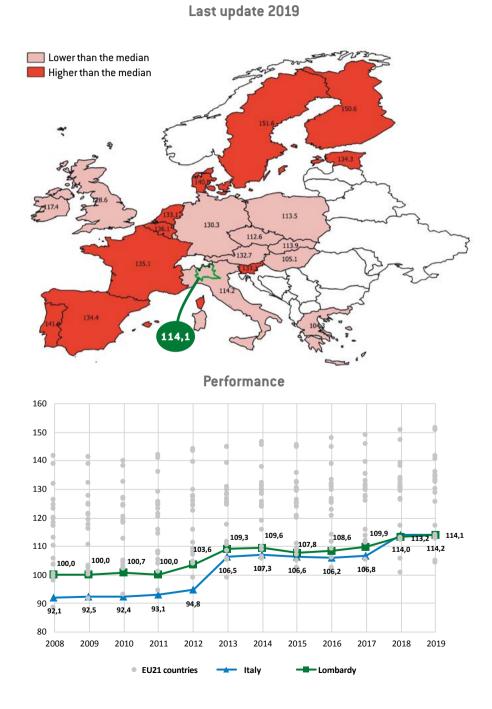
- 1. Women's share of seats in legislative assemblies.
- 2. Ratio of percentage share of female and male working population.

The composite index confirms Lombardy positioning at the bottom of the ranking together with Italy, nevertheless the analysis in time series emphasizes an encouraging improvement since 2008 and this improvement has not yet had repercussions on this ranking. On the other hand, the past year is characterised by a substantial stability of the indicator.

NOTES:

- 1.Percentage of seats in the national Parliaments (both Houses). Since 2019 datum is not yet available for Lombardy, the 2018 datum has been reported. Source: elaborations PoliS-Lombardia on European Institute for Gender Equality and ISTAT data.
- 2. The working population is calculated according to the sex on a population aged 15-64 years. Source: elaborations Polis-Lombardia on Eurostat and ISTAT data.

Concise index





Clean water and sanitation

Indicators in the OECD-EU comparison

If the access to water is a basic need of the individual, the safe and affordable drinking water supply for all is a fully achieved goal in the developed Countries. The availability of clean water in adequate quantities is particularly relevant not only for the individuals but also for the agriculture, the industry and for the environment. Particular attention in EU policy is given not only to the protection of quality but also to the promotion of a sustainable and efficient use of water resources.

The composite indicator presented is composed of 2 indicators:

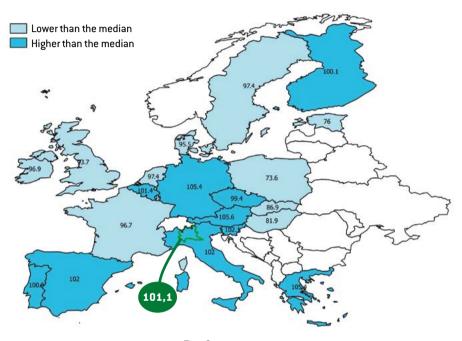
- 1. Bathing water with excellent quality.
- 2. People without bathtub or shower in the house.

Unfortunately, the available time series is limited. Nevertheless, it allows to underline a good regional positioning, slightly improving but always below the corresponding national value.

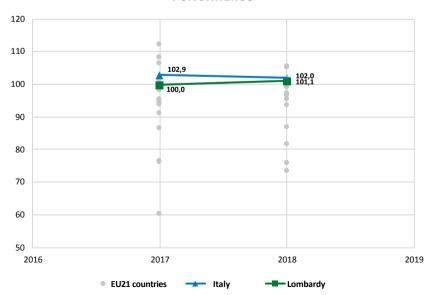
NOTES:

- 1. Percentage share of total bathing water. Bathing waters are «each part of surface waters where according to competent authorities large numbers of bathers can bathe and where there is neither a permanent bathing prohibition nor a permanent advice against bathing». According to Directive 2006/7EC of the European Parliament and of the Council, the bathing waters quality can be classified as «excellent», «good», «sufficient» or «poor» according to found faecal bacteria levels. Source: PoliS-Lombardia elaboration on ISTAT data.
- 2. Percentage share on total population. Source: PoliS-Lombardia elaboration on Eurostat and ISTAT data.

Concise index Last update 2018



Performance





Affordable and clean energy

Indicators in the OECD-EU comparison

Everyday life depends on the availability of reliable and affordable energy systems. Energy networks allow the operation of all economic sectors from agriculture to industry and to services. To help achieve this goal EU directed its action both towards an improvement of the energy efficiency and a simultaneous decrease of consumptions, and an enhancement of the supply encouraging the production of energy from renewable sources.

The composite indicator presented is composed of 2 indicators:

- 1. Consumptions of electricity covered by renewable sources.
- 2. Share of the population unable to heat the dwelling.

Lombardy is at the bottom of the ranking with respect to this indicator, always below the average national value. Starting from 2013 there is an improvement that allows rise in the ranks approaching the Italian threshold. Nevertheless in 2017 a decisive fall is observed compared to the previous year. Anyway, the contraction brings the indicator back at higher levels than those detected at the beginning of the observation period.

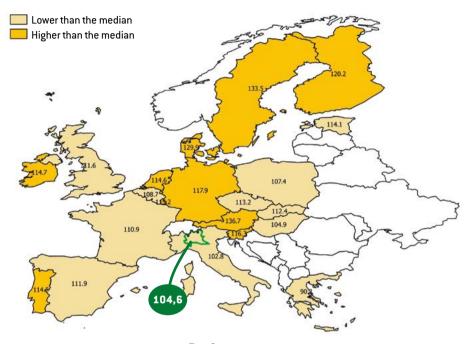
NOTE:

1. Percentage ratio between the gross production of electricity from renewable sources and the gross domestic consumption of electricity. Source: PoliS-Lombardia elaboration on ISTAT data.

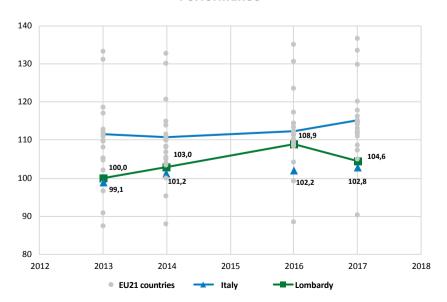
2.Percentage of families — on the total population — that state that (in the year before the interview) they were unable to heat the dwelling properly for economic reasons. Source: PoliS-Lombardia elaboration on Eurostat and ISTAT data.

Concise index

Last update 2017



Performance





Decent work and economic growth

Indicators in the OECD-EU comparison

An inclusive and sustainable growth together with a dignified job security for everybody are essential preconditions to achieve the well-being of the EU citizens. Pursuing sustainable growth means creating job opportunities for everybody and improving the working conditions of employed citizens.

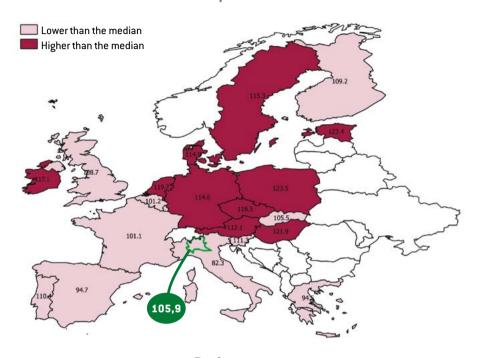
The composite indicator presented is composed of 4 indicators:

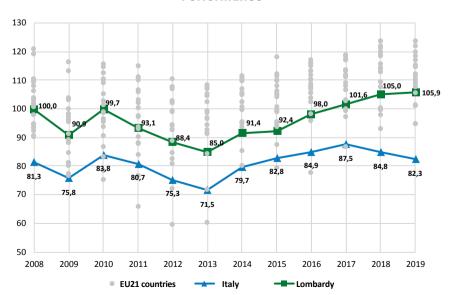
- 1. Annual growth rate of real GDP per inhabitant.
- 2. Employment rate.
- 3. NEET youngsters.
- 4. Long-term unemployment rate.

The composite index shows Lombardy positioning at the bottom of the ranking, but well above Italy. In the last decade, the indicator shows a constant reduction to a minimum in 2013. The year 2013 marks a turning point in the series: in fact, the indicator rises steadily, exceeding the initial value by 5 points. The Italian indicator series, which underwent a sharp slowdown in the last two years, shows the same trend.

- 1.Percentage change on the previous period, GDP at market prices, connected volumes. Since for Lombardy the 2019 datum is not available, the 2017 datum is reported. Source: PoliS-Lombardia elaboration on Eurostat and ISTAT data.
- 2. Number of employed people in the working age population (15-64 years). Source: PoliS-Lombardia elaboration on Eurostat data. 3. Youngsters who are neither employed nor included in an education or training path, or any kind of school/university education or training. Percentage share on young people aged 18-24 years. Source: PoliS-Lombardia elaboration on Eurostat data.
- 4. Unemployed people for 12 months or more on a working population (15-64 years) Source: Eurostat data.

Last update 2019







Industry, innovation and infrastructure

Indicators in the OECD-EU comparison

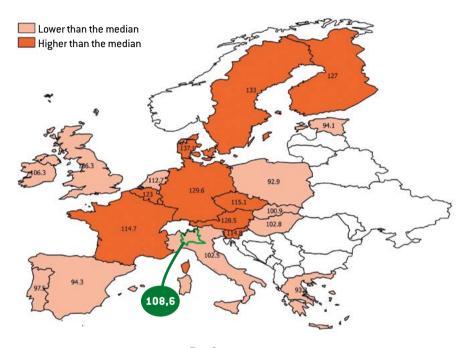
The path to a sustainable development must take into account a resilient infrastructural system, an inclusive and sustainable process of industrialisation. The promotion of R&D and innovation, allows to create new jobs, increase productivity and achieve efficiency in resource management thus contributing to a complete economic growth.

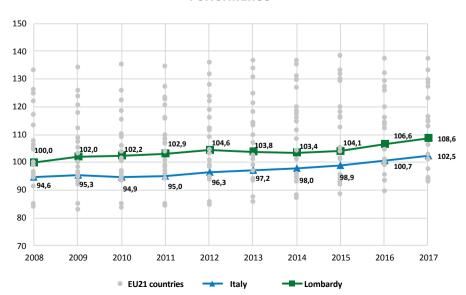
The composite indicator presented is composed of 3 indicators:

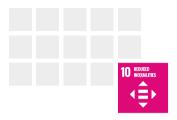
- 1. Research and development spending.
- Employed people high and medium-high technology in industry.
- 3. Research workers.

Lombardy is at the bottom of the European ranking, detaching Italy. In the decade under examination, the indicator grows constantly allowing to close the gap and positioning over 8 points compared to the initial value.

- 1. Percentage share of expenditure in intra-muros R&D on GDP. Source: PoliS-Lombardia elaboration on Eurostat data.
- 2. Percentage share of total employment. Both the 2016 datum used for the composite and the datum updated to 2018, are reported. Source: PoliS-Lombardia elaboration on Eurostat data.
- 3. Number of research workers out of 1000 employed people. France datum is updated to 2015. Source: PoliS-Lombardia elaboration on Eurostat data.







Reduced inequalities

Indicators in the OECD-EU comparison

Economic growth is a necessary but not sufficient condition to guarantee social progress and well-being. The persistence of inequalities in fact, undermines social cohesion and the democratic participation, hindering the path towards well-being of the community. This Goal wants to contribute to reduce inequalities of all kinds both within a Country and among the different community Countries.

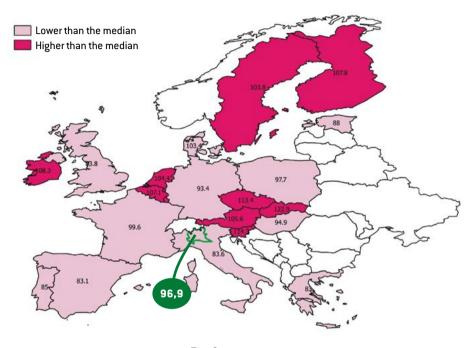
The composite indicator presented is composed of 3 indicators:

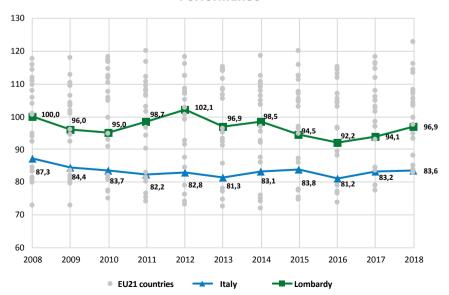
- 1. GDP per capita at market prices..
- 2. Gini index.
- 3. Share of income received by 40% of the poorest families.

The composite index, examined over a decade, shows a fluctuating development of Lombardy: after an initial contraction in the first two years, a recovery is observed until 2012, a year in which it is at a higher than the initial value. In the following years we see a constant decrease except for the last two years in recovery although on lower levels than the initial ones. At the beginning of that period Lombardy placed in the upper part of the ranking but at the end of the period it has lost positions, while remaining above the national value.

- 1. Prices at purchasing power parities. Source: PoliS-Lombardia elaboration on Eurostat data.
- 2. Summary measure of the degree of income distribution inequality. It takes a value between zero (perfect equity) and one hundred (complete inequality). It is here calculated on a family base from equivalent income, imputed rentals excluded. Source: PoliS-Lombardia elaboration on Eurostat and ISTAT data.
- 3. Share of equivalent household disposable income received by families below 40° percentile of the distribution of disposable family income. Source: PoliS-Lombardia elaboration on Eurostat and ISTAT data.

Last update 2018







Sustainable cities and communities

Indicators in the OECD-EU comparison

Taking into account that urban population is constantly increasing and will continue to increase, according to the most recent forecasts at EU level, towns are and will become more and more essential to guarantee a good quality of life and the welfare of European citizens. If on one hand towns are a source of opportunities in terms of education, employment, culture and leisure, on the other due to the high concentration of inhabitants, they contribute negatively to the environment with the production of municipal waste and the diffusion of residential areas. Just because of this twofold value, they shall be considered key elements to achieve sustainable development.

The composite indicator presented is composed of 3 indicators:

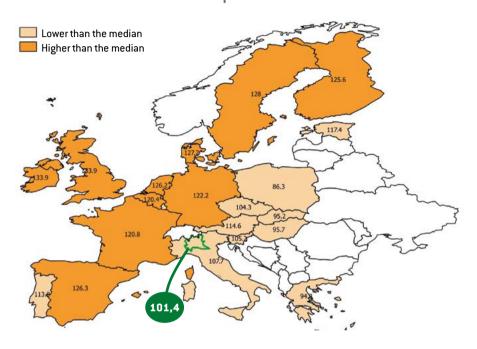
- 1. PM₂₅: micrograms per cubic metre to which the population is on average potentially exposed.
- 2. Average number of rooms per person.
- 3. Deaths in road accidents.

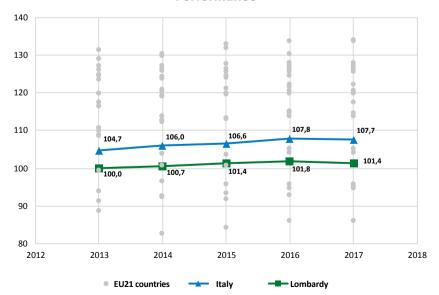
The composite indicator positions the region at the bottom of the ranking, also below the Italian indicator. After an initial slight improvement, in the past few years there is a substantial immobility of the indicator.

NNTF

- 1. Micrograms per cubic metre. Source: PoliS-Lombardia elaboration on OECD data.
- 2. Average ratio of number of rooms of the dwelling to number of members of the resident household. Source: PoliS-Lombardia elaboration on Eurostat data.
- 3. Standardised rate per 100,000 inhabitants. Triennial average. Since the datum for 2017 is not yet available, the datum of 2016 has been used for the calculation of the composite. Source: PoliS-Lombardia elaboration on Eurostat data.
- As far as the Lombardy report 2019 is concerned, it was not possible to update the composite indicator.

Last update 2017







Responsible consumption and production

Indicators in the OECD-EU comparison

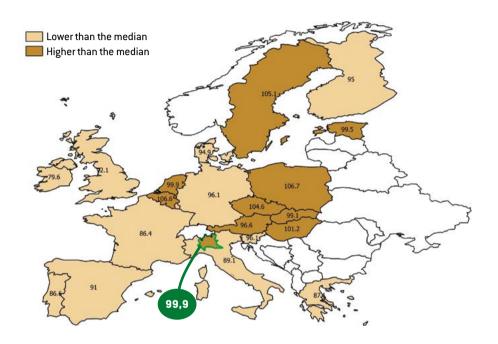
In order to protect the environment and safeguard the needs of future generations, it appears fundamental to follow models of consumption and production that ensure efficient use of natural resources and allow to reduce the impact on the natural capital (air, water, soil, biodiversity) through technology. The pursuit of this Goal will be ensured by favouring the circular economy so as to reduce the extraction of raw materials on one hand and waste production on the other.

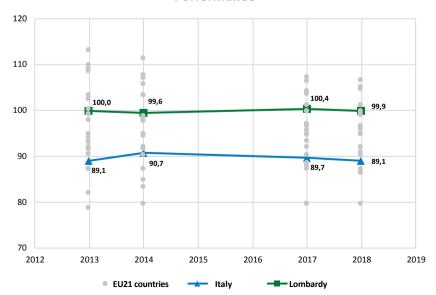
The composite indicator presented is composed of 2 indicators:

- 1. Collected municipal waste.
- 2. Municipal waste disposed of in landfill.

Lombardy shows a good positioning compared to this composite indicator, positioning over about ten points the corresponding national indicator. The trend over time has an almost total stability.

- 1. Kg per capita of collected municipal waste. Finland, Greece, United Kingdom and Ireland data are updated to 2014. Austria data are updated to 2017. Source: PoliS-Lombardia elaboration on ISTAT data.
- 2. Kg per capita of municipal waste disposed of in landfill. Finland, Greece, United Kingdom and Ireland data are updated to 2014. Source: PoliS-Lombardia elaboration on ISTAT data.







Climate action

Indicators in the OECD-EU comparison

The effects of climate change can already be observed in a rise in the temperature of air and sea and ocean waters, levels of rainfalls, sea levels with long-term effects on living conditions in the different Countries in the world. The negative impact of climate change affects economic, environmental, and social systems and can make less friendly some areas of the planet due to food and water shortages. The fight to combat this phenomenon, which affects the planet and exceeds national borders, therefore requires international coordination and cooperation.

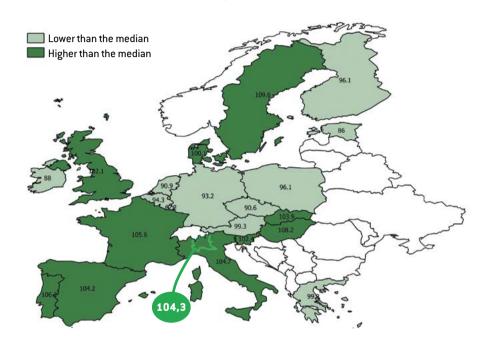
The composite indicator presented is composed of 1 indicator:

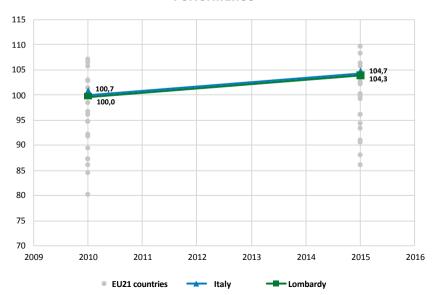
1. Greenhouse gas emission.

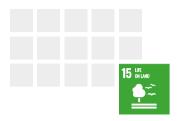
According to such an indicator the regional positioning is encouraging and in a five-year period Lombardy shows an improvement of four points gaining positions in the European ranking. Lombard data of the indicator match up to the Italian ones.

NOTES:

1. Tons of CO₂ equivalent per capita. Source: PoliS-Lombardia elaboration on Eurostat and ISTAT data.







Life on land

Indicators in the OECD-EU comparison

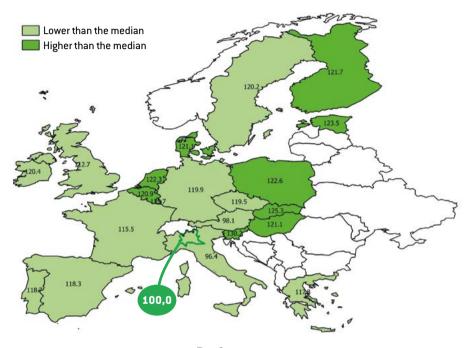
At the European level, this Goal is aimed at protecting the health of the ecosystems and their functioning. Phenomena such as the population growth, the urbanization and the ever-increasing demand for natural resources, contribute to undermining the balance of the ecosystems by damaging biodiversity and impoverishing lands. Efforts must therefore focus on a sustainable management of ecosystems.

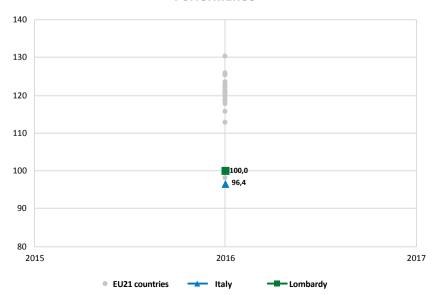
The composite indicator presented is composed of 2 indicators:

- 1. Protected area.
- 2. Soil erosion rate.

The composite indicator is calculated for the only year for which updates are available for both the indicators. Lombardy is at the bottom of the ranking, above the national value.

- 1. Share of protected area belonging to Natura 2000 network (Habitat Directive) on the total of the terrestrial area. This datum did not change from 2015 to 2016. Source: PoliS-Lombardia elaboration on Eurostat and ISTAT data.
- 2. Percentage of areas affected by severe soil erosion (agricultural areas, forests, semi-natural areas excluded: shores, dunes, sandy plains, bare rocks, glaciers and perpetual snow). Source: PoliS-Lombardia elaboration on Eurostat data.







Peace, justice and strong institutions

Indicators in the OECD-EU comparison

The EU is the most successful peace, democracy and solidarity project in the world. Nevertheless, the EU is still committed to fighting crime, violence and corruption that threaten citizens and undermine trust in the European institutions.

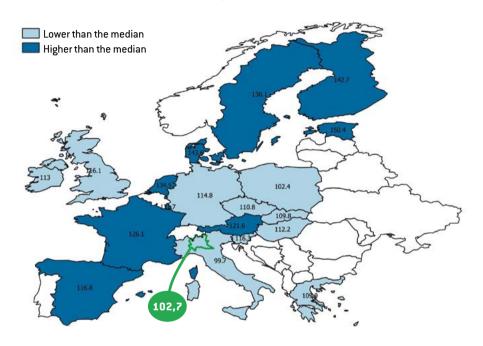
Composite indicator presented is composed of 2 indicators:

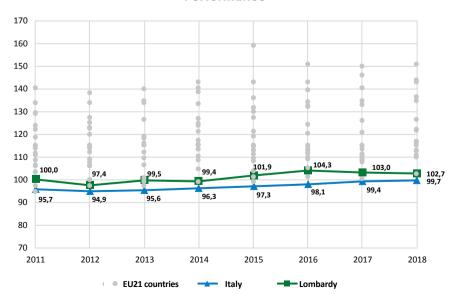
- 1. Rate of voluntary homicides.
- 2. Individuals who use the Internet to interact with public institutions.

Lombardy composite indicator shows a a fluctuating trend, positioning — at the end of the period observed- at a value three points higher than the initial one. Nevertheless, despite a slight improvement, Lombardy positioning is always at the bottom of the ranking ahead of Italy.

- 1. Number of victims of voluntary homicide out of 100,000 inhabitants. Belgium and Portugal data are not available. Czech Republic are updated at 2017. Source: PoliS-Lombardia elaboration on Eurostat and ISTAT data.
- 2. Percentage of individuals that in the last 12 months have used the Internet to interact with the public institutions on the total of individuals. Both the 2017 datum used for the composite and the datum updated at 2018 are reported. Source: PoliS-Lombardia elaboration on Eurostat data.

Last update 2018







Partnership for the goals

Indicators in the OECD-EU comparison

Strengthening global partnership is one of the *drivers* considered at the international level for achieving a sustainable development. The EU, in particular, is focused on supporting the developing Countries with dedicated policies and a trade exchange. Even the actions aimed at reducing the *digital divide* contribute to the achievement of this goal as it constitutes an obstacle to the exchange of knowledge and cooperation.

The composite indicator presented is composed of 2 indicators:

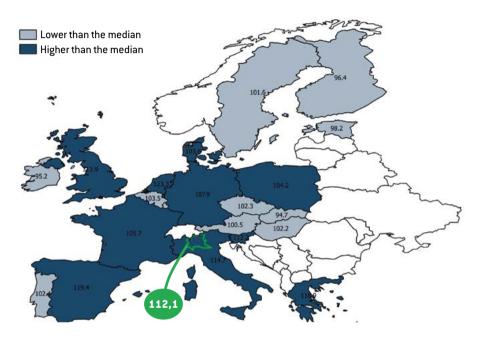
- 1. Families with access to the Internet.
- 2. Imports from the developing countries.

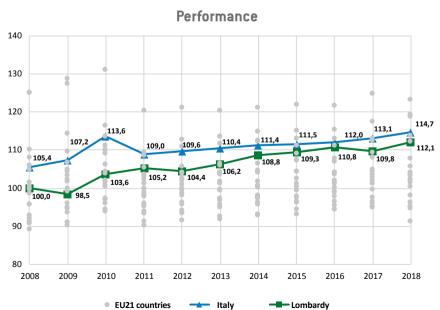
Within a decade the composite indicator of Lombardy shows a considerable improvement as with the equivalent national figure. Thanks to the positive trend Lombardy has regained positions in the European ranking remaining constantly below Italy.

NOTES:

- 1. Percentage share of families with access to the Internet out of the total of families. Source: PoliS-Lombardia elaboration on Eurostat data.
- 2. Share per 100,000 of imports from the developing Countries per income group of Countries as defined by the World Bank (OECD/DAC list of Aid Recipients). Lombardy datum is updated at 2017. Source: PoliS-Lombardia elaboration on Eurostat and ISTAT data.

It was not possible to make updates of the composite indicator on Lombardy report 2019.







The report of the sustainability policies in Lombardy, since 2017 subject of this Report stated in 16 Goals, this year is inevitably conditioned by the health emergency. You are therefore led to consider mainly the aspects caused by the consequences of the pandemic, almost diminishing the objective data and the regional planning framework that portrayed the reality before February.

It is fundamentally important to study and add value to the pre-existing elements, proposed by the accurate and extensive statistical analysis, that can direct us to evaluate — both in normal and in emergency conditions — the strong and critical points of our region even considering the national framework.

Why the additional "Studio per la ripartenza dei territori lombardi" (study for the restart) clearly indicates the ways inspired by resilience and relaunch policies, the Rapporto 2020 updates, contents by contents, percentage by percentage, the analysis of the sustainability and unsustainability elements.

A path that stresses both disadvantages and backwardness signals and a picture of the quality, the programs, the investments and the innovations which characterises our region.



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