



2018 Lombardy Report | EXCERPTS

SUMMARY OF LOMBARDY'S PERFORMANCE



Presentation of the 2018 lombardy report

The 2018 Lombardy Report marks a key point between the first report in 2017 and its development going forward, from 2019. The first report marked a new way of looking at Lombardy, through the lens of the UN's Sustainable Development Goals for 2030. The focus was very much on comparing the region with OECD countries using a slightly restrictive series of indicators. In 2019, the Report will form the basis for regional planning, taking into account the sub-regional level and using data that is not always comparable across OECD nations. In 2018, the aim has been to keep sight of this trend, giving due importance to the so-called "Regional Directions" that guide policy content, while providing the updated figures from the previous report - although such figures do not seem to have shifted substantially. The year ahead will require us to introduce a resolution for the sub-regional level and to seek to link every administrative order or legislative provision to the Sustainable Development Goals that could foreseeably benefit from this. This will facilitate policy evaluations and make them more direct.

Although 2018 is a transitional year, it has lost none of the original impetus behind the project, for which we must say a sincere thanks to

Prof. Enrico Giovannini, a member of the PoliS-Lombardia Technical and Scientific Committee and ASViS spokesperson, as he has always provided us with scientific support. The Lombardy Report is not merely addressed to regional bodies, but to all private and public entities that play a part in the development of Lombardy, whether this be through projects, partnerships or peripheral decisions. In other words, it is also aimed at universities, research centres, municipal administrations, trade associations, chambers of commerce... and every regional citizen who wants to look at the region and its development through a new paradigm.

Our Scientific Director, Armando De Crinito, and all the researchers, students and assistants at PoliS-Lombardia deserve a special thanks, particularly because they managed - during a year of intense structural and functional change - to produce a high-quality piece of work.

Prof. Leonida MIGLIO
Chair PoliS-Lombardia



Introduction

This document contains the key details from the 2018 Lombardy Report. For each UN 2030 Goal, there is a short summary of the chapter and an indication of how Lombardy stands in relation to the 21 EU countries in the OECD. The figures come from Eurostat data from October 2018 and from Lombardy's performance over time, as determined using a series of specifically created indicators, indices and ratios.

The 2018 Lombardy Report is based on the content and graphic layout of the UN's 2030 Agenda, such that this edition has further information and new statistics. Adopting such an approach provides public decision makers and stakeholders with a comprehensive, informed view of how Lombardy is set in relation to the United Nations' Sustainable Development Goals.

The Lombardy Report is specifically designed to increasingly provide the benchmark for sustainability issues, offering policy insight that

local entities and parties should or could adopt in the coming years because of the international commitments made by Italy.

In 2019, the regional government will have to produce its regional sustainable development strategy, which effectively takes the UN's 2030 Goals and translates them to a regional level, especially as these have already been adopted nationally through the country's Sustainable Development Strategy.

Lombardy's position as the leading Italian region means it has to guide this process, creating a pathway that other regional governments can follow and local entities can use, particularly since the concrete implementation of the UN 2030 Agenda will depend on such things.

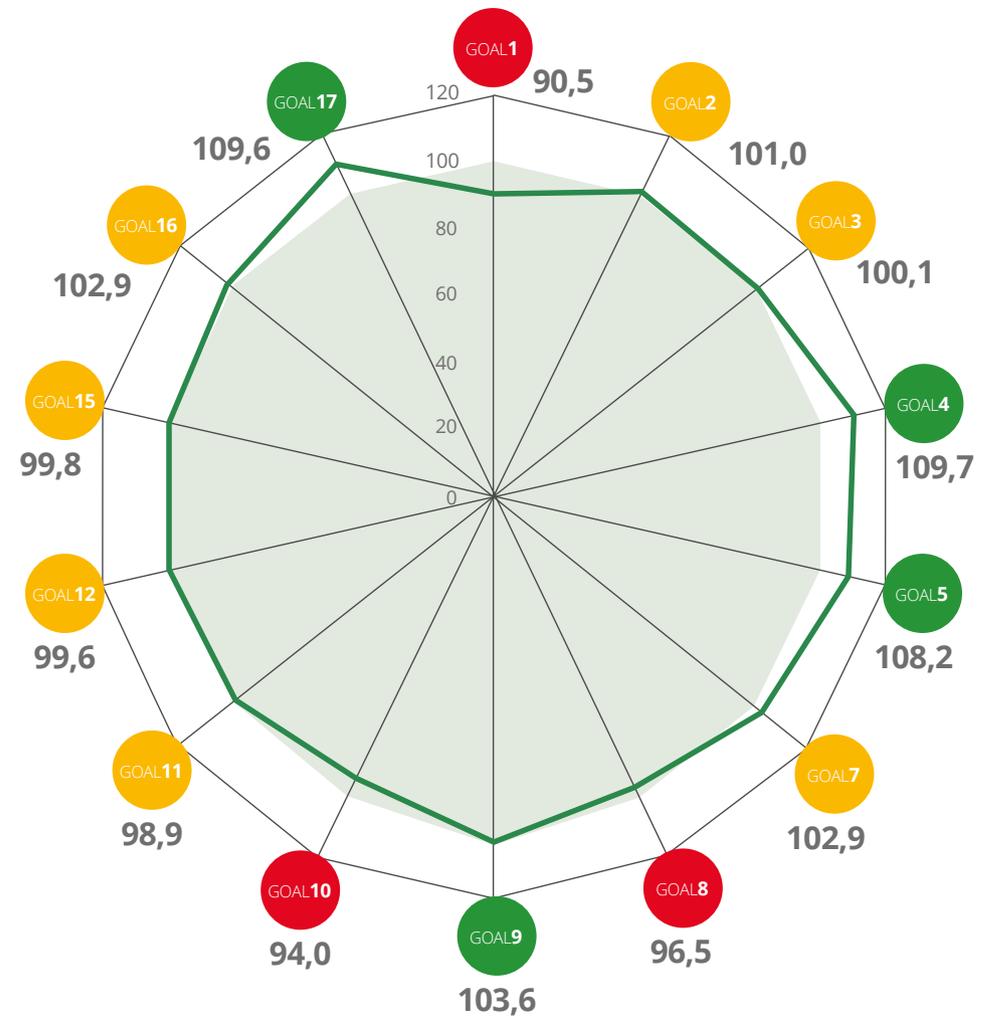
Armando De Crinito

For each index, the final year of observation and the first year used as the basis are:

	1	2	3	4	5	7	8	9	10	11	12	15	16	17
LATEST	2016	2013	2015	2017	2017	2014	2017	2015	2016	2015	2014	2015	2016	2017
BASIS	2008	2010	2013	2008	2008	2013	2008	2008	2008	2013	2013	2009	2011	2008

For Goals 6 and 14, as noted, the composite index was not calculated, while for goal 13, since only one year of data was available (2010), the composite figure for Lombardy (equal to 100) was not included on the radar as it solely shows Lombardy's position and does not provide information about its performance.

LOMBARDY'S POSITION AND PERFORMANCE: AN INITIAL COMPARISON WITH THE 21 EU-OECD MEMBERS



The radar chart provides a synthetic interpretation of Lombardy's performance compared to the first year observed

● BASE YEAR ● LAST YEAR

1

**NO
POVERTY**





End poverty in all its forms everywhere

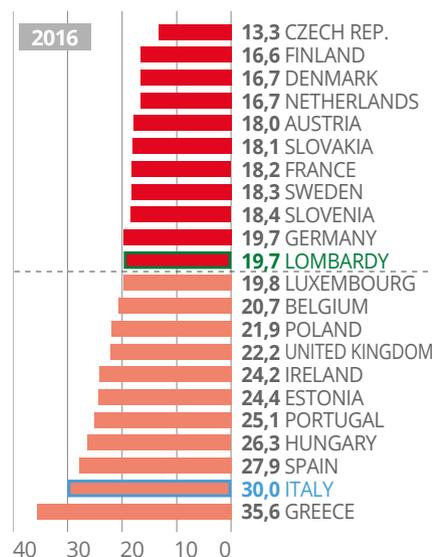
Over **180 thousand Lombard households live in absolute poverty**. These are households where the spending on consumption is lower than the required for maintaining the minimal acceptable level of life. Although **Lombardy's absolute poverty rate** increased between 2014 and 2016 from **3.0% to 4.2%**, this figure is one of the lowest in Italy. The risk of poverty doubles for families with children, and even exceeds **20%** for households with foreign citizenship.

People living in households suffering at least one of the three conditions (risk of relative poverty, serious material deprivation and low work intensity) are considered at risk of poverty or social exclusion. For Lombardy, nearly one in five people (**19.7% of residents**) falls into this category. Despite this figure being relatively limited compared to the Italian figure (**30.0%**), this index has grown over the last decade and especially since 2010, (it was **14.7% in 2008**). The trend in Lombardy is in line with the average for Italy.

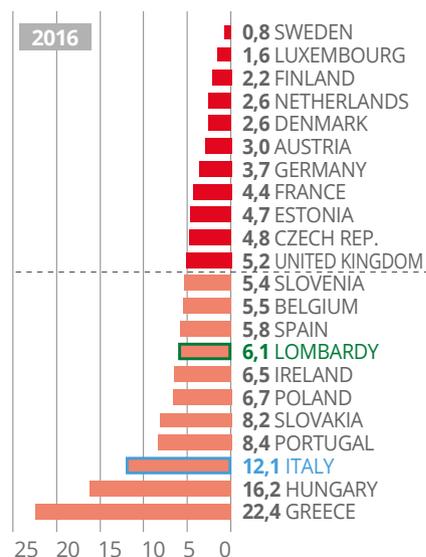


INDICES, INDICATORS AND RATIOS

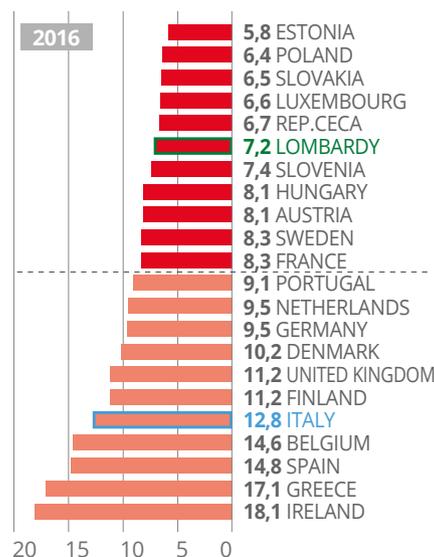
1. PEOPLE AT RISK OF POVERTY OR SOCIAL EXCLUSION



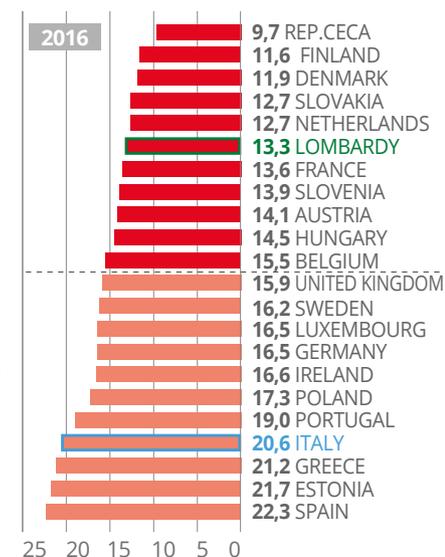
2. SEVERE MATERIAL DEPRIVATION RATE



3. PEOPLE IN HOUSEHOLDS WITH VERY LOW WORK INTENSITY



4. AT-RISK-OF-POVERTY RATE



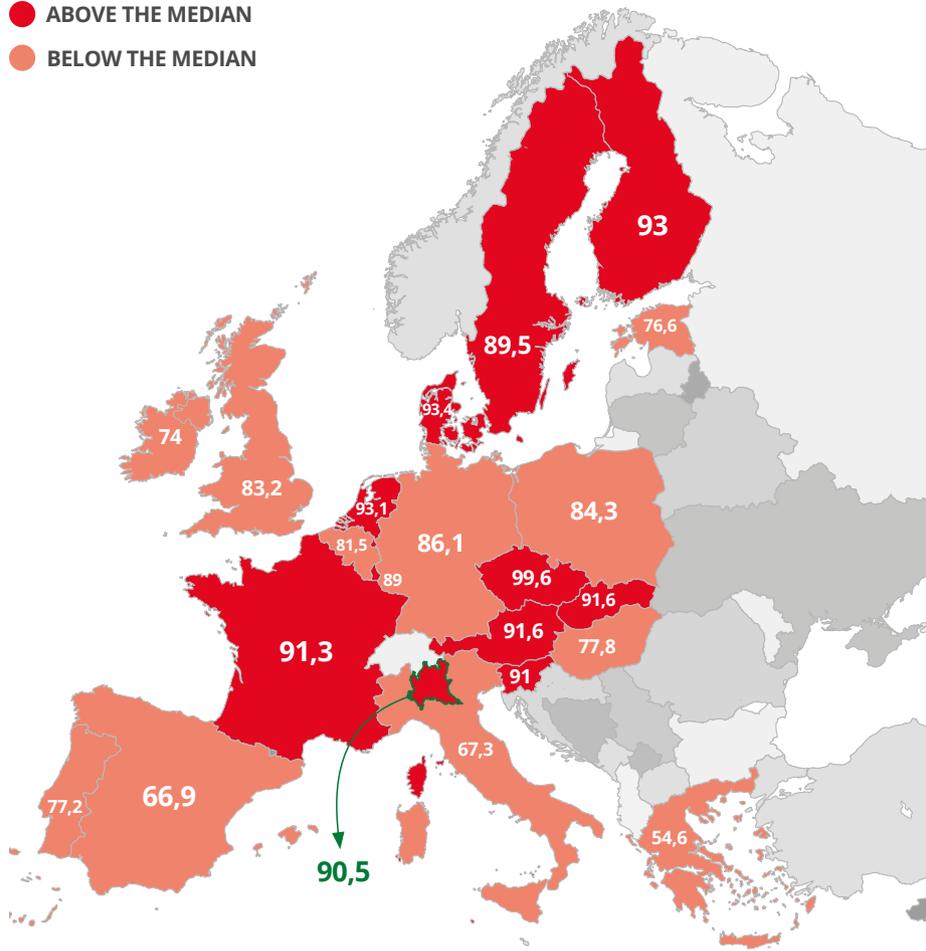
1. Percentage of people in households at risk of poverty or social exclusion out of the total population. 2. Percentage of people in households suffering from severe material deprivation out of the total population. 3. Percentage of people in households with very low work intensity out of the total population. 4. Percentage of people in households at risk of poverty out of the total population.

Poverty prevents people from achieving their full potential during their lives. About a quarter of people in the EU are at risk of poverty or social exclusion. **Lombardy is just below the average (19.7%), clearly ahead of the Italian situation as a whole, which is second last (30%).** Lombardy's position is worse for

the severe material deprivation rate **(6.1%)**, well above the EU 21 average (5.3) but still half of the figure for Italy as a whole **(12.1)**. Lombardy is in sixth place for the other two indices examined - percentage of people in households with very low work intensity and at-risk-of-poverty rates - with **7.2%** and **13.3%** respectively, above

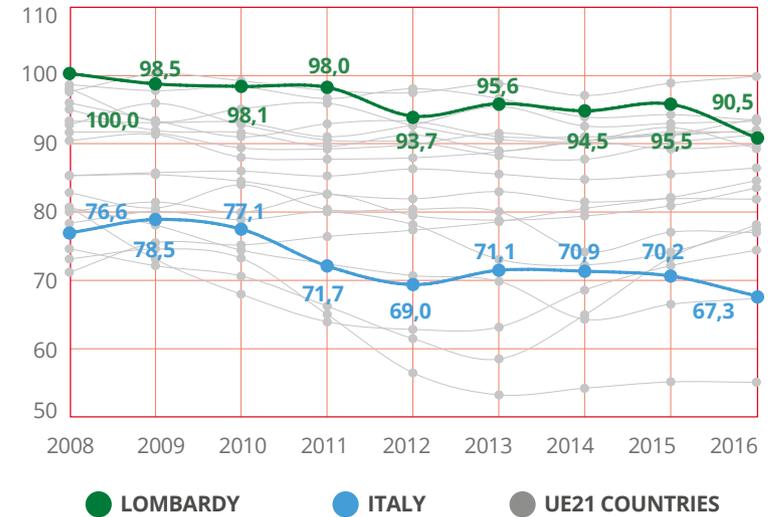
COMPOSITE INDEX

- ABOVE THE MEDIAN
- BELOW THE MEDIAN



Last updated - 2016

PERFORMANCE



the average EU and Italian values (**12.8%** and **20.6%**). The composite index shows Lombardy was well placed in 2016 and, although the trend since 2008 has been generally negative for this goal, the region has maintained its position compared to the other 21 EU nations.

2 ZERO
HUNGER





End hunger, achieve food security and improved nutrition and promote sustainable agriculture

Lombardy's agriculture is more productive than Italy as a whole, both when examined in terms of labour and in terms of soil productivity. However, its competitive advantage seems to be slipping as the increase in intermediate consumption prices has not been matched by equivalent increases in final product prices, especially for crop production.

The sustainability of Lombard agriculture is tied to the increased livestock density in 2016 (3.79 livestock units per

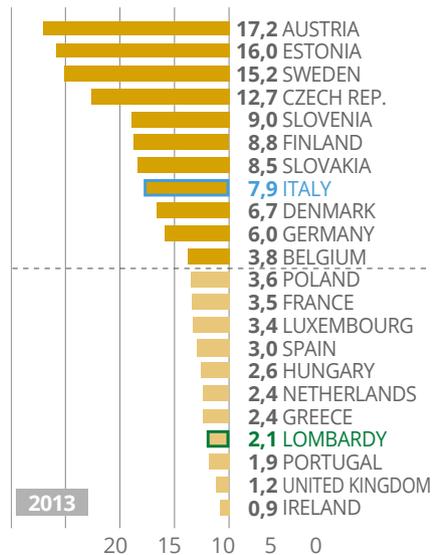
hectare), compared to the national average (1.49). Estimated emissions from Lombard agriculture account for nearly a quarter of Italian emissions. The long-term forecast is for a drop on this front, albeit at a rate slower than the country as a whole. Efforts to reduce electricity consumption in agriculture are continuing.

Organic farming is increasing. In Lombardy, the number of organic operators grew by **55% between 2011 and 2016** along with the rise in the organic crop area (**+62.4%**).

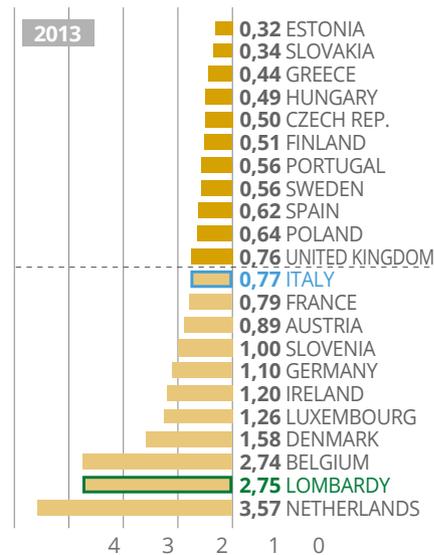


INDICES, INDICATORS AND RATIOS

1. ORGANIC FARMING: AREA (UAA)



2. KEY FARM VARIABLES: LIVESTOCK (LSU)

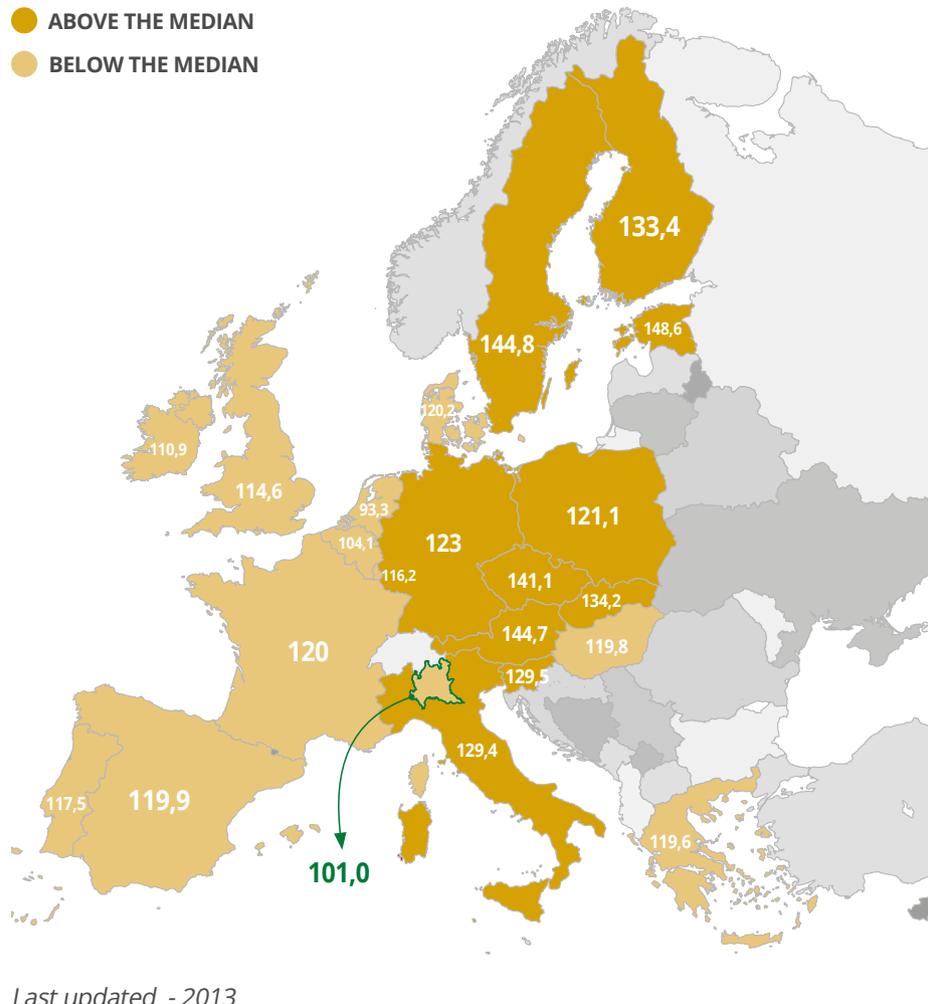


1. Ratio of organic agricultural land (certified and being converted) and total agricultural land (TAL), as a percentage 2. Number of livestock units per hectare.

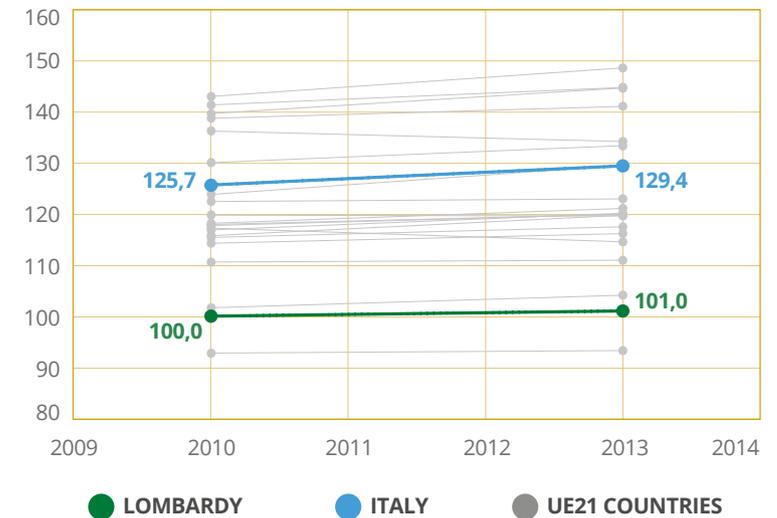
The goal - both short and long term - for agriculture is to maintain production levels able to **guarantee the necessary dietary balance for a healthy diet**. To achieve this, the right balance has to be sought between protecting **biodiversity** and **natural resources**, and attaining suitable production levels. Lombardy appears not to have achieved such a balance yet. For example, organic produc-

tion in Lombardy remains limited (**2.1% of farming land**), placing it well below the European and Italian averages (**7.9%**). The **live-stock density** index shows how Lombard production is heavily weighted towards production methods that ensure excellent productivity, but to the detriment of environmental sustainability. On this index, Lombardy comes in second last (**2.75 livestock units**

COMPOSITE INDEX



PERFORMANCE



per hectare used), behind only the Netherlands, where livestock farming is also a huge industry. The composite index provides a clear snapshot of this and, despite the data only covering 3 years, it seems evident there has been no real progress on this front.

3

**GOOD HEALTH
AND WELL-BEING**





Ensure healthy lives and promote well-being for all at all ages

People in Lombardy live longer. Life expectancy at birth is **81.2 years for men and 85.5 for women**, up on the 2016 data, just as life expectancy in good health is among the highest for OECD countries. In parallel, the population is growing older. Between 2012 and 2016, the number of Lombard children aged under five dropped by **31,000**.

Life is more active in Lombardy. The number of overweight adults (over 18) dropped from 2016, and this figure is below the national level. The number of smokers is in line with the rest of the country, but alcohol consumption is above the national average, albeit down on 2016. Road accidents have dropped slightly since 2016, with a mor-

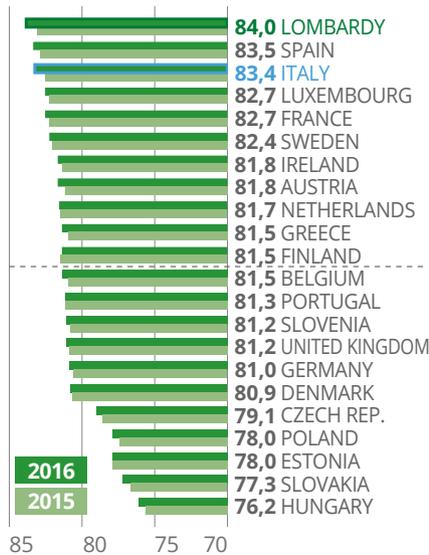
tality rate that remains below the national average. **70.9% of Lombards claim to be in good health**, but the number of relations is dropping as the number of single-person households (families) grew in Lombardy.

In 2017, the number of people suffering from chronic illness matched the national average, but with a lower rate of multiple chronic pathologies. The rate of citizens in Lombardy suffering from a chronic illness compared to the general population dropped slightly in the past year. Demand for health care services has grown and the issue of youth mental health is becoming more problematic, with increased abuse, addiction or psychosis caused by drugs (psychoactive substances).

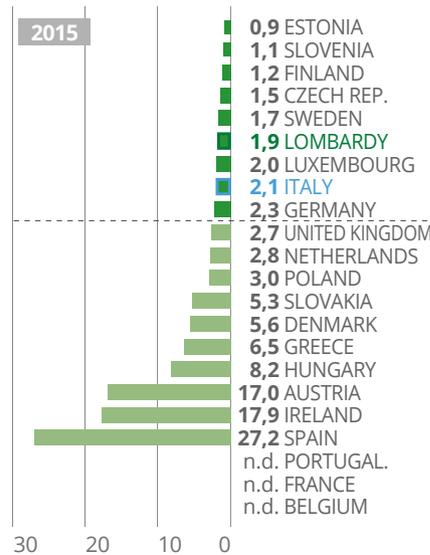


INDICES, INDICATORS AND RATIOS

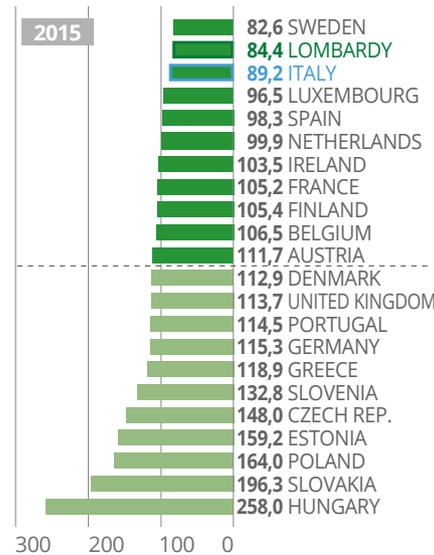
1. LIFE EXPECTANCY



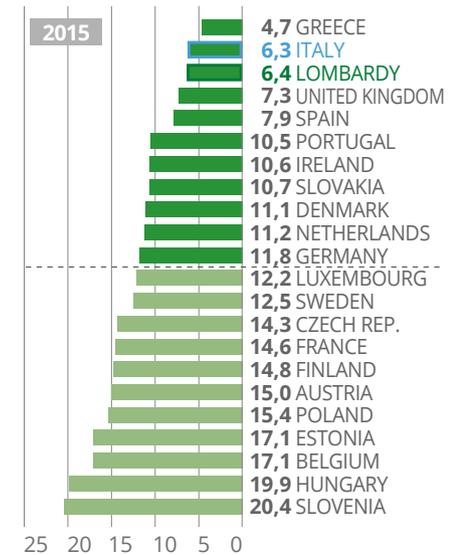
2. NEONATAL MORTALITY RATE



3. STANDARDIZED DEATH RATE - CHRONIC ILLNESSES



4. STANDARDIZED DEATH RATE - INTENTIONAL SELF HARM



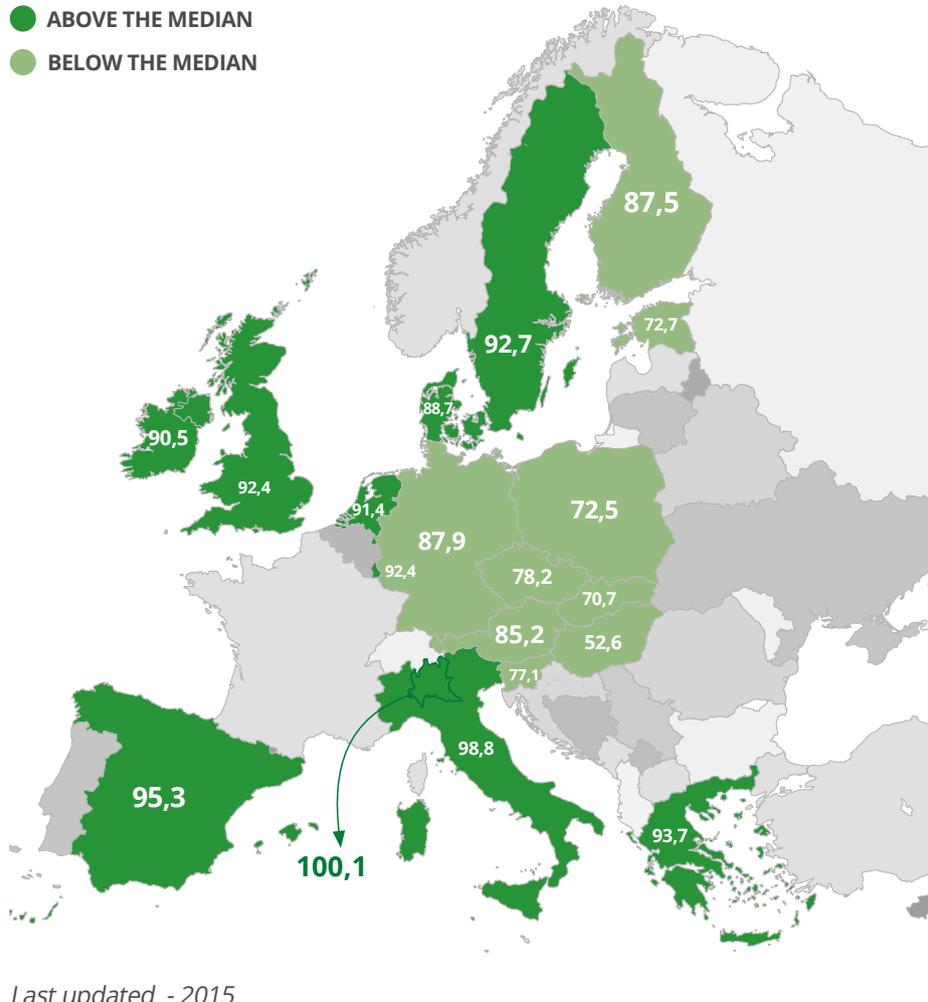
1. Number of years one can expect to live at birth. The 2015 figure used for the composite index and the figure updated to 2016 are provided. 2. Number of babies who died within the first month, for every 1,000 live births. 3. Ratio between the number of deaths from chronic illnesses for people aged under 65 and the total population aged under 65 (standardized rate for 100,000 inhabitants). These are the diseases: malignant neoplasm, diabetes mellitus, ischaemia, cerebrovascular diseases, chronic lower respiratory diseases and chronic liver diseases. 4. Standardised rate per 100,000 inhabitants, three-year averages. Intentional self-harm is included.

Good health helps improve life quality and well-being. The indices used to monitor health include monitoring **life expectancy at birth and various death rates**, such as the neonatal mortality rate, the standardized death rate for chronic illnesses among the non-elderly population and the suicide rate. Lombardy tops the 21 EU nations with

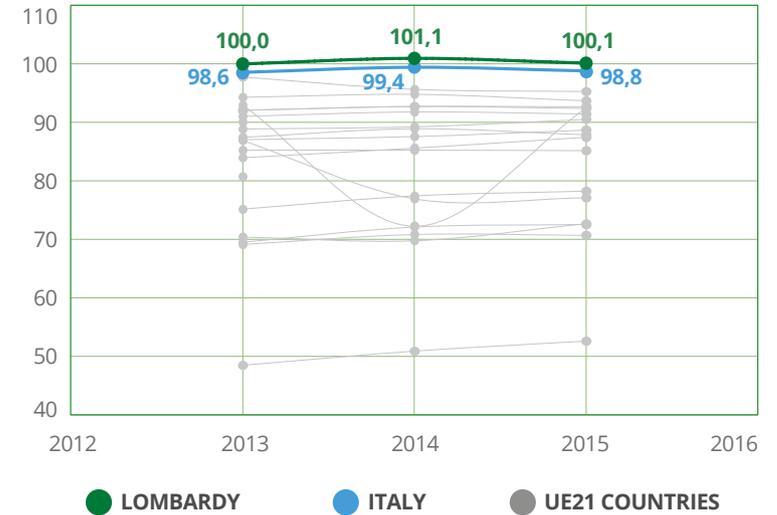
life expectancy at birth at **84 years**. Lombardy's neonatal **mortality rate** places it in sixth place, with **1.9 neonatal deaths** for every **1,000 live births**, which compares to **2.1 for Italy** as a whole and **2.2 for the EU 21 average**. In Lombardy, the number of deaths from chronic illnesses among the non-elderly population stands at **84.4 deaths** per

COMPOSITE INDEX

- ABOVE THE MEDIAN
- BELOW THE MEDIAN



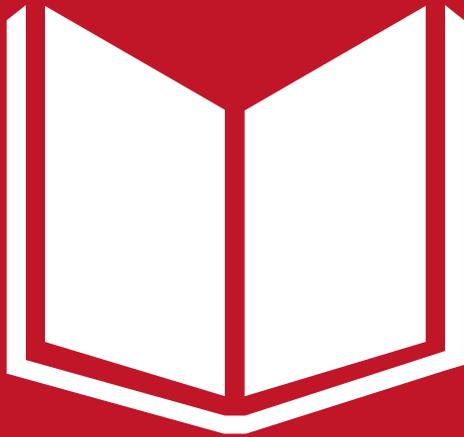
PERFORMANCE



100,000 inhabitants, placing it only behind Sweden (**82.6**), and ahead of Italy as a whole (**89.2**). The index for intentional self-harm death rates places Lombardy in third spot, with **6.4 suicides per 100,000 inhabitants**, behind Greece (**4.7**) and Italy (**6.3**). The composite index confirms how well Lombardy is doing on this front, placing it in top spot, just ahead of Italy as a whole. The three years of data suggest not much has changed on the index and no movement in the placement of Lombardy in 2013-2015.

4

**QUALITY
EDUCATION**





Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all

The education of the active Lombard population is above the national average. The number of 25-64 year olds that have completed no more than middle school is **three percentage points below the national average**. Over the last decade, the increase in skills has been measurable. The percentage of citizens between the ages of 25 and 64 with a degree or post-graduate qualification grew by 37.8% nationally and 44.5% regionally.

This increase in qualifications goes hand-in-hand with a drop in early withdrawal from school. For example, **the rate of leaving school** early has gone down over time (**12% in 2017**) and Lombardy is increasingly on track to reach the Lisbon target of

cutting this rate to **below 10%**.

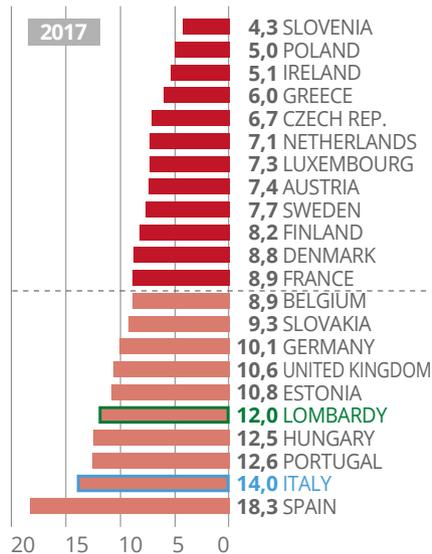
Nonetheless, a third of Lombardy's youth never enter tertiary education. One of the alternatives to this issue of people not going to university is the option of "qualification" courses offered by higher educational technical institutes (ITS). In such institutes, the number of active courses and pupils have grown progressively since the 2011/12 academic year.

Finally, the results of a three-yearly OECD-PISA survey to determine the **essential know-how and skills** for full participation in society for 15 year olds paint a positive picture for Lombard students, who scored above the OECD average and the national average in the literature, maths and science tests.



INDICES, INDICATORS AND RATIOS

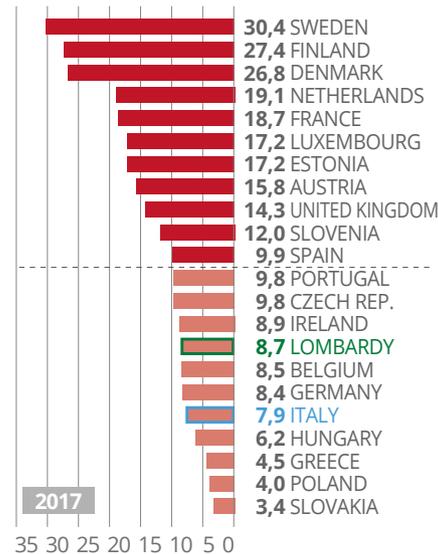
1. EARLY LEAVERS FROM EDUCATION AND TRAINING



2. POPULATION AGED 25-64 BY EDUCATION ATTAINMENT LEVEL: TERTIARY QUALIFICATION



3. PARTICIPATION RATE IN EDUCATION AND TRAINING

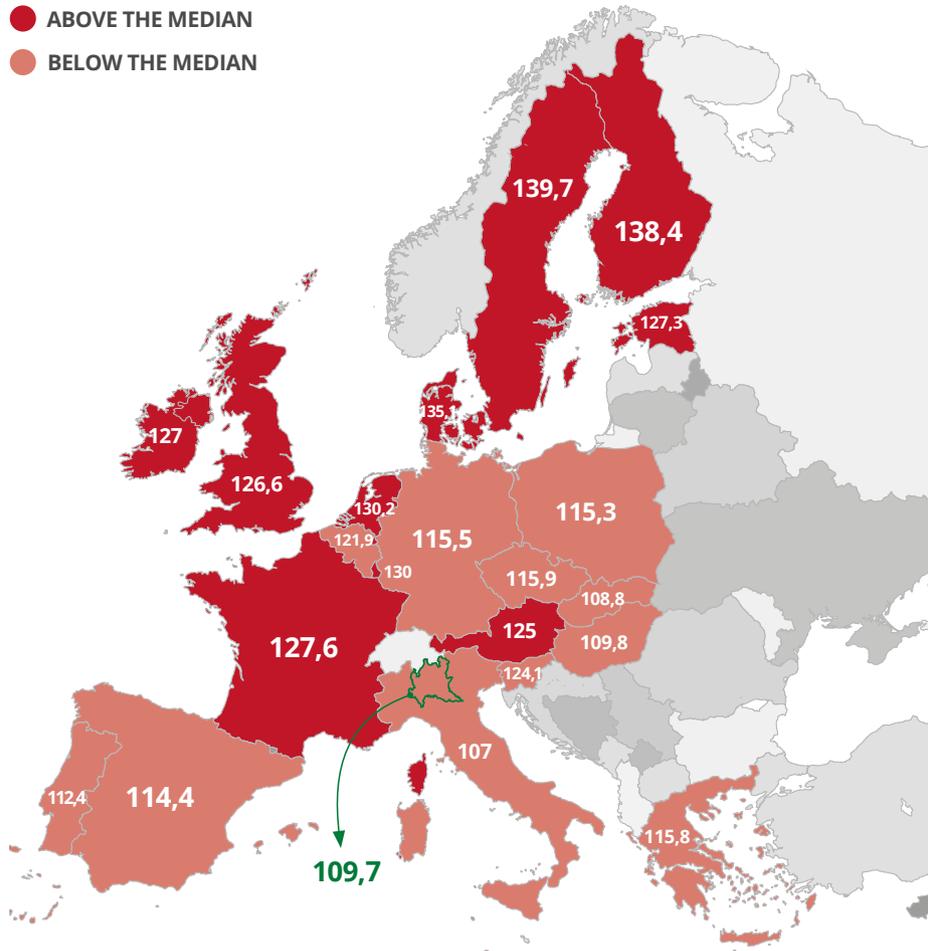


1. Percentage of population aged 18-24. 2. Percentage of population aged 25-64. 3. Percentage of population aged 25-64. Participation in the 4 weeks prior to the interview.

Access to **high quality education and training** gives people the chance to acquire useful work skills and thus boost competitiveness and productiveness. In Lombardy, the rate for **leaving school earlier** remains markedly below the median for the EU

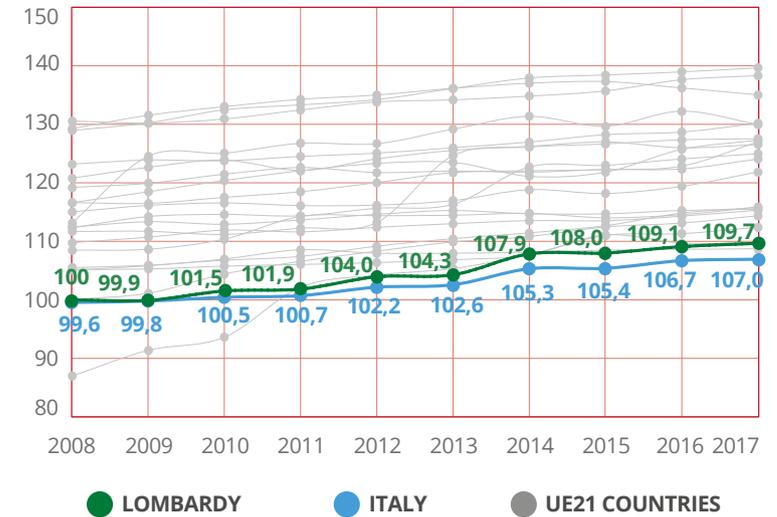
21 nations, and also below the Italian level. Lombardy and Italy are bringing up the rear when it comes to **tertiary education**. For **adult participation in education and training**, they are also below the median, but the situation has clearly improved.

COMPOSITE INDEX



Last updated - 2017

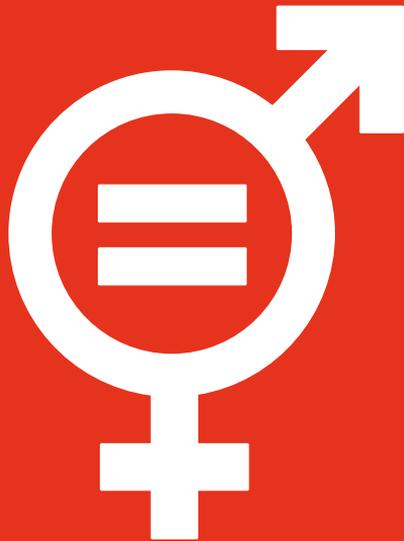
PERFORMANCE



Importantly, the composite index shows improvement for both Italy and Lombardy, and for all the EU nations assessed. Despite this improvement, it did not result in a change in the regional position in the index.

5

**GENDER
EQUALITY**





Achieve gender equality and empower all women and girls

Looking at **female involvement in regional politics**, the figures show that, in 2018, **23.2%** of people in the regional administration were female, a percentage that is above the national average (**20.8%**), but clearly below Emilia-Romagna (**34.4%**) and Tuscany (**32.7%**). On a more local level, for the **municipal administrations**, the figures were above **30%** in 2017.

A persistent problem for women is finding an effective balance between work and family-life because of their lack of free time. In Lombardy, for 2013, women only had **17.5%** total free time in a 24 hour

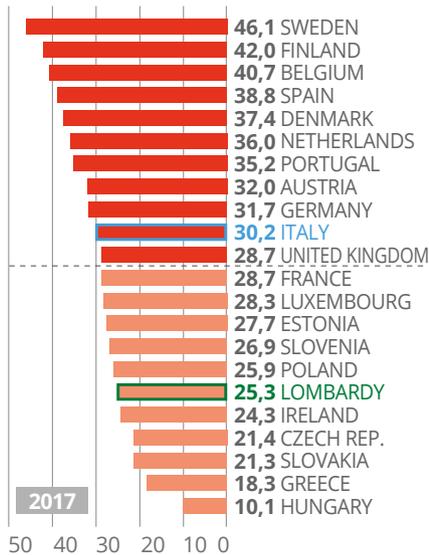
period, compared to **20.6%** for men. The ratio between the female employment rate (**ages 25-49**) for women with at least one pre-school aged child and women with no children moved in a positive direction, compared to the national average; in 2016, the estimated figure was **78.7%**.

Examining **gender violence** and particularly the most serious form - intentional gender homicide - the data for Lombardy is not wildly different to the national picture, with the percentage of woman killed in a family or a relationship probably even higher (**90.9% in 2016**).

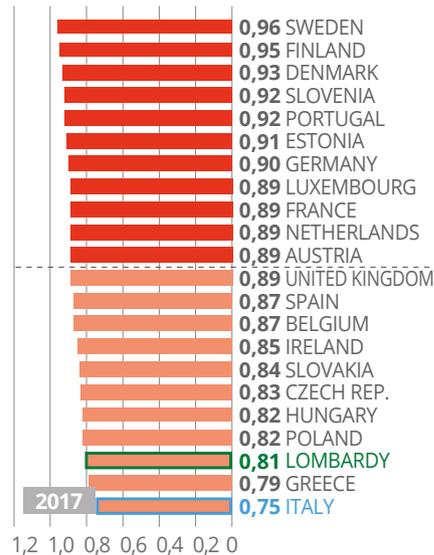


INDICES, INDICATORS AND RATIOS

1. NATIONAL PARLIAMENTS: PRESIDENTS AND MEMBERS-WOMEN



2. ACTIVITY RATE: WOMEN TO MEN

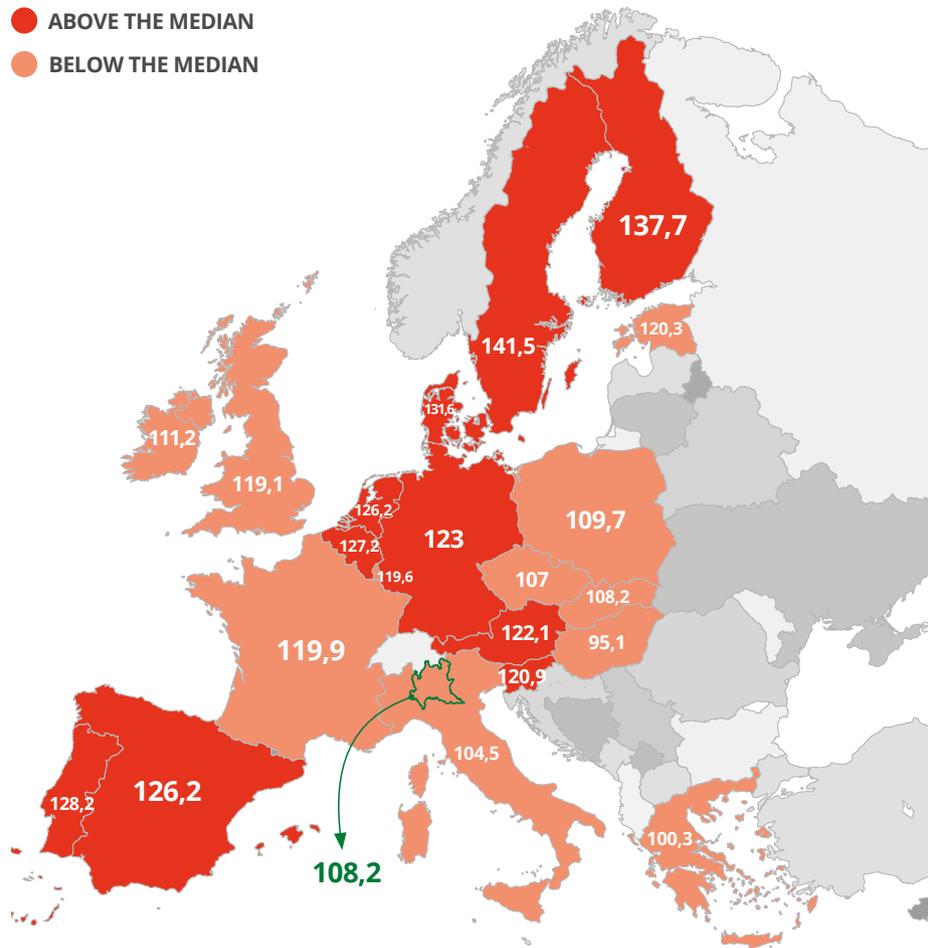


1. Percentage of seats in national parliaments (both chambers). 2. Activity ratio: women to men is calculated using the population aged 15 to 64.

To end **gender inequality**, it is essential for women to be guaranteed **equal opportunities at all levels of government, policy making and the economy**. Turning to involvement in politics - seen as the percentage of seats held by **women in national legislative assemblies** - Lombardy is hardly a beacon of hope, with

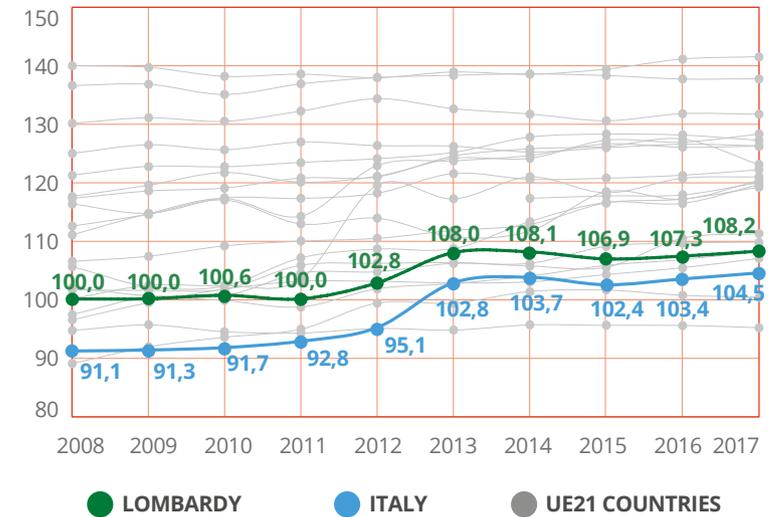
its percentage of **25.3%** well below the average at **28.7%** and the Italian percentage of **30.2%**. The pathway to gender equality also remains long in the working world. The ratio of the active female population to the active male population sees Lombardy score **0.81**, placing it third from last, ahead of only Greece (**0.79**) and Italy (**0.75**).

COMPOSITE INDEX



Last updated - 2017

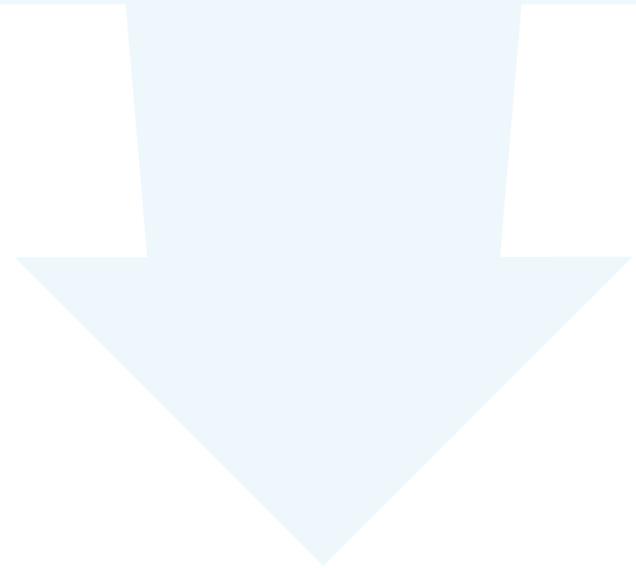
PERFORMANCE



The composite index shows Lombardy in the last few places, as was foreseeable. However, looking at the annual figures in chronological order from 2013 shows a definite improvement in Lombardy, despite the region being unable to climb up from the lower rungs of the classification.

6

**CLEAN WATER
AND SANITATION**





Ensure availability and sustainable management of water and sanitation for all

Lombardy's incredible water infrastructure (**about 45,000 km of aqueducts, 30,000 km of sewers and 1,569 purification plants**) provides clear evidence of the monitoring and control required to ensure effective, high-quality water provision.

The provision levels for drinking water are among the highest in Italy (272 l/day/inhabitant, compared to a national average of **220**), with the problems in provision at **3.3%** compared to a national figure of 10.1%. The percentage of the water for human consumption that is not conform with the standards is **1.2%**, based on the tests conducted by the entities that manage the water. This percentage is slightly above the national average. The quality of the water is also guaranteed in **44.5%** of cases by treatment to ensure drinking-quality water (compared to the Italian average of **30.6%**).

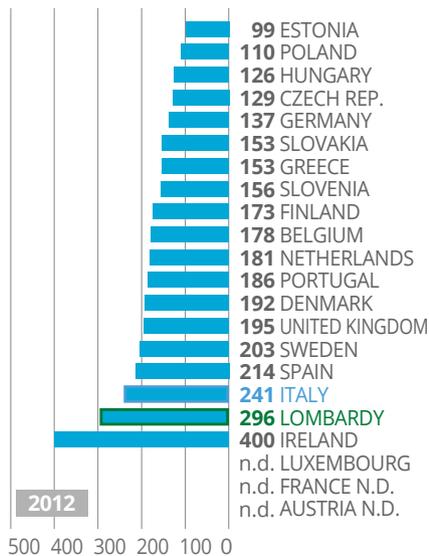
The quality of groundwater, and river and lake water is good, albeit at different percentages and overall well below the goals set by the EU. **The improvement in the water quality from purification is definitely significant.** The percentage of purified organic load compared to generated load is **97% (national average 88%)** and the technology used by the main water entities is among the most advanced. However, in some specific parts of the region, the total number of agglomerations reported by the European Commission in infringement procedures for non-compliance remains high.

The infrastructure deficit still found in those areas would seem to be due to a delay in the reorganization to ensure integrated water management.

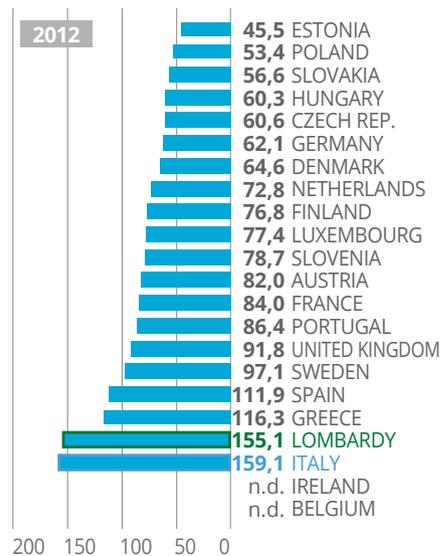


INDICES, INDICATORS AND RATIOS

1. DRINKING WATER SUPPLIED IN LITRES PER INHABITANT PER DAY



2. ABSTRACTION OF WATER FOR DRINKING IN CUBIC METRES PER INHABITANT



1. Average daily volumes of water supplied per inhabitant from the drinking water distribution grid. 2. Quantity of drinking water drawn or diverted from water sources (underground water, rivers, streams, lakes, reservoirs, seawater or salty water) using specific hydraulic infrastructure. n.d. figure not available. **The lack of negative or positive information about trends for these indices makes it impossible to determine the composite index.**

Universal, equal access to safe drinking water and access for all is clearly a goal that has been fully realised in developed nations. Consequently, looking at the volume of drinking water supplied not only provides information about how much water is available to inhabitants, but also shows where there is **"over usage" of water**,

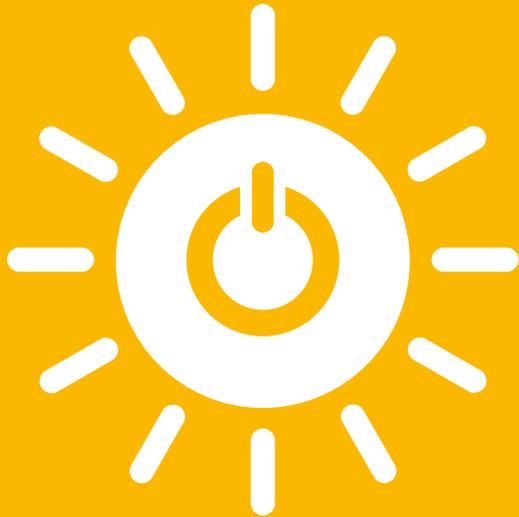
perhaps because of its abundance or cultural factors. The World Health Organization has indicated **40 litres per person per day** is the minimum amount of water needed for a **dignified human life**. In Italy, the average is **241 litres per person per day**, making it the second placed EU21 country (based on available figures). In



Lombardy, such consumption is even higher - **296 l/day**. The per capita abstraction volume for drinking water drawn across an area is dependent on multiple factors, including the **extent of leakage** and **the local hydro-geology**. In Italy and in Lombardy, water abstraction is far higher than in other EU21 nations. And Lombardy is

the Italian region that abstracts the most drinking water - **16% of the Italian total** - partly because of the water deficit in other regions (i.e. they have less drinking water than they need). This index does not make it possible to see quickly and precisely how the various countries are doing in relation to the UN Agenda goals for **"Clean water"**.

7 AFFORDABLE AND
CLEAN ENERGY





Ensure access to affordable, reliable, sustainable and modern energy for all

In terms of availability, Lombardy has achieved the goal of ensuring access to the infrastructure for the entire population. In economic terms, between 2016 and 2017 there was an increase of 0.8% in the total quantity of energy consumed by families for domestic use and private transport, leading to an increase of **5.1%** in the cost for purchasing energy.

In terms of increasing the portion of energy from renewable sources, **the goal set for Lombardy in the "Burden sharing" decree** - envisaging that, **by 2020, 11.3%** of final energy consumption will come from renewable sources - **was achieved** and exceeded in 2013, when **12.4%** was achieved. In 2016, this

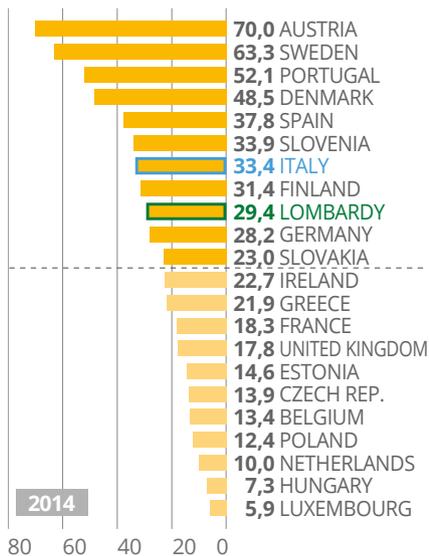
percentage rose to **13.7%**. The growth in this share in 2016 can be ascribed to the overall drop in final energy consumption as a result of the drop in industrial production and not an increase in production from renewable sources.

Turning to **energy efficiency**, Lombardy's energy intensity is **70 toe per million euros, meaning it is more energy-efficient than the national average.** Transport remains an area that needs to be closely monitored. In 2017, Lombardy had **606 vehicles per 1,000 inhabitants**, which is below the Italian average (**636**) but above the averages for Germany (**555**) and France (**479**).

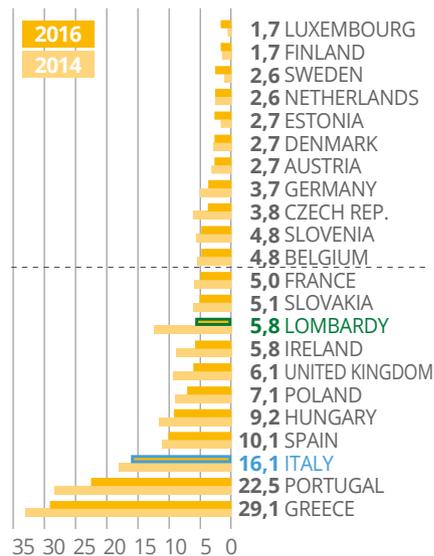


INDICES, INDICATORS AND RATIOS

1. ELECTRICITY CONSUMPTION COVERED BY RENEWABLE SOURCES



2. PORTION OF THE POPULATION UNABLE TO ADEQUATELY HEAT THEIR HOME

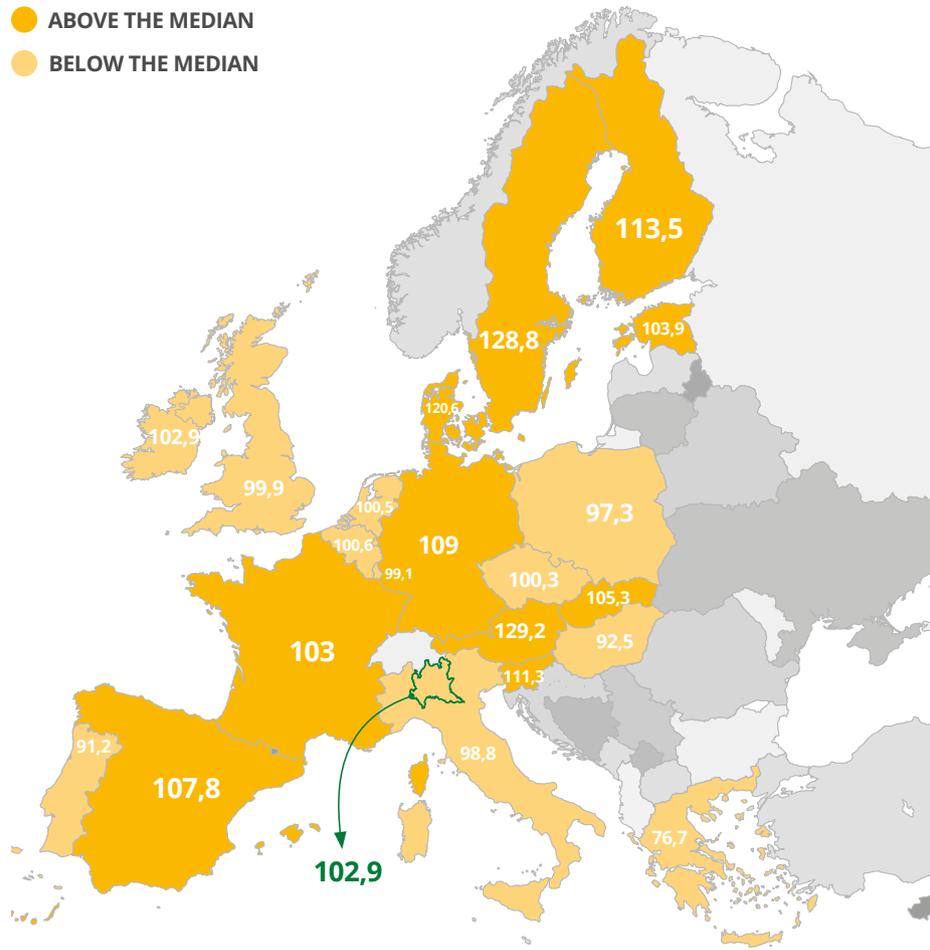


1. Percentage ratio between gross electricity production from renewable sources and gross internal consumption of electricity. 2. Percentage of people in households who claim they were (in the year prior to the interview) unable to adequately heat their house for financial reasons, compared to the population as a whole. The 2014 figure used for the composite index and the figure updated to 2016 are provided.

To guarantee **access to energy** for all it is necessary to increase efficiency and the production of energy from renewable sources. Transitioning to a **sustainable energy system** for each country in Europe will necessitate having, on the one side, to **reduce consumption** and, on the other, to **adopt measures that encourage productivity** and so ensure access to energy at reasona-

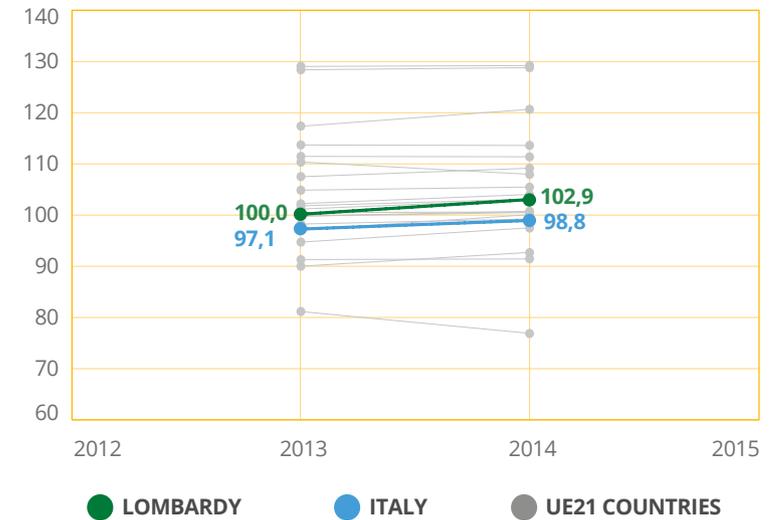
ble prices. In Lombardy, the amount of energy from **renewable sources (29.4%)** is above the EU21 median (**22.8%**), but below the Italian figure (**33.4%**). The ratio of the population that is unable to **adequately heat their houses** provides an indirect indicator for access to energy at reasonable prices. In Lombardy, this figure stands at **5.8%**, which is slightly above the EU21 median

COMPOSITE INDEX



Last updated - 2014

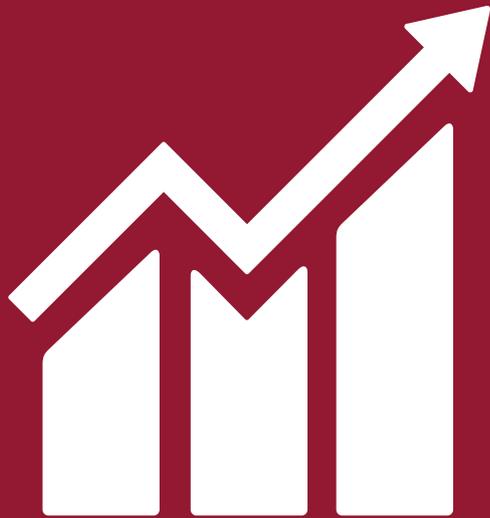
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(5%), but well below the national level (16.1%). Taking both indicators together shows Lombardy is not especially well placed, albeit ahead of the country as a whole and having recorded notable improvement between the two periods in question.

8

**DECENT WORK AND
ECONOMIC GROWTH**





Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all

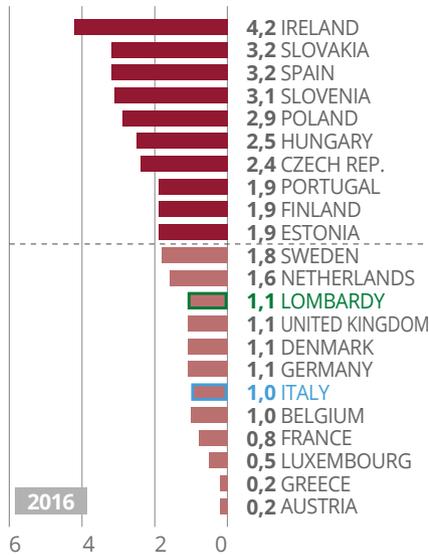
In 2017, Lombardy once again had the strongest regional economy in Italy, recording GDP per capita of **€38,211**, up 2.9% on 2016. This was the fastest growth rate across the country. The employment rate is 67.3%, up a percentage point year-on-year. However, the female **employment rate** remains about **15.8 percentage points** below the male equivalent, indicating significant gender inequality. At the same time long-term unemployment dropped by **0.6%** compared to 2016, reaching **3.3%**. The overall **unemployment rate** was also down a percentage point, at **6.4%**, keeping with the trend of the previous two years.

Lombard NEETs (aged 18-24) accounts for **17.6%**, which is **2.3% below** the 2016 figure. This is clearly better than the figure for Italy as a whole - **25.7%** - but above the European average of **12.5%**. This result has followed the same trend for two years. **Suitable policies** are necessary to ensure the future decrease of NEETs and help the positive trend going forward. Nonetheless, young people remain one of the main groups hit by the crisis, especially since the job market was already problematic for them - difficulty to find the first job, lack of secure long-term employment and skills mismatch (as can be derived from the specific unemployment rate).

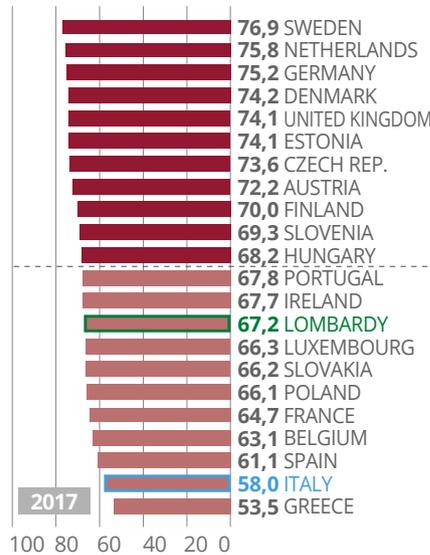


INDICES, INDICATORS AND RATIOS

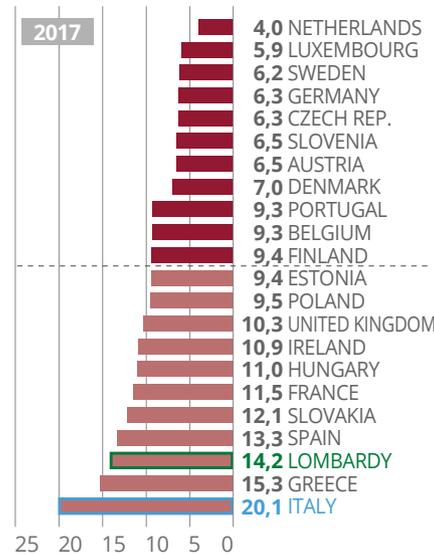
1. ANNUAL GROWTH RATE OF REAL GDP PER CAPITA



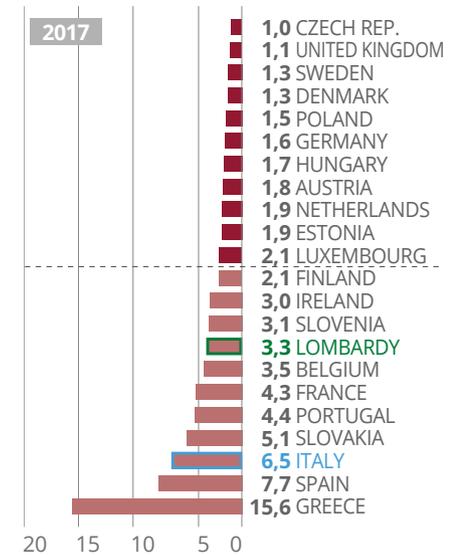
2. EMPLOYMENT RATE



3. NEETS



4. LONG-TERM UNEMPLOYMENT RATE

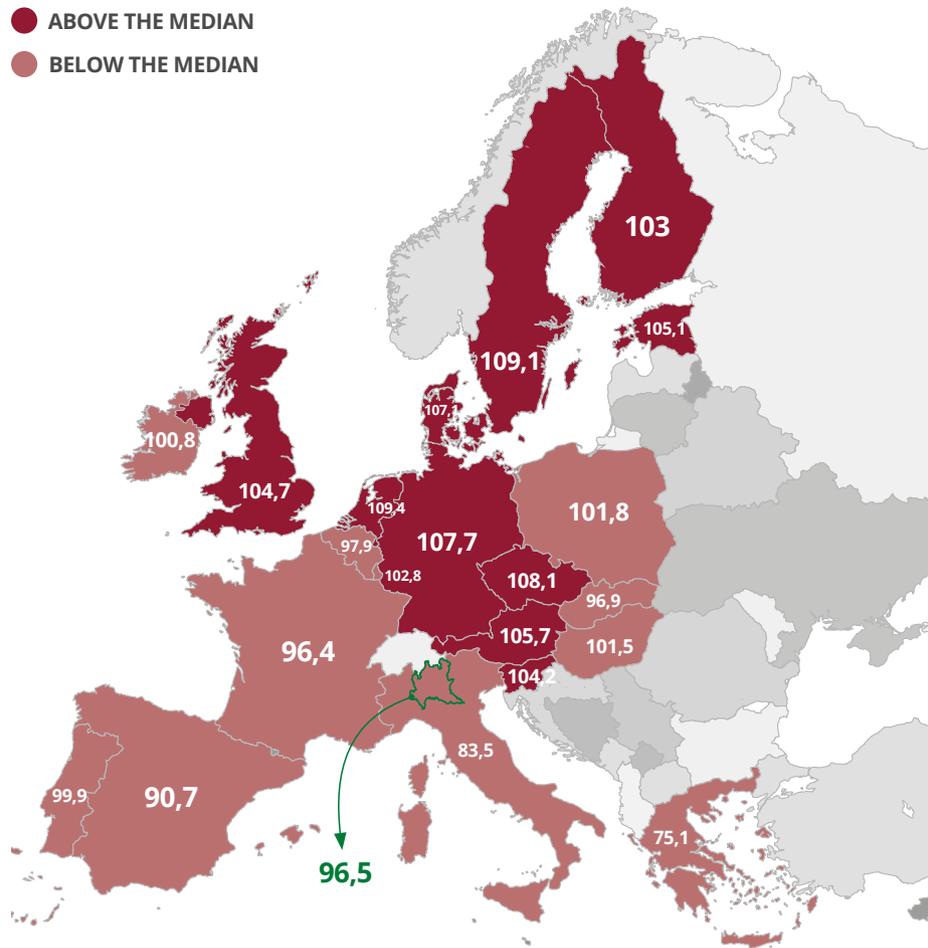


1. Percentage variation on the previous period, GDP at market prices, chained volumes. As the figure for 2017 is not yet available, the composite index was calculated using the 2016 figure. 2. Number of employed people in the active population (15-64 years). 3. Young people who are not employed, not doing some training/education programme or not doing any form of school/university or active education programme. Percentage for youths aged 15 to 24. 4. Unemployed for 12 months or more out of the active population (15-64 years).

One of the prerequisites for **sustainable and inclusive economic growth** is everyone being able to find an adequately paying job. In 2016, real GDP per capita growth in Lombardy was **1.1%**, a decimal point higher than Italy but still below the EU21 median (**1.6%**). Italy is second last when it comes to the employment rate (**58%**), ahead only of Greece, while Lombardy (**67.2%**) is only slightly be-

low the EU21 median (**68%**). The situation is worse if one looks at **young people who are not working**, studying or engaged in some form of training course (i.e. the **NEETs**). The percentage of such young people in Italy is **20.1%**, placing it last. Lombardy is third last (**14.2%**), ahead of Greece. The situation in Lombardy is slightly better for the long-term unemployment rate. In 2017, this

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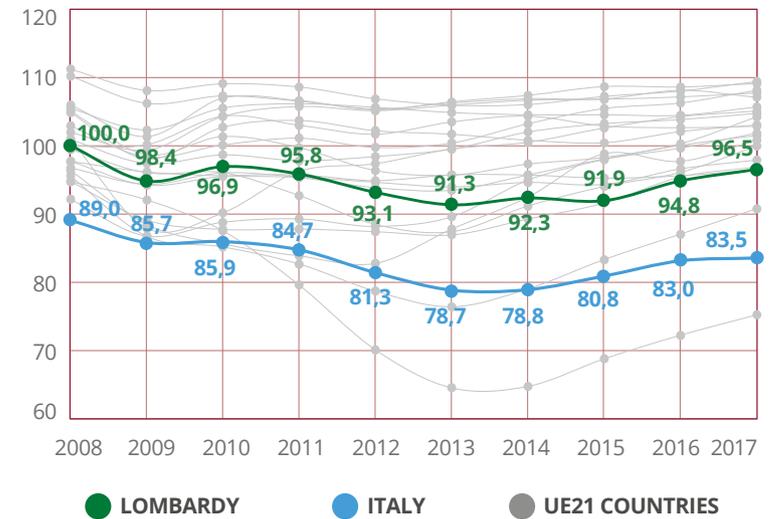


figure was **3.3%** compared to EU21 median of **2.1%** and an Italian figure of **6.5%**. **The composite index** shows Lombardy is not doing especially well. Additionally, further analysis clearly shows the repercussions from the economic and financial crisis that began in 2008, and the signs of recovery in the last three years considered.

9 **INDUSTRY, INNOVATION
AND INFRASTRUCTURE**





Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation

Lombardy is the country's economic engine. The region has major industrial and manufacturing sectors, meaning it has to strive forward in finding a balance between growth and sustainability. **Investment in research and development** in Lombardy is above national levels. The composite index created by ASVIS (Italian company for sustainable development) to measure infrastructure and innovation is placed structurally above the national index (series from 2010 to 2016) and, in the last year, it **shows a net increase**, driven by the increase in the number of knowledge workers. The same story can be found, for innovation, looking at the fair and sustainable wellness (BES) ratios from the Italian national statistical agency (ISTAT) in **December 2018**, which show a positive trend for the **"Innovation, research and creativity"** composite index compared to the previous year. It is no coincidence that Lombardy has seen an increase in the number of innovative startups and

the innovative business ratios are also improving. The **"Quality of Services"** BES ratio, which is created using a series of variables directly related to infrastructure, showed an improvement on the previous year.

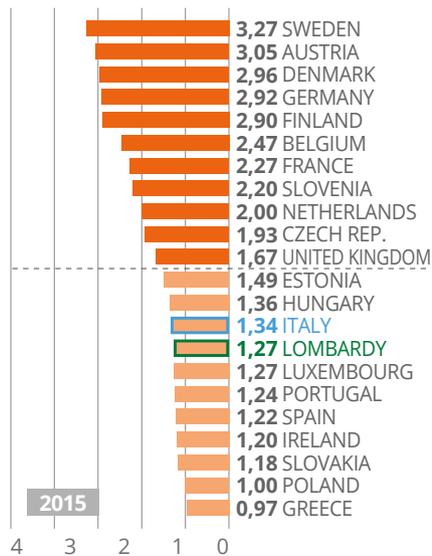
By analysing a specific ratio for the **"quality of public action"** - a European level indicator that is tied to the innovative capacity of businesses - it is clear that **Lombardy is above the national average**, but when compared to Europe, even for other industries, it remains fairly far behind Europe in general.

Lombardy is closing the gap on other "similar areas" in Europe - the "Four Motors", for example - when it comes to universities, production of scientific research and number of patents. **Lombard universities** are also showing other positive signs, both in terms of their international reputation and their increasing ability to compete for European research funds (**above all, Horizon 2020**).

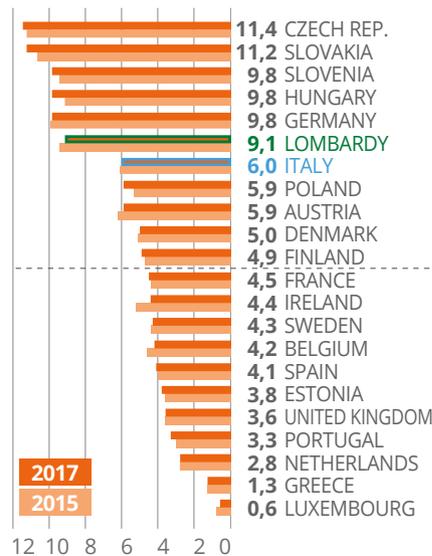


INDICES, INDICATORS AND RATIOS

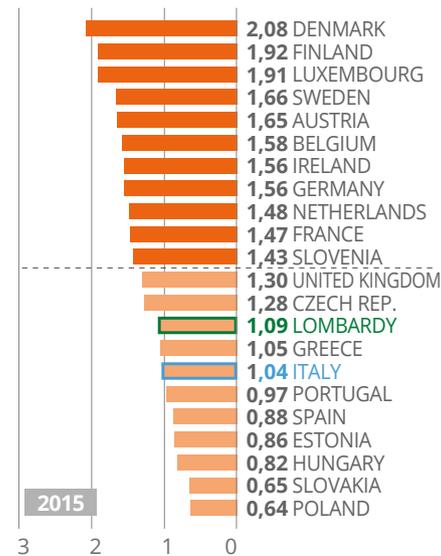
1. INTRAMURAL R&D EXPENDITURE



2. EMPLOYED TECHNOLOGY AND KNOWLEDGE-INTENSIVE SECTORS



3. R&D PERSONNEL: RESEARCHERS

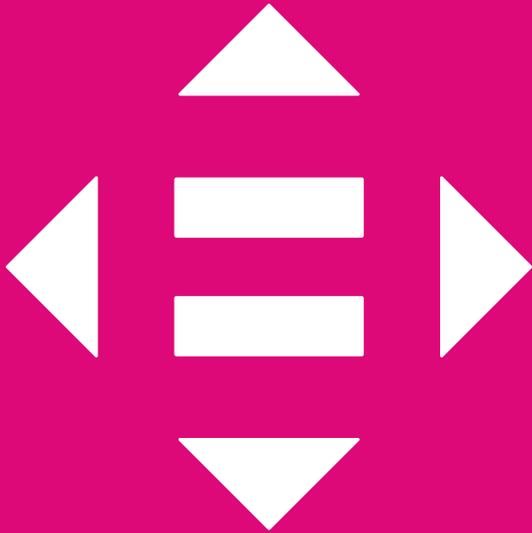


1. Percentage of Intramural R&D expenditure compared to GDP. 2. Percentage compared to total people employed. The 2015 figure used for the composite index and the figure updated to 2017 are provided. 3. Number of researchers out of 1,000 employees.

Total **public and private R&D spending** compared to GDP shows once again the situation is not positive in Italy (**1.34%**) or in Lombardy (**1.27%**), with both below the EU21 median (**1.58%**). **Lombardy's position** does improve when looking at the number of people employed in technology and knowledge-intensive

industries compared to the total number of people employed. Here, Lombardy comes sixth, at **9.1%**, which is above the Italian national average (**6%**) and the EU21 median (**4.7%**). However, things turn somewhat bleaker when looking at the **number of researchers per 1000 people employed**. In Lombardy, the figure

10 REDUCED INEQUALITIES





Reduce inequality within and among countries



In 2016, families resident in Lombardy received a **monthly average of €1,750, which is about €300 above the national average**. Over the last decade, the trend has been very similar to the Italian one: a drop up until 2012, followed by two constant years and a slight recovery in the last two years. The recovery, though, has not seen the situation return to the same average amounts as prior to the crisis.

The portion of income going to the poorest **40%** of families shows the degree of inequality in income distribution. In Lombardy, these families received **22.5%** of total income, which indicates the level of inequality is below the national average (**19.1%**) and places Lombardy among regions with the lowest

degree of inequality (**fifteenth out of 21 regions**).

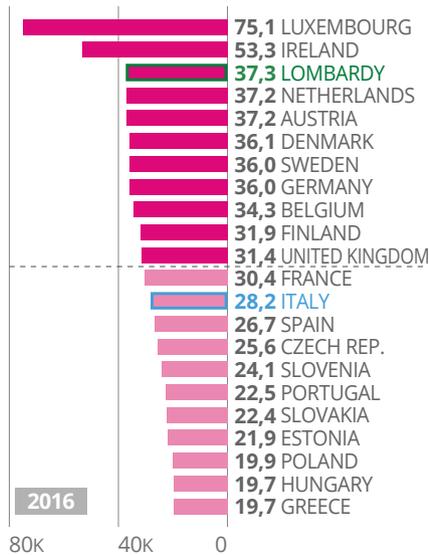
Employment income shows some striking differences when broken down by age. **Young people (18-34 years)** earn roughly half of **people aged 35-49**. There are further differences when it comes to citizenship (lower income for foreigners) and, especially, gender (lower income for women).

Over the last decade, the number of **foreigners** in Lombardy from countries with significant migratory pressure grew by over 300 thousand, reaching a density of **132 foreigners for every thousand inhabitants (2018)**. Nine out of ten are legally in the region and only one not. The number of foreigners grew until 2011, while from 2012 this figure saw a slowdown.

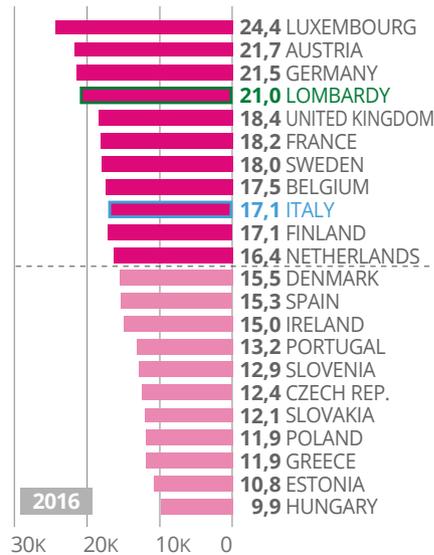


INDICES, INDICATORS AND RATIOS

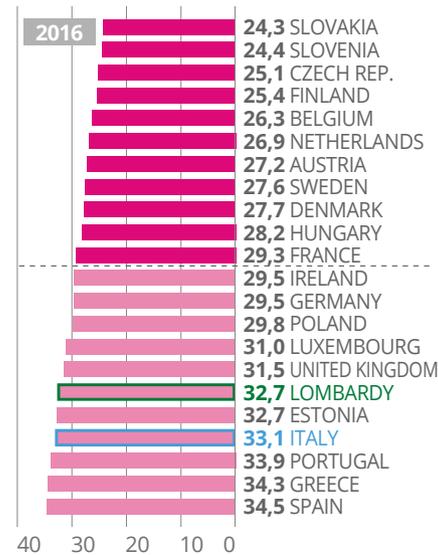
1. GDP PER CAPITA AT MARKET PRICES
(THOUSAND OF PPP)



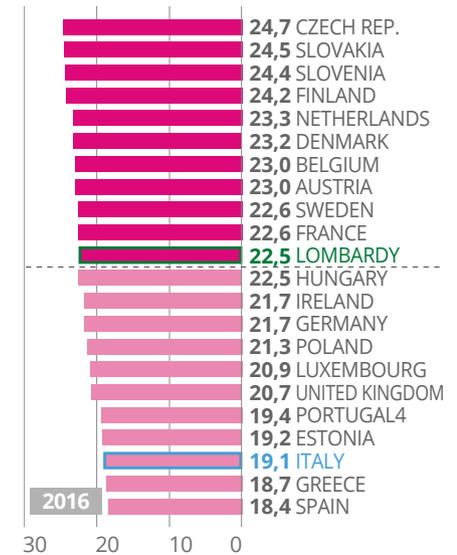
2. DISPOSABLE INCOME PER CAPITA
(THOUSAND OF EURO)



3. GINI COEFFICIENT OF EQUIVALISED
DISPOSABLE INCOME



4. SHARE OF INCOME OF 40% OF THE
POOREST HOUSEHOLDS



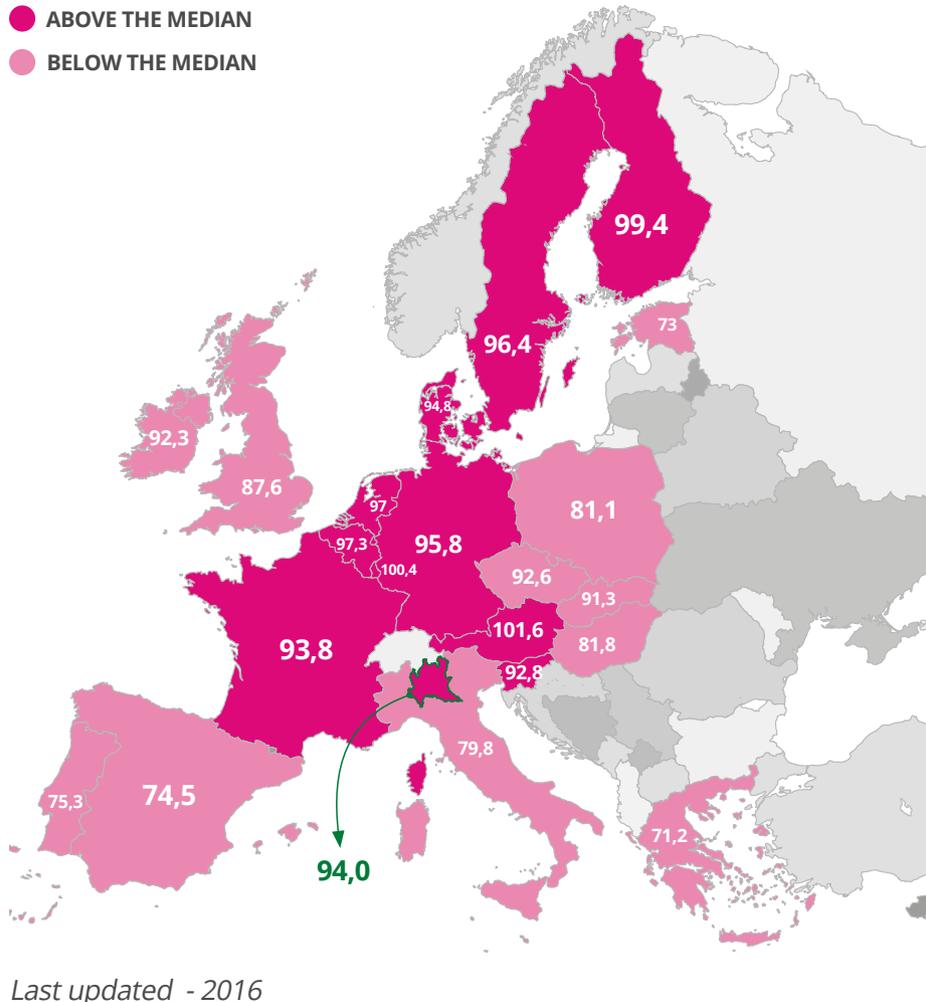
1. Prices at purchasing power parity (ppp). **2.** Prices at purchasing power parity on final consumption, net value. Figure for 2015 for: Germany, Spain, Finland, France, United Kingdom, Greece, Hungary, Ireland, Netherlands, Poland, Portugal, Slovakia, Sweden. Figure for 2014 for Belgium. **3.** Synthetic indicator of income inequality. The value can range from zero (perfect equality) to a hundred (perfect inequality). Here, it is calculated per household using equivalised income without imputed rentals. **4.** Portion of disposable household income for families below the 40th percentile in a disposable household income distribution.

GDP per capita is the most commonly used measurement of a **country or area's well-being**. According to this measurement, Lombardy is close to the top of the table for the EU21 countries, with **37,300 ppp**, making it on the same level as countries like Austria and the Netherlands, and well above the national average (**28,200 ppp**), which is below

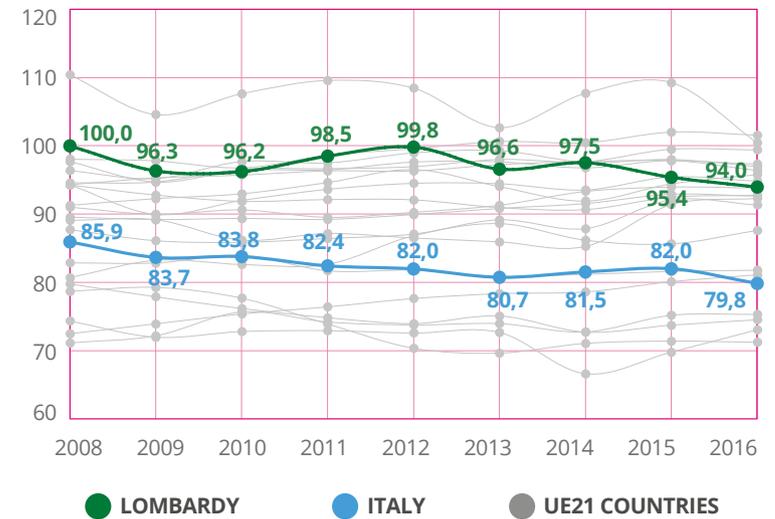
the EU median (**30,900 ppp**). On the index that measures a **country's wealth** - disposable income per capita - Lombardy also features near the top, not far behind Germany and Austria at **21,000 ppp**, which is also above the national average (**17,100 ppp**). By contrast, the following two measures of the distribution of well-being and wealth clearly

COMPOSITE INDEX

- ABOVE THE MEDIAN
- BELOW THE MEDIAN

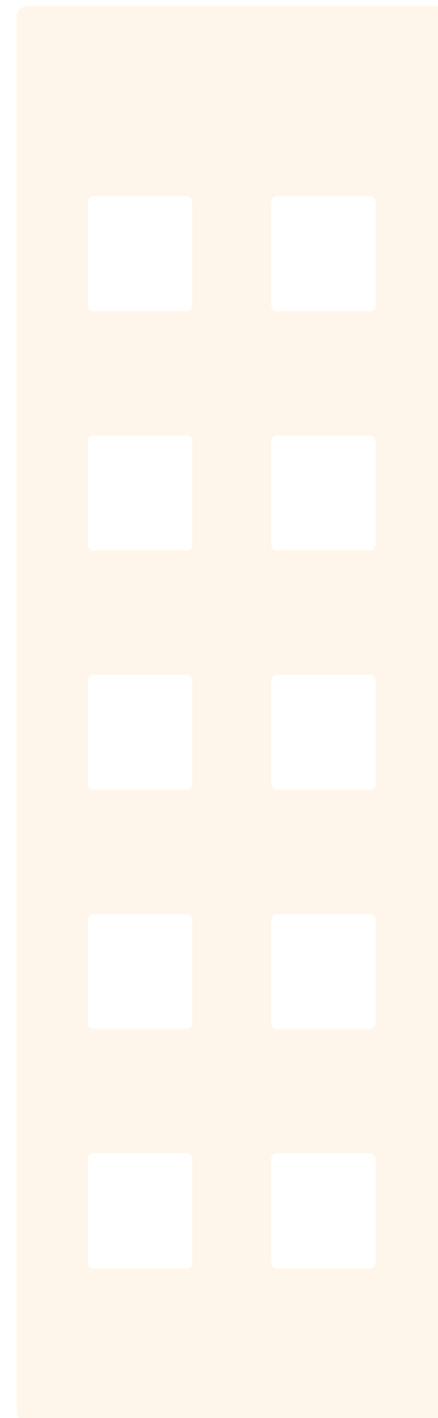


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show the high degree of inequality in Lombardy and Italy. The Gini coefficient is **32.7** for Lombardy and **33.1** for Italy, both above the EU21 median (**29.4**). The portion of income for the **40% of poorest households** is around the median value for Lombardy (**22.5**), but markedly lower for Italy (**19.1**). The composite index shows things getting worse for Lombardy from 2008, with things becoming a bit more up-and-down but always remaining above the national figure (for example, by 2012, things had nearly returned to where they were, but then another downturn until 2016).

11 SUSTAINABLE CITIES AND COMMUNITIES





Make cities and human settlements inclusive, safe, resilient and sustainable

The **quality of housing** in Lombardy improved slightly on the previous year, with the same trend as the Italian average. Nevertheless, in 2016, the rate of **low quality housing** in Lombardy (**7.8%**) and in the rest of Italy (**7.6%**) still remains above the European average (**4.7%**).

Concerning **mobility**, comparing 2010 and 2016, there has been a progressive increase in Lombardy and in Italy in the number of families with significant problems in reaching/using the public transport in their area of residence. In Lombardy the situation remains better than the Italian average (**29.7% versus 32.9% of families**). The available local public transport in Lombardy is far better than the national average.

As regards **road safety**, in 2016 the mortality rate on urban roads showed the lowest value (**0.7 deaths per 100 accidents**) in recent years, although in 2017 this figure went up.

Last year the degree of land imperviousness was the highest in Italy (**13%**). Considering the ratio between soil sealing and number of inhabitants, the situation in Lombardy looks slightly better: 312 sq. m. of land consumption per inhabitant per year, below the Italian average (**387 sq. m.**).

As regards protecting and safeguarding **cultural and natural heritage**, Lombardy is the Italian region with the highest concentration of sites on UNESCO's World Heritage list (**11 sites out of 54 in Italy**). The current trend for municipal spending for museums, libraries and art galleries, showed signs of recovery in 2015 (+2.8% in Lombardy), after three consecutive years of a downward trend. This figure places Lombardy slightly above the national average (+2%).

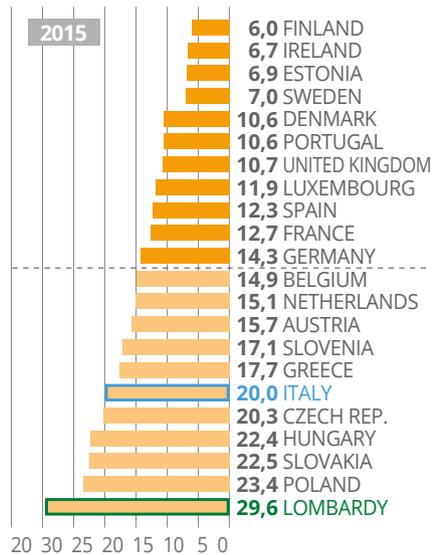
The data on the **safety of people** from the **risk of floods** remain good: Lombardy has a lower risk level than the national average (**4.4% versus 10.4% of the population**) and also does well compared to Northern Italy (**17.5%**). Similarly, the portion of the population facing landslide risk is significantly below the national average (3.6% in Lombardy, compared to 9.6% in Italy).

Despite a slight improvement, the level of exposure of the population to **PM10** (measured in terms of days exceeding the daily limit value) remains critical. For Lombardy, the figures for the amount of **greenery** in municipalities that are provincial capitals are slightly below the Italian average (27.9 sq. m. per inhabitant, compared to 31 sq. m. per inhabitant).

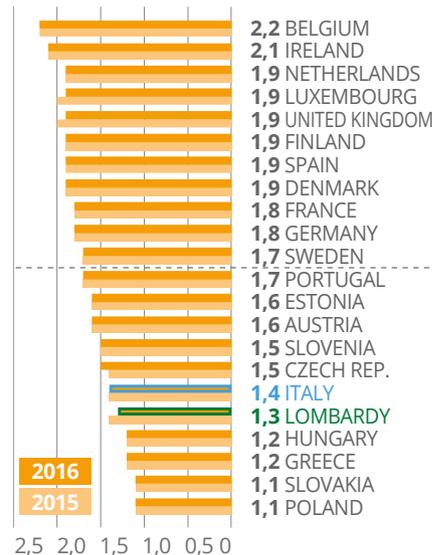


INDICES, INDICATORS AND RATIOS

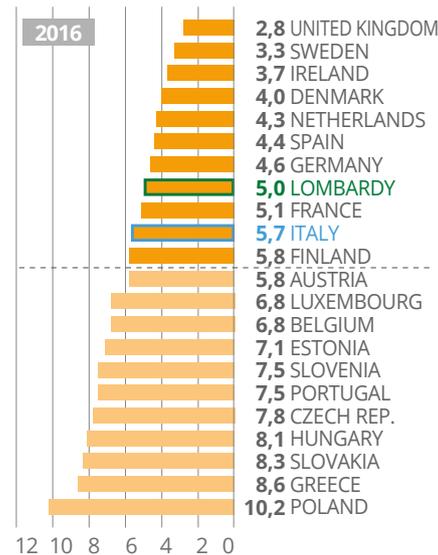
1. MEAN POPULATION EXPOSURE TO PM2.5: MICROGRAMS PER CUBIC METRE



2. AVERAGE NUMBER OF ROOMS PER PERSON IN HOMES



3. STANDARDIZED DEATH RATE - TRANSPORT ACCIDENTS

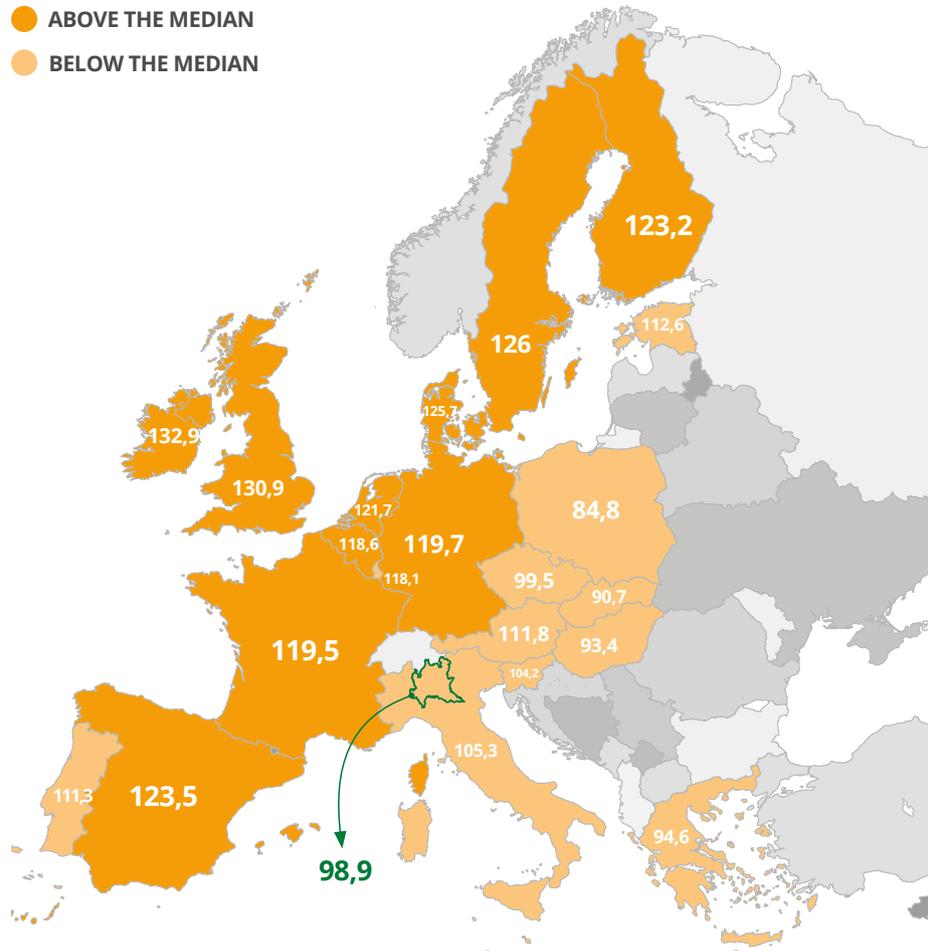


1. Micrograms per cubic metre. 2. Average of the ratio between the number of rooms in a home and the number of resident household members. The 2015 figure used for the composite index and the figure updated to 2016 are provided. 3. Standardised rate for 100,000 people. Three-year averages.

The **sustainability of life** in urban areas is measured by taking the **level of air** population based on the concentration of fine particulate matter to which the population is exposed. Lombardy scores the highest figure, with **29.6 micrograms per cubic metre**, which is double the EU21 median (**14.6**) and also well above the national

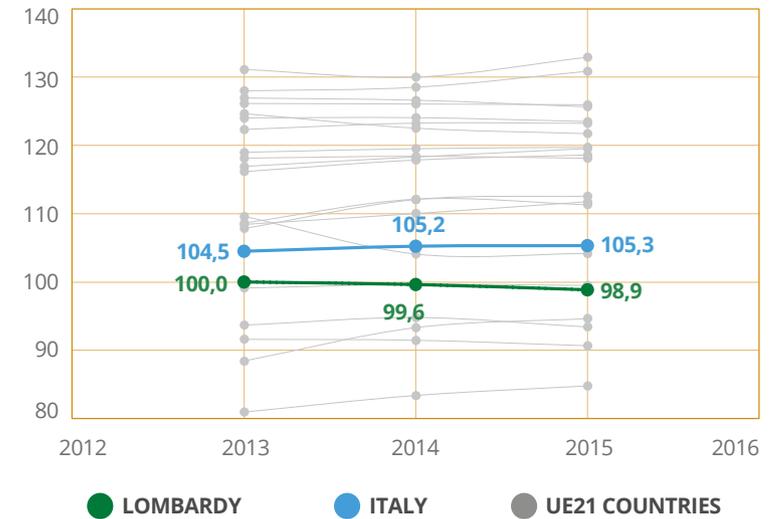
figure (**20**). For housing, the question of overpopulation is examined using the average number of rooms per person. In Lombardy, this measurement is **1.3**, compared to **1.4** for Italy and **1.7** for the EU21. Finally, for **safety**, the **death rate** due to transport accidents is used. The rate, standardised to **100 thousand people**, is **5** in

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Lombardy, which is below the national figure (5.7) and the median value for the EU21 (5.8). The composite index is heavily influenced by Lombardy's poor position for air quality. Indeed, in the three-year period considered, it was constantly below the Italian level and getting worse.

**12 RESPONSIBLE
CONSUMPTION
AND PRODUCTION**





Ensure sustainable consumption and production patterns

The use of **natural resources** (e.g. trees) remains very high, although decreasing. Regional **logging dropped** from about **578,000 cubic metres** in 2014 to approximately **526,000 cubic metres** in 2016. Forest production is mostly firewood, meaning a huge external dependence of regional enterprises that process wood (especially furniture factories and paper mills).

In Lombardy, **organic farming** covers **45,176 hectares**, representing a growth of **21.4%** in 2017 compared to the previous year. Nonetheless, the contribution of this segment remains insignificant in comparison to the national total, as, in Lombardy, only **4.9%** of cultivated land is organic, compared to the Italian average of **15.4%**. The data for organic production diverges starkly from the dynamism of **consumption of organic products**, as Lombardy comes out top in all segments on this front. Lombardy already observes the minimum quota for **separate urban waste collection** set by the European Union for 2035 (**65% of the**

total). Total waste production was 4,781,844 t, with **separate waste collection** at 3,257,113 t, which equates to **68.1% of the total**.

In addition, the percentage of **urban waste** disposed of in landfills is also below the targets set by European laws and it is equal to **4% of the total**. Lombardy meets the maximum threshold envisaged by Directive 2018/851 for 2035, meaning it is 17 years ahead of time.

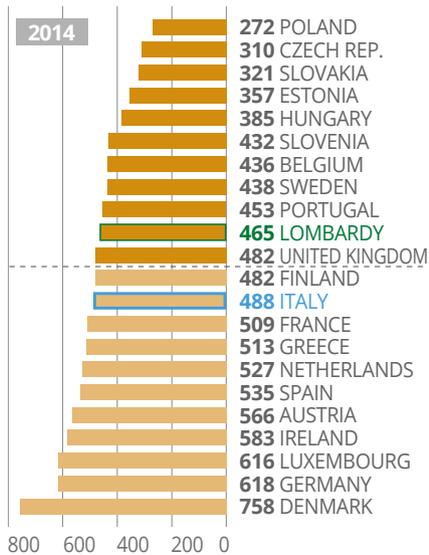
However, Lombardy is also the region that produces the most **special waste**. In 2016, **29.4 million tons** were generated, which is up on the **28.4 million tons** produced in 2015. The portion of special waste that is recovered (including code R13) is **80.6%**.

The use of **green public procurement** is gradually increasing across Lombard public administrations. In 2016, **260 municipalities** have adopted best practices for green procurement and, of these, 137 have acquired goods and service with a reduced environmental impact for 379 different product types acquired.

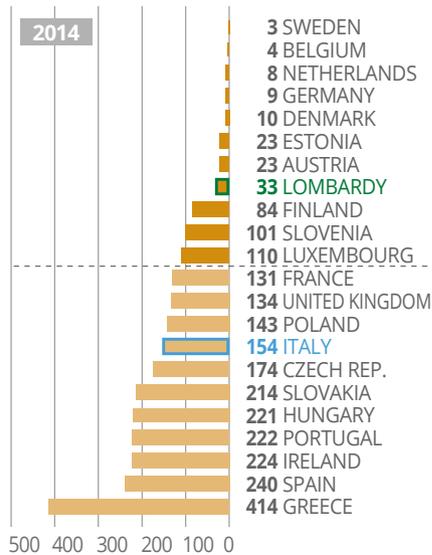


INDICES, INDICATORS AND RATIOS

1. MUNICIPAL WASTE COLLECTED



2. MUNICIPAL WASTE DISPOSED OF IN LANDFILLS



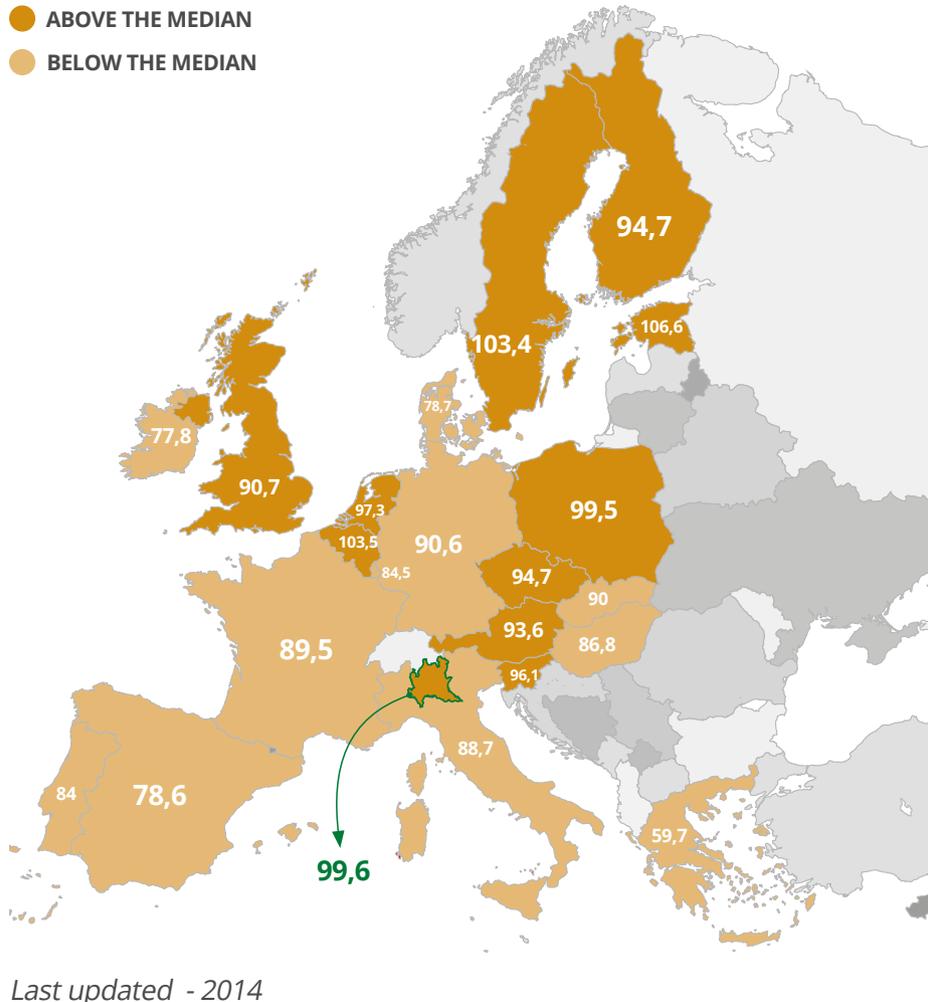
1. Kg per capita of household waste collected. 2. Kg per capita of household waste disposed of in landfills.

Sustainable behaviour includes the **efficient use of resources, responsible consumption** and **focusing on the life cycles of goods**. This includes cutting both industrial and household waste. Lombardy has **465 kg per capita of household waste**, placing it below the EU21 median (**482 kg**) and Italy (**488 kg**). Mirroring this,

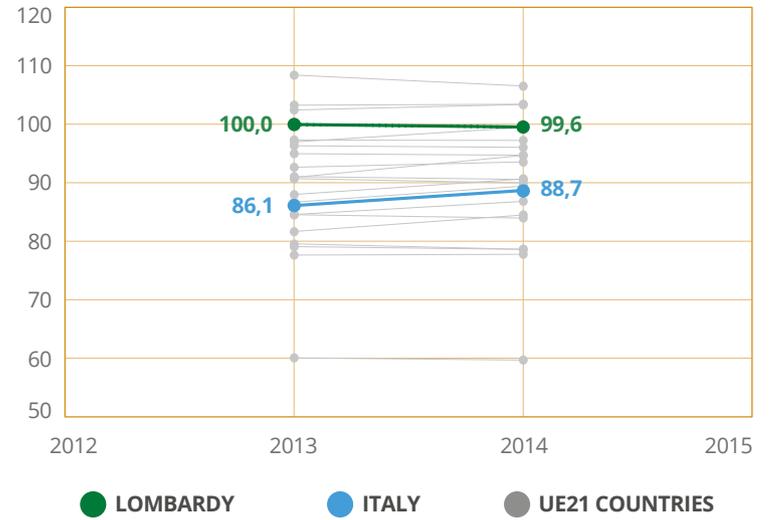
Lombardy places well for **waste disposed of in landfills (33 kg per capita)**, which is below the median value (**120.5 kg**). Once again, the figure for Italy is higher, at **154 kg per capita**. Combining these two measurements shows Lombardy is well placed, although it has seen a slight drop in the two years examined.

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- ABOVE THE MEDIAN
- BELOW THE MEDIAN



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13 CLIMATE ACTION





Take urgent action to combat climate change and its impacts

The economic losses, recorded in Europe between 1980 and 2016, due to meteorological phenomena and other extreme climate events exceeded **€436 billion**. The major damage relates to industry, transport and energy sectors. Italy is one of the countries most at risk from natural events and disasters. Within the 28 EU member states, Italy has suffered the most economic damage from disasters in the period 1980-2015. Heat waves in Italian cities between 2005 and 2016 caused a remarkable **23,880 deaths** in 23 Italian towns and cities. Climate change is also contributing to **social inequality** and **impoverishment**. Italy is one of the most exposed nations when it comes to loss of GDP due to climate change. **Climate change** also has major implications for **people's health** due to the alteration in the distribution of certain vectors for infec-

tious diseases and some pollens/allergens. The consequences of this are increased deaths from heat waves, increased rates of respiratory illnesses, injuries and deaths from drought, and diseases linked to water and food.

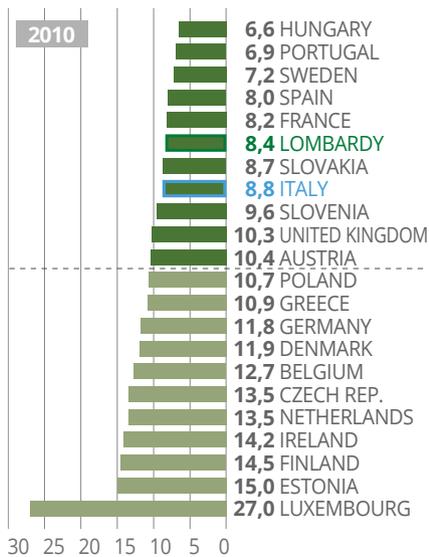
Lombardy is a vulnerable land. The incidences of flooding and the spread of **infectious diseases** are increasing.

In response to the risks linked to climate change, the Lombardy regional government has been on a highly innovative pathway in Italy, with its **Regional Strategy for Adapting to Climate Change**, which is a key governance tool that, on the one hand, prioritizes certain spheres in relation to the effects of climate on our land and, on the other, identifies actions that can be taken to minimize the risks and the consequent impact on the population.



INDICES, INDICATORS AND RATIOS

1. GREENHOUSE GAS EMISSIONS



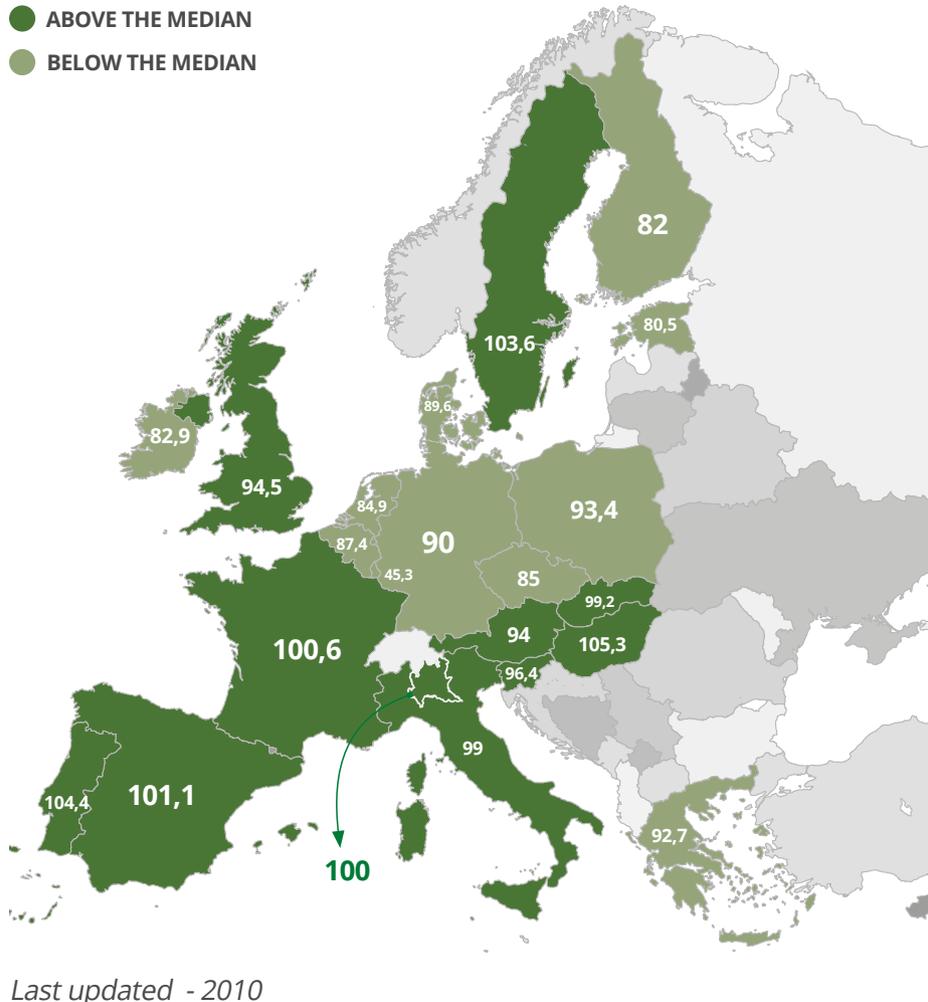
1. Tonnes of CO2 equivalent per capita.

The consequences of **climate change** are already evident in the increased temperature of the air and the oceans and seas, precipitation levels and seawater levels - aspects that will have consequences in the long-term for living conditions in various countries around the world. Currently, there is only one indicator that is avail-

able to measure this: **greenhouse gas emissions** in tonnes of CO2 equivalent per capita. This measure shows a fairly encouraging picture for Lombardy as the region is sixth with **8.4 tonnes of CO2**, which is well below the **10.6 tonnes** that is the EU21 median. Italy is eighth, with **8.8 tonnes**.

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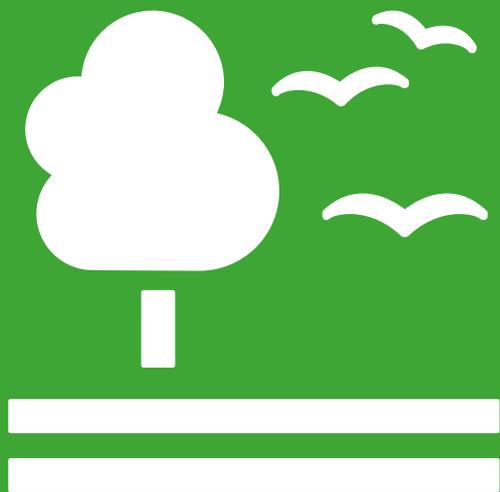
- ABOVE THE MEDIAN
- BELOW THE MEDIAN



Last updated - 2010



15 LIFE ON LAND





Protect, restore and promote sustainable use of terrestrial ecosystems

Lombardy's **forests cover 27.8%** of the region, placing it below the national average of **36.4%**. Much of the forest cover is in the mountains, with only **47,833 hectares** on the plain. As a whole, forest cover has grown constantly (**+2.1% over the last decade**), but largely on abandoned farming land, rather than due to specific planting policies. However, forest growth is also leading to a worrying loss of meadows, moorland and grassland, which are fundamental natural habitats.

Looking at the extension of **protected areas**, Lombardy is below the national average (**21.8%**) and the average for Northern Italy (**19%**). Indeed, only **16.1% of the region** is categorized as natural park or Natura 2000 site. Nonetheless, Lombardy does have **regional parks** that play a significant role in nature conservation, but this category of protection is not specifically recognized on the Environment Ministry's list.

Protected areas play an important role in urban containment; this issue is important in a region with the highest percentage of land cov-

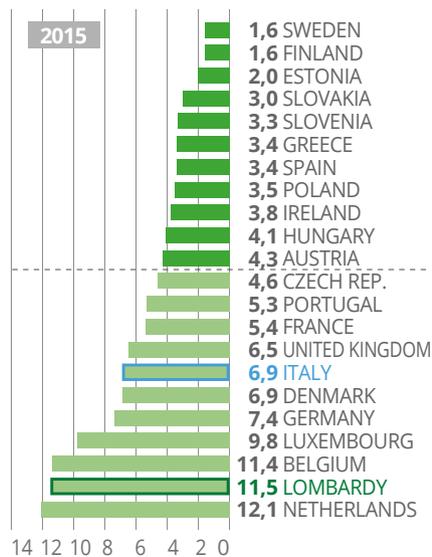
ered by artificial areas (**11.3% compared to a national average of 5.3%**) compared to all the other Italian regions. However, soil sealing is not the only phenomenon of **land degradation** affecting Lombardy. In addition to a significant problem of **soil contamination**, there is also the issue of **water erosion**. **7,872 t/ha** of soil are eroded annually in Lombardy, placing it above the EU28 average (**2,402 t/ha**) and below the Italian average (**8,347 t/ha**) - the highest national value in Europe because of all the mountainous and hill areas where erosion due to precipitation is high.

Finally, to gain a succinct picture of environment and ecosystem health in Lombardy, the Farmland Bird Index (FBI) can be used: it records the trends for specific bird species and so provides an indication of biodiversity in agroecosystems. The **FBI score** for Lombardy is the lowest of all Italian regions (**51.67, compared to a national average of 81.90**) and, between 2000 and 2014, it lost nearly half of its value, recording the greatest loss in birdlife on farmland of all Italian regions.

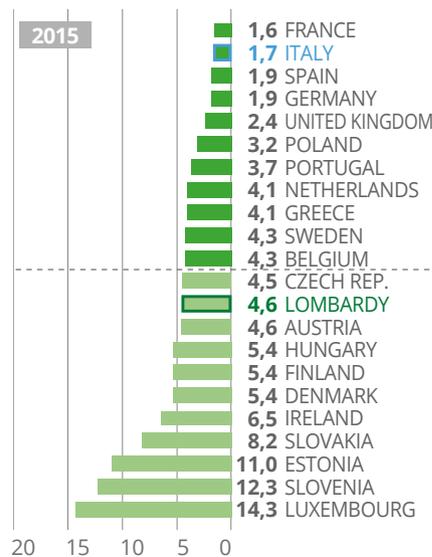


INDICES, INDICATORS AND RATIOS

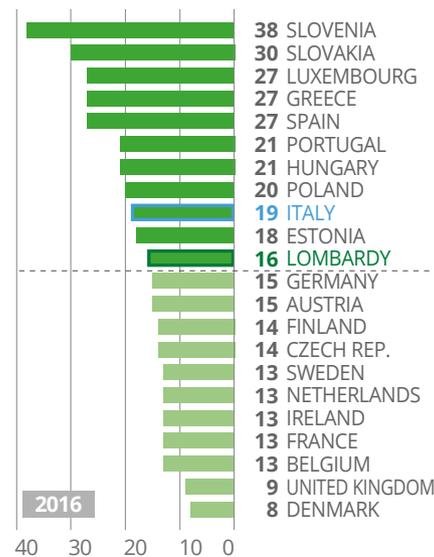
1. LAND COVER: ARTIFICIAL LAND



2. COEFFICIENT OF VARIATION OF ARTIFICIAL LAND AREA



3. NATURA 2000 PROTECTED AREAS



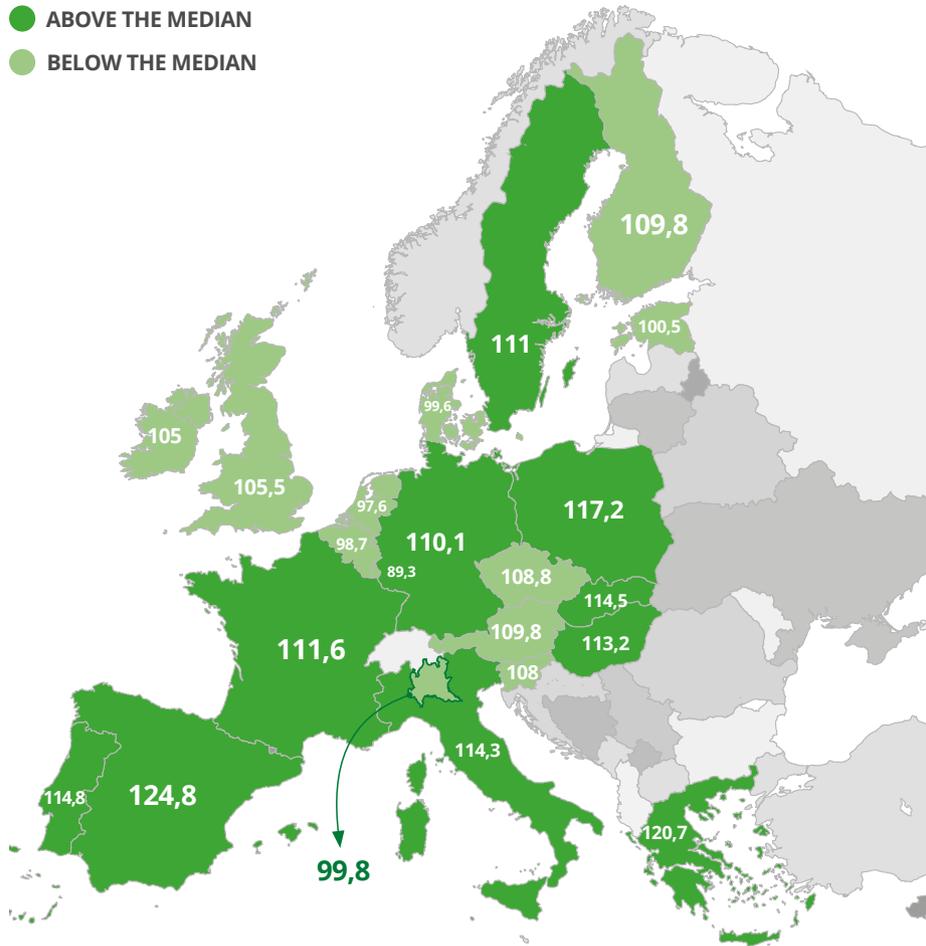
1. Percentage of artificial land areas out of total areas. 2. Calculated on surfaces areas in terms of absolute values. 3. Portion of protected land in the Natura 2000 network (Habitat directive) out of total land surface areas. Between 2015 and 2016, the figure did not change.

In Lombardy, the portion of **artificial land area** out of total land area is very high (**11.5%**), placing the region in second last place in the standings. The national figure is lower (**6.9%**), but still above the EU21 median (**4.5%**). This situation seems to improve slightly when looking at the **coefficient of vari-**

ation for artificial land areas. Here, Lombardy is at **4.6%**, which is close to the average, while Italy is in second place, with only **1.7%**. The portion of **protected areas** - in terms of the Habitat directive that are part of the Natura 2000 network - out of total territorial area is a proxy for the degree of biodi-

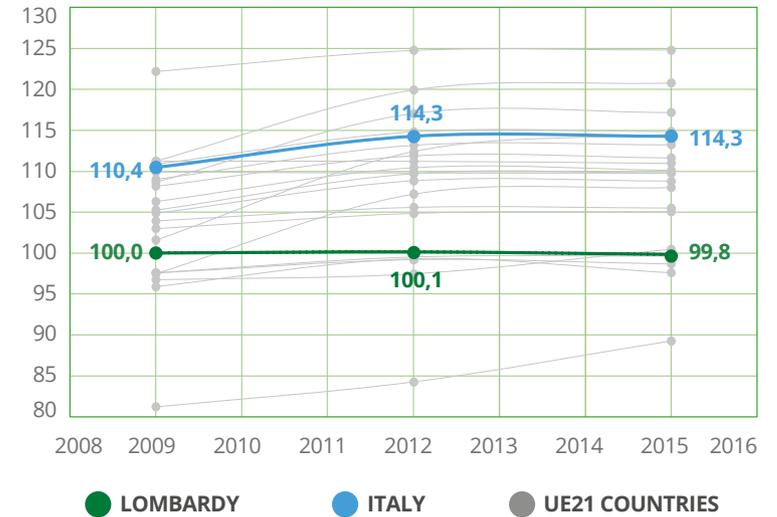
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iversity protection. Lombardy's score of **16%** makes it in line with the EU21 median, while Italy places higher, with **19%**. **The composite index** shows how Italy is well placed and improving, unlike Lombardy, which is stationary and in the lower part of the standings.

16 PEACE, JUSTICE AND STRONG INSTITUTIONS



Promote peaceful and inclusive societies for sustainable development

Lombardy is a relatively "safe" society, particularly while analysing the extent of harmful crimes that affect life and the psycho-physical well-being of individuals. The drop in the **intentional homicide rate (-39.3% between 2011 and 2016)** and **sexual assault rate (-3.4%)** has continued. Meanwhile, some (micro) crimes (such as **pickpocketing and similar crimes +7.7%**, **shoplifting +4.8%** and **burglary +3.6%**) have registered a little increment, while extortion (**+55%**) and computer fraud (**+46.9%**) have grown more significantly.

The smooth running of the **judicial system** is essential to safeguard the rights and the freedoms of citizens and enterprises, along with equal access to justice for all. The percentage of **detained** individuals, prior to a first level conviction, has decreased (**15%**); within a decade, it has dropped below the national average (**16.8%**). The capability of the courts to dispose of the pending proceedings of execution and civil cognition has improved, nevertheless it has slightly worsened within the criminal justice system and

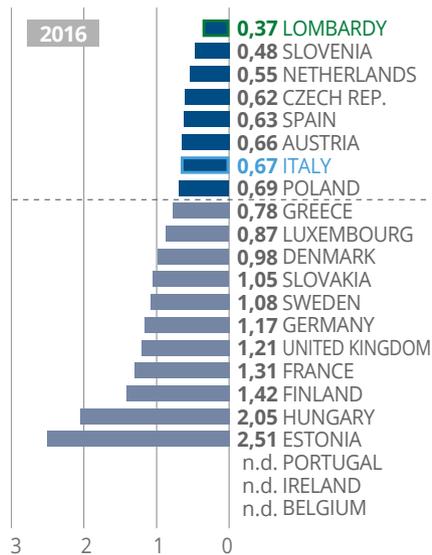
it is stable for administrative one. With regard to the fight against **illicit trafficking** and **organized crime**, bank notifications of suspicious transactions in Lombardy decreased significantly between 2016 and 2017, despite accounting for **20% of the country's total** reports. The incidence of offences of criminal association (1.1 per 100,000 inhabitants) remains lower than the data registered in Northern Italy (**1.32**) and the national average (**1.78**).

The phenomenon of **corruption** is correlated to the extent of organized crime. In 2016, **2.4%** of Lombard households stated they had given money, favours or other, or they had received equivalent requests in exchange for favours or services in the last three years. The aforementioned figure is above the value recorded for the North-West (**1.9%**), **but below the national average (2.7%)**. Online access to public information is increasing. Between 2012 and 2016, the number of Lombards who used the Internet to interact with the PA grew, although plenty of room for improvement remains.



INDICES, INDICATORS AND RATIOS

1. INTENTIONAL HOMICIDE RATE



2. INDIVIDUALS WHO USE THE INTERNET FOR INTERACTION WITH PUBLIC AUTHORITIES



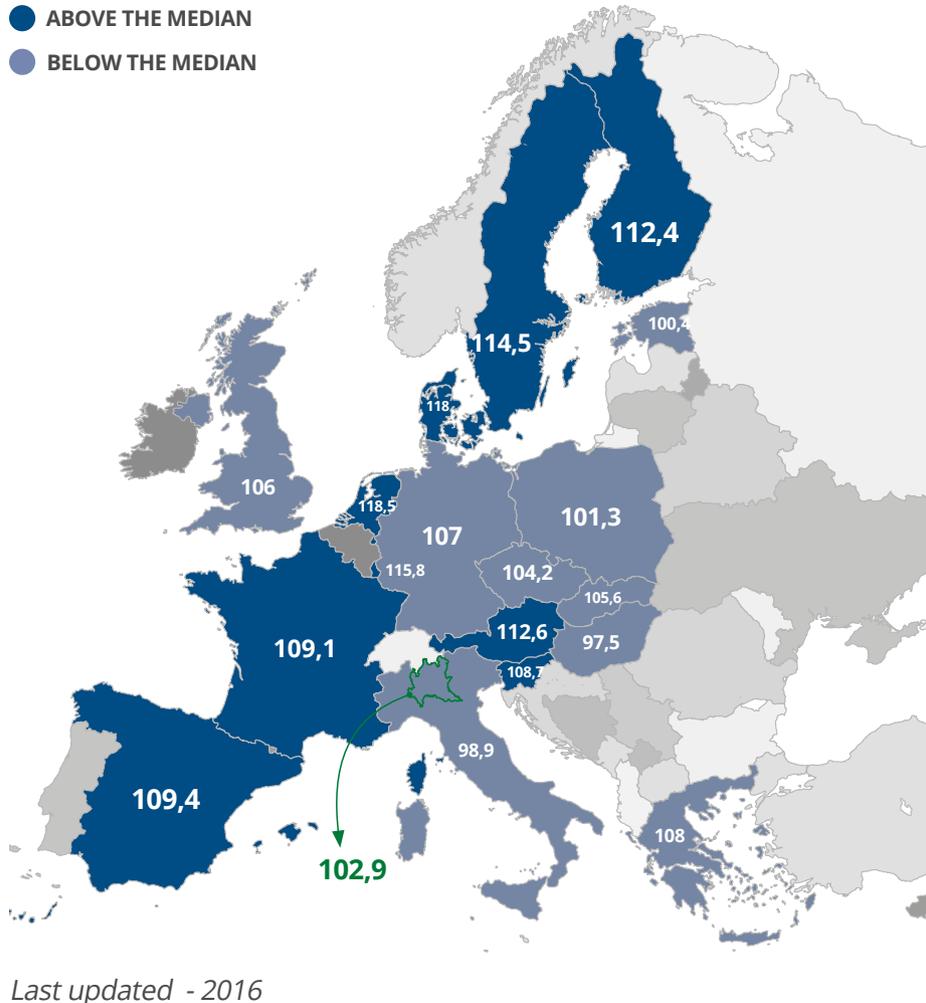
1. Portion of victims of intentional homicide per 100,000 inhabitants. 2. Percentage of people in the last 12 months who have used the internet to interact with public institutions, compared to the population as a whole. The 2016 figure used for the composite index and the figure updated to 2017 are provided. **n.d.** Figure not available.

The goal of an inclusive society is partly pursued through **combating all forms of violence** and **encouraging people to participate in administrative and institutional governance**. Lombardy is in first place on the **intentional homicide rate**, at **0.37 per 100 thousand inhabitants**, while the Italian rate is almost double (**0.67**) and largely in line with the median (**0.69**). Look-

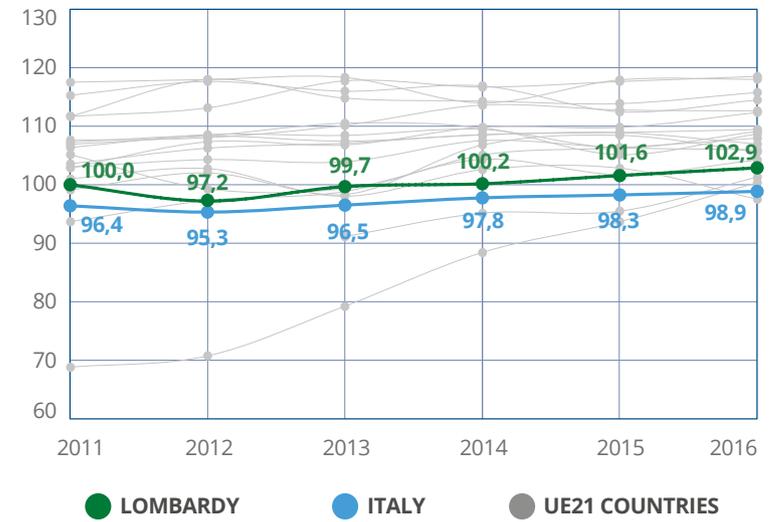
ing at **online public services**, Lombardy and Italy both place towards the bottom, with the portion of people using the **internet** to interact with the PA at **29%** and **25%** respectively. The EU21 median is **52.5%**. The composite index ratifies this regional result that is definitely not impressive, albeit slightly better than the national result. Notably, the index suggests improvement for both.

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17 PARTNERSHIPS
FOR THE GOALS





Strengthen the means of implementation and revitalize the global partnership for sustainable development

One of the primary goals of the 2030 Agenda is for **0.7% of Gross National Income (GNI)** to be allocated to **official development assistance (ODA)** by 2030. In 2017, Italy assigned **5.734 billion dollars** to ODS. This is equal to **0.295% of GNI**, meaning the goal of **0.7%** remains distant. However, it is confirmed a trend of slow but steady growth. In 2016, the portion was only **0.26%**, in 2015, **0.21%** and in 2014, **0.19%**.

The Lombardy regional government has allocated over €1.5 million in development assistance. In terms of quality, between 2001 and 2017, the regional government co-financed 736 **cooperation projects** in **81 countries**, allocating **€57 million** in resources. The **areas of intervention have concerned**: food security, agriculture, water resources and environmental development, economic development, vocational training, capacity building, health

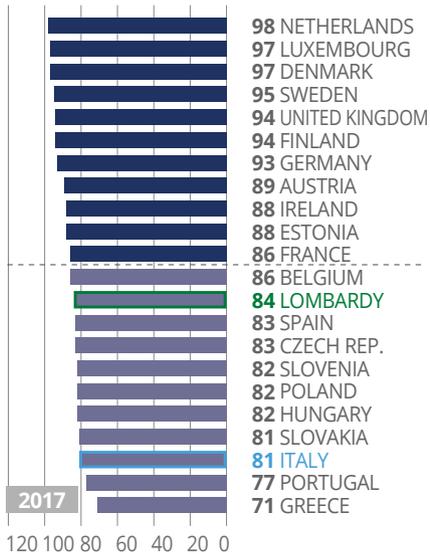
and humanitarian emergencies. **Lombard imports** from developing countries for the period 2000-2017 have grown exponentially, peaking in 2011 and increasing **from €11.3 billion to €25.8 billion**. This expansion particularly affected medium-high income nations, mostly driven by the extent of imports from China and only marginally from lesser-developed countries.

The regional government has **partnerships** with the Network of Regional Governments for Sustainable Development (nrg4SD) and the EU-Strategy for the Alpine Region (EUSALP), along with the European Chemical Regions Network (ECRN), the Association of the Alpine States (ARGE-ALP), the Conference of European Regional Legislative Assemblies (CALRE), the Association of European Regions for Products of Origin (AREPO) and the Four Motors for Europe.

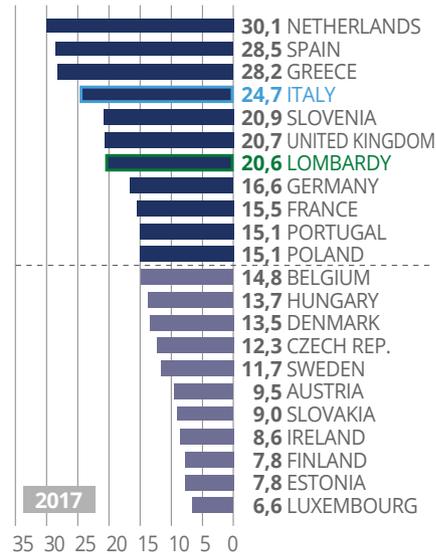


INDICES, INDICATORS AND RATIOS

1. HOUSEHOLDS WITH ACCESS TO THE INTERNET AT HOME



2. IMPORTS FROM DEVELOPING COUNTRIES - UN DAC LIST



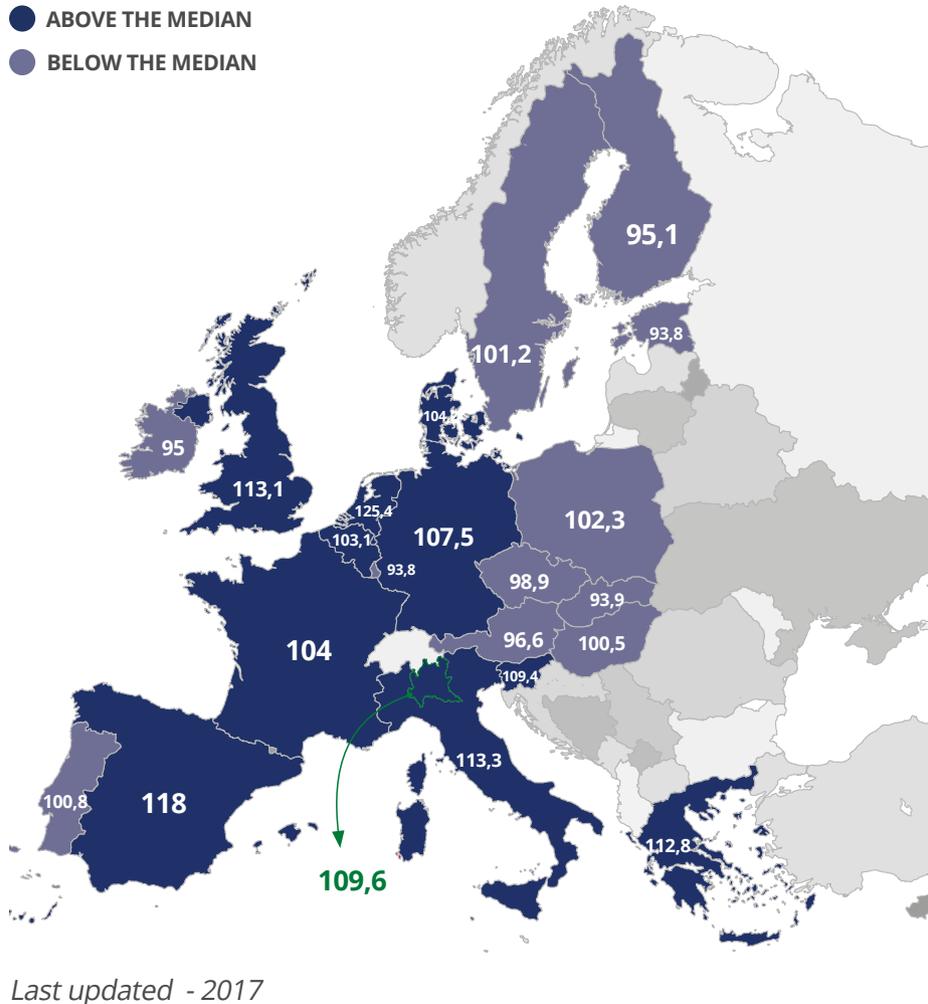
1. Percentage of households with access to the internet, compared to all households.
2. Portion per 100,000 imports from developing countries by country income groups as defined by the World Bank (OECD/DAC list of Aid Recipients).

Sustainable development is pursued through **improved global partnerships**. This not only means increased trade with developing countries, but also reducing the digital divide as it prevents the exchange of knowledge and cooperation. In Lombardy, **84%** of all **households access the internet**, which is a little below the EU21 median (**86%**), but above the national average (**81%**). Lom-

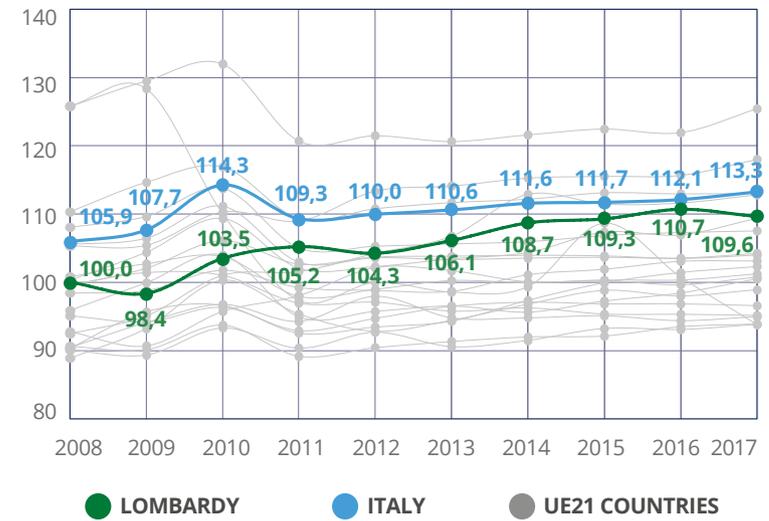
bardy is placed seventh when looking at the portion of imports from developing countries (**20.7% of the total**), while Italy's figure is higher at **24.7%**. In any case, both are above the EU21 median value (**15%**). The composite index shows Lombardy placed below Italy for the entire period considered, although the gap has been closing constantly since 2012.

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