Istat
Istituto Nazionale di Statistica

2024 SDGs REPORT

STATISTICAL INFORMATION FOR 2030 AGENDA IN ITALY

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FOREWORD

At the heart of the 2030 Agenda are people, planet, prosperity and peace. These are precious and vulnerable subjects that require respect for fundamental human rights, the universal exercise of freedom and the eradication of poverty “in all its forms and dimensions, including extreme poverty”. The primary method way to drive change towards the Sustainable Development Goals is through understanding and cooperation between countries and institutions. However, we live in a time of intense and widespread fragility and alarming divisions. The pandemic has left deep scars, especially among the most vulnerable. Old and new conflicts, increasingly brutal, are multiplying destruction and suffering, and diverting vital resources and energy away from development. The effects of climate change have increased in scale and severity around the world, placing new burdens on the planet’s most disadvantaged.

The future is uncertain, especially for young people. Threats of war and environmental crises make us anxious.

Agenda 2030 was launched in 2015 with hope. Despite everything, change is happening. We have the tools to make it happen.

Progress is not linear. There have been setbacks and regressions. Some goals are harder to achieve now than they were a few years ago. Gaps have widened and inequalities have deepened.

Nevertheless, the collective journey of the human community towards the seventeen Sustainable Development Goals has continued, necessitating courageous and transformative steps. Many efforts have yielded encouraging successes, and this belief is grounded in the strength of the data that have accompanied, step by step, the path undertaken almost ten years ago.

The shared commitment to monitoring global progress, initially at the national level and subsequently at an increasingly detailed scale at the subnational level, has prompted a sophisticated and commendable response from the international statistical community, which is evident in the outcomes observed at various levels.

Since the inception of the 2030 Agenda process, substantial investments, the participation of a vast scientific community, and the establishment of a sophisticated and integrated collaborative framework have collectively reinforced the commitment to achieving all the Sustainable Development Goals through the utilisation of statistical data.

Istat is proud to play its role in this project, in which work and high quality data converge, to mark, year after year, the progress of our country, in its different territorial constructs, towards the 2030 goals.

President of the Italian National Institute of Statistics

Francesco Maria Chelli

1. INDICATORS FOR SUSTAINABLE DEVELOPMENT: GENERAL FRAMEWORK[1]

1.1 Introduction

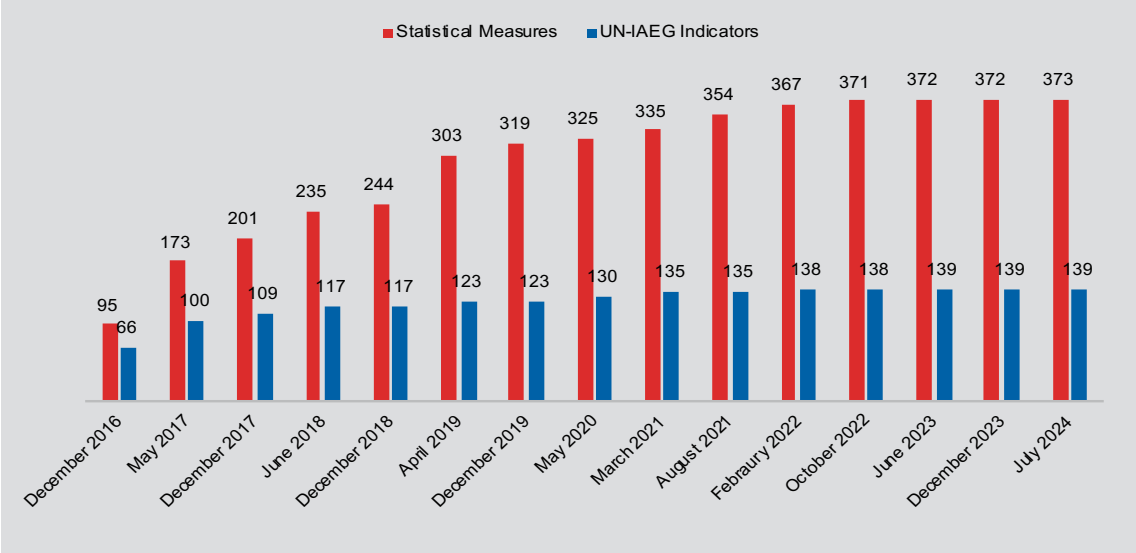
With the seventh edition of the Istat Sustainable Development Goals (SDGs) Report, 373 statistical measures are disseminated (including 342 unique measures, i.e. not repeated in different Goals), corresponding to 139 indicators from the set proposed by the Inter Agency and Expert Group on SDGs (UN-IAEG-SDGs) for the global monitoring of the progress of the 2030 Agenda (Figure 1.1).

Since its launch in December 2016, the Istat-SDGs System has been continuously evolving improving the availability of statistical measures within the National Statistical System (Sistan)[2] as well as taking into consideration methodological advancements within the activities of the UN-IAEG-SDGs context. Compared to the December 2023 edition, the fifteenth issue updates 217 statistical measures and introduces 7 new ones.

1 This Chapter was edited by Barbara Baldazzi, Lorenzo Di Biagio, Leopoldo Nascia and Paola Ungaro.

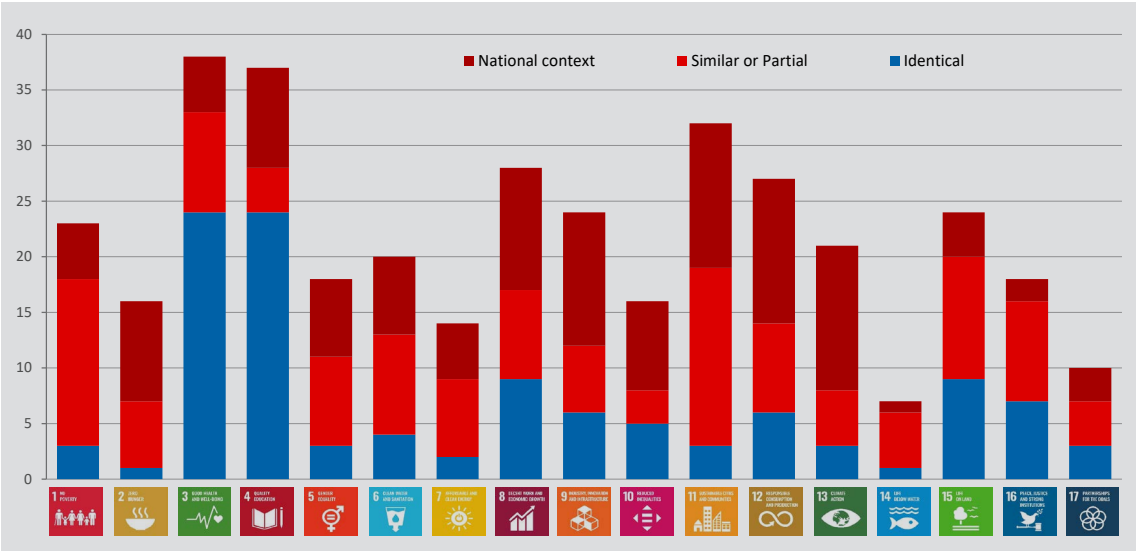
2 The Istat-SDGs statistical measures have been edited by: Domenico Adamo, Marina Attili, Barbara Baldazzi, Ciro Baldi, Tiziana Baldoni, Alessandra Battisti, Eugenia Bellini, Donatella Berna, Elisa Berntsen, Danilo Birardi, Emanuela Bologna, Silvia Bruzzone, Alessandra Burgio, Claudia Busetti, Alessandra Capobianchi, Tania Cappadozzi, Raffaella Cascioli, Cinzia Castagnaro, Livia Celardo, Raffaella Chiocchini, Cinzia Conti, Luigi Costanzo, Stefania Cuicchio, Daniela De Francesco, Viviana De Giorgi, Elisabetta Del Bufalo, Clodia Delle Fratte, Valeria de Martino, Alessia D'Errico, Lorenzo Di Biagio, Claudia Di Priamo, Silvia Di Sante, Mascia Di Torrice, Gabriella Donatiello, Alessandro Faramondi, Aldo Femia, Angela Ferruzza, Luisa Frova, Flora Fullone, Lidia Gargiulo, Silvana Garozzo, Roberto Gismondi, Francesco Gosetti, Donatella Grassi, Valentina Joffre, Antonino Laganà, Sandra Lalli, Francesca Lariccia, Marzia Loghi, Silvia Lombardi, Renato Magistro, Cecilia Manzi, Sandra Maresca, Valeria Mastrostefano, Maria Liviana Mattonetti, Manuela Michelini, Giulia Milan, Costantino Milanese, Alessandra Milani, Silvia Montecolle, Maria Giuseppina Muratore, Leopoldo Nascia, Alessandra Nurra, Sante Orsini, Claudio Paolantoni, Ilaria Piscitelli, Maria Elena Pontecorvo, Sabrina Prati, Gaetano Proto, Simona Ramberti, Chiara Rossi, Mariangela Sabato, Maria Teresa Santoro, Miria Savioli, Giovanni Seri, Silvia Simeoni, Sabrina Sini, Vincenzo Spinelli, Carmela Squarcio, Simona Staffieri, Ilaria Straccamore, Giovanna Tagliacozzo, Stefania Taralli, Stefano Tersigni, Alessandra Tinto, Azzurra Tivoli, Caterina Torelli, Francesco G. Truglia, Angelica Tudini, Franco Turetta, Paola Ungaro, Giusy Vetrella, Donatella Vignani, Alberto Violante, Laura Zannella and Silvia Zannoni. The statistical measures have been developed by collaborations set up in the National Statistical System (Sistan) and with institutions outside the Sistan. In particular: ASviS, Bank of Italy, Consob, CREA, Enea, FAO, GSE S.p.A, Inail, Invalsi, Italian Institute for Environmental Protection and Research, Italian National Institute of Health, Ministry of Agriculture of Food Sovereignty and Forestry, Ministry of Economy and Finance, Ministry of Education and Merit, Ministry of the Environment and Energy Security, Ministry of Foreign Affairs and International Cooperation, Ministry of Health, Ministry of Justice, Ministry of the Interior, Ministry of Labour and Social Policy, Ministry of University and Research, National Institute of Geophysics and Volcanology, Presidency of the Council of Ministers – Equal Opportunities Department, Terna S.p.A.

Figure 1.1 - Istat-SDGs statistical measures and UN-IAEG-SDGs indicators, by date of dissemination



113 measures are identical to UN-IAEG indicators, 133 are proxy or partial and 127 are national context specific, in varying proportions depending on the Goals (Figure 1.2).

Figure 1.2 - Istat-SDGs statistical measures, by taxonomy compared to SDGs indicators



In order to detail the statistical information disseminated as much as possible, there is a special focus on the development of breakdowns of statistical measures (Figure 1.3), as requested by the United Nations.

Figure 1.3 - Istat-SDGs statistical measures, by breakdown

Dimension	Istat-SDGs Statistical measures	Goal
Degree of urbanization / Municipality / Municipality type	76	
Region	209	
Province	17	
Gender	125	
Age class	78	
Educational attainment	25	
Citizenship / Nationality	58	
Presence of disability	18	

The overall picture of the SDGs is addressed in detail in paragraph 1.2, while the usual territorial analysis in paragraph 1.3 is further expanded to consider both the time evolution of the regions with respect to the 2030 Agenda and their convergence or divergence over time. Paragraph 1.4 offers a synthesis of these two aspects. In paragraph 1.5, an initial exploration of the interconnections between Goals is presented, which can be traced starting from the Istat-SDGs measures system for Italy. Finally, in paragraph 1.6, the main results for each Goal are outlined.

The analyses presented in this Chapter are accompanied by detailed analyses for each of the Goals in Chapter 2. Following the fruitful experience of past editions, once again this year Chapter 2 offers in-depth analyses by researchers and representatives of (Sistan and extra-Sistan) institutions that contribute to the production of statistical information for the measurement of sustainable development. Chapter 3 presents an update of the international and national processes of statistical information systems dedicated to the SDGs, alongside in-depth comparative analysis of the position of Italy and of the EU 27 with respect to the European Green Deal indicators and their connection the National Sustainable Development Strategy.

The Report is accompanied by an infographic, a dashboard that allows navigation among the statistical measures and data and metadata files. All the documentation is available online at

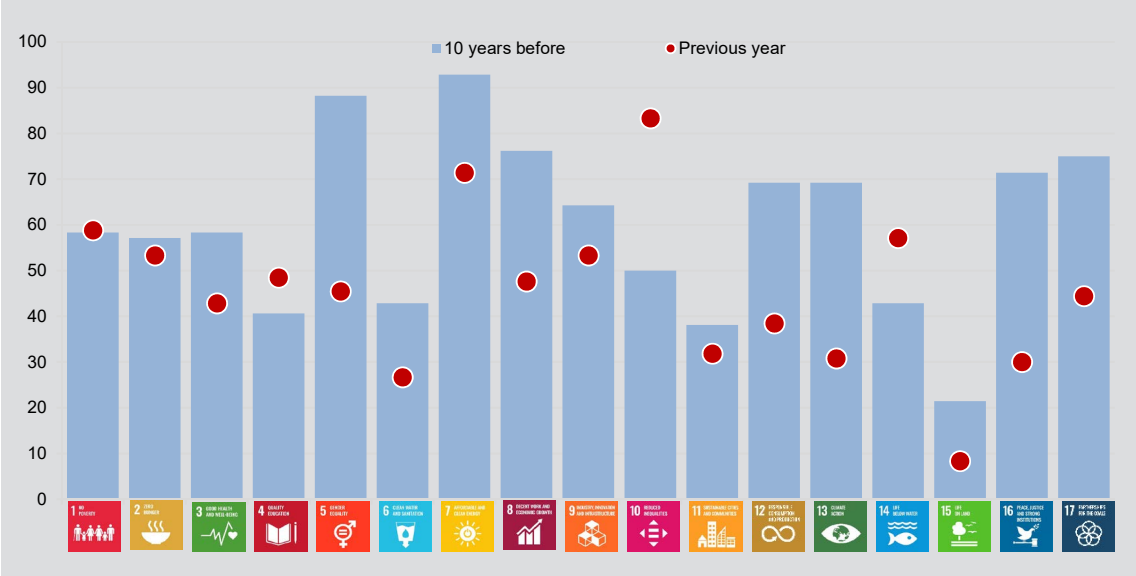
https://www.istat.it/en/statistical-themes/focus/well-being-and-sustainability/sustainable-development-goals/.

1.2 Progress on the SDGs

The trend over time towards sustainable development was analysed using 260 statistical measures for which there is sufficient historical data. The values from last available year (usually 2022 or 2023) were compared with those from the previous year (short term) and ten years before (long term). The resulting variations were classified as "improvement" (green), "stability" (yellow) or "deterioration" (red)[3]. The detailed trends are reported in the summary tables of Chapter 2, at the end of each Goal, while here a summary review of the progress across the entire set of Istat-SDGs statistical measures is provided.

The analysis of the number of improving and deteriorating measures provides a varied but generally positive picture, especially with regard to long-term variations, with nearly 60% of the measures improving (Figure 1.4) and only less than a fifth worsening (Figure 1.5).

Figure 1.4 - Istat-SDGs statistical measures improving: last available year compared to the previous year and to 10 years before, by Goal (percentage values)

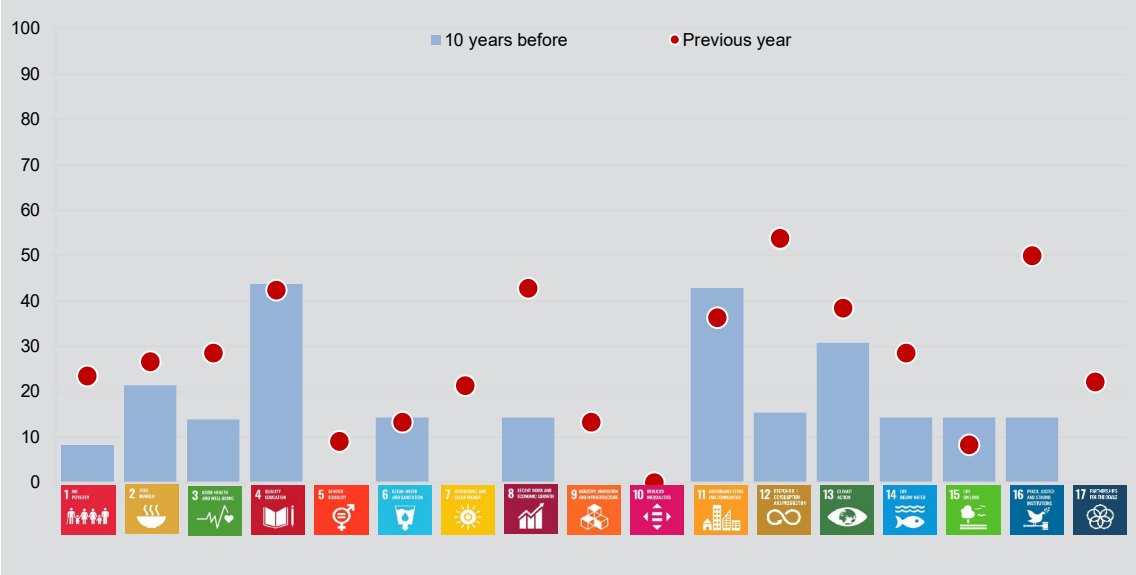


In the long term, the percentage of measures with positive changes is particularly high for: Goal 5 (Gender equality), in which trends in reducing violence against women and in the presence of women in management positions have improved; Goal 7 (Energy), thanks to the progress of all measures on energy consumption and renewable sources; Goal 8 (Work and economic growth), characterised by a generalised recovery of the labour market and the positive trend in material consumption; Goal 17 (Partnerships), characterised, in particular, by the positive and growing diffusion of ICT. The favourable condition of these Goals is confirmed by a zero or little share of measures worsening in the

3 The synthetic representation of the trends of the statistical measures has been obtained by calculating their changes in the short term (usually *t* over *t-1*) and in the long term (usually *t* over *t-10*). The changes have then been classified according to the values of a Compound Annual Growth Rate (CAGR), computed as $\text{CAGR} = \left(\frac{y_t}{y_{t_0}}\right)^{\frac{1}{t-t_0}} - 1$, where t_0 is the base year, *t* is the year under consideration and *y* is the value of the indicator in the two years. For indicators with a positive direction (*i.e.* those whose increase indicates convergence towards the objectives), the long-term trend is assessed as: improving, if CAGR>0.5%; stable, if -0.5%≤CAGR≤0.5%; and deteriorating, if CAGR<-0.5%. For the short term, thresholds are equal to ± 1%. For indicators with a negative direction the classification is reversed.

last ten years. However, the situation in the last year for Goals 5 and 8, is less favourable since they recorded improvements for only approximately half of the statistical measures.

Figure 1.5 - Istat-SDGs statistical measures deteriorating: last available year compared to the previous year and to 10 years before, by Goal (percentage values)



Goals 4 (Education) and 11 (Sustainable cities) present the highest incidences (over 40%) of indicators worsening compared to the previous ten years and at the same time a percentage of measures improving below average (around 40%). For Goal 4, the literacy and numerical skills of students in general, particularly in primary school, have worsened (even in the last year). The progress of Goal 11 is instead penalised by the growing difficulties of public transport and the increase in illegal construction.

Goals 9 (Industry, innovation and infrastructure) and 10 (Reduced inequalities) are characterised by the scarcity (in the last year) and the complete absence (in the last ten years) of worsening measures, despite many measures have remained stable.

Goals 6 (Water), 14 (Life below water) and 15 (Life on land) show a higher than average percentage of stable measures over the last ten years. In Goal 15, almost two-thirds of the measures have remained stable in the long term. However, Goal 14, unlike Goal 6 and 15, sees greater dynamism in the short term, with a high percentage (around 60%) of measures improving compared to the previous year.

1.3 Sustainable development in the regions

Monitoring progress towards the Sustainable Development Goals at a more disaggregated level than the national one is appropriate, both in light of the demand for detailed statistics at territorial level by the UN-IAEG-SDGs, and in consideration of the growing importance of programmatic initiatives in the SDGs field at the sub-national level. The contextual production of disparity measures is particularly useful in revealing territorial heterogeneity, which is still largely present. For this purpose, this paragraph makes available a joint regional

analysis of the time evolution of statistical measures and their inter-regional convergence.

The progress of the regions towards sustainable development was analysed first by distributing the levels of measures in the last available year into five homogeneous groups[4]: from low (first group) to high (fifth group). This categorisation makes it possible to assess the relative position of each region with respect to the set of indicators (Figure 1.6).

The regional map shows, in the last year, a territorial heterogeneity of sustainable development in favour of the regions of the North-East, where measures in the fourth and fifth groups prevail, compared to the South and Islands, where most of the indicators are positioned in the two lower levels. The fifth group contains 42.5% of the measures of the Autonomous Province of Bolzano/*Bozen*, 38.6% of the Autonomous Province of Trento, 30% of the Valle d'Aosta/*Vallée d'Aoste* and 28.1% of Lombardia.

In the central regions, most measures fall between the third and fourth groups. In the southern regions, measures belonging to the first group prevail in Campania (32.7%), Calabria (39.1%) and Sicilia (40.4%). In Puglia and Sardegna the measures are mainly concentrated in the second group (43.6% and 31.4% respectively); in Abruzzo in the third group (with 34.6% of the measures).

Figure 1. 6 - Istat-SDGs statistical measures, by region and level of sustainable development: last available year (percentage values)

REGIONS AND GEOGRAPHIC AREAS	Level of sustainable development					Total available measures
	low	medium low	medium	medium high	high	
Piemonte	5.2	15.7	28.8	34.0	16.3	153
Valle d'Aosta/Vallée d'Aoste	15.3	16.0	14.7	24.0	30.0	150
Liguria	7.7	14.1	38.5	27.6	12.2	156
Lombardia	9.8	8.5	19.6	34.0	28.1	153
Bolzano/Bozen	13.7	13.7	13.1	17.0	42.5	153
Trento	5.9	9.8	16.3	29.4	38.6	153
Veneto	7.1	14.1	30.1	29.5	19.2	156
Friuli-Venezia Giulia	5.2	16.8	20.6	34.8	22.6	155
Emilia-Romagna	9.0	12.2	21.8	34.6	22.4	156
Toscana	1.9	17.3	34.6	32.7	13.5	156
Umbria	4.6	16.3	26.8	32.0	20.3	153
Marche	3.2	14.7	30.1	34.6	17.3	156
Lazio	9.0	23.2	27.7	27.1	12.9	155
Abruzzo	5.1	25.6	34.6	26.3	8.3	156
Molise	11.5	23.1	27.6	19.9	17.9	156
Campania	32.7	28.2	16.0	13.5	9.6	156
Puglia	9.6	43.6	24.4	14.1	8.3	156
Basilicata	22.4	25.0	21.2	16.0	15.4	156
Calabria	39.1	16.7	17.3	16.7	10.3	156
Sicilia	40.4	23.1	16.7	13.5	6.4	156
Sardegna	16.0	31.4	21.2	17.3	14.1	156

Despite the very disadvantaged situation of the last year, the regions of the South and Islands show notable improvements over both long term (ten years before) and short term (previous year). This is most evident in Abruzzo, Calabria and Puglia (Figure 1.7 and Figure 1.8). These improvements are encouraging, although not enough to close the gap with the northern

4 The Jenks natural interval method allows to define groups of different sizes, as homogeneous as possible, in order to maximise inter-group variability and minimise intra-group variability. After the sorting of the regional distribution of each statistical measure, five groups were defined, considering, for each region, the percentage of measures found in each group (from those falling into the lowest level up to those in the last group). The calculation took into account the polarity of each statistical measure, i.e. whether its increase has a positive or negative impact towards sustainable development.

regions. Net of the improvements recorded for the entire national territory (for example for measures on ICT employment and use), in the last year in Calabria healthy life expectancy at birth and vaccination coverage increased, while implicit leavers from education and training and length of civil proceedings decreased. In Abruzzo, the number of overweight or obese individuals and the share of grade 13 students with inadequate skills decreased. In Puglia the share of people at risk of poverty decreased. Compared to ten years earlier, approximately 60% of the statistical measures of Calabria and Abruzzo have improved.

Again, with reference to long-term developments, Toscana and Emilia-Romagna stand out for the small share of worsening measures (less than 20%). Compared to the previous year, the highest percentage of improving indicators is in Piemonte (49.4%), Calabria (53.0%), Abruzzo (53.6%) and Puglia (54.8%).

Figure 1.7 - Time evolution of the statistical measures: last available year compared to 10 years before, by region (percentage values)

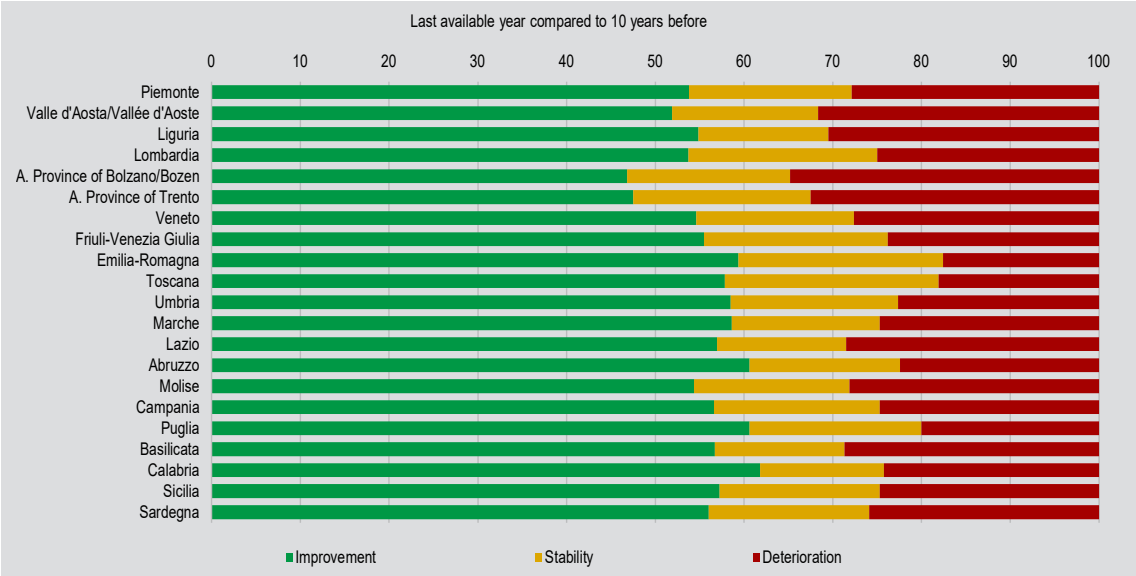
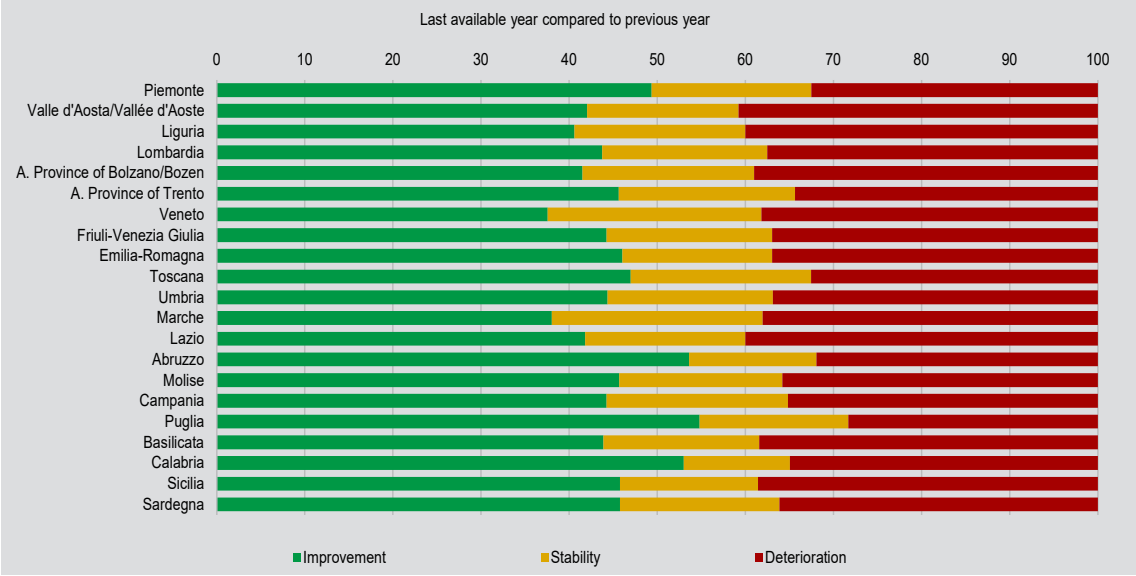


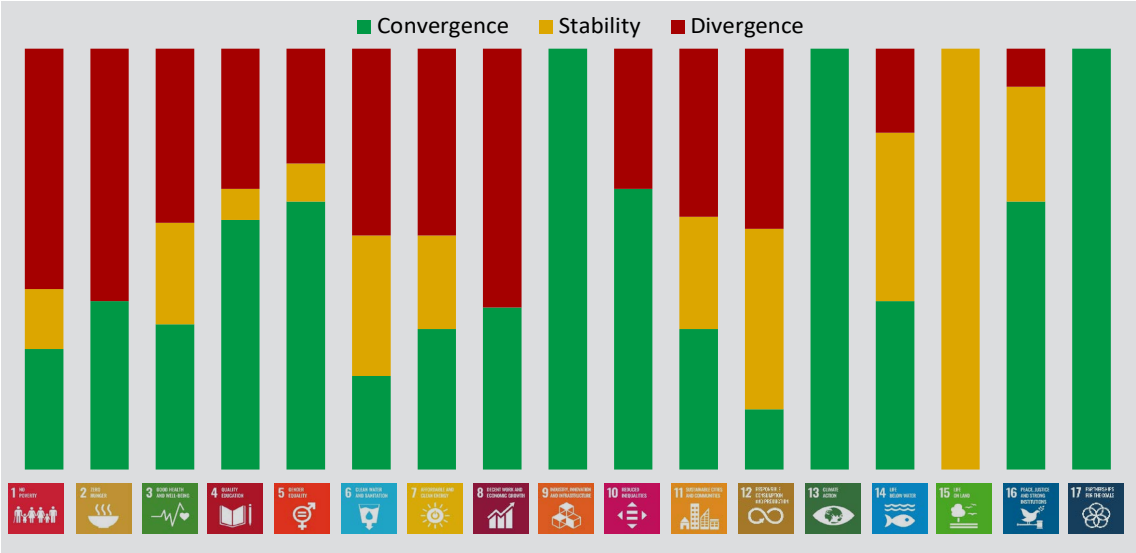
Figure 1.8 - Time evolution of the statistical measures: last available year compared to the previous year, by region (percentage values)



The analysis of territorial convergence was performed by calculating, for each statistical measure disaggregated at regional level and available in time series, the ratio between the coefficient of variation CV_t of regional values at the time t and that ten years before (CV_{t-10}). The ratio is classified as "convergence" (green), "stability" (yellow) or "divergence" (red)[5]. In this case as well, the detailed trends are reported in the summary tables at the end of each Goal (see Chapter 2).

Over the last ten years, almost half (47.4%) of the 173 statistical measures analysed indicate convergence between regions, 18.5% show stability and 34.1% show regional divergence (Figure 1.9).

Figure 1.9 - Convergence among regions: last available year compared to 10 years before, by Goal (percentage values)



Goals 9, 13 (Climate action) and 17 are the only ones to present a decrease in territorial gaps for all statistical measures, especially for the reduction of the gaps for measures relating to research and development (Goal 9) and digitalisation (Goal 17), and for the uniform distribution across the territory of the population at risk of natural disasters, as well as the widespread concern for climate change. Goals 4, 5, 10 and 16 (Peace, justice and institutions) are characterised by a prevalence of converging measures. Conversely, in Goals 8 and 1 (No Poverty), more than half of the measures exhibit a widening of territorial inequalities, due to the growing gaps in access to basic services (Goal 1) and the persistent imbalances between of regional labour markets (Goal 8).

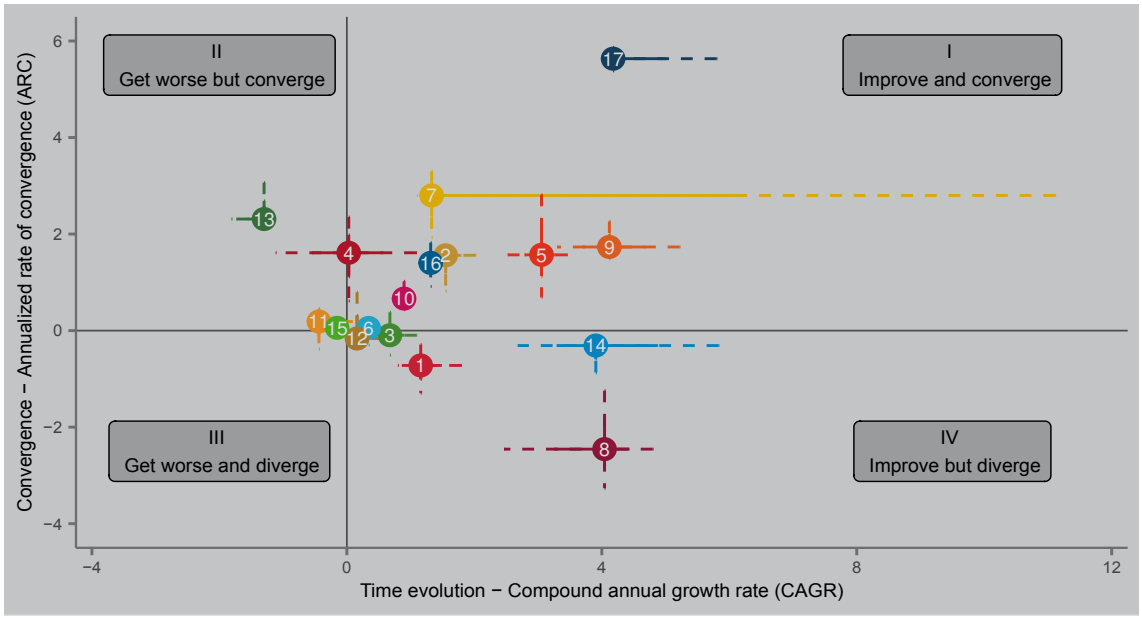
5 The measure of change in relative inequality (given by the ratio between CV_t and CV_{t-10}) is averaged over the period, and changed in sign to take into account the negative polarity of the coefficient of variation (the smaller it is, the lower the regional inequality), thus obtaining the Annualized Rate of Convergence (ARC). Relative inequality is then classified as: improving (convergence among regions, decrease in inequality), if ARC>0.5%; stable, if -0.5%≤ARC≤0.5%; deteriorating (divergence among regions, increase in inequality), if ARC<-0.5%. For the computation of relative inequality values, a few precautions apply: (a) in case of missing values for the Autonomous Provinces of Trento or Bolzano/*Bozen*, data from the Trentino-Alto Adige/*Südtirol* have been entered (if available); (b) in case of missing values for some (but not all) regions, the coefficient of variation has been calculated only for available regional data. Some statistical measures are excluded from the calculation, in particular those relating to a rate of change (for example the rate of change in per capita household income or the annual growth rate of real GDP per inhabitant) and those with absolute values not comparable between regions, because they depend on specific characteristics (e.g., demographic) of the region (for example the number of deaths in road accidents or the amount - in tonnes - of municipal waste subject to separate collection).

1.4 Towards sustainable development: a summary framework

The combination of the reading of regional inequalities with that of time evolution represents an essential tool for monitoring, allowing to isolate, for each statistical measure, the cases in which convergence is accompanied by a worsening over time, or vice-versa. The representation of these trends at Goal level provides an interesting, integrated and synthetic picture of Italy's overall stage of progress towards the objectives of the 2030 Agenda, including the transversal reduction of territorial disparities.

In Figure 1.10 the Goals are represented, on the x-axis, based on the median values of the annual variation in the last ten years (CAGR - compound annual growth rate; see note 3) and, on the y-axis, based on the median values of convergence between regions (ARC – annualised rate of convergence; see note 5). Conceptually, in the first quadrant, at the top right, are the Goals that show an optimal situation, with more than half of the measures that have improved in the long term and more than half of the measures that have converged. Conversely, the third quadrant, at the bottom left, includes the Goals in a more critical situation, with more than half of the measures that have worsened in the last ten years and more than half of the measures that have diverged.

Figure 1.10 - Goals by time evolution (x-axis) and convergence among regions (y-axis): last available year compared to 10 years before (percentage values)



The length of the four segments that branch off from the Goal symbols is proportional to the dispersion of the values compared to the median value[6]. For example, for Goal 15 (very short segments) the median value adequately represents the trends of the measures; for Goal 4 (longer segments) some measures improve or worsen in a much more pronounced way than the median measure.

6 The segments towards the right and upwards have a length equal to one third of the difference between the third quartile and the median, respectively of the CAGR and of the ARC; the segments towards the left and downwards have a length equal to one third of the difference between the median and the first quartile, respectively of the CAGR and of the ARC. To point out that, for graphic reasons, the segments do not extend completely up to the first/third quartile and that they represent only a part of the dispersion, a solid line is used, which continues as a dashed line.

Overall, progress is more accentuated for Goals 5, 9 and, mostly, 17, characterised by positive time evolutions and, at the same time, territorial convergence. Goals 2 (Zero Hunger), 7 (Energy), 10 and 16 are also characterised by progress with respect to both dimensions considered, but with lower growth rates.

Goals 8, 14 and 1, the latter with less pronounced trends, show progress over time, which is, however, accompanied by a worsening of territorial disparities, especially for Goal 8. In Goal 13 the opposite is true, with more pronounced worsening over time but with more intense convergence.

Goals 3 (Good health), 6 (Water), 11, 12 (Responsible consumption and production) and 15 are instead characterised by relative stability, with many measures with small variations, both in terms of time evolution and regional disparity.

1.5 The interconnections between Goals: a first exploration

The exploration of interconnections (interlinkages) between the 17 Goals, the 169 targets of the 2030 Agenda and the indicators for monitoring them is particularly important for the purpose of monitoring the conditions of compatibility between social and economic progress and environmental protection, within the phenomenological, conceptual and statistical complexity that characterises sustainable development. "The interlinkages and integrated nature of the Sustainable Development Goals are of crucial importance in ensuring that the purpose of the new Agenda is realized. If we realize our ambitions across the full extent of the Agenda, the lives of all will be profoundly improved and our world will be transformed for the better"[7].

The large number of indicators and the heterogeneity of their nature requires the adoption of an interdisciplinary approach to the topic of interlinkages, and complex methodologies of analysis that allow the isolation of positive (synergies) or negative (trade-off) interconnections. In this paragraph, a first exploration of the potential for interconnections between Istat-SDGs measures is presented with the aim to explain the interactions between targets and Goals of the 2030 Agenda. It is a statistical "experiment" aimed at tracing the dense network that connects varied phenomena, some of which show more defined trends and interconnections, also due to the support of mature statistical information, while others are more "nuanced".

The analysis included 198 statistical measures[8] for the 17 goals. The correlations between the measures were studied in bivariate form, through the use of co-graduation indices[9] calculated for each pair of measures, for a total of 19,503 pairs. Once the correlation matrix was reconstructed, only the significant interlinkages[10] were selected and grouped by Goal.

7 See United Nations General Assembly. 2015. *Transforming our world: the 2030 Agenda for Sustainable Development*. A/RES/70/1 (https://documents.un.org/doc/undoc/gen/n15/291/89/pdf/n1529189.pdf).

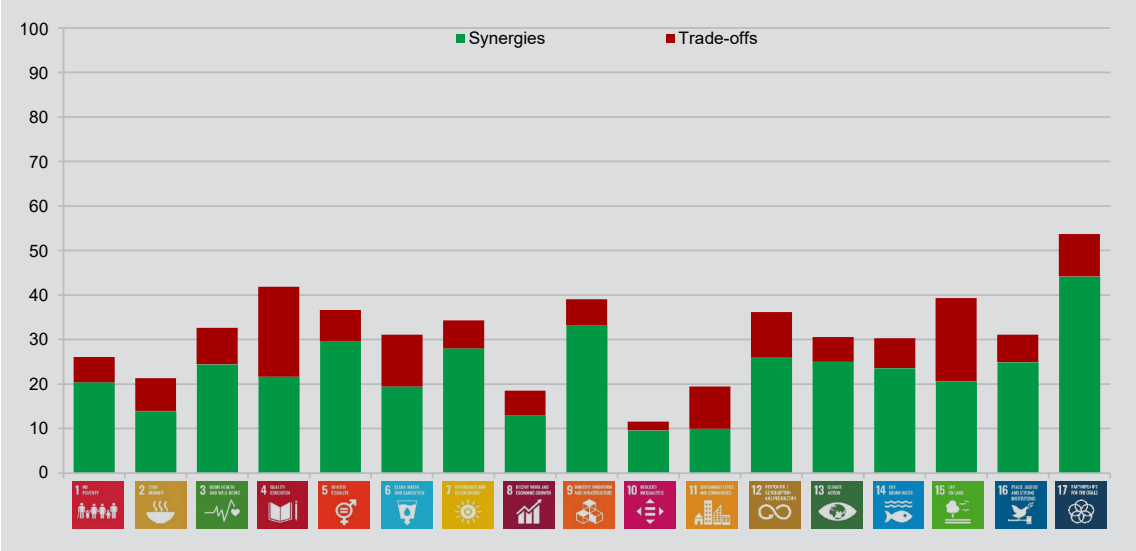
8 Statistical measures not available in time series or which have not available data at least until 2019 were excluded from the analysis and only the data relating to the entire territory of Italy were included. In accordance with the analyses illustrated in the previous paragraphs, a positive direction was attributed to measures whose increase indicates a progress towards the targets, a negative direction to measures whose increase indicates a regress from them and a neutral direction to those measures not indicating a clear direction. Measures with a neutral direction were excluded from the analysis.

9 In particular, the Spearman co-graduation index was used.

10 Co-graduations higher than or equal to 0.75 (in absolute values) are classified as significant.

The significant interconnections represent 31.9% of the total (Figure 1.11). The Goals showing the highest share of significant interlinkages between measures are 17 (over 50%), 4, 15 and 9 (around 40%). Conversely, Goals 8, 10 and 11 show a lower level of interlinkages (less than 20% of significant co-graduations).

Figure 1.11 – Intra-Goal and inter-Goal significant interconnections (a)**, by Goal** (percentage values)



(a) Only co-graduations (between measures pertaining either to the same Goal or to different Goals) which in absolute value are greater than or equal to 0.75 are considered.

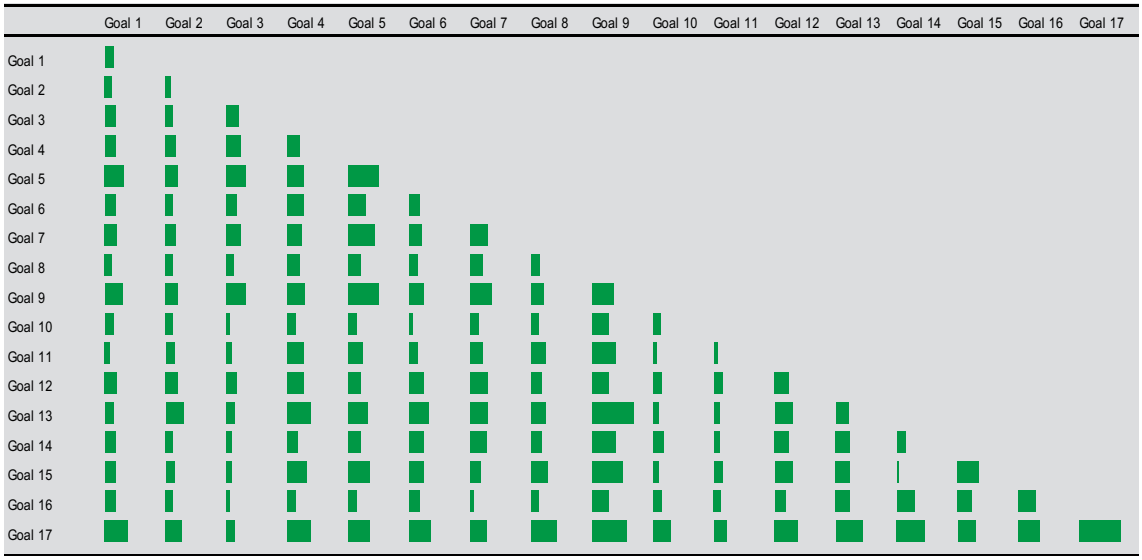
It should be underlined that the aim of this exploratory analysis of the potential for interconnections is not the identification of causal links, which require specific investigations within thematic and interdisciplinary research, but identification of the most significant concordances/differences in performance with respect to the sustainable development objectives.

In accordance with international research on interconnections[11], the analysis shows how synergies (concordances) are more numerous than trade-offs (discordances). Considering only the significant interconnections, 69.7% are positive, compared to 30.3% of trade-offs.

The detail of the significant interconnections - positive and negative - by Goal is illustrated by Figures 1.12 and 1.13. On the positive side, we highlight, for example, Goal 17, which presents measures relating to the diffusion of ICT in the population, interconnected mostly with Goal 4, which takes into account the progress in education, and Goal 8, which depicts the evolution of the labour market. The many positive interlinkages between Goal 9 and Goal 13 can be due to the presence of synergistic relations between climate change, innovation and infrastructure. However, on the negative side, we observe many trade-offs between Goal 15, characterised by high stationarity, and Goals 13 and 17, which present a stronger dynamism towards progress.

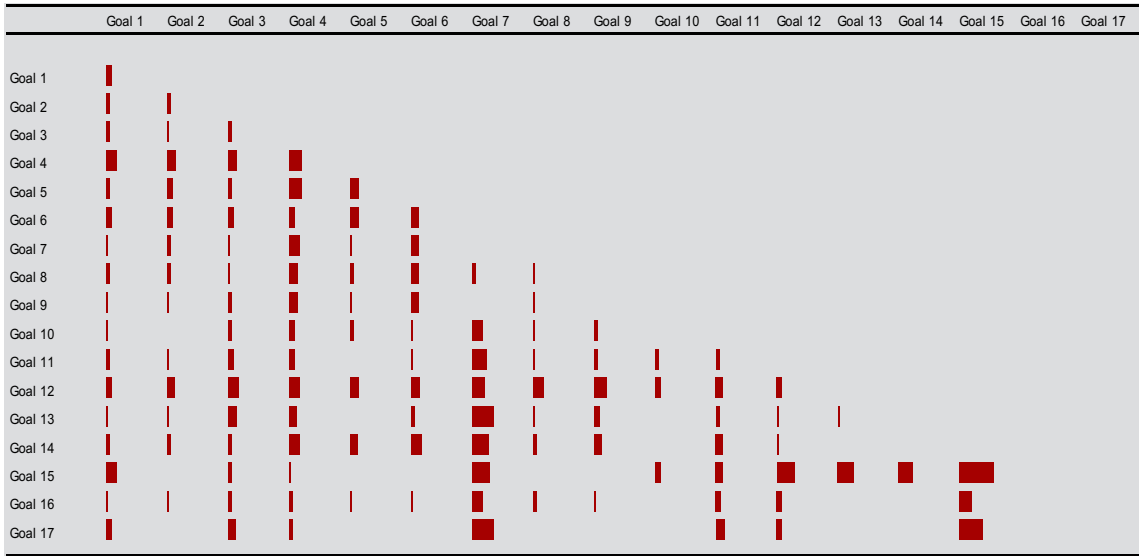
11 See, for example, Miola A, Borchardt S, Neher F, Buscaglia D. 2019. *Interlinkages and policy coherence for the Sustainable Development Goals implementation: An operational method to identify trade-offs and co-benefits in a systemic way*. Publications Office of the European Union: Luxembourg; Barbier, E. B. and Burgess J. C. 2017. "The Sustainable Development Goals and the systems approach to sustainability", *Economics* 11 (2017–28):1–22.

Figure 1.12 – Intra-Goal and inter-Goal significant positive interconnections (a)**, by Goal** (percentage values)



(a) Only co-graduations (between measures pertaining either to the same Goal or to different Goals) which in absolute value are greater than or equal to 0.75 are considered.

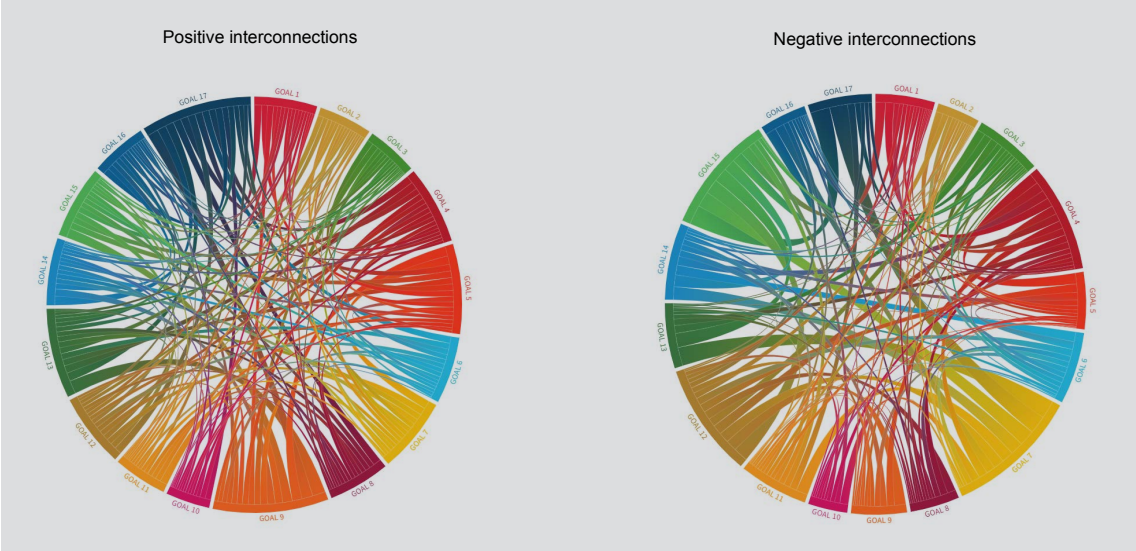
Figure 1.13 – Intra-Goal and inter-Goal significant negative interconnections (a)**, by Goal** (percentage values)



(a) Only co-graduations (between measures pertaining either to the same Goal or to different Goals) which in absolute value are greater than or equal to 0.75 are considered.

The summary picture of interlinkages - always separately for positive and negative relationships - can be illustrated through wheel graphs in which, for each pair of Goals, the interconnections are represented through "spokes" (Figure 1.14). The thickness of the spokes is proportional to the percentage of significant interconnections between Goals. The graphs provide a quick visual representation that show that the network of positive covariations between Goals is denser than the network of negative covariations. In fact, each Goal has at least one positive linkage with each of the other Goal. Conversely, among the trade-offs, some linkages between Goals are completely missing. An example is the lack of linkages between Goal 2 and Goal 15 and between Goal 7 and Goal 9 as well.

Figure 1.14 – Wheel graphs of significant positive and negative interconnections (a)



(a) Only co-graduations (between measures pertaining either to the same Goal or to different Goals) which in absolute value are greater than or equal to 0.75 are considered.

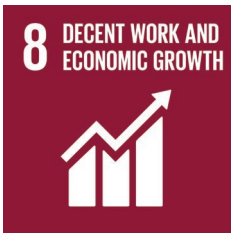
The analysis depicts a complex scenario which, although requiring further study, highlights how the achievement of individual targets or Goals also has significant effects on others, recalling, once again, the opportunity for policy actions to take these effects into account. This initial exploration opens the way to subsequent developments useful to support policy coherence action plans, in order to deepen the vast array of significant interconnections, identifying those that are conceptually relevant, in the context of specific research contributions. This is an ambitious challenge, which confirms the importance of an interdisciplinary approach to studying sustainable development, as confirmed by the increasing number of publications[12] and cross-cutting research projects on the SDGs.

12 These are developments confirmed by various bibliometric studies: see, among others, Armitage, CS, et al..2020. *Mapping the interconnections among the Sustainable Development Goals: A bibliometric network analysis*; Björk, B.-C., et al..2020. *The interdisciplinary landscape of research on the Sustainable Development Goals: A bibliometric analysis*.

1.6 Main results by Goal

	The number of people living in absolute poverty in Italy was over 5.7 million in 2023 (preliminary estimates), representing 9.8%, the highest value since 2014. The incidence of absolute poverty was higher, but falling, in the South and Islands (12.1%, -0.5 p.p. compared to 2022), while it was lower, but rising by 0.5 p.p., in the Centre (8.0%) and in the North (9.0%). In 2023, about 13.4 million people living in Italy were at risk of poverty or social exclusion (AROPE). They were 22.8% of the population, declining by 1.6 p.p. compared to 2022. The AROPE population shows strong territorial heterogeneity, ranging from 12.4% in the North to 39.0% in the South and Islands, with peaks of over 40% in Campania (44.4%), Calabria (48.6%) and Sicilia (41.4%). Between 2022 and 2023, both the share of the population at risk of poverty (from 20.1 % to 18.9 %) and the share of the population with low work intensity (from 9.8 % to 8.9 %) decreased. The share of people suffering from severe material and social deprivation increased slightly (from 4.5 % to 4.7 %).
	In 2023, 1.5% of the Italian population experienced food insecurity (-0.8 p.p. compared to the previous year). The share was significantly higher in the South and Islands (2.7%). The share of overweight children and adolescents continued to increase in 2022: 33.5% in the 3-5 year class (+2.7 p.p. from 2017) and 27.2% in the 3-17 year class. Irregular employment in agriculture was high, but decreasing (23.2% in 2021, -1.2 p.p. compared to the previous year); in the South and Islands, irregular workers were 30.2%. In 2022, fertilisers and plant protection products distributed in agriculture declined (-26.6% and -11.6% compared to the previous year) as did ammonia emissions from the agricultural sector (-11.7%).
	In 2023, there were 660,600 deaths in Italy, about 53,000 fewer than in 2022. The number of deaths returned to pre-pandemic levels. Life expectancy at birth in Italy in 2023 was 83.1 years, an increase of about 6 months compared to 2022 (it was 82.6 years), almost fully recovering the loss of expected life years due to the pandemic. Healthy life expectancy at birth in 2023 is estimated to be 60.5 years for men and 57.9 years for women in 2023, a decrease compared to 2022. In 2023, 44.6% of the population aged 18 and over were overweight or obese. Compared with 2021, this figure was stable. Among people, aged 14 and over, 15.6 out of 100 abused alcohol in 2023. This figure was stable compared with 2022. The number of people aged 14 and over who habitually smoke decreased compared to the previous year (19.9%). In the 2022/2023 winter season, there was a decline in flu vaccination coverage: 56.7% of elderly people were vaccinated, a percentage well below the target value recommended by the World Health Organisation (75%).

	In 2022, in Italy 21.4% of 15-year-old students did not achieve the basic level of competence in reading, a percentage in improvement compared to 2018. Mathematical skills worst: 29.6% of 15-year-old students did not achieve the basic level. In grade 2, pupils who did not achieve the basic competence level in Italian (31.4%) and mathematics (36.1%) were more than in 2019 and 2021. As early as second grade, slight territorial gaps were observed, especially for mathematics. Pupils who didn't reach the basic level in mathematics accounted for 40% of pupils in the South and Islands, compared with 32.6% in the Centre and 34.6% in the North. In 2023, the share of early leavers from education and training aged 18-24 was 10.5%, in improvement from the previous year (11.5%). In 2023, the share of people aged 25-34 who have completed tertiary education was 30.6% (29.2% in 2022), significantly lower than the target of 45% for 2030.
	In 2022, the number of homicides of women was 128. The percentage of women murdered by partners, ex-partners or other relatives was very high, equal to 82.5%. In Italy, over the last ten years, the share of care work borne by women in couples aged between 25 and 44 has fallen by an average of 5.4 per cent. In the last decade, the rate of voluntary abortions among women between 15 and 49 years of age has fallen significantly (from 7.9 to 5.5 voluntary abortions per 1,000 resident women). In the last year, however, the phenomenon has increased for foreigners from 11.8 to 13 events per 1,000 women.
	In 2022, Italy ranked third in EU27 for freshwater withdrawal for public water supply per inhabitant (155 cubic metres per year). In 2022, public water supply networks supplied 214 litres of water per inhabitant per day (36 litres less than in 1999). Persistent critical conditions in the public water supply networks: efficiency was 57.6%. Between 2017 and 2023, Italy has shown progress in the degree of implementation of Integrated Water Resources Management, from medium-high level (55) to high level (78). In 2023, almost one out of three households did not trust drinking tap water and nearly one out of ten reported irregularities in water supply in their dwelling.

	After the previous year's increase caused by the post-pandemic recovery, energy consumption dropped by 3.1% in 2022. Energy intensity at an all-time low in 2022. Italy is still in fifth place in the European ranking, with energy intensity just below 85% of the EU27 average. In 2022, with 508 kilograms of oil equivalent per capita, the residential sector reached the lowest consumption level in the past decade, except for 2014. In 2022, the share of energy from renewable sources in gross final energy consumption remained broadly stable (19.1%). Hybrid and electric cars are in strong development, but 2030 targets defined by the Italian Ecological Transition Plan (ETP) are still far.
	In 2023, the economic performance, although weakened, remained positive: however, the annual growth rates of real GDP in volume (+0.9%) and per capita (+1.0%) were lower than in 2022 and value added per employed person decreased by 0.7%. The recovery of the Italian labour market continued in 2023. The employment rate of 20-64 year olds rose to 66.3% (+1.5 percentage points) and the unemployment rate (7.7%) fell by 0.4 percentage points. Despite the recovery in recent years, the gap with the EU remained large: in 2023, Italy ranked last in Europe in terms of employment rate (-9 percentage points compared to the EU27 average) and second only to Greece and Spain in terms of unemployment rate (-1.6 p.p. compared to the EU27). The share of people working part-time for lack of alternatives continued to fall in 2023: there were as many as 3 women in this situation for every man. The drop in the informal employment rate that started in 2019 continued in 2023, accompanied by a slight reduction in territorial disparities.
	Passenger transport experienced a period of growth in 2022, although it has not yet reached the levels of 2019. In 2022, freight transport exhibited a modest increase of 2.3% compared to 2021. This growth was largely driven by the road component. The quantity of carbon dioxide (CO_2) emitted per million units of output increased from 154.9 tonnes in 2021 to 158.5 tonnes in 2022. In 2021, research intensity declined to 1.43% of GDP. In 2023, the proportion of knowledge workers increased by 1 percentage point compared to 2022, reaching 18.8 %. The proportion of the workforce comprising ICT-skilled workers decreased significantly in 2023, reaching 3.1% of the total employed, a decline of 0.8 percentage points compared to the previous year. In 2023, 14% of enterprises engaged in online sales to end customers, while 9.7% conducted online sales to public institutions and other enterprises.

	The disposable income of households increased by 4.2% in 2023 compared to 2022. However, purchasing power decreased by 0.5% due to the rise in consumer prices by 5.9%. The distribution of income has become slightly less unequal. In 2022, the total income of the richest households was 5.3 times that of the poorest households (in 2021, this ratio was 5.6). Since 2000, the adjusted gross disposable income of households per capita, measured in purchasing power parity, has grown by 50.4%. This growth is less than that observed in all other EU countries (excluding Greece). In 2022, 449,118 residence permits were issued (mainly for protection and asylum reasons), the highest in over a decade, marking an 85.9% increase compared to 2021
	In 2023, the share of households with difficult of connection with public transport increased (32.7%) and returned to pre-pandemic levels (33.5%). The share of frequent users of public transport (12.9%) in the population aged 14 and over remained stable in 2023, as did the share of students using public transport to get to their place of study (25.5%). The share of employed persons using only private transport was also stable (76%). In 2022, there was no progress in the provision of local public transport (LPT), with 4,696 seat-kilometres per inhabitant, the same as the previous year. In 2022, municipal waste production decreased in two out of three capitals compared to 2021 and was below 2019 levels in more than 50% of cities. Air quality worsened: in 2022, annual average concentrations increased in 56 capital cities of for $PM_{2.5}$ and in 75 for PM_{10}.
	In 2022, domestic material consumption still grew slightly in volume and in relation to population, but decreased in relation to GDP at 0.29 tonnes per 1,000 euro. However, the decoupling process between material consumption and business cycle has slowed down in recent years. In 2022, the amount of municipal waste generated per capita decreased once more, reaching 492 kg per inhabitant and approaching the minimum levels observed during the pandemic (487 kg). The year 2022 marked a recovery in waste management processes: the recycling rate of municipal waste (49.2%) grew again; the share of separate collection, up by 1.2 p.p., stood at 65.2%. However, delays with respect to regulations remain significant and territorial gaps widespread. Social/environmental reporting remained uncommon in PA (14.5% of public institutions was involved in 2021/2022), but over half of public administrations (51.7%) made green purchases. Fossil fuel subsidies as a percentage of GDP (0.81%) still on the rose in 2022.

	The advantage achieved in 2020 in reducing GHG emissions because of the restrictive measures for the pandemic emergency was eroded in 2021 in Italy and Europe. In 2022, Europe's emissions fell again, confirming the downward trend measured since 1990. The emissions of the Italian economy in 2022 were broadly stable compared to the previous year (+0.1%), but this was the result of opposite dynamics for households (-1.3%) and productive activities (+0.7%). The trend in temperature anomalies compared to normal climatological increased in 2022, at a global level (+0.49°C) and in Italy (1.23°C). In many Italian regions, the risk of floods (11.5%) and landslides (2.2%), also a consequence of climate change was high in 2020. In 2022, the area covered by fire (2.4 per 1,000 km2) was again within the average value of the last ten years, following the peak in 2021 (5.0 per 1,000 km2). For 70.8% of people, concern about climate change and the greenhouse effect was among the top five environmental concerns in 2023; in growth after the decline in 2021.
	In 2022, the beached marine litter increased to 303 per 100 metres of beach (in 2021 it was 273); it is still far from the EU target (20 litter per 100 metres). In 2021, 11.2% of total marine areas was protected, in line with 2020 SDGs 14.5 target, but still far from the 2030 EU Strategy. The fish stock in over exploitation decreased in 2021 (73.7%, -8.9 p.p. compared to 2020), but remained above sustainable levels. In 2022, bathing waters with excellent quality were 97.9%, on the rise and in line with the EU Bathing Directive minimum standards.
	In 2022, protected areas covered 21.7% of the national territory; the goal, set by the National Biodiversity Strategy, is to reach 30% by 2030. In 2022, certified forest areas increased by 4%. However, their extent concerning forest areas remained well below the European average. Green cover of mountain areas decreased by 0.2 p.p. from 2012 to 2022; over 20% of the losses were in high mountain areas (above 1,000 m a.s.l.). After the pandemic, soil consumption speeded up. In 2022, the area affected by soil sealing from artificial coverage was 7.14% of the national territory. In 2022, 31% of the species of vertebrates living in Italy were threatened with extinction. The share was even higher for aquatic species.

	In 2022, the intentional homicide rate in the population exhibited a slight increase (from 0.5 to 0.6 per 100,000 inhabitants) and returned to the 2018 level. In 2023, the first provisional data indicate substantial stability of the phenomenon (336 homicides, corresponding to 0.6 per 100,000 residents). In 2023, the ratio of prison population to available places in Italian prisons rose, reaching a level of overcrowding (118 inmates per 100 available places) almost identical to 2019. The percentage of detainees awaiting trial within the incarcerated population (15.4%) rose marginally (+0.3 p.p.) in 2023. The increase was more significant among detainees of non-Italian nationalities (+1.1 p.p.). In 2023, the duration of civil proceedings rose significantly, from 433 to 460 days, compared to the previous year.
	In 2023, the ratio of general government tax revenues to GDP in Italy remained stable at 42.5 % in comparison to 2022, representing a slight decline in 2003 compared to the previous decade. Italy's proportion of gross national income allocated to Official Development Assistance declined to 0.27% in 2023. The outward remittance flow of migrants has exhibited a decline since 2022, with a reduction from 8.21 billion euro to 8.17 billion euro (current prices) observed in 2023. The proportion of Italians who use the Internet increased from 77.5% in 2022 to 79.5% in 2023. This represents a 2-percentage point increase. However, there remained territorial, gender and educational gaps in Internet usage. In 2023, the penetration of E-commerce and E-banking increased, with 39.4% and 51.8% of the population, respectively, utilising these services.

GOAL 1

END POVERTY
IN ALL ITS FORMS
EVERYWHERE[1]

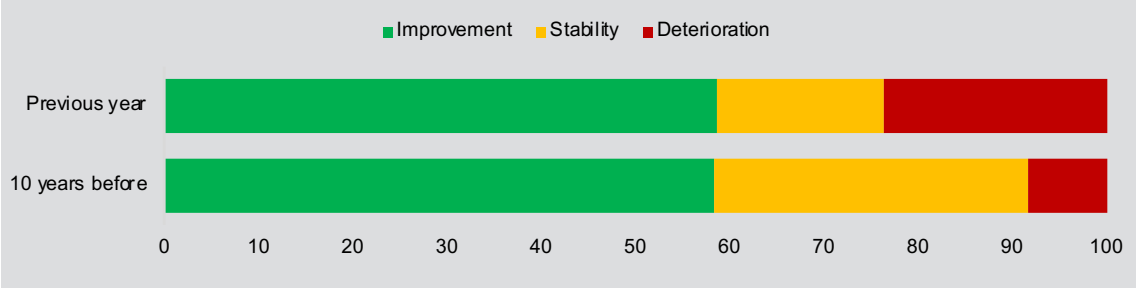
In brief

- The number of people living in absolute poverty in Italy was over 5.7 million in 2023 (preliminary estimates), representing 9.8%, the highest value since 2014.
- The incidence of absolute poverty was higher, but falling, in the South and Islands (12.1%, -0.5 p.p. compared to 2022), while it was lower, but rising by 0.5 p.p., in the Centre (8.0%) and in the North (9.0%).
- In 2023, about 13.4 million people living in Italy were at risk of poverty or social exclusion (AROPE). They were 22.8% of the population, declining by 1.6 p.p. compared to 2022.
- The AROPE population shows strong territorial heterogeneity, ranging from 12.4% in the North to 39.0% in the South and Islands, with peaks of over 40% in Campania (44.4%), Calabria (48.6%) and Sicilia (41.4%).
- Between 2022 and 2023, both the share of the population at risk of poverty (from 20.1 % to 18.9 %) and the share of the population with low work intensity (from 9.8 % to 8.9 %) decreased. The share of people suffering from severe material and social deprivation increased slightly (from 4.5 % to 4.7 %).

1 This section was edited by Lorenzo Di Biagio with contributions by Clodia Delle Fratte, Valeria de Martino and Francesca Lariccia.

The statistical measures released by Istat for Goal 1 are twenty-three and refer to eight UN-IAEG-SDGs indicators (Table 1.1). When comparing the last available year to the previous year, more than half of the measures showed signs of improvement while almost a quarter evidenced worsening. All measures related to the risk of income poverty and social exclusion showed a positive trend, except for serious material and social deprivation, while the incidence of absolute poverty worsened. When comparing over a ten-year period, more than half of the measures improved especially those relating to access to basic services. In the last decade only the incidence of absolute poverty has worsened. A third of the measures improved, both compared to the last year and to the ten previous years (Figure 1.1).

Figure 1.1 – Time evolution of statistical measures released by Istat: last available year compared to the previous year and to 10 years before



The incidence of absolute poverty was at its highest in the last decade

People in absolute poverty are defined as individuals who, due to their reduced consumption spending capacity, cannot afford to purchase a basket of essential goods and services for a minimally acceptable standard of living.

In 2023, there were over 5.7 million people in absolute poverty, with an incidence of 9.8%[2]. The percentage slightly increased compared to 2022 (+0.1 percentage points) and grew more sharply compared to 2021 (+0.8 p.p.; over 430 thousand more poor people). This was especially due to the marked increase in inflation in 2022, which reached 8.7%[3] and had a greater impact on less well-off households, whose expenditures (including those on essential goods and services) failed to keep pace with price growth.

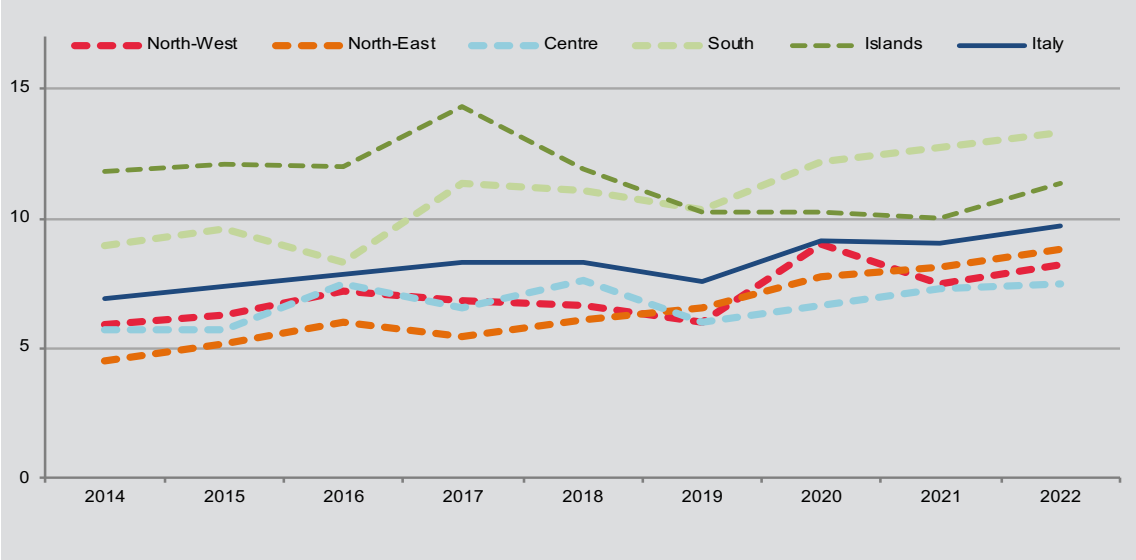
The time series of data, reconstructed according to the new estimation methodology[4] (Figure 1.2), shows that the incidence of poverty for Italy reached the maximum since the indicator became available (2014): between 2018 and 2019 it fell from 8.3% to 7.5%, thanks largely to

2 The data for 2023 are based on preliminary estimates, available only for Italy and for the North, Centre and South and Islands (see Istat.2024."Preliminary estimates of absolute poverty and consumption expenditure – year 2023" *Statistics today*, https://www.istat.it/it/archivio/295348).

3 Average annual change, between 2021 and 2022, in the harmonised index of consumer prices (HICP).

4 The methodology for estimating absolute poverty was updated following the activities of an inter-institutional scientific commission established by Istat in 2021 which, considering not only changes in household consumption patterns but also the availability of new data sources, has been working with the aim of producing estimates with higher territorial detail, to provide a more accurate representation of the phenomenon. The estimates of absolute poverty from 2022 are calculated according to the revised methodology, and the historical series was also reconstructed with the same methodology since 2014, to ensure a correct comparison between years (see https://www.istat.it/it/archivio/283438). All the values reported in this paragraph are calculated with the new methodology. For details on the new features introduced, see also the paragraph *The new absolute poverty thresholds: an in-depth analysis of households with an adult and a minor between 0 and 3 years old.*

Figure 1.2 - Absolute poverty (incidence), by geographical area. Years 2014-2022 (percentage values)



Source: Istat, Household Budget Survey

the introduction of Citizenship income, and began to grow again in the following year, influenced by the effects of the pandemic on spending behaviour, without managing to reverse the trend.

The incidence of poverty and its temporal dynamics show territorial heterogeneity. In the South and Islands, in 2023, there were almost 2.4 million poor residents, with an incidence of 12.1%, higher than the national average but decreasing compared to 2022 (-0.5 p.p.).

In the Centre, the incidence is 8.0%, while in the North it is 9.0%, in both cases an increase of 0.5 p.p. compared to 2022. Even before the *COVID-19* pandemic, in the Centre absolute poverty values were lower than in the rest of Italy, with growth between 2021 and 2022 of only 0.2 p.p. Conversely, in the Islands, in the same period, the share of poor people increased by 1.3 p.p. and reached 11.3%. However, it is worth nothing that poverty in the Islands had decreased significantly between 2017 and 2019, and later was not affected by the pandemic. Although inflation affected poverty, the Islands were closer to their pre-pandemic levels in 2022 than the rest of Italy.

Between 2021 and 2022, the incidence of absolute poverty grew for all age groups in particular for the elderly (65 years and over), for whom the indicator rose from 5.5% to 6.3%. Despite this increase, poverty is less frequent among older people, likely due to the economic protection provided by family pension transfers. Conversely, minors are particularly affected, with an incidence of 13.4% in 2022 and a gap of +3.7 p.p. compared to the overall national figure. Once again, the data reveal the economic difficulties of households with minor children (see paragraph *The new absolute poverty thresholds: an in-depth analysis of households with an adult and a minor between 0 and 3 years old*).

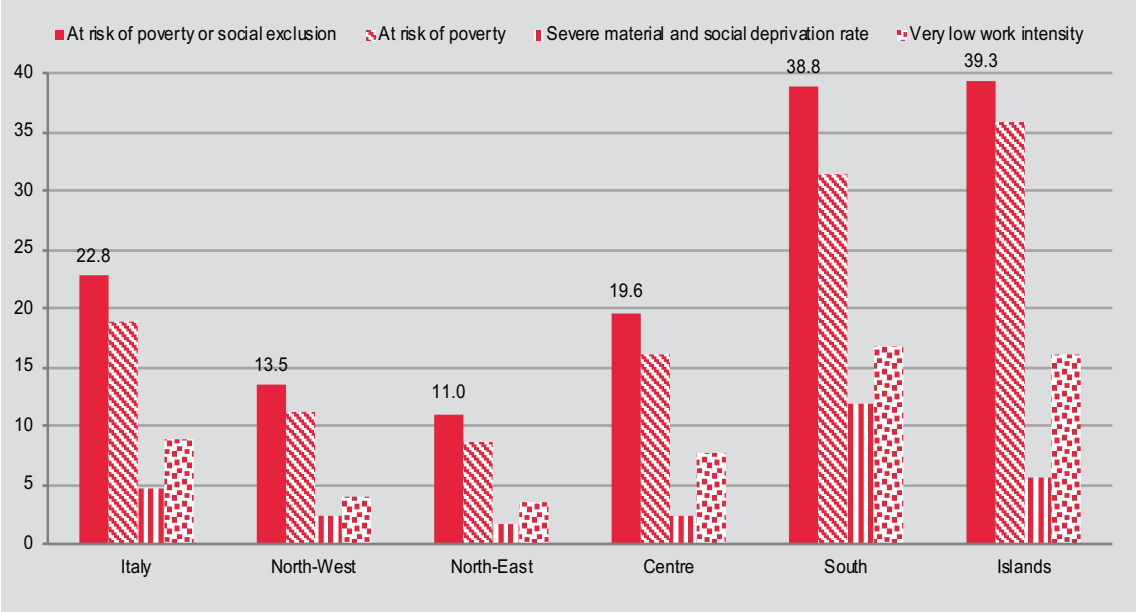
The percentage of people at risk of poverty or social exclusion decreased

To describe the multiple dimensions of the poverty, a composite indicator is used, the risk of poverty or social exclusion (AROPE - At risk of poverty or social exclusion), which, in addition

to the risk of income poverty[5], also considers two other non-monetary indicators on living conditions: severe material and social deprivation[6] and low work intensity[7]. People living in households experiencing at least one of the three conditions (risk of poverty, material and social deprivation, low work intensity) are considered at risk of poverty or social exclusion.

In 2023, approximately 13.4 million residents in Italy, equal to 22.8% of the population, were at risk of poverty or social exclusion (Figure 1.3). The national data summarises, different territorial situations: the percentage of people at risk stood at 12.4% in the North (and below 10% in Trentino-Alto Adige/*Südtirol* and in Emilia-Romagna), in the South and Islands it reached 39.0%, with peaks of over 40% in Campania (44.4%), Calabria (48.6%) and Sicilia (41.4%). Over half (57.6%) of those at risk of poverty or social exclusion were resident in the South and Islands. Between 2022 and 2023, the national risk of poverty or social exclusion fell by 1.6 percentage points.

Figure 1.3 - At risk of poverty or social exclusion, people at risk of poverty, severe material and social deprivation rate, very low work intensity, by geographical area. Year 2023 (percentage values)



Source: Istat, Eu-Silc

5 People who live in households with a net equivalent income lower than 60% of the median of the individual distribution of net equivalent income are considered at risk of poverty. The income reference year is the calendar year preceding the survey year (therefore 2022 for 2023 data).

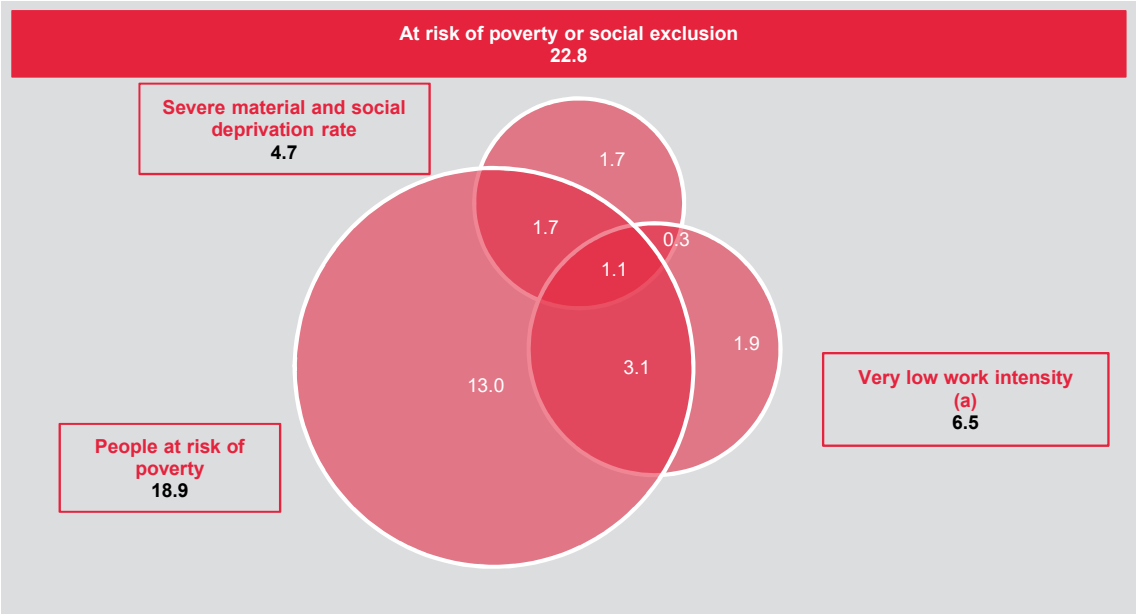
6 People living in households that exhibit at least seven (both household and individual) signs of material and social deprivation from a list of thirteen aspects considered desirable or necessary for an adequate quality of life are classified as experiencing serious material and social deprivation (for example: inability to cover unexpected expenses; inability to afford to meet family and/or friends to drink or for a meal at least once a month). The indicator is harmonised at the European level and its definition was revised by Eurostat in 2021 (some elements of deprivation were updated, others excluded and new ones added) to make the indicator more responsive to current socio-cultural conditions (see European Commission. 2021. *The European Pillar of Social Rights Action Plan*, https://op.europa.eu/webpub/empl/european-pillar-of-social-rights/en/).

7 People living in households where the ratio between the months worked by members in the income reference year and the total months theoretically available for work is less than 20%. For this calculation, only households members aged between 18 and 64 are considered, with some exclusions (see note to Figure 1.4). This indicator is also harmonised at the European level, and its definition was revised by Eurostat in 2021 (updating of the reference ages and thresholds and definitions of retired persons) to more accurately reflect the current socio-demographic structure of European countries (see European Commission. 2021. The European Pillar of Social Rights Action Plan, https://op.europa.eu/webpub/empl/european-pillar-of-social-rights/en/).

Apart from the Centre, which remained stable at 19.6%, all geographical areas declined, and particularly the North-West, which fell from 16.1% to 13.5%. This downward trend is the result of both a reduction in the population at risk of poverty (from 20.1% in 2022 to 18.9% in 2023), due to nominal income growth, and a decrease in the population with low work intensity (from 9.8% to 8.9%), due to the increase in employment in 2022 (see Goal 8). However, a slight increase (more marked in the Centre) was observed in the share of people in conditions of serious material and social deprivation (from 4.5% in 2022 to 4.7% in 2023).

For all the indicators analysed, in 2023, the North and the Centre were in a better position than the national average, while the South and Islands showed greater criticality. The risk of poverty, low work intensity and AROPE are highly correlated at a territorial level and show similar geographical patterns. The North-West and the North-East shared values at least 40% lower than the national average, the Centre was below the national average, but with smaller differences (around 14-15% lower). The South and Islands showed similar values at least two thirds higher than the Italian average. A partial exception is the percentage of the population in serious material and social deprivation, for which the Centre (2.5% in 2023) recorded values closer to the North (2.3% for the North-West), while the Islands (5.6%) stood out favourably compared to the South (11.8%), which was more affected by the high values of Campania (12.2%), Puglia (10.0%) and especially Calabria (20.7%).

Figure 1.4 - At risk of poverty or social exclusion, people at risk of poverty, severe material and social deprivation rate, very low work intensity. Year 2023 (percentage values)



Source: Istat, Eu-Silc
(a) The indicator very low work intensity work, by definition, is calculated for individuals aged 18 to 64, excluding: students aged 18 to 24, individuals who define themselves as retired or who receive any type of pension (excluding survivors' or reversion pensions), and inactive individuals aged 60 to 64 living in households where the main source of income is a pension (excluding survivors' or reversion pensions). The indicator value is 8.9% in 2023. The value obtained for the total population is, instead, 6.5% and corresponds to the value represented in the diagram

The determinants of the risk of poverty or social exclusion can be analysed by evaluating, in 2023, the interactions between the three conditions that define it (Figure 1.4). More than half of those at risk of poverty or social exclusion (13.0%, equal to approximately 7.7 million people) owe their situation solely to income poverty (risk of poverty). Of the approximately 3.8 million people with low work intensity (6.5% incidence on the total population), almost

two thirds (4.2%) are also at risk of poverty. Almost 1 million people (1.7%) show signs of serious material and social deprivation, despite being neither at risk of poverty nor with low work intensity. Overall, 16.6% of people meet only one of the conditions that define AROPE, 5.1% meet two and finally 1.1% of individuals (around 700 thousand people, of which almost 85% are in the South and Islands) are particularly vulnerable, being at the same time at risk of poverty, in serious material and social deprivation and with low work intensity.

The new absolute poverty thresholds: an in-depth analysis of households with an adult and a minor between 0 and 3 years old[1]

In 2022, based on the indications from a national study commission[2], the methodology for estimating absolute poverty originally developed in 2005 was updated. The revision allowed for the use of much broader data sources, regarding the minimum average prices of products considered within the basket of goods[3].

The absolute poverty thresholds, i.e. the values against which the consumption expenditure of a households is compared in order to classify it as absolutely poor or not, are defined for each reference year. These thresholds are based on the size of the household, the age of the members (7 classes), by the region of residence (20) and by the size of the municipality of residence (3 classes). This enables the identification of strong territorial differences for each of the possible household combinations both at a regional level and between municipalities of varying sizes.

In Italy, single-parent households are one of the most vulnerable types at risk of social exclusion and economic hardship having grown by approximately 34% since 2014. Despite representing only 8.4% of all households in 2022, this typology showed high levels of absolute poverty incidence[4]. The analysis of the typology of households composed of an adult aged between 30 and 59 years and a minor between 0 and 3 years - often single-parent households - assumes great importance and can be detailed more thoroughly thanks to the methodological innovations introduced in the calculation of the thresholds.

In 2022, the incidence of absolute poverty in Italy for single-parent households was 11.5%, compared to 8.3% for all household types. At territorial level, it was highest in the South and Islands (15.8%) and below the national value both in the North (10.2%) and the Centre (6.8%). The intensity of absolute poverty[5] was also higher for single-parent households (19.7%) compared to all households (18.2%). This indicator reaches its highest value for single-parent households in the North (21.3%) and its lowest value in the Centre (13.3%), while it is equal to 20% in the South and Islands.

Due to the significant variability of absolute poverty thresholds across the territory (Figure 1), the same household type with a given average monthly expenditure can be classified as absolutely poor in one region and not poor in another; the same also applies to municipalities in the same region, but of different size.

Depending on the combination of region and municipal typology, a household consisting of an adult aged 30-59 years and a minor aged 0-3 years could be classified as absolute poor or not, based on the comparison of the poverty threshold and the household expenditure. The range of variation of thresholds extends from approximately 780 euro in small municipalities in Basilicata to almost 1,378 euro in centre of metropolitan area municipalities in Lombardia. For centre of metropolitan area municipalities, the minimum threshold is in Campania (around 844

1 This section was edited by Valeria de Martino and Livia Celardo with the contribution by Lorenzo Di Biagio.

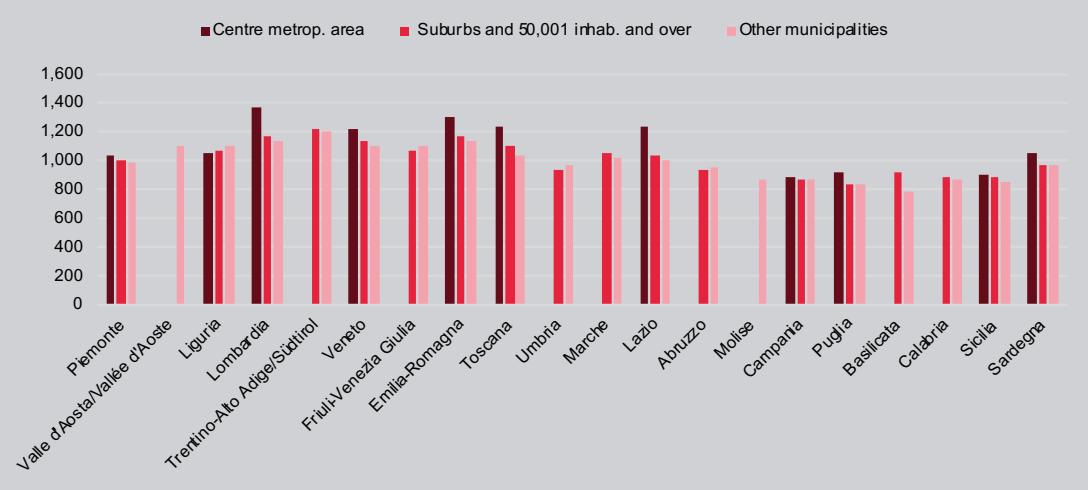
2 For the main methodological aspects of construction and calculation of absolute poverty indicators, see Istat. 2024. "Poverty in Italy", *Report statistics*. https://www.istat.it/it/files//2023/10/REPORT-POVERTA-2022.pdf.

3 The measure of absolute poverty is based on the monetary evaluation of a basket of goods and services considered essential to avoid serious forms of social exclusion in the reference context. The reference unit of the basket is the household, assessed with respect to the characteristics of its individual members (by age class), their specific needs (for example, for nutritional requirements) and any saving that could be achieved as household composition changes.

4 The incidence of absolute poverty is obtained from the ratio between the number of households with average monthly expenditure on consumption equal to or below the poverty threshold and the total number of resident households.

5 The intensity of absolute poverty measures in percentage terms how much the monthly expenditure of poor households is on average below the poverty line (i.e. "how much poor are the poor").

Figure 1 – Monthly absolute poverty thresholds for single-adult families with one child aged 0-3, by region and municipal type. Year 2022 (Euro)



Source: Istat, Household Budget Survey

euro) and maximum is in Lombardia (1,378 euro). For municipalities suburbs of metropolitan area or those with more than 50,000 inhabitants, the threshold ranges from a minimum of almost 841 euro in Puglia to approximately 1,222 euro in Trentino-Alto Adige/*Südtirol*. For municipalities with up to 50,000 inhabitants, the threshold varies from a minimum in Basilicata (780 euro) to around 1,205 euro in Trentino-Alto Adige/*Südtirol*.

On average, the highest values are reached in the Northern regions (where the cost of living is evidently higher). However, there are exceptions: in centre of metropolitan area municipalities in Sardegna, for example, the threshold is higher than in the same type of municipalities in Piemonte and Liguria. In Sardegna, the absolute poverty threshold is higher in centre of metropolitan area municipalities, with a particularly pronounced gap in Lombardia, Lazio, Emilia-Romagna and Toscana. Even in this case there are exceptions: in Liguria, for example, the absolute poverty threshold increases as the size of the municipality of residence decreases, rising from around 1,048 euro in centre of metropolitan area municipalities to almost 1,105 euro for municipalities with up to 50,000 inhabitants.

Table 1.1 – Statistical measures released by Istat, taxonomy compared to SDGs indicators, variations compared to the previous year and to 10 years before and convergence among regions

Ref. SDG	INDICATOR	Compared to SDG indicator	Value	VARIATIONS		CONVERGENCE AMONG REGIONS compared to 10 years before
				Compared to the previous year	Compared to 10 years before	
1.1.1	Proportion of population below the international poverty line, by sex, age, employment status and geographical location (urban/rural)					
In-work at-risk-of-poverty rate (Istat, 2023, percentage values)		National context	9.9			--
1.2.1	Proportion of population living below the national poverty line, by sex and age					
Absolute poverty (incidence) (Istat, 2023, percentage values)		Identical	9.8 (a)		(b)	--
1.2.2	Proportion of men, women and children of all ages living in poverty in all its dimensions according to national definition					
At risk of poverty or social exclusion (AROPE) - Europe 2030 (Istat, 2023, percentage values)		Identical	22.8		--	--
Severe material and social deprivation rate - Europe 2030 (Istat, 2023, percentage values)		Partial	4.7		--	--
Very low work intensity - Europe 2030 (Istat, 2023, percentage values)		Partial	8.9		--	--
People at risk of poverty (Istat, 2023, percentage values)		Partial	18.9			⇐⇒
At risk of poverty or social exclusion (AROPE) - Europe 2030 - Number of people (Istat, 2023, thousand)		National context	13,392		--	--
People at risk of poverty - Number (Istat, 2023, thousand)		National context	11,121			--
1.3.1	Proportion of population covered by social protection floors/systems, by sex, distinguishing children, unemployed persons, older persons, persons with disabilities, pregnant women, newborns, work-injury victims and the poor and the vulnerable					
Population aged 16 and over reporting unmet needs for medical care due to being too expensive (Istat, 2023, percentage values)		National context	1.0			--
1.4.1	Proportion of population living in households with access to basic services					
Housing cost overburden rate (Istat, 2023, percentage values)		National context	5.7			⇒⇐
Households very or fairly satisfied with the continuity of the service of electricity supply (Istat, 2023, percentage values)		Partial	91.8			⇐⇒
Inability to keep home adequately warm (Istat, 2023, percentage values)		Partial	9.5			--
Households with difficulties of connection with public transport (Istat, 2023, percentage values)		Partial	32.7			=
Landfill of waste (ISPRA, 2022, percentage values)		Partial	17.8			⇐⇒
Irregularities in water supply (Istat, 2023, percentage values)		Partial	8.9			⇐⇒
Overall Fixed Very High Capacity Network (VHCN) coverage (Istat, processing of data from Agcom, 2023, percentage values)		Partial	59.6		--	--
People aged 6 and over who use their mobile phone every day, per 100 people with the same characteristics (Istat, 2023, percentage values)		Partial	83.8			⇒⇐
1.5.1	Number of deaths, missing persons and directly affected persons attributed to disasters per 100,000 population					
Deaths and missing persons for landslides (ISPRA, 2022, N.)		Partial	14	--	--	--
Deaths and missing persons for floods (ISPRA, 2022, N.)		Partial	25	--	--	--
Injured persons for landslides (ISPRA, 2022, N.)		Partial	27	--	--	--
Injured persons for floods (ISPRA, 2022, N.)		Partial	56	--	--	--
1.a.1	Total official development assistance (ODA) grants from all donors that focus on poverty reduction as a share of the recipient country's gross national income					
Proportion of bilateral ODA spending on essential services for developing countries (education, health and social protection) (Ministry of Foreign Affairs and International Cooperation, 2023, percentage values)		Proxy	57.1	--	--	--
1.a.2	Proportion of total government spending on essential services (education, health and social protection)					
Proportion of total government spending on essential services (education, health and social protection) (Istat, 2022, percentage values)		Identical	59.042	--	--	--

Legend

	IMPROVEMENT	⇒⇐	CONVERGENCE
	STABILITY	=	STABILITY
	DETERIORATION	⇐⇒	DIVERGENCE
--	NOT AVAILABLE / NOT SIGNIFICANT		

Notes

(a) Preliminary estimate
(b) Variation compared to 2014

GOAL 2

END HUNGER, ACHIEVE FOOD SECURITY AND IMPROVED NUTRITION AND PROMOTE SUSTAINABLE AGRICULTURE[1]

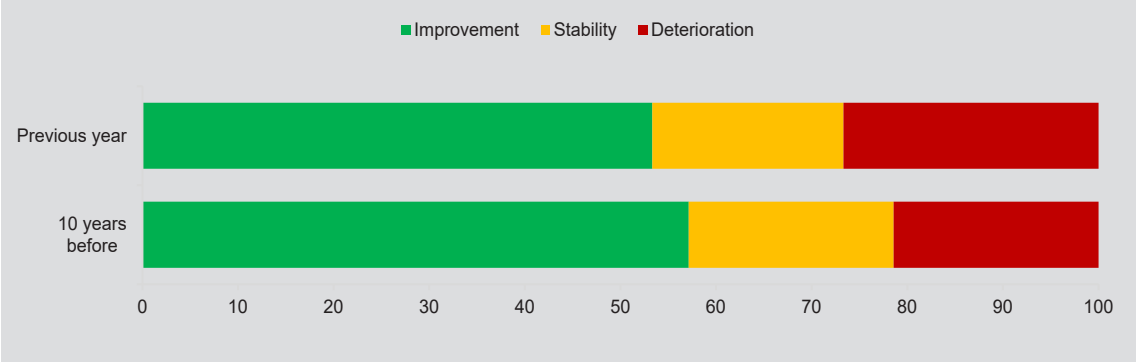
In brief

- In 2023, 1.5% of the Italian population experienced food insecurity (-0.8 p.p. compared to the previous year). The share was significantly higher in the South and Islands (2.7%).
- The share of overweight children and adolescents continued to increase in 2022: 33.5% in the 3-5 year class (+2.7 p.p. from 2017) and 27.2% in the 3-17 year class.
- Irregular employment in agriculture was high, but decreasing (23.2% in 2021, -1.2 p.p. compared to the previous year); in the South and Islands, irregular workers were 30.2%.
- In 2022, fertilisers and plant protection products distributed in agriculture declined (-26.6% and -11.6% compared to the previous year) as did ammonia emissions from the agricultural sector (-11.7%).

1 This section was edited by Luigi Costanzo with contributions by Emanuela Bologna, Livia Celardo, Clodia Delle Fratte, Roberto Gismondi, Giovanni Seri and Francesco G. Truglia.

The statistical measures released by Istat for Goal 2 are sixteen and refer to seven UN-IAEG-SDGs indicators (Table 2.1). When comparing the last available year to the previous year, half of the measures indicate an improving situation, approximately a third show a worsening and the remaining appear stable. When comparing over a ten-year period, however, improving measures prevail, while the shares of those stable and deteriorating decrease (Figure 2.1).

Figure 2.1 - Time evolution of statistical measures released by Istat: last available year compared to the previous year and to 10 years before



The goal of "zero hunger" in the world has become harder to achieve

According to FAO estimates, in 2022 around 30% of the world population and more than 60% of the population of the least developed countries (LDCs) were in a condition of moderate or severe food insecurity[2]. After the significant increase in 2020, the prevalence of moderate/severe insecurity worldwide remained stably above the pre-pandemic level (25.3% in 2019; Figure 2.2), and continued to grow at a steady rate in the LDCs (+8.6 p.p. since 2019). The prevalence of severe food insecurity also remained stable compared to the previous year (11.3% worldwide and 24.7% in the LDCs). Therefore, inequality in access to food linked to the level of economic development has increased and the goal of eradicating hunger by 2030 has become more difficult to achieve.

Data on food insecurity have improved in Italy

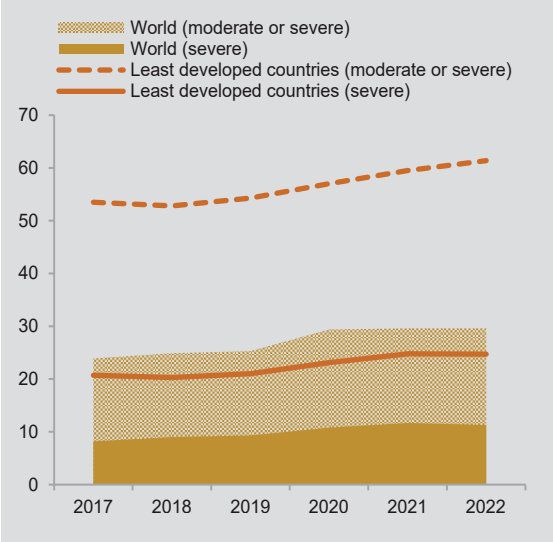
Italy is one of the first countries to have introduced the measurement of food insecurity, according to the FAO guidelines, in an official statistical survey[3]. According to national estimates, available since 2022, the prevalence of moderate or severe food insecurity in our country was 1.5% in 2023 (a decrease of 0.8 p.p. from the previous year), with a wide gap between South and Islands

2 Moderate insecurity is associated with the inability to eat regularly and to maintain a healthy and balanced diet; severe insecurity is defined by a high probability of not being able to eat enough food for basic survival needs. Estimates are based on the application of the *Food Insecurity Experience Scale* (FIES) through a standard form of 8 questions, distributed by the Gallup World Poll on behalf of the FAO in approximately 150 countries. For further information, see the paragraph *Estimated prevalence of food insecurity based on Eu-Silc survey data*.

3 This is the European Survey on Income and Living Conditions (Eu-Silc), carried out by Istat. Based on the data collected, estimates were produced for moderate or severe insecurity, while the limited frequency of the cases observed (less than 0.5% of the population) does not allow for reliable estimates to be produced separately for severe insecurity.

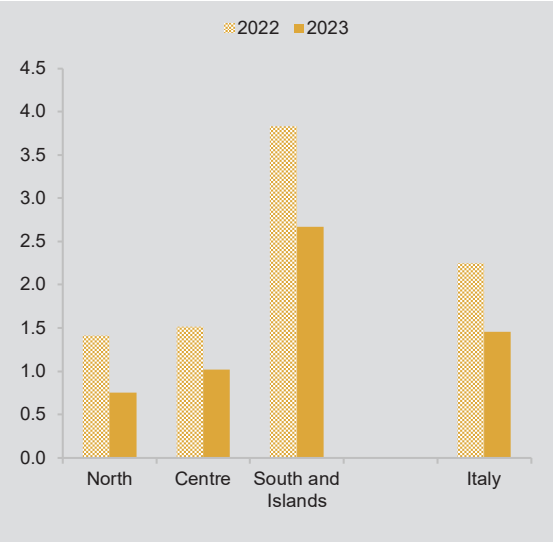
(2.7%) and the rest of the country (0.8% in the North, 1% in the Centre; Figure 2.3). In the same year, the share of households showing signs of food insecurity[4] was 1.2%, a slight decrease for the third consecutive year (1.7% in 2020), but reached 2% in the South and Islands. For the first time since 2017, however, a significant reduction in the gap between the South and Islands and the Italian average was observed.

Figure 2.2 - Prevalence of severe and moderate or severe food insecurity in the world and the least developed countries, according to the Food Insecurity Experience Scale. Years 2017-2022 (percentage values, 3-year moving averages)



Source: FAO, Gallup World Poll

Figure 2.3 - Prevalence of moderate or severe food insecurity (a), by geographical area. Years 2022 and 2023 (percentage values)



Source: Istat, Eu-Silc
(a) The estimate of severe insecurity alone is not statistically significant for Italy.

The share of overweight children and adolescents continued to grow

Estimates on the spread of overweight among children and adolescents point to a worrying growth of this phenomenon in recent years[5]. In 2022, the share of 3-5 year-olds who were overweight or obese reached 33.5%: a value slightly higher than the previous year, but increasing for the fifth consecutive year (+2.7 p.p. from 2017; Figure 2.4a).

The share rose to 34.2% among the 6-10 year-olds, then decreased with age: 24.9% among 11-13, 17.1% among 14-17 year-olds. In all age groups, however, higher values were recorded compared to five years earlier (Figure 2.4b). In the entire population of children and adolescents (3-17 years), the prevalence was 27.2% (+1.7 p.p. since 2017), with significantly higher values among the males (29.5%, against 24.8% of females) and the residents in the South and Islands (33.9%, with a maximum of 37.3% in Campania).

4 Households that declare that, at certain times of the year, they did not have enough money to buy food and were unable to afford a protein meal at least twice a week. This indicator, available since 2016 and also from Eu-Silc, cannot be considered a measure of serious insecurity on the FIES scale, although it probably identifies more severe conditions than the FIES measure of moderate or severe insecurity.

5 The estimates available for Italy, based on the results of the Aspects of Daily Life Survey, refer to the threshold values for overweight in children and adolescents adopted by the International Obesity Task Force.

Figure 2.4a - Overweight or obesity (a) among children from 3 to 5 years of age, by gender. Years 2012-2022 (percentage values, 2-year moving averages)

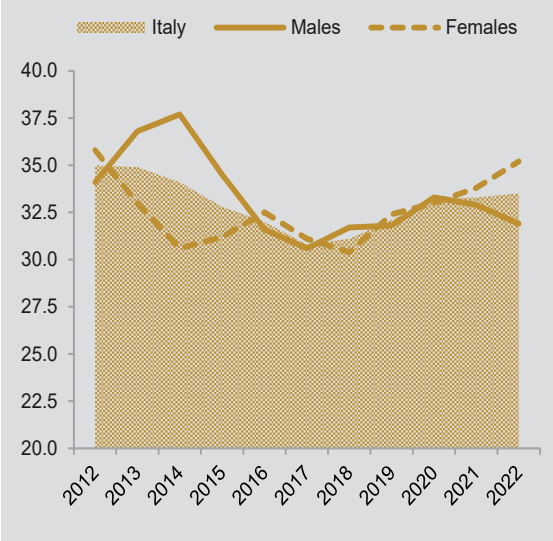
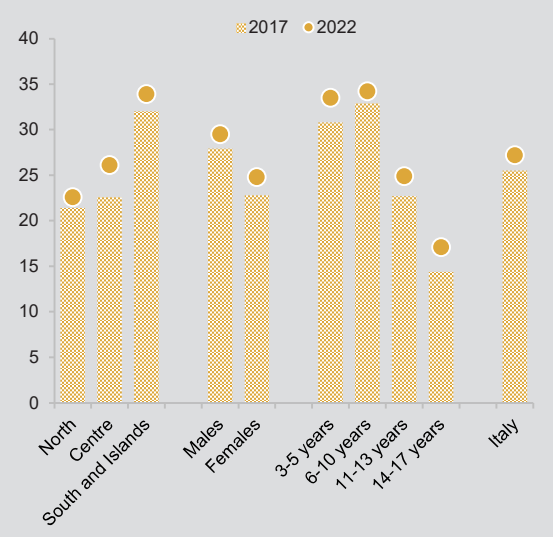


Figure 2.4b - Overweight or obesity (a) among minors from 3 to 17 years of age, by geographical area, gender, age group. Years 2017 and 2022 (percentage values, 2-year moving averages)



Source: Istat, Survey on Aspects of daily life
(a) According to the criteria adopted by the International Obesity Task Force.

The share of agricultural land cultivated with organic methods continued to grow

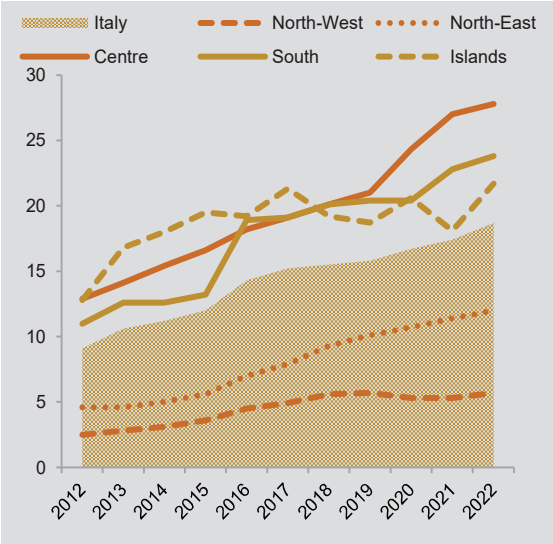
In 2022, the crops converted or under conversion to organic farming methods[6] accounted for 18.7% of the utilised agricultural land, so continuing with a regular and sustained growth (by approximately 1 p.p. per year since 2012; Figure 2.5). The share of organic farming was higher than the national average in the Centre (27.8%) and the South (22.9%) and exceeded 35% in Toscana and Calabria. In a ranking of this indicator, Italy was fifth among the EU27 countries in 2021 (Figure 2.6).

Limited progress on fertilisers and pesticides, ammonia emissions falling

The strong growth of organic farming over the last decade was not paired by an equally significant reduction in the amounts of fertilisers and plant protection products distributed. In 2022, the fertilisers distributed fell to 464 kg per hectare (kg/ha), following a period of stability at about 500 kg/ha from 2012 to 2019, and a significant increase in the two-year period 2020-21, with a peak of 654 kg/ha in 2020 (Figure 2.7). The distribution of plant protection products (11.5 kg/ha in 2022; -11.6% compared to the previous year) has shown a more regular trend, slowly declining from an average of 14.7 kg/ha in the period 2012-2016 to an average of 13 kg/ha in 2017-2021.

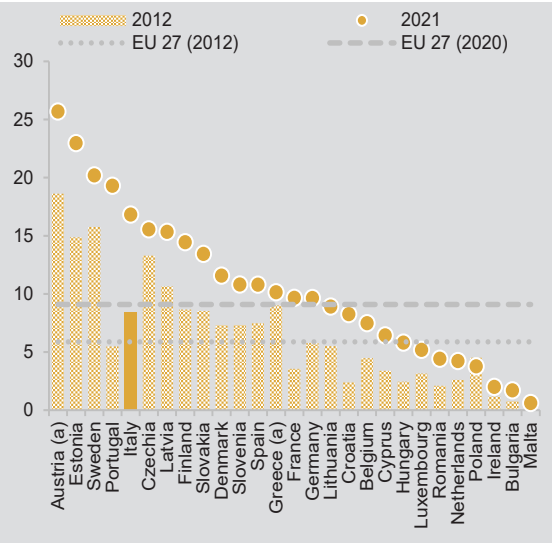
6 The Regulation (EC) 834/2007 recognises as "organic farming" a variety of production methods, provided that they conform to three basic principles: exploitation of the soil's natural fertility (improved only by limited interventions), promotion of the diversity of domestic plant and animal species, and exclusion of the use of synthetic products and GMOs.

Figure 2.5 - Share of utilised agricultural land under organic farming, by geographical area. Years 2012-2022 (percentage values)



Souce: Ministry of Agriculture, Food Sovereignty and Forestry

Figure 2.6 - Share of utilised agricultural land under organic farming, by country. Years 2012 and 2021 (percentage values)



Source: Eurostat
(a) 2020 data.

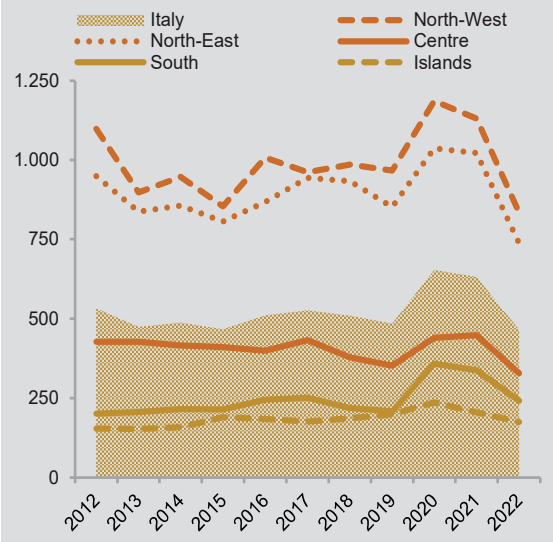
Ammonia emissions, approximately 90% of which were generated by agriculture and connected to the use of fertilisers and livestock breeding have also decreased. In 2022, the agricultural sector emitted 317 thousand tonnes of ammonia (-11.7% compared to the previous year). Italy is therefore complying to the reduction objectives of this pollutant set by the 2016 NEC Directive[7]. After reaching the 2020 target, Italy further reduced emissions in 2021 and 2022, already bringing them below the "ceiling" of the 2030 target (Figure 2.8).

The rate of irregular employment in agriculture remained high

In 2021, the share of non-regular workers in the agricultural sector was 23.2%, more than double the estimate for the entire economy (11.3%; see Goal 8). Despite the positive interruption of a long period of growth (-1.2 p.p. compared to the previous year; Figure 2.9), a high rate of irregular employment remains a structural feature of Italian agriculture, undermining the sector's social sustainability in contrast with the progress observed in environmental sustainability. Furthermore, irregular employment was much higher in the South and Islands (30.2%, with a maximum of 36.6% in Sicilia), but its proportion was far from negligible also in the other geographical areas (12.8% in the North, 21.7% in the Centre). This constitutes a critical issue for Italian agriculture, face to the objectives of improving the quality of employment (see Goal 8) and strengthening legality (see Goal 16).

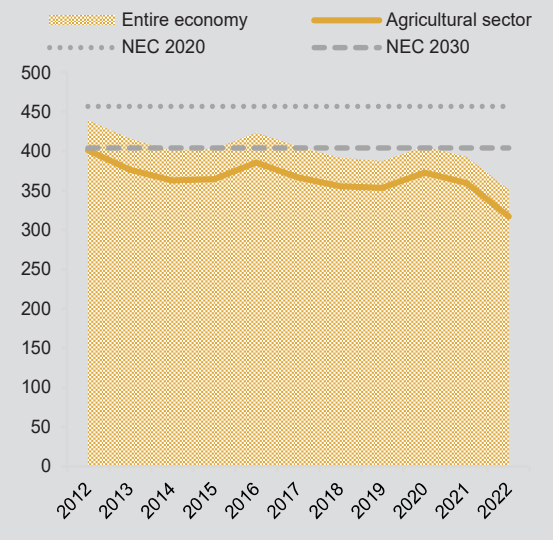
7 Directive 2016/2284/EU (*National Emission Ceilings*), implemented in Italy by Legislative Decree no. 81/2018, requires a reduction of ammonia emissions by 5% by 2020 and by 16% by 2030, compared to the 2005 baseline. In 2020, it is estimated that Italy emitted 405 thousand tonnes (t) of ammonia, below the "ceiling" of 457 thousand t (95% of 2005 emissions, a limit not to be exceeded until 2029). In 2030, this ceiling will be lowered to 404 thousand tonnes (84% of 2005 emissions). The emissions in 2022 were equal to 73% of the 2005 emissions (source: ISPRA; time series revised in 2024).

Figure 2.7 - Fertilisers distributed in agriculture, by geographical area. Years 2012-2022 (kg per hectare)



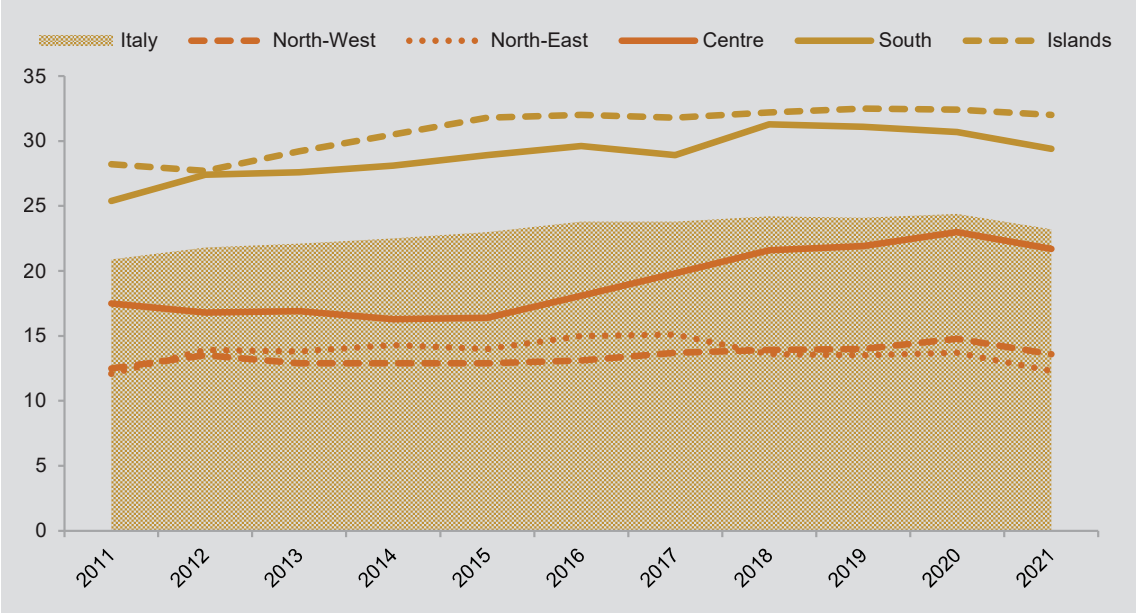
Souce: Istat, Survey on the supply of fertilisers for agricultural use

Figure 2.8 - Ammonia emissions from the agricultural sector and the entire economy, and national ceilings set by the NEC Directives. Years 2012-2022 (thousand tonnes)



Source: Istat, processing of data from ISPRA

Figure 2.9 - Share of employed persons not in regular occupation in agriculture, forestry and fishing, by geographical area. Years 2011-2021 (percentage values)



Source: Istat, National Accounts

Estimated prevalence of food insecurity based on Eu-Silc survey data[1]

Target 2.1 of the 2030 Agenda aims to end hunger and ensure adequate food and good nutrition for all. To monitor this globally, the United Nations Statistical Commission has adopted, among others, the SDG 2.1.2 indicator, which measures the "prevalence of moderate or severe food insecurity in the population, based on the *Food Insecurity Experience Scale* (FIES)". Food insecurity refers to the condition in which people experience limitations, due to physical or socio-economic constraints, in their ability to access sufficient, healthy, nutritious food, in line with their preferences and fit to support an active and healthy life[2].

The FIES scale measures individuals' or households' ability to access food, based on data collected from a representative population sample[3]. It involves eight simple questions, designed to maximise the comparability of responses across countries worldwide. These questions investigate whether respondents faced situations typically associated with a limited ability to access food over the previous twelve months. The data (simple "yes/no" answers) are processed through an appropriate statistical technique, the Rasch model[4]. This is used to measure the level of food insecurity experienced by each respondent, who can thus be placed along a scale and classified based on the severity of their condition (Figure 1)[5].

Figure 2 - Diagram of the FIES scale for measuring food insecurity

Source: FAO

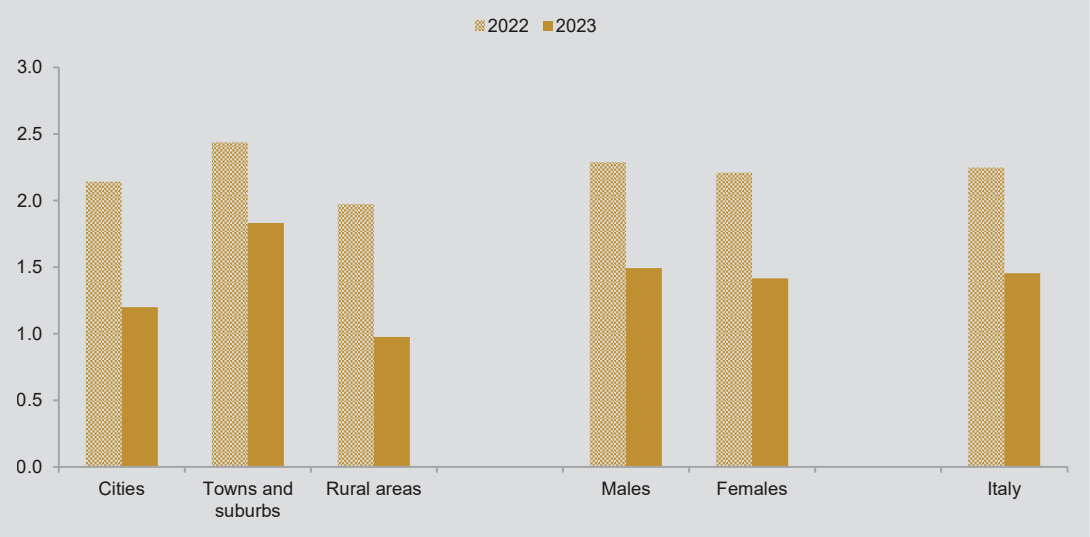
Starting from the survey year 2022, the FIES module was introduced in the Istat Eu-Silc survey questionnaire[6], leading to a new data production for the SDG 2.1.2 indicator. Previous estimates for Italy – published by the FAO and disseminated in previous releases of the Istat-SDGs System – were representative only at national level, since they were based on a small sample (around 1,000 adults, interviewed by telephone as part of the Gallup World Poll Survey)[7].

1 This section was edited by Carlo Cafiero and Sara Viviani (FAO) with contributions by Livia Celardo and Luigi Costanzo.
2 See FAO.1996. *Declaration of the World Summit on Food Security*. https://www.fao.org/4/w3613e/w3613e00.htm. For the definitions of severe and moderate food insecurity, see note 3.
3 For more details on FIES data collection and analysis, as well as research applications, see https://www.fao.org/in-action/voices-of-the-hungry/en/.
4 Rasch, G. 1980. Probabilistic Models for Some Intelligence and Attainment Tests (Expanded ed.). Chicago: University of Chicago Press.
5 Cafiero C., Viviani S., Nord M.2017. "Food security measurement in a global context: The Food Insecurity Experience Scale", Measurement.116. https://doi.org/10.1016/j.measurement.2017.10.065.
6 After Greece, Italy is the second country for which this happens on a regular basis.
7 http://www.gallup.com/services/170945/world-poll.aspx The previous estimates (available for the years 2015-2021 on the Global SDGs Database: https://unstats.un.org/sdgs/dataportal/database) remain useful in providing an indication of the past trend; however they are not directly comparable with those based on Eu-Silc data, as they result from different processes and sample designs.

From this edition of the Istat-SDGs statistical measures, estimates of the prevalence of moderate or severe food insecurity in the population are calculated on individual data of a much larger sample[8] and are representative at the sub-national level, disaggregated by geographical area (North, Centre, South and Islands), by degree of urbanisation, and by gender.

At the national level, 2023 data show an improvement compared to the previous year, while still showing a pronounced inequality between the South and Islands and the rest of the country (see above, the paragraph Data on food insecurity have improved in Italy). In terms of degree of urbanisation, prevalence of food insecurity was higher in intermediate density areas (towns and suburbs, 1.8% in 2023), while rural or sparsely populated areas were less affected (1%), even compared to cities (1.2%). Furthermore, rural areas saw the most significant improvement in comparison with 2022 (from 2 to 1 p.p.). No significant differences are observed, instead, between men and women[9] (Figure 2).

Figure 2 - Prevalence of moderate or severe food insecurity, by degree of urbanisation, gender. Years 2022-2023
(percentage values)



Source: Istat, Eu-Silc

The introduction of the FIES module in the Eu-Silc questionnaire represents a significant step forward for Istat in monitoring the 2030 Agenda objectives. It will allow in the coming years to monitor with higher precision the evolution of food insecurity in our country, and in a manner that allows international comparisons, providing also the opportunity to investigate in greater detail the determinants of food insecurity and the most vulnerable sub-populations.

8 In 2022 the sample included over 22 thousand households, equivalent to a total of almost 45 thousand individuals, while in 2023 the sample included over 29 thousand households, equating to over 59 thousand individuals.

9 It should be noted that the disaggregation by gender is performed by attributing the same probability of food insecurity to all members in the same family and may not therefore reflect an actual gender difference in access to food.

Table 2.1 - Statistical measures released by Istat, taxonomy compared to SDGs indicators, variations compared to the previous year and to 10 years before and convergence among regions

Ref. SDG	INDICATOR	Compared to SDG indicator	Value	VARIATIONS		CONVERGENCE AMONG REGIONS compared to 10 years before
				Compared to previous year	Compared to 10 years before	
2.1.2	Prevalence of moderate or severe food insecurity in the population, based on the Food Insecurity Experience Scale (FIES)					
Prevalence of moderate or severe food insecurity (FAO, 2023, percentage values)		Identical	1.5		--	--
Households with signals of food insecurity (Istat, 2023, percentage values)		National context	1.2			--
2.2.2	Prevalence of malnutrition (weight for height >+2 or <-2 standard deviation from the median of the WHO Child Growth Standards) among children under 5 years of age, by type (wasting and overweight)					
Overweight or obesity among children from 3 to 5 years of age (Istat, 2022, percentage values)		Proxy	33.5			--
Overweight or obesity among minors from 3 to 17 years of age (Istat, 2022, percentage values)		National context	27.2			⇐⇒
2.3.1	Volume of production per labour unit by classes of farming/pastoral/forestry enterprise size					
Production per labour unit of farms below 15,000 euros of annual turnover (Istat-Crea, processing of Crea data, 2022, euros at current prices)		Proxy	16,092			--
2.3.2	Average income of small-scale food producers, by sex and indigenous status					
Earnings before interest, taxes, depreciation and amortization of farms (EBITDA) below 15,000 euros of annual turnover (Istat-Crea, processing of Crea data, 2022, euro at current prices)		Proxy	1,727			--
2.4.1	Proportion of agricultural area under productive and sustainable agriculture					
Share of utilized agricultural land under organic farming (Ministry of Agriculture, Food Sovereignty and Forestry, 2022, percentage values)		Proxy	18.7			⇒⇐
Growth rate of organic crops (Ministry of Agriculture, Food Sovereignty and Forestry, 2022, percentage values)		National context	7.5		(a)	--
Ammonia emissions from agriculture (ISPRA, 2022, thousand tonnes)		National context	317.3			--
Fertilizers distributed in agriculture (Istat, 2022, Kg per hectare)		National context	464.0			⇒⇐
Plant protection products distributed in agriculture (Istat, 2022, Kg per hectare)		National context	11.5			⇐⇒
Share of employed persons not in regular occupation in agriculture, forestry and fishing (Istat, 2021, percentage values)		National context	23.2			⇐⇒
2.a.1	The agriculture orientation index for government expenditures					
Agriculture orientation index for government expenditures (Istat, 2022, index)		Proxy	0.22			--
Share of public expenditure on agriculture (Istat, 2022, percentage values)		National context	0.44			--
Proportion of the value added of agriculture, forestry and fishing to the GDP (Istat, 2022, percentage values)		National context	1.82	--	--	--
2.a.2	Total official flows (official development assistance plus other official flows) to the agriculture sector					
Bilateral ODA in agriculture (Ministry of Foreign Affairs and International Cooperation, 2023, million euro at current prices)		Identical	63.48			--

Legend

- IMPROVEMENT
- STABILITY
- DETERIORATION
- -- NOT AVAILABLE / NOT SIGNIFICANT
- ⇒⇐ CONVERGENCE
- = STABILITY
- ⇐⇒ DIVERGENCE

Note

(a) Variation compared to the average value 2012-2021.

GOAL 3

ENSURE HEALTHY LIVES
AND PROMOTE WELL-BEING FOR ALL AT ALL AGES[1]

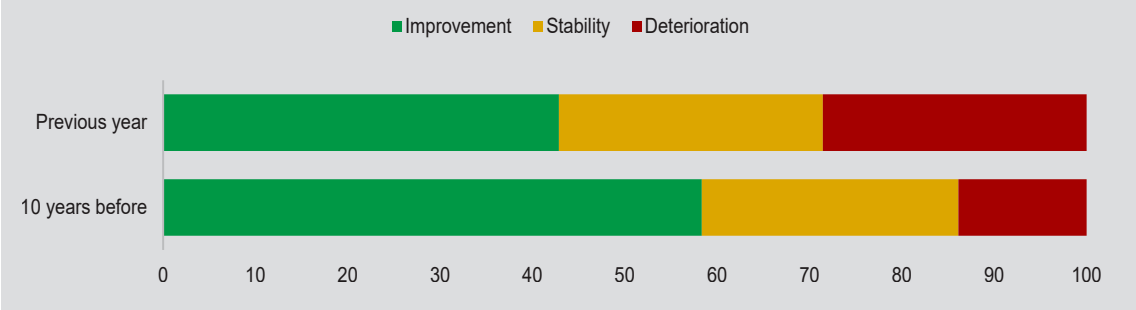
In brief

- In 2023, there were 660,600 deaths in Italy, about 53,000 fewer than in 2022. The number of deaths returned to pre-pandemic levels.
- Life expectancy at birth in Italy in 2023 was 83.1 years, an increase of about 6 months compared to 2022 (it was 82.6 years), almost fully recovering the loss of expected life years due to the pandemic.
- Healthy life expectancy at birth in 2023 is estimated to be 60.5 years for men and 57.9 years for women in 2023, a decrease compared to 2022.
- In 2023, 44.6% of the population aged 18 and over were overweight or obese. Compared with 2021, this figure was stable. Among people aged 14 and over, 15.6 out of 100 abused alcohol in 2023. This figure was stable compared with 2022. The number of people aged 14 and over who habitually smoke decreased compared to the previous year (19.9%).
- In the 2022/2023 winter season, there was a decline in flu vaccination coverage: 56.7% of elderly people were vaccinated, a percentage well below the target value recommended by the World Health Organisation (75%).

1 This section was edited by Barbara Baldazzi with the contribution by Silvia Simeoni.

The statistical measures released by Istat for Goal 3 are thirty-eight and refer to ten UN-IAEG-SDGs indicators (Table 3.1). When comparing the last available year to the previous year, less than half of the measures show progress: the probability of dying between the ages of 30 and 69 from tumours, diabetes, cardiovascular and respiratory diseases decreased, paediatric vaccinations for polio increased and the share of healthcare workers (doctors, nurses, dentists and pharmacists) relative to the population increased. Negative signals include a decrease in healthy life expectancy, the decline in flu vaccinations for the population aged 65 and over and an increase in road accidents. When comparing over a ten-year period, the number of improving measures increases, including a reduction of suicides, new HIV infections and road accidents (Figure 3.1).

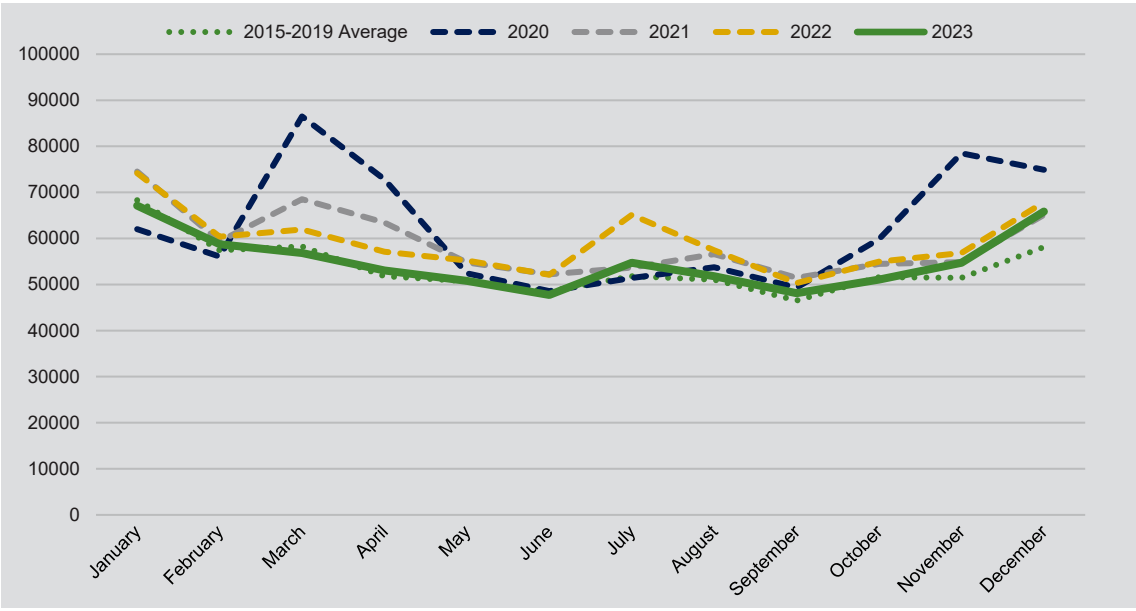
Figure 3.1 - Time evolution of statistical measures released by Istat: last available year compared to the previous year and to 10 years before



In 2023 the total number of deaths returned to pre-pandemic values

In 2023, in total, deaths in Italy numbered 660,600, around 53 thousand fewer than in 2022, also lower than 2020 and 2021, years characterised by a higher mortality due to the pandemic. The number of deaths returned to the pre- pandemic levels (an annual average of 645,620 between 2015 and 2019). Only in November and December 2023 deaths significantly exceeded the average calculated for 2015-2019 (Figure 3.2). Over 506 thousand deceased persons, equal to 76.7% of the total, were aged 70 or over.

Figure 3.2 - Total deaths, by month. Years 2020-2023 and 2015-2019 average (absolute values)



Source: Istat, Integrated Municipal Daily Mortality Database; Italian National Institute of Health (ISS)

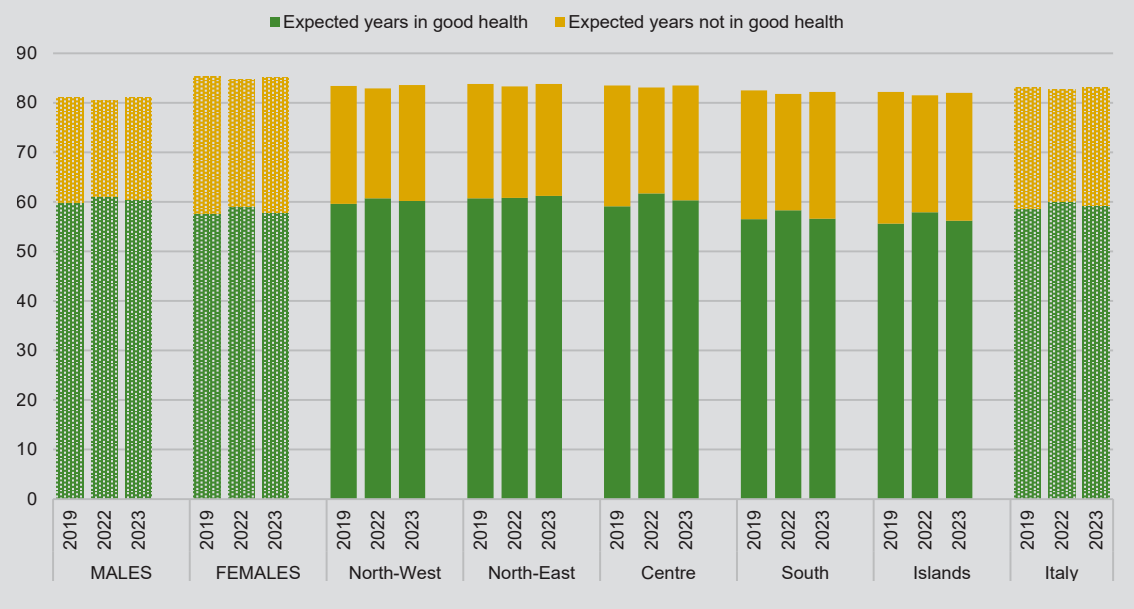
In 2023, life expectancy at birth increased again, but years lived with health problems also increased; territorial and gender gaps remained wide

In 2023, life expectancy at birth in Italy stood at 83.1 years, with an estimated increase of approximately 6 months compared to 2022 (82.6 years), almost completely recovering the loss of expected life months due to the pandemic. Men reached 81.1 years, returning to the 2019 level, women reached 85.2 (0.2 years less than 2019). The gap between life expectancy in the North-East (83.8, the highest value among the geographical areas) and the Islands (82.0, the lowest) was still 1.8 years.

Healthy life expectancy at birth in 2023 was estimated at 60.5 years for men and 57.9 for women, a decrease compared to 2022 of 0.7 years for men and 1.2 for women (Figure 3.3). Therefore, for both genders, the years of expected life not in good health increased, 27.3 for women and 20.6 for men, returning close to the 2019 levels (27.8 years and 21.3 respectively). For people living in the South and Islands, it is estimated that they will live 25 years in poor health, compared to around 56 years in good health; in the North and Centre the years of poor health were around 23, and those in good health were between 60 and 61 years.

Taking into account the overall increase in life expectancy, the decline in healthy life expectancy, based on the share of individuals who declare they are "well or very well", is due to a subjective perception of health that, after the high peak of 2020, has steadily decreased.

Figure 3.3 - Life expectancy at birth and healthy life expectancy at birth, by gender and geographical area. Years 2019, 2022 and 2023 (a) (Years)



Source: Istat, Italian Population Mortality Tables and Survey on Aspects of daily life
(a) 2023 data are provisional.

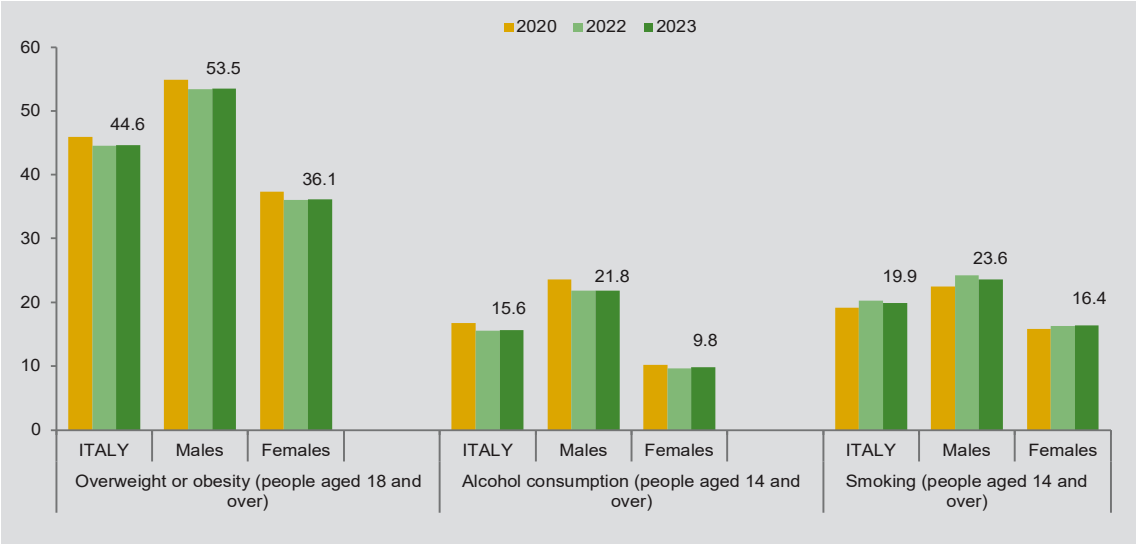
In 2023, the share of overweight people and those who abuse alcohol remained stable; the habitual smokers decreased

In 2023, 44.6% of the population aged 18 and over were overweight or obese, a figure stable compared to 2021 (Figure 3.4), both for men (53.5%) and women (36.1%). Compared with 2020, the share fell by 3 p.p. (-2.7 p.p. for men and -3.5 p.p. for women).

Among people aged 14 and over, 15.6 out of 100 abused alcohol in 2023, a figure stable compared to 2022, but slightly decreasing from 2020 (16.4%). This includes 21.8% of males and 9.8% of females.

The incidence of habitual smokers among residents aged 14 and over decreased compared to the previous year: this was 23.6% of males (24.2% in 2022) and 19.9% of females (20.2%). The values were still higher than 2020.

Figure 3.4 - Overweight or obesity, alcohol consumption and smoking, by gender. Years 2012, 2021 and 2022 (standardised rates per 100 people)

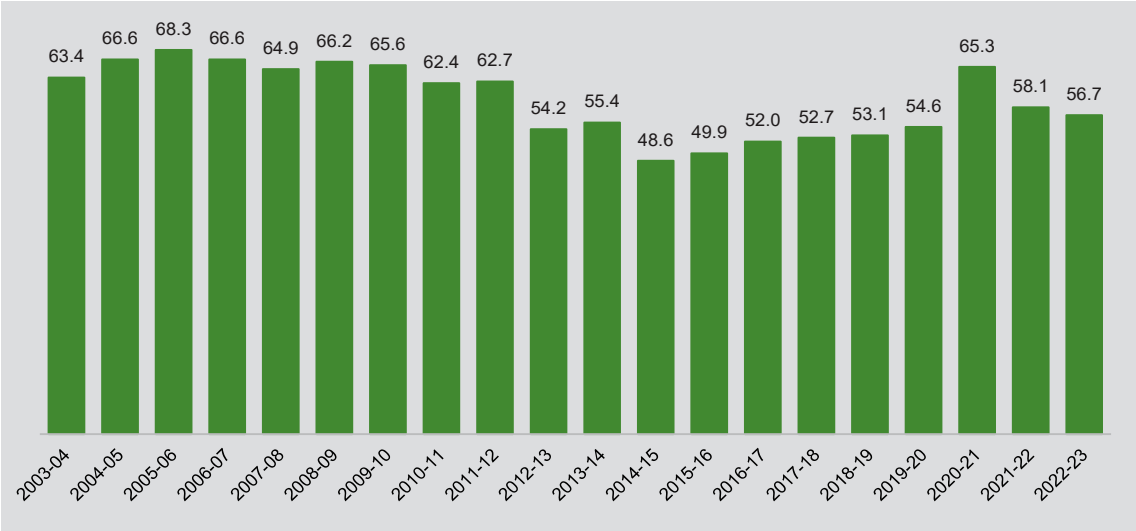


Source: Istat, Survey on Aspects of daily life

In the 2022/2023 winter season, flu vaccination coverage continued to decrease

In the 2022/2023 winter season, the percentage of elderly people who were vaccinated against flu further decreased to 56.7%, following the peak of 65.3% reached in the 2020/2021 winter season and 58.1% in 2021/2022 (Figure 3.5). No region reached the 75% target, the value recommended by the World Health Organisation. Umbria and Basilicata exceeded 65%. Valle d'Aosta/*Vallée d'Aoste*, the Autonomous Province of Bolzano/*Bozen* and Sardegna were below 50% of the elderly population vaccinated.

Figure 3.5 - Influenza vaccination coverage for the population aged 65 years and older. Winter seasons 2003/2004 - 2022/2023 (percentage values)



Source: Ministry of Health

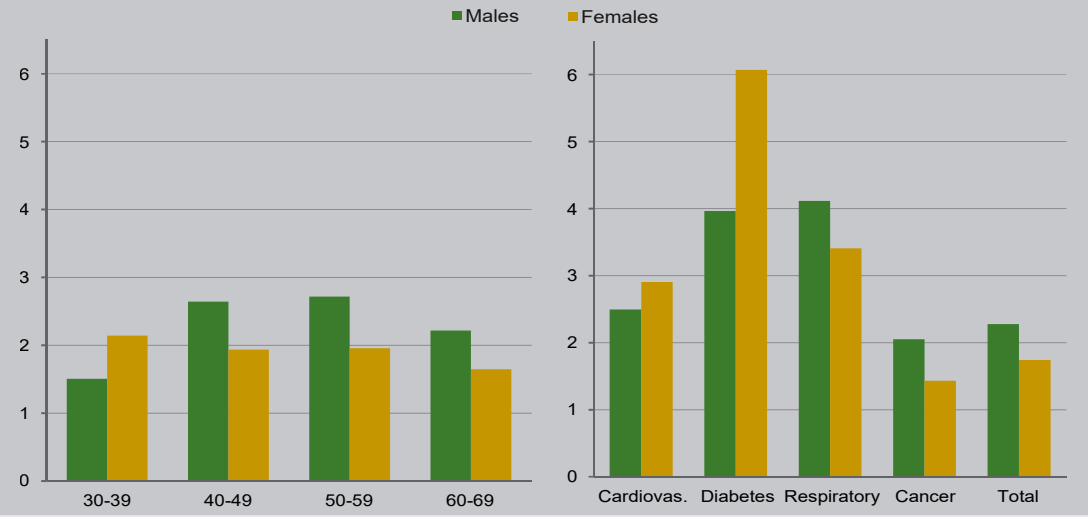
The impact of education on premature mortality[1]

In 2020, in Italy, 70,068 deaths between the ages of 30 and 69 were caused by non-communicable diseases, such as diabetes, respiratory diseases, cardiovascular diseases and tumours. These deaths are defined as premature because they could be avoided through a healthy lifestyle, adequate and accessible healthcare and public and environmental health prevention actions.

One of the objectives of health and prevention policies[2] is the reduction of health inequalities which, when not explained by biological factors, can be attributed to socio-economic determinants[3]. For the first time, the indicator of premature mortality between 30 and 69 years of age by educational attainment, a proxy variable for socio-economic status, was analysed. Ratios were calculated between the probability of dying prematurely for people with a low educational attainment (primary school at most - ISCED[4] 0-1) and the same probability for people with a higher educational attainment (tertiary degree – ISCED 5-8). The higher ratio is, the greater is the inequality in health to the detriment of less educated individuals. The indicator was then analysed by gender, age group and cause of death.

Among the youngest age group, 30-39 years, a woman with a low level of education was twice as likely to die from non-communicable diseases as a woman with a tertiary level of education. For men, that ratio was 1.5 (Figure 1). In the older age groups, the ratio decreased for women but it increased for men, peaking at 2.7, between 50 and 59 years, before decreasing between 60 and 69 years. If we consider the individual causes of death, the greatest disparities are observed in mortality from diabetes and respiratory diseases, while they are more limited in mortality from cardiovascular diseases and tumours. A woman with a low education was approximately 6 times more likely to die from diabetes than a woman with a tertiary degree; a poorly educated man was 4 times more likely to die from respiratory diseases than a man with a high level of education.

Figure 1 - Ratio of the probability of dying from some causes of death of the least educated to the same probability of the most educated, for the population aged 30-69 years, by 10-year age group, causes of death and gender. Year 2020



Source: Istat, Basic Register of Individuals, Registry of Causes of Death

1 This section was edited by Luisa Frova and Silvia Simeoni with contributions by Barbara Baldazzi.

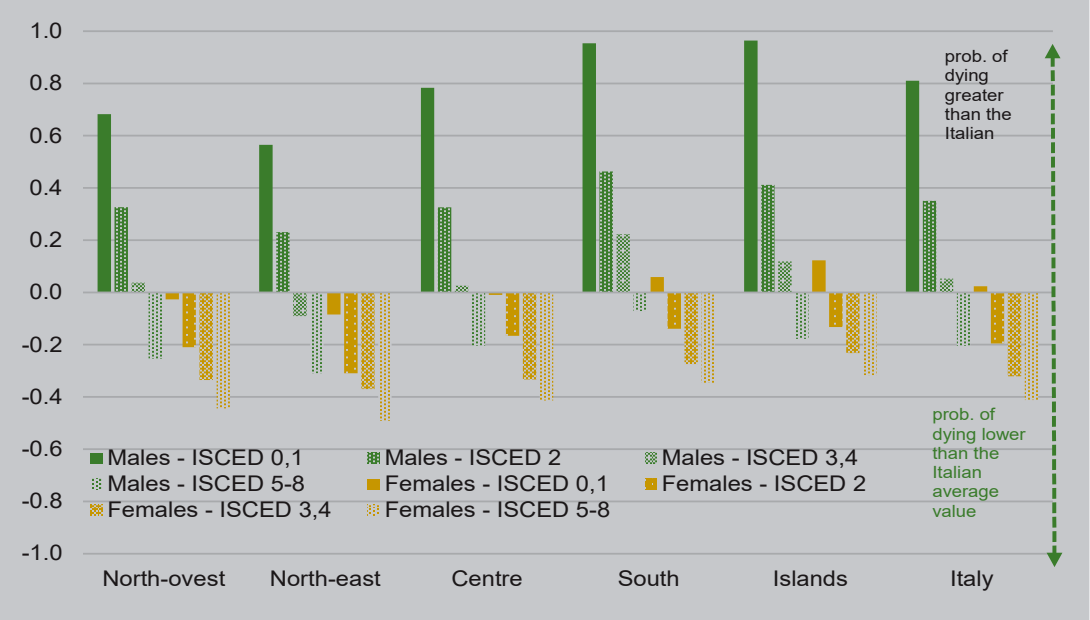
2 See Ministry of Health "National Prevention Plan 2020-2025" https://www.salute.gov.it/imgs/C_17_notizie_5029_0_file.pdf.

3 It is well known that mortality is usually higher among people in disadvantaged socio-economic conditions; see Istat.2024."Inequalities in cause-based mortality in Italy according to demographic, social and territorial characteristics - Year 2020". Data Tables (https://www.istat.it/it/archivio/286642).

4 ISCED is the reference international classification for organising education programmes and related qualifications by levels: ISCED 0: Early childhood education ('less than primary' for educational attainment), ISCED 1: Primary education, ISCED 2: Lower secondary education, ISCED 3: Upper secondary education, ISCED 4: Post-secondary non-tertiary education, ISCED 5: Short-cycle tertiary education, ISCED 6: Bachelor's or equivalent level, ISCED 7: Master's or equivalent level, ISCED 8: Doctoral or equivalent level

The differences in mortality based on gender, educational attainment and territory can be further articulated through the relation between the probability of dying calculated in each of the classes of interest and the Italian average value of the probability of dying for 30-69 year olds (Figure 2). The South and Islands had a probability of dying always higher than the Centre-North. The advantage of women over men is consistent in all geographical areas and for all levels of education. Among males with low education, the wider disparities were observed compared to the Italian average, especially in the South and in the Islands. This was followed by men holding a lower secondary diploma (ISCED 2). However, women with low education showed slightly higher probabilities that the Italian average only in the South and in the Islands, where their probability of dying was similar to that of men with a upper secondary diploma (ISCED 3-4).

Figure 2 - Probability of dying from some causes of death in relation to the Italian average value, for the population aged 30-69 years, by gender, educational qualification and geographical area. Year 2020



Source: Istat, Basic Register of Individuals, Registry of Causes of Death

The analysis confirms a strong link between the probability of early death and level of education, with minimal territorial variability and a clear difference based on gender. If less educated people had the same probability of dying as those with higher education, around 21,000 lives could be saved, i.e. 30% of the premature deaths that occurred in 2020 in Italy. Education level, as a proxy of the socio-economic condition, reflects of lifestyle choices and access to social and health services, therefore it plays a crucial protective role in reducing mortality.

Table 3.1 - Statistical measures released by Istat, taxonomy compared to SDGs indicators, variations compared to the previous year and to 10 years before and convergence among regionsi

Ref. SDG	INDICATOR	Compared to SDG indicator	Value	VARIATIONS		CONVERGENCE AMONG REGIONS compared to 10 years before
				Compared to the previous year	Compared to 10 years before	
3.2.1	Under-five mortality rate					
Under-five mortality rate (Istat, 2023, per 1,000 live births)		Identical	2.98			⇒⇐
3.2.2	Neonatal mortality rate					
Neonatal mortality rate (Istat, 2021, per 1,000 live births)		Identical	1.74			=
3.3.1	Number of new HIV infections per 1,000 uninfected population, by sex, age and key populations					
Number of new HIV infections per 100,000 (Italian National Institute of Health (ISS), 2022, per 100,000 inhabitants)		Identical	3.2			=
3.3.2	Tuberculosis incidence per 100,000 population					
Tuberculosis incidence per 100,000 population (Ministry of Health, 2020, per 100,000 inhabitants)		Identical	3.8			--
3.3.4	Hepatitis B incidence per 100,000 population					
Hepatitis B incidence per 100,000 population (European Centre for Disease Prevention and Control (ECDC); Ministry of Health, 2020, per 100,000 inhabitants)		Identical	0.3		(a)	--
3.4.1	Mortality rate attributed to cardiovascular disease, cancer, diabetes or chronic respiratory disease					
Probability of dying between ages 30 and 69 years from cardiovascular diseases, cancer, diabetes, or chronic respiratory diseases (Istat, 2021, %)		Identical	8.40			⇐⇒
Healthy life expectancy at birth (Istat, 2023, average number of years)		National context	59.2			⇒⇐
Overweight or obesity (standardised rates)(Istat, 2023, standardised rates per 100 persons)		National context	44.6			⇐⇒
3.4.2	Suicide mortality rate					
Age standardised suicide mortality rate (Istat, 2021, per 100,000 inhabitants)		Identical	5.9			⇐⇒
Number of deaths attributed to suicide (Istat, 2021, N.)		Identical	3,792			--
3.5.2	Alcohol per capita consumption (aged 15 years and older) within a calendar year in litres of pure alcohol					
Litres of pure alcohol per capita (WHO, 2019, litri pro capite)		Identical	7.65			--
Alcohol consumption (standardised rates) (Istat, 2023, standardised rates per 100 persons)		National context	15.6			=
3.6.1	Death rate due to road traffic injuries					
Age standardised death rate due to road traffic injuries (Istat, 2022, per 100,000 inhabitants)		Identical	5.1			⇐⇒
Number of road traffic fatal injuries (Istat, 2022, N.)		National context	3,159			--
Serious injury rate in road accidents (Ministry of Health, 2022, per 100,000 inhabitants)		National context	28.6			⇒⇐
3.7.1	Proportion of women of reproductive age (aged 15-49 years) who have their need for family planning satisfied with modern methods					
Demand for family planning satisfied with modern methods during the last 12 months(Istat, 2019, %)		Proxy	64.5	--	(b)	⇐⇒
3.7.2	Adolescent birth rate (aged 10-14 years; aged 15-19 years) per 1,000 women in that age group					
Age-specific fertility rates for 1,000 women aged 10-14 (Istat, 2022, per 1,000 inhabitants)		Identical	0.036			⇒⇐
Age-specific fertility rates for 1,000 women aged 15-19 (Istat, 2022, per 1,000 inhabitants)		Identical	14.0			⇐⇒

Table 3.1 continued - **Statistical measures released by Istat, taxonomy compared to SDGs indicators, variations compared to the previous year and to 10 years before and convergence among regions**

3.8.1	Coverage of essential health services					
Hospital beds (Istat, Processing of Open Data from Ministry of Health, 2021, per 10,000 inhabitants)	Partial	30.7			(c)	⇐⇒
Day-hospital beds in public and private care institutions (Istat, Processing of Open Data from Ministry of Health, 2021, per 10,000 inhabitants)	Partial	3.4			(c)	⇐⇒
Beds in the residential social-healthcare and social-welfare facilities (Istat, 2021, per 10,000 inhabitants)	Partial	70.1				=
Persons on antiretroviral therapy (ART) (UNAIDS, 2020, %)	Partial	91.0				--
Proportion of deliveries with more than 4 check up visits during pregnancy (Ministry of Health, 2022, %)	Proxy	91.9			(b)	⇒⇐
Hypertension (standardized rates) (Istat, 2022, standardised rates per 100 persons)	Proxy	18.8				=
Diabetes (standardized rates) (Istat, 2022, standardised rates per 100 persons)	Proxy	6.7				⇒⇐
3.8.2	Proportion of population with large household expenditures on health as a share of total household expenditure or income					
Population aged 16 and over reporting unmet needs for medical care due to being too expensive (Istat, 2023, %)	Proxy	1.0				--
3.9.3	Mortality rate attributed to unintentional poisoning					
Unintentional poisoning standardized mortality rate (Istat, 2021 per 100,000 inhabitants)	Identical	0.39				⇐⇒
3.a.1	Smoking (standardised rates)					
Smoking (standardised rates) (Istat, 2023, standardised rates per 100 persons)	Identical	19.9				⇐⇒
3.b.1	Proportion of the target population covered by all vaccines included in their national programme					
Influenza vaccination coverage age 65+ (Ministry of Health, 2022/2023, per 100 inhabitants)	Identical	56.7				=
Pediatric vaccination coverage: polio (Ministry of Health, 2022, per 100 inhabitants)	Identical	95.2			(b)	⇐⇒
Pediatric vaccination coverage: measles (Ministry of Health, 2022, per 100 inhabitants)	Identical	94.4			(b)	⇒⇐
Pediatric vaccination coverage: rubella (Ministry of Health, 2022, per 100 inhabitants)	Identical	94.4			(b)	⇒⇐
3.b.2	Total net official development assistance to medical research and basic health sectors					
Total net bilateral ODA to medical research and basic health sectors (Ministry of Foreign Affairs and International Cooperation, 2023, Million euro (current prices))	Identical	48.28	--	--		--
3.c.1	Health worker density and distribution					
Physicians (IQVIA ITALIA, 2022, per 1.000 inhabitants)	Identical	4.2				=
Nurses and midwives (Co.Ge.A.P.S. - Consorzio Gestione Anagrafica Professioni Sanitarie, 2022, per 1.000 inhabitants)	Identical	6.8			(b)	⇒⇐
Dentists (Co.Ge.A.P.S. - Consorzio Gestione Anagrafica Professioni Sanitarie, 2022, per 1.000 inhabitants)	Identical	0.9			(b)	⇒⇐
Pharmacists (Co.Ge.A.P.S., 2022, per 1.000 inhabitants)	Identical	1.4			(b)	⇐⇒

Legend

- IMPROVEMENT
- STABILITY
- DETERIORATION
- -- NOT AVAILABLE / NOT SIGNIFICANT
- ⇒⇐ CONVERGENCE
- = STABILITY
- ⇐⇒ DIVERGENCE

Notes

(a) Variation compared to 2011
(b) Variation compared to 2013
(c) Variation compared to 2014

GOAL 4

ENSURE INCLUSIVE AND EQUITABLE QUALITY EDUCATION AND PROMOTE LIFELONG LEARNING OPPORTUNITIES FOR ALL[1]

In brief

- In 2022, in Italy 21.4% of 15-year-old students did not achieve the basic level of competence in reading, a percentage in improvement compared to 2018. Mathematical skills worst: 29.6% of 15-year-old students did not achieve the basic level.
- In grade 2, pupils who didn't achieve the basic competence level in Italian (31.4%) and mathematics (36.1%) were more than in 2019 and 2021.
- As early as second grade, slight territorial gaps were observed, especially for mathematics. Pupils who didn't reach the basic level in mathematics accounted for 40% of pupils in the South and Islands, compared with 32.6% in the Centre and 34.6% in the North.
- In 2023, the share of early leavers from education and training aged 18-24 was 10.5%, in improvement from the previous year (11.5%).
- In 2023, the share of people aged 25-34 who have completed tertiary education was 30.6% (29.2% in 2022), significantly lower than the target of 45% for 2030.

1 This section was edited by Barbara Baldazzi with contributions by Claudia Busetti, Raffaella Cascioli, Claudia Di Priamo, Donatella Grassi, Giulia Milan, Azzurra Tivoli and Laura Zannella.

The statistical measures released by Istat for Goal 4 are thirty-eight and refer to ten UN-IAEG-SDG indicators (Table 4.1).

When comparing the last available year to the previous year, approximately half of the indicators showed progress: students' skills in reading and listening for the English language improved; places in educational services for children aged 0 to 2 increased; the share of 5-year-old children attending school rose again; the percentage of graduates increased and the percentage of 18-24 year-olds in explicit dispersion decreased. The negative signals primarily relate to students' mathematics skills across every school level examined. When comparing over ten-year period, the number of worsening indicators increased. The decline in competence in mathematics, Italian and science skills suggests a unrecovered negative impact, likely due to the pandemic and with the consequent change in the way teaching takes place (Figure 4.1).

Figure 4.1 - Time evolution of statistical measures released by Istat: last available year compared to the previous year and to 10 years before

The mathematics skills of 15-year-old students are worsening

Data from 2022 international OECD-PISA Survey[2] (Programme for International Student Assessment) confirm a worsening in education worldwide. The average achievement in OECD countries fell by at least 15 points in mathematics and by 10 points in reading[3], which are equivalent to a learning delay estimated at three quarters and half a school year respectively. However, the average performance in science, did not undergo significant changes.

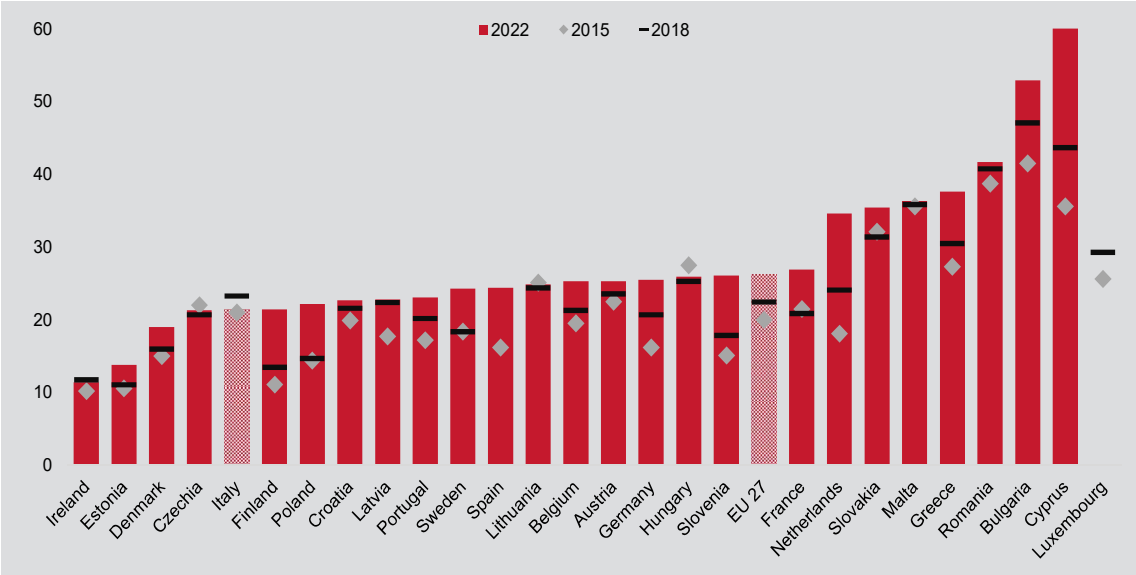
In 2022, 21.4% of 15-year-old students in Italian schools did not reach the minimum level of reading competence (low performer[4]). However, Italy is one of the few European countries where that indicator has improved compared to 2018 (it was 23.3%). A significant deterioration was recorded in Cyprus, the Netherlands and Slovenia (Figure 4.2). The percentage of low performers in Italy improved in 2022 compared to 2018 in terms of scientific skills too: 23.9% of 15-year-old students did not reach the basic level of scientific skills, in 2018 it was 25.9%. Conversely 29.6% of students did not meet the basic level of mathematical competence and this share worsened compared to 2018 (it was 23.8%). The deterioration in mathematical skills was evident in all European countries, with very high values in Bulgaria, Cyprus, Greece, the Netherlands and Finland (Figure 4.3).

2 The OECD-PISA Survey allows to compare national reference frameworks regarding reading comprehension, mathematics and science (see https://www.invalsiopen.it/risultati-ocse-pisa-2022/).

3 To understand the relevance of these results, it is important to remember that, in the two decades of PISA tests, the average OECD score underwent limited variations between one cycle and another, with a maximum of 4 points in mathematics and 5 points in reading.

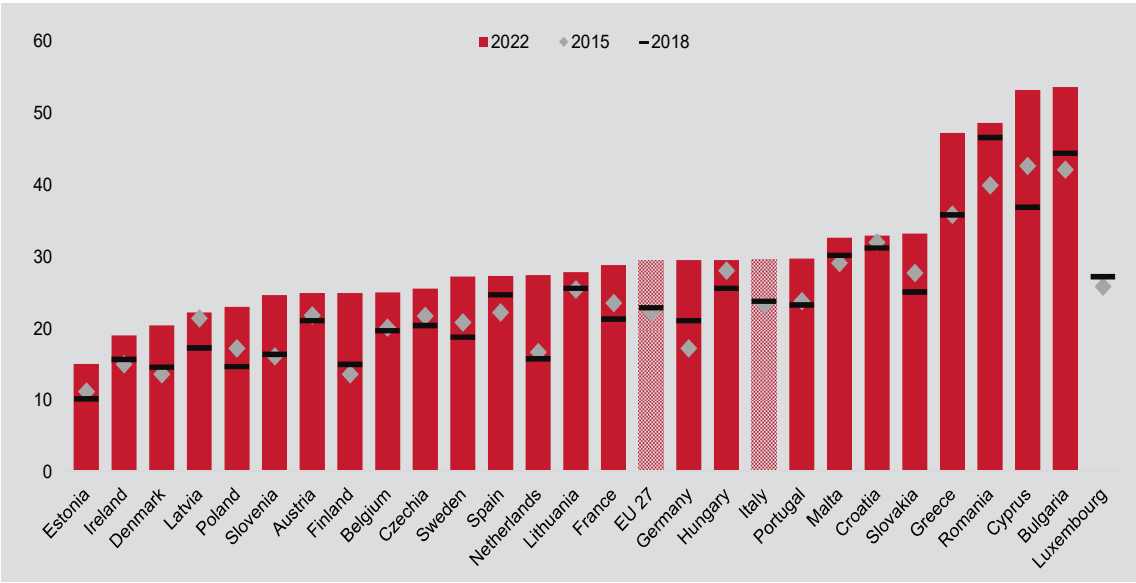
4 This is level 2 (on a scale of 6 levels), according to the definition adopted by Invalsi (see Invalsi. 2023. https://invalsi-areaprove.cineca.it/docs/2024/Indagini%20internazionali/RAPPORTI/Rapporto_nazionale_PISA2022_.pdf)

Figure 4.2 - Inadequate level of literacy (15-year-old students), by country (a). Years 2015, 2018 and 2022 (percentage values)



Source: OECD-Invalsi
(a) 2022 data is not available for Luxembourg.

Figure 4.3 - Inadequate level of mathematics (15-year-old students), by country (a). Years 2015, 2018 and 2022 (percentage values)



Source: OECD-Invalsi
(a) 2022 data is not available for Luxembourg.

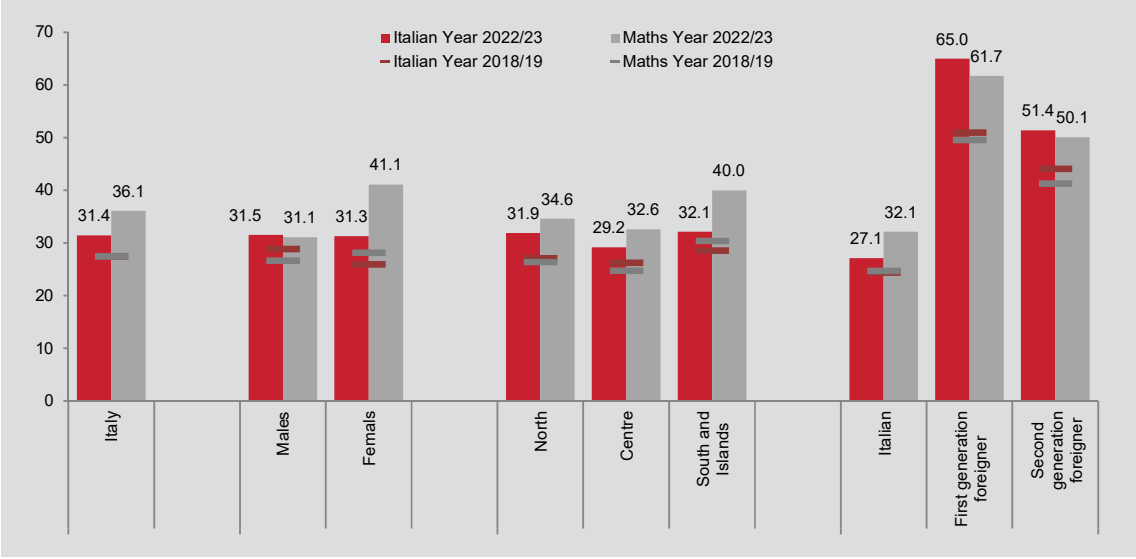
Regional disparities are wide. Among students in the central-northern Italy, the share of low performers was comparatively smaller in all three areas, while in South and Islands the figures were higher. There were even wider gaps between different types of educational institutions. High schools recorded the smallest percentage of low performers in all the three competences.

The first learning difficulties emerge already in primary school

The survey about student skills is managed annually by Invalsi in various school cycles and grades. The results of the tests performed for Italian and mathematics in the second year of primary school are very important for the purposes of measuring skills and knowledge, which will later play a decisive role in learning[5].

The comparison of primary school outcomes over time shows a weakening of results in all disciplines and in both grades considered (II and V classes). In the 2022/23 school year, in the second year of primary school (grade 2), the share of pupils who did not reach the basic level of competence in Italian (31.4%) and mathematics (36.1%) was in line with the previous school year share and higher than 2019 (27.4% in Italian and mathematics; Figure 4.4). Already from the second class of primary school, there are some slight territorial and gender gaps, more pronounced for mathematics. Low performers in mathematics were 40% of students in South and Islands, compared to 32.6% in the Centre and 34.6% in the northern area. 41.1% of girls have not achieved basic mathematics skills, a worrying increase compared to previous years and compared to 31.3% of boys. First generation of foreign students recorded a high share of low performers, especially for Italian (65%) and mathematics (61.7%).

Figure 4.4 - Inadequate level of literacy and numeracy (students in grade 2), by geographical area, gender, citizenship - School years 2018/19 and 2022/23 (percentage values)



Source: Invalsi

5 In 2023, Istat established an inter-institutional scientific commission, aimed at defining and measuring educational poverty, taking into account its multidimensional nature, through the recognition of information sources and, in perspective, using new sources or ad hoc surveys and experimenting with methods for measuring the phenomenon also at sub-provincial and sub-municipal levels.

10.5% of young people aged between 18 and 24 did not hold a upper secondary school diploma and were not included in the education and training system

In 2023, the share of young people aged between 18 and 24 who left the education and training system without having achieved a diploma or qualification was estimated at 10.5%, an improvement compared to the previous year (11.5 %). School dropout affected boys (13.1%) more than girls (7.6%) and South and Islands regions (14.6%) more than those of Centre (7%) and North (8.5%).

Italy also lagged behind Europe in terms of the number of young people with tertiary education

In 2023, only 30.6% of the population aged 25 to 34 completed tertiary education, well below the target of 45% defined for 2030 by the Strategic Framework for European cooperation in education and training. A significant gender gap in favour of women was evident, with 37.1% of women holding a tertiary degree compared to just 24.4% of men. There were also significant disparities across the territorial areas with the South and Islands (25.1%) behind North (32.9%) and Centre area (35.5%).

In the adult population, digital skills remained stable and financial skills slightly increased

In 2023, 45.9% of people aged 16-74 who used the Internet in the past 3 months had basic digital skills, with a higher share among men (47.4%), among 20 and 24 year-olds (approximately 61.6%) and among those with a tertiary qualification (74.1%). A strong divide was also observed between the Centre-North (49.9% and 51.3%, respectively) and South and Islands (36.1%).

In 2023, the financial literacy indicator[6] for the 18-79 year-old population was equal to 10.7 on a scale from 0 to 20, a slight increase compared to 2020 (10.2) and to 2017 (10.0).

The improvement was due to increases in the behaviour component (from 4.2 to 4.6) and attitude component (from 2.0 to 2.3). Conversely, the knowledge component decreased slightly (from 3.9 to 3.7). Financial literacy increased with educational attainment: people with a lower secondary school diploma or lower obtained an average of 9.6 points while those with a upper secondary school diploma and a tertiary degree obtained 11.1 and 12 points, respectively. The score was lower among young people between 18 and 34 (10) and in the population over 64 (10.4). The gender gap slightly disadvantaged women, whose score, equal to 10.5, was 0.4 points lower than that of men.

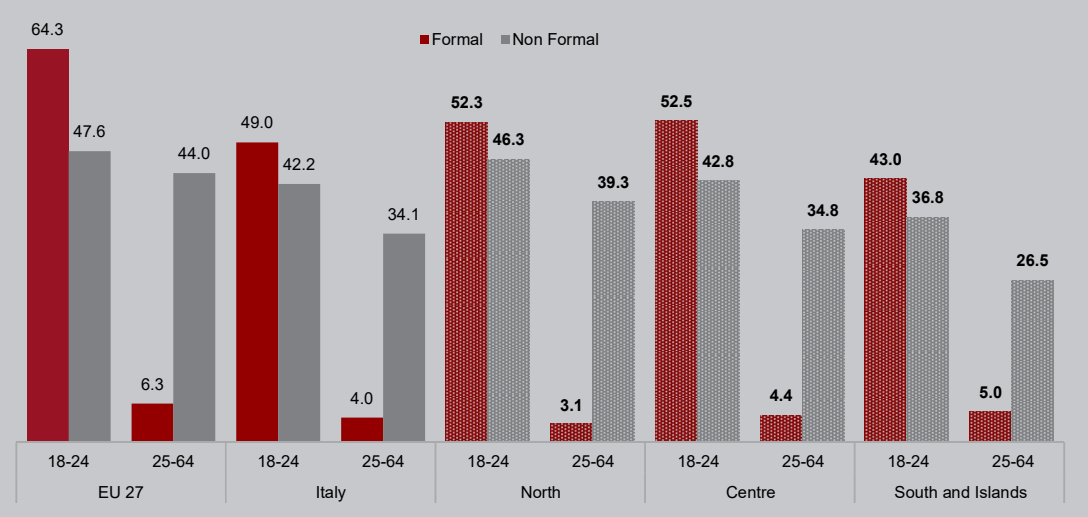
6 Financial literacy is measured by Bank of Italy through an overall indicator that aggregates three dimensions: knowledge, behaviours and attitudes. Knowledge reveals familiarity with concepts such as inflation, interest rate (simple and compound) and risk diversification. Behaviours refer to the management of financial resources in both the short and long term. Attitudes reveal individuals' orientation towards saving and their prudence in managing money (see https://www.bancaditalia.it/pubblicazioni/indagini-attiva/2023-indagini-attiva/statistiche_AFA_20072023.pdf)

Adult participation in training activities: Italy in the European context[1]

European-harmonised data from the Adult Education Survey (AES)[2] in 2022 show a gap between Italy and the major EU 27 countries, to the disadvantage of our country: among adults, the participation rate in formal[3] or non-formal[4] training activities was almost 11 percentage points lower than the European average both for 25-64 year-olds (35.7% against 46.6% in the EU 27) and for 18-24 year-olds (69.0% against 79.8%). If in our northern regions, among 25-64 year-olds, the levels of participation in formal or non-formal activities were very close to the European average, in the South and Islands the participation rate was lower than 29%, 14.7 p.p. below the European average.

Less than 50% of young residents in Italy between 18 and 24 years were engaged in formal activities, while in the EU 27 average the same indicator was 64.3% (Figure 1). Between 25 and 64 years, participation in formal activities was 4% (6.3% in the EU 27).

Figure 1 - Participation rates in training activities by type of activity, age class and geographical area. Year 2022
(percentage values)



Source: Eurostat

The different ways of learning are closely connected and often, a larger participation in formal learning processes facilitates and stimulates non-formal and informal learning too[5]. Those with a low level of education tend to participate less in continuous training activities, despite having a greater need for training compared to more educated segments of the population. In fact, only 15.7% of 25-64 year-olds with at most a lower secondary school diploma participated in non-formal learning, compared to 63% of those with a tertiary degree. Moreover, the gap between Italy and the European average decreased as the level of education increased and disappeared at higher levels of education.

1 This section was edited by Donatella Grassi and Azzurra Tivoli, with the contribution by Barbara Baldazzi.
2 See Istat.2024 "La formazione degli adulti, Anno 2022, Statistiche Report (https://www.istat.it/it/archivio/295794)
3 Participation in school, university, higher education in fine arts, drama, dance and music, regional vocational courses and similar that provide a diploma/degree or a vocational qualification (after a course of at least 600 hours).
4 Activities not included into formal courses but still performed in an organised manner, i.e. with a timetable, a specific place (in the classroom or online) and a teacher/tutor, both free and for a fee. They do not issue a diploma/degree/qualification, but can provide a certificate of attendance/pass. Regional vocational courses that provide a qualification but lasting less than 600 hours are also included.
5 Intentional learning activities, but less organised and less structured, not recognised by any training institution.

A similar mechanism is observed regarding the participation in training based on employment status. In Italy, as in other European countries, the unemployed and low skilled workers, those most in need to acquire, develop and update skills, were precisely those who received the least training. In Italy, 19.0% of unemployed people aged 25-64 and 24.4% of low-skilled workers participated in training, compared to 63.1% of highly skilled workers. The participation rates of highly qualified Italian and European employees were very similar.

In Italy, the lack of adult participation in training is primarily due to low motivation. Among 25-64 year-olds who did not participate in any training, almost 80% did not want to participate. Among youngers (18-24 years), while still high, demotivation dropped to 67.4%, likely due to a greater awareness of the importance of continuous training compared to older generations.

In Italy, adult males (25-64 years) who were not interested in training was nearly 82% while females accounted for 77.6%, showing a gender gap wider than European average. Those who wanted to participate in training but cannot - 22.4% of women (26.1% in the South and Islands) and 18.1% of men – faced obstacles such as the costs of training, considered as a barrier by 26.2% of women and 20.5% of men (14.9% and 12.2% respectively, in the EU 27). Reconciling training with family commitments was another significant obstacle for 6.7% of men and 17.2% of women. For every man who gave up training due to family reasons, 2.6 women were in the same situation (compared to 2 in the EU 27 and only 1 in Sweden and Finland). The pandemic also influenced participation in training activities. Between 2021 and 2022, over a third (34.4%) of those between 25 and 64 years who wanted to train or increase their training did not participate: 11% gave up for fear of contagion; 12.7% opted for self-learning and 15.3% did not participate because the planned activities were modified due to the pandemic.

In Italy, 80.5% of the courses taken by adults were job related, a share consistent with the European Union average (81.8%). However, while in the EU 27 87% of these courses were paid by employers (in Germany 91.9%), only 76.6% were in Italy. Therefore, the financial burden of training falls more frequently on individuals in Italy than elsewhere, discouraging participation. Among the unemployed, in particular, costs were the primary reason for not-participating (32.1%).

The thematic areas of job-related courses matched with those of European countries. Approximately a quarter of these courses were in business, administration and law (anti-corruption, marketing, personnel management, tax updates, accounting, etc.) and around a fifth were in services (safety in the workplace, personal care, catering, personal trainers, etc.). Health and welfare (training of doctors and of healthcare workers) and IT (software updating, IT security, etc.) accounted for another quarter. Non-job-related courses in Italy were deeply concentrated on services (43.8%, especially in sports) and on art and humanities (28.5%, in particular drawing, singing, music courses, but also language courses). Differently, in the EU 27 the choices ranged across multiple more disciplinary areas: 25.6% of the courses were in services, the same share fell within arts and humanities, 10.9% fell within Health and welfare and approximately 7% deals with business, administration and law.

Table 4.1 - Statistical measures released by Istat, taxonomy compared to SDGs indicators, variations compared to the previous year and to 10 years before and convergence among regions

Ref. SDG	INDICATOR	Compared to SDG indicator	Value	VARIATIONS		CONVERGENCE AMONG REGIONS compared to 10 years before
				Compared to the previous year	Compared to 10 years before	
4.1.1	Proportion of children and young people: (a) in grades 2/3; (b) at the end of primary; and (c) at the end of lower secondary achieving at least a minimum proficiency level in (i) reading and (ii) mathematics, by sex					
	Inadequate level of literacy (15-year-old students) (Oecd-Invalsi, 2022, %)	Identical	21.4	(a)		--
	Inadequate level of mathematics (15-year-old students) (Oecd-Invalsi, 2022, %)	Identical	29.6	(a)		--
	Inadequate level of science (15-year-old students) (Oecd-Invalsi, 2022, %)	Identical	23.9	(a)		--
	Inadequate level of financial literacy (15-year-old students) (Oecd-Invalsi, 2018, %)	National context	20.9	(b)	(c)	--
	Inadequate level of literacy (students in grade 2) (Invalsi, 2022/2023, %)	Identical	31.4		(d)	⇒⇐
	Inadequate level of numeracy (students in grade 2) (Invalsi, 2022/2023, %)	Identical	36.1		(d)	⇒⇐
	Inadequate level of literacy (students in grade 5) (Invalsi, 2022/2023, %)	Identical	25.8		(d)	=
	Inadequate level of numeracy (students in grade 5) (Invalsi, 2022/2023, %)	Identical	36.8		(d)	⇒⇐
	Inadequate level of English listening competence (students in grade 5) (Invalsi, 2022/2023, %)	Identical	18.8		(d)	⇐⇒
	Inadequate level of English reading competence (students in grade 5) (Invalsi, 2022/2023, %)	Identical	13.3		(d)	⇐⇒
	Inadequate level of literacy (students in grade 8) (Invalsi, 2022/2023, %)	Identical	38.5		(e)	⇒⇐
	Inadequate level of numeracy (students in grade 8) (Invalsi, 2022/2023, %)	Identical	44.2		(e)	⇒⇐
	Inadequate level of English listening competence (students in grade 8) (Invalsi, 2022/2023, %)	Identical	35.3		(e)	⇐⇒
	Inadequate level of English reading competence (students in grade 8) (Invalsi, 2022/2023, %)	Identical	19.5		(e)	⇒⇐
	Inadequate level of literacy (students in grade 13) (Invalsi, 2022/2023, %)	Identical	49.3		(d)	⇒⇐
	Inadequate level of numeracy (students in grade 13) (Invalsi, 2022/2023, %)	Identical	50.0		(d)	⇒⇐
	Inadequate level of English listening competence (students in grade 13) (Invalsi, 2022/2023, %)	Identical	59.4		(d)	⇐⇒
	Inadequate level of English reading competence (students in grade 13) (Invalsi, 2022/2023, %)	Identical	45.6		(d)	⇒⇐
	Implicit Leavers from Education and Training (students in grade 13) (Invalsi, 2022/2023, %)	National context	8.7		(d)	⇒⇐
4.1.2	Completion rate (primary education, lower secondary education, upper secondary education)					
	Early leavers from education and training (Istat, 2023, %)	Proxy	10.5		(a)	⇐⇒
4.2.1	Percentage of seats authorized in socio-educational services for early childhood (nurseries and supplementary services) on children aged 0-2					
	Percentage of seats authorized in socio-educational services for early childhood (nurseries and supplementary services) on children aged 0-2 (Istat, 2022/2023, %)	Proxy	30.0		(f)	⇒⇐
4.2.2	Participation rate in organized learning (one year before the official primary entry age), by sex					
	Participation rate in organized learning (one year before the official primary entry age)(Istat, Processing of data from Ministry of Education and Merit, 2021/2022, %)	Identical	94.7			⇐⇒
4.3.1	Participation rate of youth and adults in formal and non-formal education and training in the previous 12 months, by sex					
	Participation rate of youth and adults (25-64) in formal and non-formal education and training in the previous 12 months (Istat, 2022, %)	Identical	35.7	(g)	(h)	⇒⇐
	Participation in life-long learning (Istat, 2023, %)	Proxy	11.6		(a)	⇒⇐

Table 4.1 continued - **Statistical measures released by Istat, taxonomy compared to SDGs indicators, variations compared to the previous year and to 10 years before and convergence among regions**

Ref. SDG	INDICATOR	Compared to SDG indicator	Value	VARIATIONS		CONVERGENCE AMONG REGIONS compared to 10 years before
				Compared to the previous year	Compared to 10 years before	
	Students with disabilities: Pre-primary (Ministry of Education and Merit, 2021, %)	National context	2.4	--	--	--
	Students with disabilities: Primary (Ministry of Education and Merit, 2021, %)	National context	4.4	--	--	--
	Students with disabilities: Lower secondary (Ministry of Education and Merit, 2021, %)	National context	4.5	--	--	--
	Students with disabilities: Upper secondary (Ministry of Education and Merit, 2021, %)	National context	3.0	--	--	--
4.4.1	Proportion of youth and adults with information and communications technology (ICT) skills, by type of skill					
	Individuals with basic or above basic overall digital skills (Istat, 2023, %)	Identical	45.9	(i)	--	--
	Financial literacy score of adults (Bank of Italy, 2023, Mean score)	National context	10.7	(j)	(k)	--
4.5.1	Parity indices (female/male, rural/urban, bottom/top wealth quintile and others such as disability status, indigenous peoples and conflict-affected, as data become available) for all education indicators on this list that can be disaggregated (*)					
4.6.1	Proportion of population in a given age group achieving at least a fixed level of proficiency in functional (a) literacy and (b) numeracy skills, by sex					
	People having completed tertiary education (25-34 years old) (Istat, 2023, %)	National context	30.6		(a)	⇒⇐
	STEM graduates (Istat, 2021, Per 1,000 population aged 20-29)	National context	17.8		(c)	⇐⇒
4.a.1	Proportion of schools offering basic services, by type of serviceso					
	Physically accessible schools (Istat, 2022/2023, %)	Proxy	40.3		(d)	⇒⇐
	Physically inaccessible schools (Istat, 2022/2023, %)	Proxy	42.0		(d)	=
	Schools with pupils with disabilities by adapted computer workstations: Primary (Istat, 2023, %)	Identical	71.6			⇐⇒
	Schools with pupils with disabilities by adapted computer workstations: Lower Secondary (Istat, 2023, %)	Identical	76.5			⇐⇒
	Schools with pupils with disabilities by adapted computer workstations: Upper Secondary (Istat, 2023, %)	Identical	74.2		(a)	⇒⇐
4.b.1	Volume of official development assistance flows for scholarships by sector and type of study					
	Bilateral Official Development Assistance (ODA) flows for scholarships by sector and type of study (current prices) (Ministry of Foreign Affairs and International Cooperation, 2023, Million euro (current prices))	Identico	76.15	--	--	--

Legend

- IMPROVEMENT
- STABILITY
- DETERIORATION
- -- NOT AVAILABLE / NOT SIGNIFICANT
- ⇒⇐ CONVERGENCE
- = STABILITY
- ⇐⇒ DIVERGENCE

Notes

(a) Variation compared to 2018
(b) Variation compared to 2015
(c) Variation compared to 2012
(d) Variation compared to 2018/2019
(e) Variation compared to2017/2018
(f) Variation compared to 2013/2014
(g) Variation compared to 2016
(h) Variation compared to 2011
(i) Variation compared to 2021
(j) Variation compared to 2020
(k) Variation compared to 2017
(*) There are 34 parity indices in the database and they relate to 26 indicators in this Goal

GOAL 5

ACHIEVE GENDER EQUALITY AND EMPOWER ALL WOMEN AND GIRLS[1]

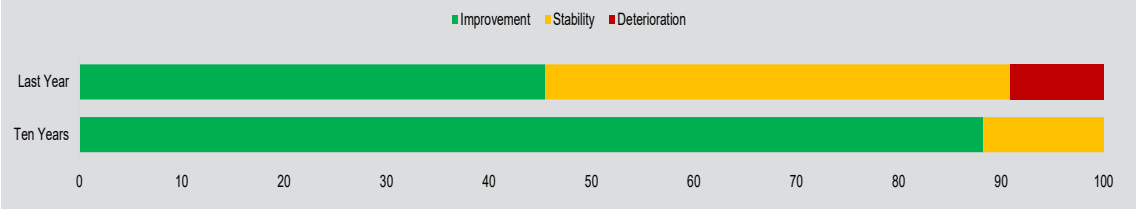
In brief

- In 2022, the number of homicides of women was 128. The percentage of women murdered by partners, ex-partners or other relatives was very high, equal to 82.5%.
- In Italy, over the last ten years, the share of care work borne by women in couples aged between 25 and 44 has fallen by an average of 5.4 per cent.
- In the last decade, the rate of voluntary abortions among women between 15 and 49 years of age has fallen significantly (from 7.9 to 5.5 voluntary abortions per 1,000 resident women). In the last year, however, the phenomenon has increased for foreigners from 11.8 to 13 events per 1,000 women.

1 This section was edited by Alberto Violante with contributions by Alessandra Capobianchi, Francesco Gosetti and Giusy Muratore.

The statistical measures released by Istat for Goal 5 are eighteen and refer to seven UN-IAEG-SDGs indicators (Table 5.1). When comparing the last available year to the previous year, approximately half of the measures showed a positive change, thanks to the improvement, in particular, of those relating to support for women victims of violence. When comparing over a ten-year period, notable progress is also evident in the increased participation of women in management positions and political representation bodies (Figure 5.1).

Figure 5.1 - Time evolution of statistical measures released by Istat: last available year compared to the previous year and to 10 years before



The number of women killed has decreased, but the number of female homicides in the home remained high

Over the last ten years, there has been a progressive decrease in the number of voluntary homicides for victims of both sexes. For female victims, the incidence of homicides between 2013 and 2016 fell by a third, and then remained stable, while for male victims, although still slightly higher, the rate continued to decline, with the sole exception of the last year (Figure 5.2).

Figure 5.2 - Murders of women committed by partners, ex-partners or other relatives (per 100 women murdered). Years 2013-2022 (per 100.000 inhabitants and percentage values)

Source: : Istat-Ministry of the Interior

The reduction in homicides that occurred outside the home contributed above all to this trend. According to data by the Central Directorate of the Criminal Police, in 2013, 65% of female homicides were committed by a partner, an ex-partner or by another relative. In the pre-pandemic period this figure reached 83.8%, and then remained constantly above 80%. In the past year, the percentage of homicides perpetrated within the family decreased slightly, from 84% in 2021 to 82.5%. In 2022, murders committed by partners or ex-partners accounted for 55% of all female homicides, a stable figure compared to the previous two years and a slight increase compared to the three previous years (53%).

In 2022, murders of women by partners or ex-partners were more frequent in the North (52.5% of the total female homicides) than in the South and Islands (47.5%). Although a more comprehensive definition of gender-based homicide has only recently been established[2], Eurostat data on the murders of women committed by partners/ex-partners allow for methodologically sound comparisons across EU27 countries. Spain (66.1%), France (58.6%) and Germany (56.7%) showed lower percentages of such murders than Italy. These levels are comparable to those observed in Ireland (80%) and higher in Switzerland (90%) and Croatia (93%).

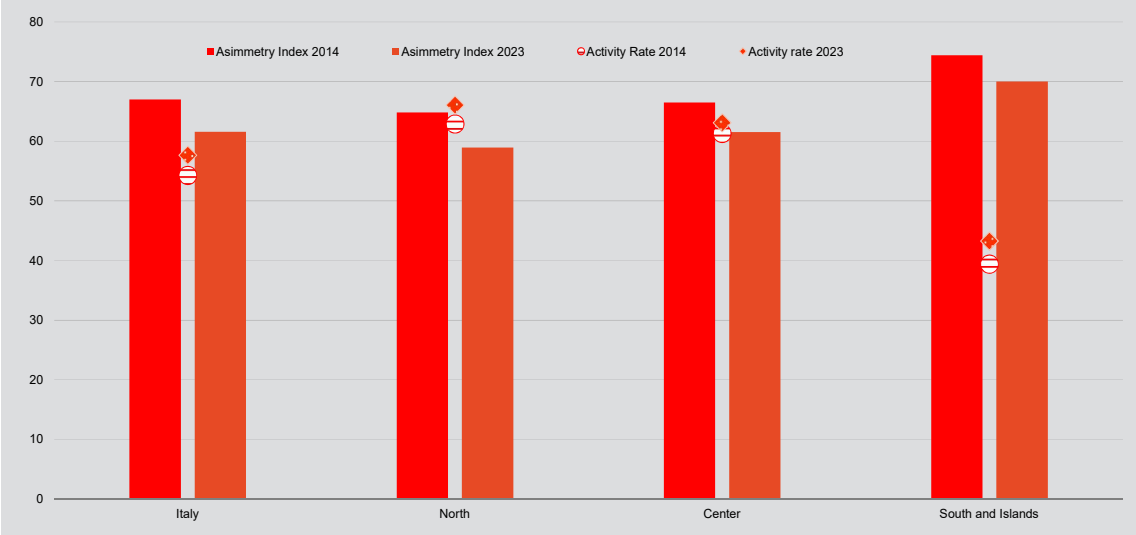
The gender distribution of workload for family care improved

In 2023, the household workload inequality index - which measures the percentage of time spent on household and family care by women out of the total time spent by both partners - remained unchanged at 61.6%. However, over ten years, between 2014 and 2023, it has decreased by 5.4 percentage points. This improvement was observed across the country, although to a greater extent in the North (-5.9 percentage points compared to the Italian average), compared to the Centre (-5 percentage points) and the South and Islands (-4.4). The data reflect the slow consolidation of a social custom of equal division of household workload, also due to the growth in female participation in the labour market (See Goal 8). In the South and Islands, the activity rate of women increased more than the Italian average (+3.9 percentage points compared to +3.3), despite a more modest decrease in the asymmetry index (Figure 5.3).

The female disadvantage in the labour market, due to the difficulties of reconciling family and work life, is also clearly illustrated by the ratio between employment rates of women aged 25 to 49 with preschool children and women without children. In 2022, for the same age group, the employment rate of women with children was more than a quarter lower than that of women without children. The rate ratio, slightly improved (+0.6 percentage points) compared to the previous year, was equal to 73%. This improvement was driven entirely by the North (+0.8 percentage points), while in the Centre (-0.7 percentage points) and the South and Islands (-0.2 percentage points) the ratio between the proportion of employed women with children and without children slightly worsened, indicating that employment growth in 2023 in these geographical areas primarily benefitted women without children.

2 On request by United Nations Statistical Commission, the UNODC (United Nation Office on Drugs and Crime) provided a complete definitive and statistical framework to measure the phenomenon of feminicides, going beyond the phenomenon of domestic homicides (see UNODC.2022.Statistical framework for measuring of the gender-related killing of women and girls (also referred to as "femicide/feminicide"). https://www.unodc.org/documents/data-and-analysis/statistics/Statistical_framework_femicide_2022.pdf.

Figure 5.3 - Household workload inequality index and participation rate of women, by geographical area. Years 2014 and 2023 (percentage values)

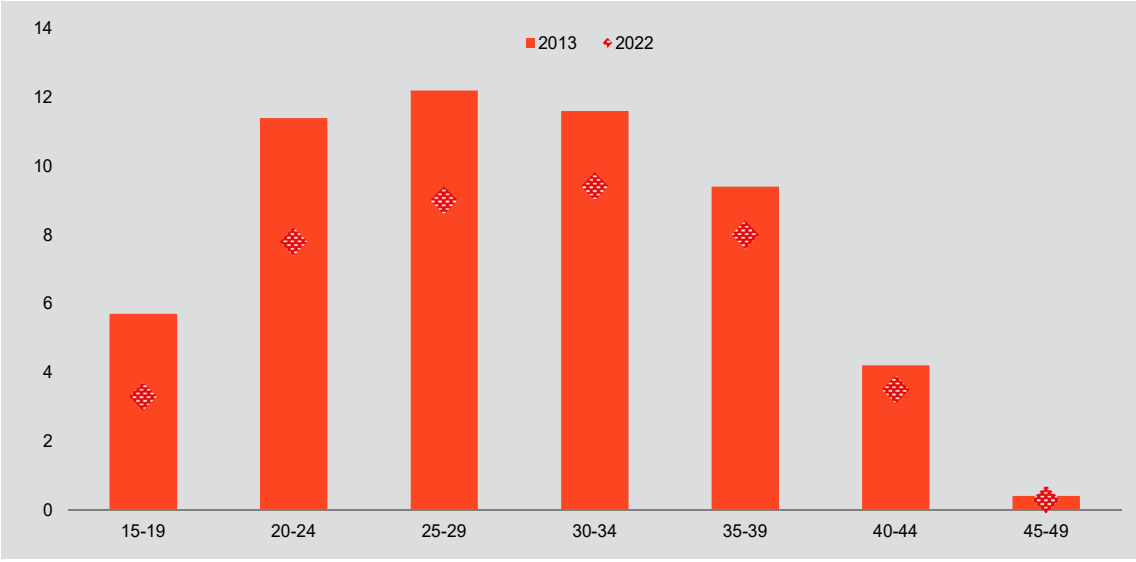


Source: Istat, Time use survey; Survey on Aspects of daily life; Labour Force survey

The rate of voluntary abortion has decreased in the last ten years, but in 2022 it increased among foreigners

Over the last ten years, the rate of voluntary abortion among women aged 15 to 49 has undergone a significant reduction, reaching 5.5 abortions per 1,000 women. This decline has occurred especially among younger age groups (Figure 5.4). Among girls aged 15 to 19, the rate has dropped to 2.4 events per 1,000 women, marking the largest proportionally reduction. In absolute terms, however, the most significant decreases have been recorded among women aged 20 to 24 (-3.6 voluntary interruptions of pregnancy per 1,000 women), and to a slightly lesser extent (3.2) for women aged 25 to 29.

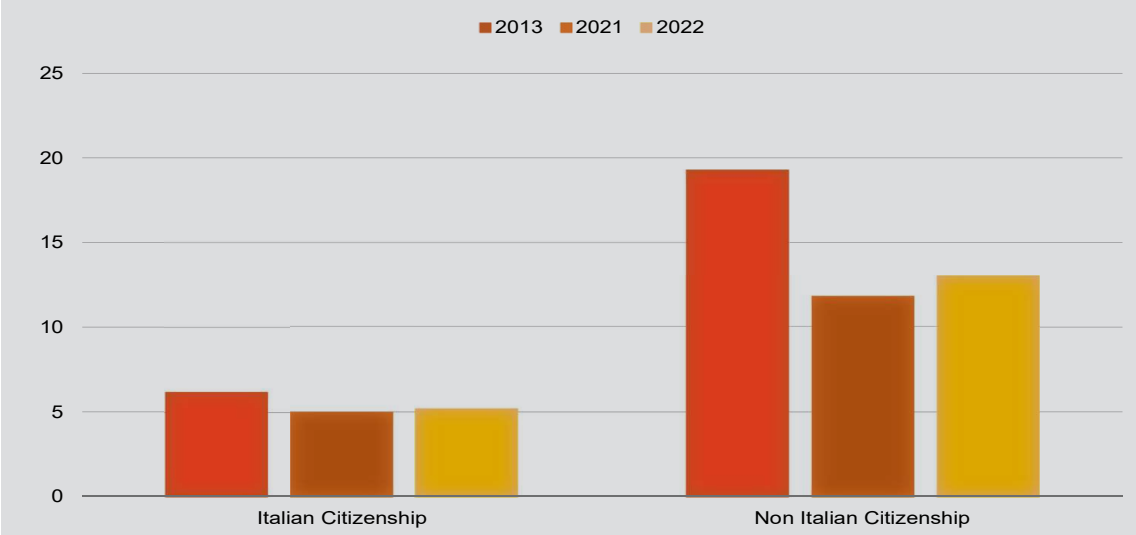
Figure 5.4 - Voluntary abortion rates of women aged 15-49, by age class. Years 2013 and 2022 (per 1,000 women)



Source: Istat, Survey on induced abortions (IVG)

Conversely, the rate has increased among non-Italian women, and has reached 13 events per 1,000 women in 2022 (compared to 11.8 in 2021; Figure 5.5), compared to a contraction among Italian women who has recorded a falling rate, reaching 6.3 events per 1,000 women in the last decade.

Figure 5.5 - Voluntary abortion rates of women aged 15-49, by citizenship. Years 2013, 2021, and 2022 (per 1,000 women)



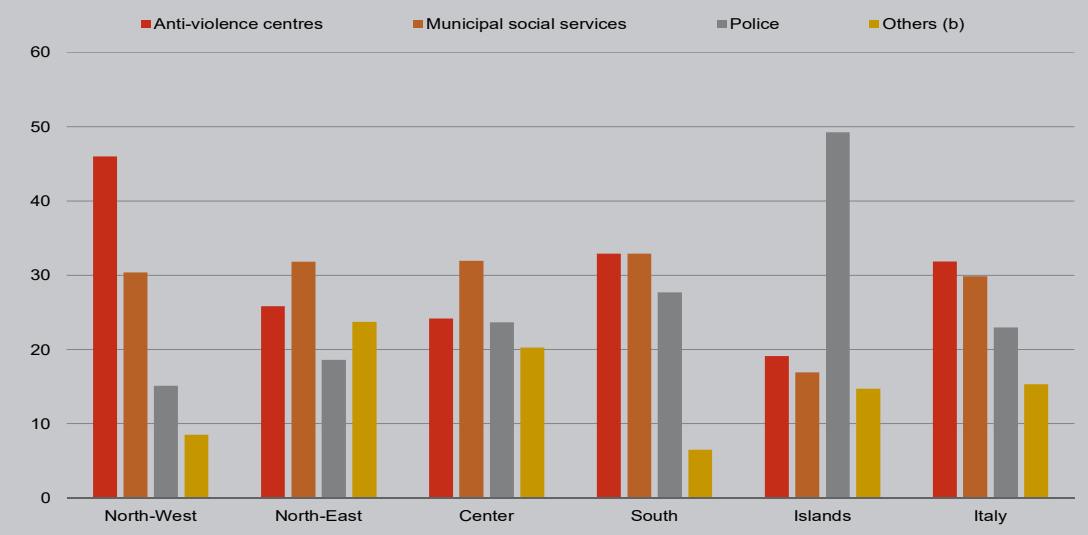
Source: Istat, Survey on induced abortions (IVG)

The shelter homes care system[1]

In 2017, Istat began collecting data on the system of protection for women victims of violence and, since 2018, it has conducted an annual survey focused to the country's shelter homes (SH), in collaboration with the Department for Equal Opportunities at the Presidency of the Council and the Regions.

Shelter houses play a fundamental role in supporting women victims of violence. In 2022, 2,698 women victims of violence found hospitality in shelter homes. Most of the women arrived at SHs through the assistance of various actors involved in the territorial anti-violence network: around one third of the women hosted in 2022 were referred by anti-violence centres (Figure 1) which supported around 26,000 women to escape violence. Around 30% of the women hosted in SHs were referred by local social services. Entering a shelter home can either be a planned step in escaping violence or occur in an emergency situation. In fact, the police represent another important access channel to the SH: in 2022, they accompanied 23% of the women hosted. A minority share accessed SHs through other services, such as hospitals (Emergency Room), or through private entities. Finally, in some cases, women themselves sought direct assistance at the SH.

Figure 1 - Women living in shelters homes by referring authority and geographical area (a). Year 2022 (percentage values)



Source: : Istat, Survey on Women's shelters
(a) Women hosted in the House for whom the authority who referred the woman has been declared.
(b) Women referred to the Shelter by the Emergency Room, another residential facility, the 1522 hotline, healthcare services, private individuals, other channels, and cases where the women themselves went directly to the Shelter are included.

The shelter homes are mostly financed by public bodies: in 2022, 77.5% received exclusively public funds, primarily from local authorities (72.4%); another 19.5% were supported by both public and private funds; finally, 2.1% were solely privately owned. Of the SHs financed by local authorities, three quarters provided services to all women seeking accommodation, while 25% used available funds to house specific categories of residents who meet preferential criteria (usually residency in the territory of the funding authority). The highest share of shelters financed by local authorities was in the North-West (92.4%) while the lowest percentages were recorded in the North-East and the South (55.7% and 54.2%, respectively). A comparison with 2020 shows an increase of the share of SHs that receive a daily contribution from local

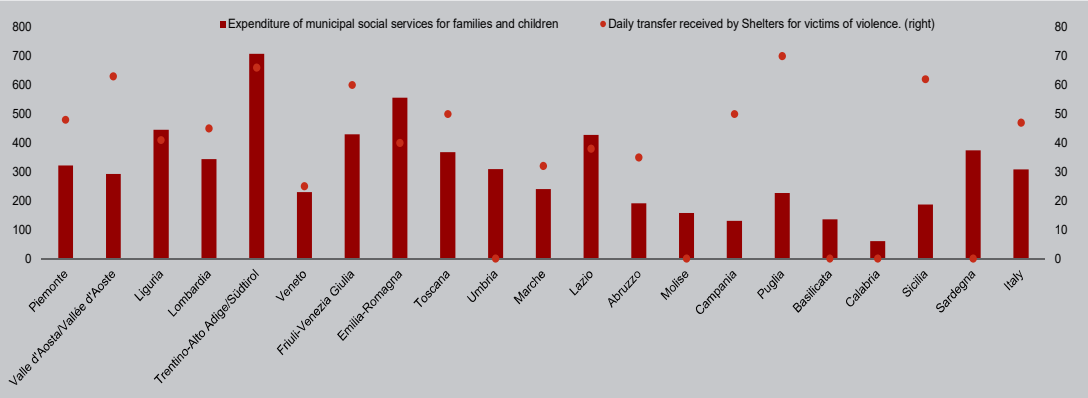
1 This section was edited by Lucilla Scarnicchia with contributions by Giusy Muratore and Alberto Violante.

authorities (64.5% in 2020). Similarly, the percentage of SHs funded exclusively by public bodies has grown (63.6% in 2020). The median daily fee supported by local authorities has remained relatively stable (47 euro in 2020 and 50 euro in 2022).

The integrated analysis of the information on funding received by the SHs and the per capita expenditure of municipalities on social services shows structured trends across the country.

In 2020, the regions where SHs most frequently received daily contributions to support the women they hosted were Valle d'Aosta/*Vallée d'Aoste* and Marche, with contributions of 63 and 32 euro per day respectively (see Figure 2). These contributions corresponded to municipal expenditures for families and minors of 293 and 241 euro per capita. However, no SH received contributions in the Autonomous Province of Bolzano/*Bozen*, in Umbria, Molise, Calabria and Sardegna. In these regions the expenditure of the municipalities for families and minors varied from the minimum in Calabria, with 61 euro per capita, up to the maximum in the Autonomous Province of Bolzano/*Bozen*, with 854 euro.

Figure 2 - Per capita expenditure of municipalities for social services for families and minors and median daily fee received by shelter homes per hosted woman, by region and geographical area. Year 2020 (euro)



Source: Istat, Survey on Women's shelters, Social services and benefits of municipalities

Table 5.1 - Statistical measures released by Istat, taxonomy compared to SDGs indicators, variations compared to the previous year and to 10 years before and convergence among regions

Ref. SDG	INDICATOR	Compared to SDG indicator	Value	VARIATIONS		CONVERGENCE BETWEEN REGIONS compared to 10 years before
				Compared to the previous years	Compared to 10 years before	
5.2.1	Proportion of ever-partnered women and girls aged 15 years and older subjected to physical, sexual or psychological violence by a current or former intimate partner in the previous 12 months, by form of violence and by age					
	Proportion of women aged 16-70 subjected to physical or sexual violence by a partner or previous partner in the previous 12 months (Istat, 2014, percentage values)	Identical	2.0	-- (a)		--
	Intimate partnership violence rate (Istat, 2014, percentage values)	Proxy	4.9	-- (a)		⇐⇒
	Proportion of women aged 16-70 subjected to psychological violence by a current partner in the previous 12 months (Istat, 2014, percentage values)	Proxy	9.2	-- (a)		--
	Women victims of violence reported to the 1522 helpline (Istat, 2023, per 100.000 women)	National Context	24.5	(b)		⇐⇒
	Murders of women committed by partners, ex-partners or other relatives (per 100 women murdered) (Istat-Ministry of the Interior, 2022, percentage values)	National Context	84.0	--	--	--
	Anti-violence centers and women's Shelters: rate per 100,000 women aged 14 and over (Istat, 2022, per 100.000)	National Context	2.7			⇒⇐
5.2.2	Proportion of women and girls aged 15 years and older subjected to sexual violence by persons other than an intimate partner in the previous 12 months, by age and place of occurrence					
	Proportion of women aged 16-70 subjected to sexual violence by a man other than intimate partner in the previous 12 months (Istat, 2014, percentage values)	Identical	1.6	-- (a)		--
	Proportion of women aged 16-70 subjected to physical or sexual violence by a man other than intimate partner in the previous 5 years (Istat, 2014, percentage values)	Proxy	7.7	-- (a)		⇐⇒
5.4.1	Proportion of time spent on unpaid domestic and care work, by sex, age and location					
	Ratio of employment rate for women aged 25-49 with at least one child aged 0-5 to the employment rate of women 25-49 years without children (Istat, 2023, percentage values)	National Context	73.0	(c)		⇒⇐
	Proportion of time spent on unpaid domestic and care work (Istat, 2014, percentage values)	Identical	13.5	--		⇒⇐
	Household workload inequality index (Istat, 2022/2023, percentage values)	National Context	61.6			--
5.5.1	Proportion of seats held by women in (a) national parliaments and (b) local governments					
	Women and political representation in parliament (Istat, processing of data from Italian parliament, 2022, percentage values)	Proxy	33.7	(d)		=
	Women and political representation at regional level (Istat, processing of data from individual regional councils, 2023, percentage values)	Proxy	24.1	(e)		⇒⇐
5.5.2	Proportion of women in managerial positions					
	Women in decision-making bodies (Istat, processing of data from various sources, 2024, percentage values)	Proxy	21.3	(b)		--
	Women in the boards of companies listed on the stock exchange (Consob, 2023, percentage values)	Proxy	43.1			--
5.6.1	Proportion of women aged 15-49 years who make their own informed decisions regarding sexual relations, contraceptive use and reproductive health care					
	Voluntary abortion rate of women aged 15-49 years for 1,000 women (standardised rates) (Istat, 2022)	National Context	5.5			⇒⇐
5.b.1	People aged 6 and over who use their mobile phone every day, per 100 people with the same characteristics					
	Proportion of individuals who own a mobile telephone, by sex (Istat, 2023, percentage values)	Proxy	83.8			⇒⇐
	People aged 16-74 who used internet once a week (including every day) in the last 3 months (Istat, 2023, percentage values)	National Context	85.6			⇒⇐

Legend

- IMPROVEMENT
- STABILITY
- DETERIORATION
- -- NOT AVAILABLE / NOT SIGNIFICANT
- ⇒⇐ CONVERGENCE
- = STABILITY
- ⇐⇒ DIVERGENCE

Notes

(a) Variation compared to 2006
(b) Variation compared to 2013
(c) Variation compared to 2018
(d) Variation compared to 2008
(e) Variation compared to 2012

GOAL 6

ENSURE AVAILABILITY AND SUSTAINABLE MANAGEMENT OF WATER AND SANITATION FOR ALL[1]

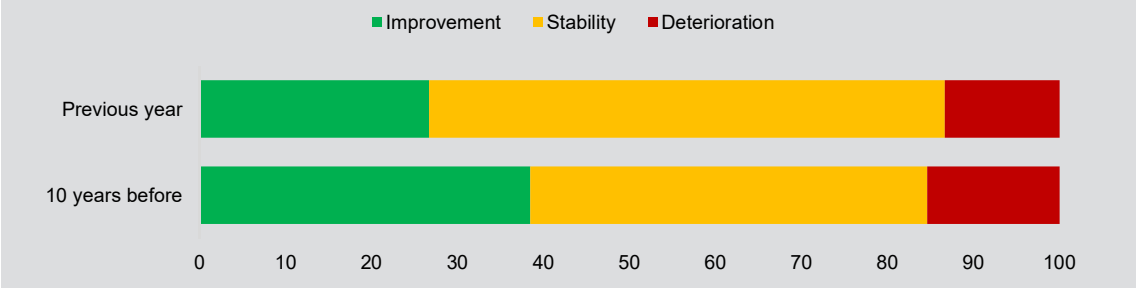
In brief

- In 2022, Italy ranked third in EU27 for freshwater withdrawal for public water supply per inhabitant (155 cubic metres per year).
- In 2022, public water supply networks supplied 214 litres of water per inhabitant per day (36 litres less than in 1999).
- In 2022, persistent critical conditions in the public water supply networks: efficiency stood at 57.6%.
- Between 2017 and 2023, Italy has shown a progress in the degree of implementation of Integrated Water Resources Management, from medium-high level (55) to high level (78).
- In 2023, almost one out of three households did not trust drinking tap water and nearly one out of ten reported irregularities in water supply in their dwelling.

1 This section was edited by Simona Ramberti with contributions by Tiziana Baldoni, Giovanna Tagliacozzo and Stefano Tersigni.

The statistical measures released by Istat for Goal 6 are twenty and refer to nine UN-IAEG-SDGs indicators (Table 6.1). When comparing the last available year to the previous year, the statistical measures primarily presented a stable condition, with a higher share of improving measures than of worsening measures. When comparing over a ten-year period, more suitable to evaluate changes about water resource and relevant infrastructures, the share of improving measures was larger (Figure 6.1).

Figure 6.1 - Time evolution of statistical measures released by Istat: last available year compared to the previous year and to 10 years before



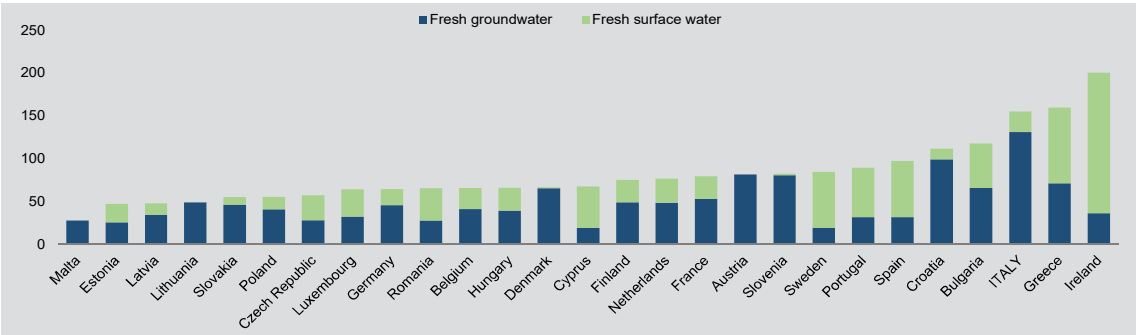
Italy ranked third in the EU for per capita freshwater withdrawal for public water supply

In 2022, the volume of water withdrawn for public water supply from fresh surface or ground water bodies (with the exclusion of marine waters) in Italy amounted to 9.13 billion cubic metres, corresponding to 424 litres per inhabitant per day[2]. Throughout the country, there are approximately 37,400 active abstraction points for drinking water. The highest abstraction was recorded in the Fiume Po river basin district (2.80 billion cubic metres, 30.7% of the national total) and, among the regions, in Lombardia (1.48 billion cubic metres; 16.2%).

Despite the contraction in the volume withdrawn (-0.5% compared to 2020), which continued the trend recorded since 2018 (-4% compared to 2015), Italy has ranked first among EU27 countries for over twenty years in terms of absolute quantity of freshwater abstracted for public water supply.

In per capita terms, Italy - with 155 cubic metres per inhabitant per year - was in third place (Figure 6.2), preceded by Ireland (200) and Greece (159).

Figure 6.2 - Freshwater withdrawal for public water supply (a), by country and source. Year 2021 (b) (cubic metres per inhabitant)



Source: Eurostat
(a) Marine waters are not accounted in the figure.
(b) Italy (2022), Germany (2019), Finland (2014) and Austria (2018).

2 See Istat. 2024. "Istat water statistics. Years 2020-2023". Statistiche report. Rome: Istat. https://www.istat.it/wp-content/uploads/2024/06/WWD-2024-ENG.pdf.

The per capita water supplied in public water supply networks decreased

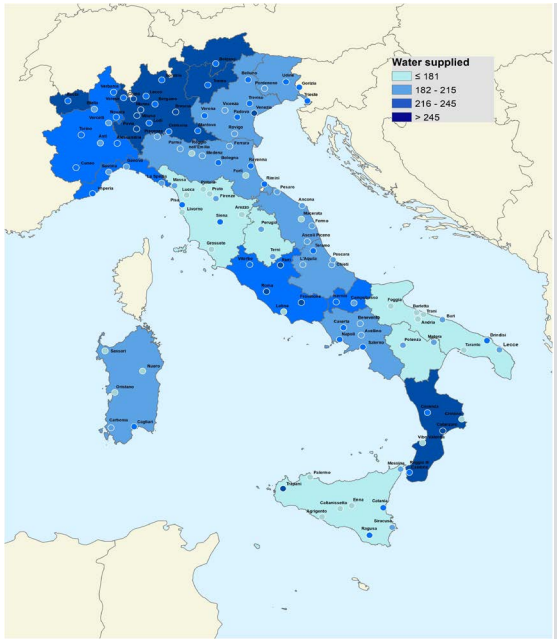
Not all the water withdrawn is input into municipal drinking water supply networks[3]: of the over 9 billion cubic metres of water abstracted in 2022, 8 billion were input into the network, equal to 371 litres per inhabitant per day. Due to distribution losses, a total of 4.6 billion cubic metres of water were supplied to end users in the country for authorised uses in the territory, including both revenue and unbilled volumes, corresponding to 214 litres per inhabitant per day.

Compared to 1999, daily per capita water supplied decreased by 36 litres.

The daily per capita supply of drinking water was generally higher in Northern municipalities, with the North-West showing the highest average (251 litres per inhabitant per day). There were significant regional variations, ranging from 232 litres per day in Piemonte to 419 litres in Valle d'Aosta/*Vallee d'Aoste*, the region with the highest value. The Islands remained, in 2022, the geographical area with the lowest per capita water supply (186 litres per inhabitant per day), while the regions with the lowest values were Puglia (156) and Umbria (167).

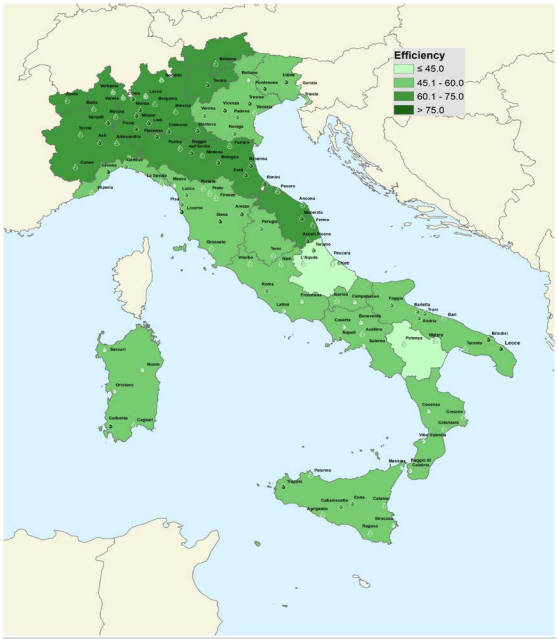
In the 109 provincial and metropolitan capitals, the volume of water supplied per capita was 236 litres per inhabitant per day, 22 litres higher than the national average, partly due to the greater appeal of these cities for tourism, work, healthcare, and education (Figure 6.3).

Figura 6.3 - Water supplied, by region and provincial/metropolitan capital. Year 2022 (litre per inhabitant per day)



Source: Istat, Urban water census

Figura 6.4 - Urban water supply network efficiency, by region and provincial/metropolitan capital. Year 2022 (percentage values)



Source: Istat, Urban water census

3 The reduction is due to process losses in the purification treatment, losses in the adduction network and volumes supplied wholesale for non-civil uses (agriculture and industry).

Still major critical issues in the public water supply networks

The efficiency of the public water supply service, measured through the share of the volume input into the network that is supplied to end users, was 57.6% in 2022 (57.8% in 2020), confirming ongoing critical issues mainly due to physical leaks. Compared to 2020, efficiency decreased in 13 out of the 21 regions and autonomous provinces and in 3 out of the 7 river basin districts[4].

The analysis of the indicator highlights a territorial pattern of infrastructural issues, reflecting the familiar North-South divide, with the most critical situations of lower efficiency in the areas of the Centre and South and Islands, in the river basin districts of the Apennine and insular areas (Figure 6.4).

In 2022, the river basin districts of Sardegna (47.2%), Sicilia (48.4%) and Appennino Meridionale (49.6%) presented the lowest levels of efficiency; instead, the Fiume Po river basin district recorded the highest efficiency value (67.5%).

In nine regions the efficiency level was lower than the national average, with the lowest values in Basilicata (34.5%), Abruzzo (37.5%), Molise (46.1%), Sardegna (47.2%) and Sicilia (48.4%). All the northern regions had higher efficiency levels, with Veneto (57.8%) and Friuli-Venezia Giulia (57.7%) in line with the national average. The highest levels of efficiency were observed in the Autonomous Province of Bolzano/*Bozen* (71.2%), in Emilia-Romagna (70.3%) and in Valle d'Aosta/*Vallée d'Aoste* (70.2%).

In 2022, the public water supply networks of the 109 provincial and metropolitan capitals achieved an efficiency rate of 64.8%, an increase of 1 percentage point compared to 2020 and approximately 10 percentage points higher than the level achieved in other municipalities.

The degree of implementation of integrated water resources management has steadily grown

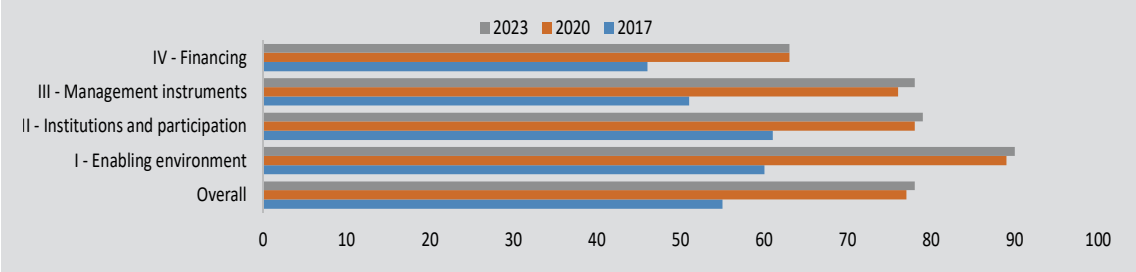
Target 6.5 aims to achieve, by 2030, "the integrated management of water resources at all levels" in order to contribute to balancing competition in the different uses of water, by society and the economy, without threatening the sustainability of ecosystems, through the coordination of policies, the national and European regulatory framework and of the management and financial structure, including also impacts on the hydrological cycle due to climate change. Between 2017 and 2023, Italy made progress in the degree of Integrated Water Resources Management (IWRM) and increased from 55 (medium-high level) to 78 (high level)[5], on a scale of 0 to 100. This score of 78 is slightly higher than the average score for Europe and North America (75, high level) and evidences a significant difference compared to the global level rating (57, medium-high level). The high level ranking, still achieved in 2020, implies that the national objectives for integrated water resources management have generally been achieved and that stakeholder commitment has overall been good.

4 It must be considered that the variations detected may depend not only on the state of the networks but also on variations in the methods of calculating the volumes consumed but not measured, on the growing diffusion of measuring instruments, which are more effective in highlighting critical situations, on contingent situations and management changes that can modify the volume calculation system.

5 SDG Indicator 6.5.1 Italy – summary sheet produced by the UNEP-United Nations Environment Programme: https://www.isprambiente.gov.it/pre_meteo/idro/SGD/SGD_651/SDG651_2023_Reporting_Summary_Italy_EN.pdf.

In 2023, the scores across the four main dimensions of the indicator (Figure 6.5) ranged from 63 for Financing (medium-high) to 90 for Enabling environment (high).

Figura 6.5 - Degree of integrated water resources management. Years 2017, 2020 and 2023 (index)



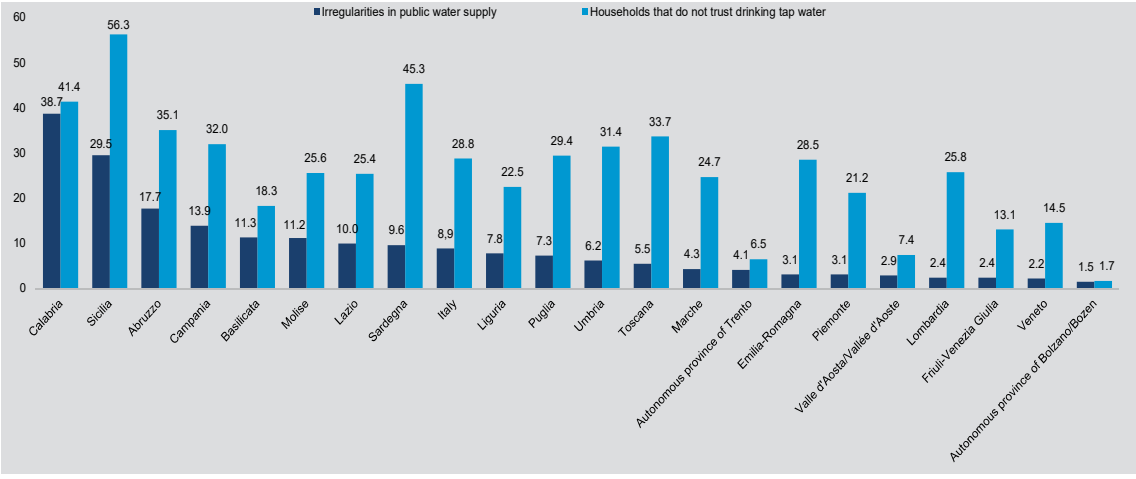
Source: ISPRA

Still little confidence in drinking tap water and reports of irregularities in water supply, especially for households in the South and Islands

In 2023, 28.8% of households reported they did not trust drinking tap water (Figure 6.6). The figure remained stable compared to 2022, although it reflected considerably less distrust than twenty years ago (40.1% in 2002). On territorial level significant gaps persisted: from 18.9% in the North-East to 53.4% in the Islands. At the regional level, the highest percentages were in Sicilia (56.3%), Sardegna (45.3%), Calabria (41.4%) and Abruzzo (35.1%).

In 2023, 8.9% of households (9.7% in 2022) complained irregularities in the water supply service in their home. The disruption was unevenly distributed across the country affecting approximately 2 million 300 thousand households, for more than two thirds residing in the South and Islands (1.6 million households). Calabria (38.7% of households) and Sicilia (29.5%) were the regions most affected by water supply issues in homes. The situation was opposite in the North-West (3.1%) and in the North-East (2.6%). In the Centre fewer than one in ten households complained irregularities in water supply.

Figura 6.6 - Households that do not trust drinking tap water and irregularities in water supply, by region. Year 2023 (percentage values)



Source: Istat, Survey on Aspects of daily life

The World Health Organization GLAAS 2021/2022 Survey: Italy's experience[1]

The World Health Organization's GLAAS[2] Survey (Global Analysis and Assessment of Sanitation and Drinking-Water) has provided, for nearly ten years, key insights for a global analysis on policy frameworks, institutional measures, human resources and international and national financial flows supporting drinking water, hygiene and sanitation (WAter, Sanitation and Hygiene - WASH). The main findings are illustrated in a report, with the sixth edition released in 2022, which represents a significant contribution to reporting progress towards achieving Goal 6.

The most recent edition of the GLAAS Survey collected data and information on health, finance, education, environment, availability and quality of water in 121 countries and territories, including Italy, at first participation (Table 1).

Table 1 - Number of countries participating in the survey, by WHO region

OMS REGIONS	Number of countries involved	Number of countries in the region
African region	40	47
Americas region	27	35
Eastern Mediterranean region	15	21
European region	20	53
South-East Asia region	7	11
Western Pacific region	12	27
Total	121	194

Source: OMS, GLAAS data portal (see https://glaas.who.int/)

The highly detailed questionnaire required input from various institutional actors. For this purpose, an ad hoc working group was formed in Italy in which the main authorities and bodies involved in WASH issues participated[3], each contributing within their area of activities, under the aegis and coordination of the Ministry of Health and of Italian National Institute of Health, as national focal points.

The questionnaire, divided into four specific sections (governance, monitoring, human resources and finance), highlighted that in Italy the measures related to WASH are generally aimed at the entire population in a variety of living and working environments (including healthcare facilities and schools).

Overall, answers were provided to 42 of the 51 macro-questions.

Regarding the development and application of drinking water policies, Italy was among the 47% of countries with an approved and partially implemented plan[4]. The same applied to sanitation policies (50% of countries). The measures developed, generally applicable to the entire population and in specific contexts (such as health facilities and schools) as well, are designed to reach the most vulnerable populations and environments, but are not always supported by monitoring data (Figure 1).

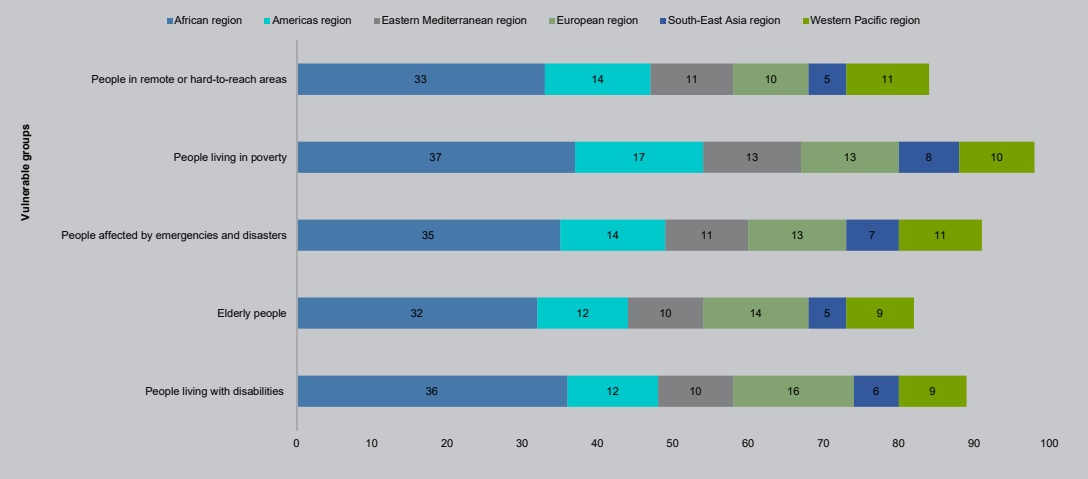
1 This section was edited by Luca Lucentini and Valentina Fuscoletti (Istituto Superiore di Sanità) with contributions by Simona Ramberti.

2 See World Health *Organization. 2022. Strong systems and sound investments: evidence on and key insights into accelerating progress on sanitation, drinking-water and hygiene. UN-Water global analysis and assessment of sanitation and drinking-water (GLAAS) 2022 report.* https://www.unwater.org/sites/default/files/2022-12/GLAAS_2022_REPORT.pdf.

3 The process involved Istat, ARERA, Ministry of the Environment and Energy Security, National System for Environmental Protection and Utilitalia.

4 A plan is a strategy that implements policy-based decisions, highlights feasible actions, achieves policy objectives and provides details on policy implementation. The plans can assign responsibilities and define how responsible bodies should respond to policy requirements, the type of training and development provided, and the allocation of financial and human resources.

Figure 1 - Number of countries that have provided, in sanitation policies and/or plans, measures to extend services to the five types of identified vulnerable groups



Source: OMS, GLAAS data portal (see https://glaas.who.int/)

Italy was one of the European region countries with measures to extend WASH services to the 5 vulnerable groups identified in the previous figure.

The mandatory adoption of risk-based approaches to drinking water safety applied to 42% of the countries that participated in the survey, of which about a quarter belonging to the WHO European region, including Italy.

A specific focus was on health issues related to water and sanitation services, in connection with the *COVID-19* pandemic. Among the participating countries, 98% developed a Pandemic Preparedness and Response that, in Italy's case, included all the identified WASH components (hand hygiene; drinking water; sanitation; WASH in health care facilities; health care waste management; WASH for vulnerable populations).

The analysis of the overall responses outlines the need to incentivise and establish a stable partnership for monitoring the WASH status, to be implemented as part of the activities for the ratification of the Protocol on Water and Health[5] currently ongoing. For the GLAAS 2024/2025 Survey, launched in April 2024 and which Italy has joined, it will be necessary the involvement of additional institutions to provide a more appropriate response to questions related to funding and human resources.

5 Draft law "Ratification and implementation of the Protocol on Water and Health to the 1992 Convention on the Protection and Use of Transboundary Watercourses and International Lakes, presented in London on 17 June 1999" (C. 1540) submitted on 10 November 2023.

Table 6.1 - Statistical measures released by Istat, taxonomy compared to SDGs indicators, variations compared to the previous year and to 10 years before and convergence among regions

Ref. SDG	INDICATOR	Compared to SDG indicator	Value	VARIATIONS		CONVERGENCE AMONG REGIONS compared to 10 years before
				Compared to previous year	Compared to 10 years before	
6.1.1	Proportion of population using safely managed drinking water services					
	Water supplied per capita (Istat, 2022, litre per inhabitant per day)	National context	214	(a)	(b)	⇐⇒
	Households that do not trust drinking tap water (Istat, 2023, percentage values)	National context	28.8			⇒⇐
	Irregularities in water supply (Istat, 2023, percentage values)	National context	8.9			⇐⇒
	Rationing of domestic water supply for part or all of the municipality (Istat, 2021, number of municipalities)	National context	15		(c)	--
6.3.1	Proportion of domestic and industrial wastewater flow safely treated					
	Sewage treatment (Istat, 2015, percentage values)	Partial	59.6	(b)	(d)	=
	Urban wastewater safely treated with secondary or advanced treatment (Istat, 2020, N.)	National context	7,877	(e)	(b)	⇐⇒
	Public sewage coverage (Istat, 2020, percentage values)	National context	88.7	(e)	--	--
6.3.2	Proportion of bodies of water with good ambient water quality					
	Coastal bathing waters (Istat - Processing of data from Ministry of Health, 2019, percentage values)	Partial	65.5		(f)	⇒⇐
	Percentage of lakes with good quality of chemical state and with high or good quality of ecological state (ISPRA, 2016-2021, percentage values)	Proxy	(*)	--	--	--
	Percentage of groundwater water bodies with good quality of chemical status (SCAS) (ISPRA, 2016-2021, percentage values)	Proxy	(*)	--	--	--
	Percentage of transitional waters with high or good quality of ecological status and with good quality of chemical status (ISPRA, 2016-2021, percentage values)	Proxy	(*)	--	--	--
	Percentage of coastal marine waters with high or good quality of ecological status and with good quality of chemical status (ISPRA, 2016-2021, percentage values)	Proxy	(*)	--	--	--
	Percentage of water bodies that have achieved the objective of ecological quality (high or good) on the total water bodies of surface waters (rivers and lakes) (ISPRA, 2016-2021, percentage values)	Proxy	(*)	--	--	--
6.4.1	Change in water-use efficiency over time					
	Urban water supply network efficiency (Istat, 2022, percentage values)	Proxy	57.6	(a)	(b)	⇐⇒
6.4.2	Level of water stress: freshwater withdrawal as a proportion of available freshwater resources					
	Level of water stress: freshwater withdrawal as a proportion of available freshwater resources (Istat-ISPRA-FAO, 2019, percentage values)	Identical	37.1		(g)	--
	Freshwater withdrawal for public water supply (Istat, 2022, million m^3)	National context	9,132.5	(a)	(b)	=
6.5.1	Degree of integrated water resources management					
	Degree of integrated water resources management (ISPRA, 2023, index)	Identical	78.0	(a)	(h)	--
6.5.2	Proportion of transboundary basin area with an operational arrangement for water cooperation					
	Proportion of transboundary basin area with an operational arrangement for water cooperation (Processing of data from Ministry of the Environment and Energy Security, 2023, percentage values)	Identical	100.0		(h)	--
6.6.1	Change in the extent of water-related ecosystems over time					
	Wetlands of International Importance (ISPRA, 2021, hectares)	Identical	79,826	(e)	(f)	=
6.a.1	Amount of water- and sanitation-related official development assistance that is part of a government-coordinated spending plan					
	Amount of water- and sanitation-related bilateral ODA that is part of a government-coordinated spending plan (Ministry of Foreign Affairs and International Cooperation, 2023, million euro, current prices)	Identical	36.51		(f)	--

Legend

- IMPROVEMENT
- STABILITY
- DETERIORATION
- -- NOT AVAILABLE / NOT SIGNIFICANT
- ⇒⇐ CONVERGENCE
- = STABILITY
- ⇐⇒ DIVERGENCE

Notes

(a) Variation compared to 2020
(b) Variation compared to 2012
(c) Variation compared to 2014
(d) Variation compared to 2005
(e) Variation compared to 2018
(f) Variation compared to 2013
(g) Variation compared to 2015
(h) Variation compared to 2017
(*) Refer to the table on www.istat.it

GOAL 7

ENSURE ACCESS
TO AFFORDABLE, RELIABLE, SUSTAINABLE AND MODERN ENERGY FOR ALL[1]

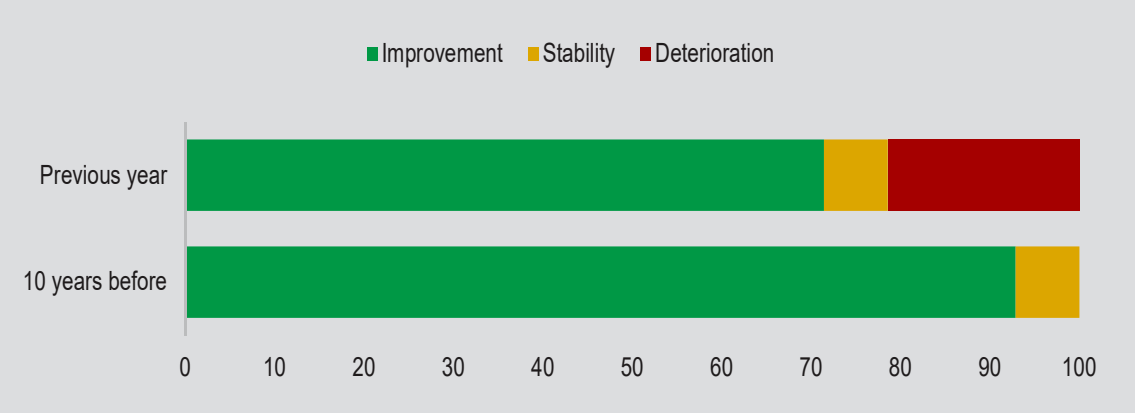
In brief

- After the previous year's increase caused by the post-pandemic recovery, energy consumption dropped by 3.1% in 2022.
- Energy intensity at an all-time low in 2022. Italy still in fifth place in the European ranking, with energy intensity just below 85% of the EU27 average.
- In 2022, with 508 kilograms of oil equivalent per capita, the residential sector reached the lowest consumption level in the past decade, with the exception of 2014.
- In 2022, the share of energy from renewable sources in gross final energy consumption remained broadly stable (19.1%).
- Hybrid and electric cars in strong development, but 2030 targets defined by Italian Ecological Transition Plan (ETP) are still far.

1 This section was edited by Paola Ungaro with contributions by Luigi Costanzo.

The statistical measures released by Istat for Goal 7 are fourteen and refer to five UN-IAEG-SDGs indicators (Table 7.1). When comparing the last available year to the previous year, the number of measures with a positive variation was high, while the share of population who cannot afford to heat their home adequately, the market share of electric and hybrid passenger cars and the share of electricity from renewable sources showed a negative change (Figure 7.1). When comparing over a ten-year period, however, widespread improvements were recorded.

Figure 7.1 - Time evolution of statistical measures released by Istat: last available year compared to the previous year and to 10 years before



Sharply declining energy intensity

After the increase recorded in 2021, coinciding with the post-pandemic economic recovery phase, 2022 marked a general slowdown in energy consumption: Italy experienced a contraction of 3.1%[2], lower than the average of the 27 Member States of the European Union (-3.9%), Germany (-3.6%) and France (-4.5%), but higher than Spain (-0.9%)[3]. Europe has reacted to the energy crisis triggered by the conflict between Russia and Ukraine by boosting energy savings. The different progress of the countries - and in particular that of the four main economies, responsible for almost 60% of the overall final consumption of the EU27 in 2022 - can be attributed to differences in their economic cycles (see Goal 8).

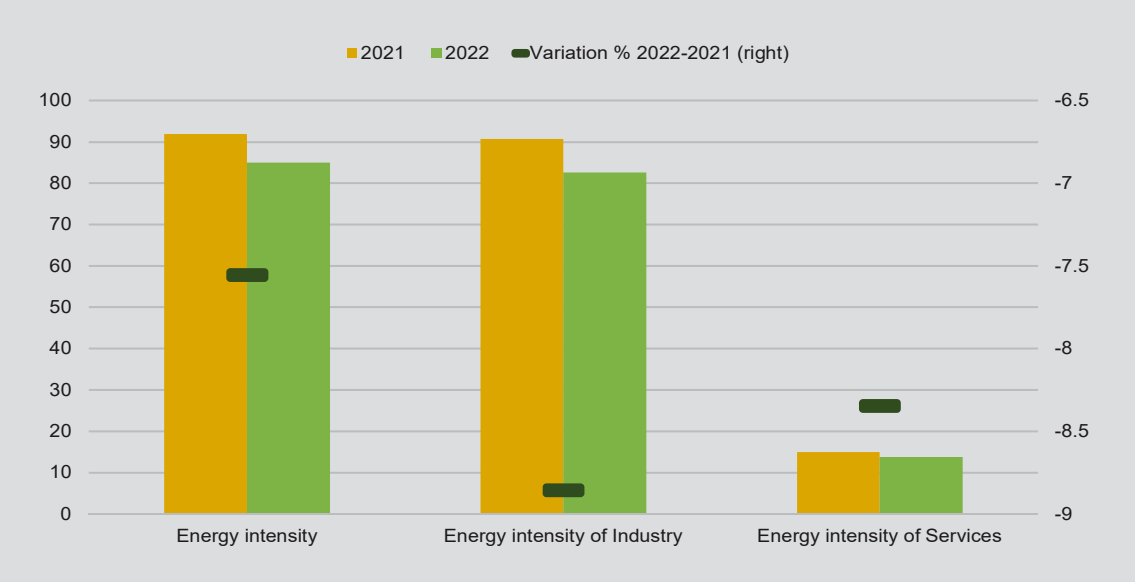
Energy intensity - defined as the ratio of gross energy availability to GDP - is a proxy measure of the overall energy efficiency of an economy. After the growth in the two-year period 2020-2021, in 2022 the combined effect of GDP growth (+4%) and energy demand decrease (-3.9%) led to a significant reduction in energy intensity for Italy, which dropped from 91.9 to 84.9 tonnes of oil equivalent per million euro (TOE/M€; Figure 7.2), marking the lowest value recorded in the last thirty years. The change in the last year (-7 TOE/M€; equal to -8%) aligned with the EU27 average, and was higher than Germany (-6%) and Spain (-3%), but lower than France (-11%).

2 In Italy, the decline in final energy consumption was due to the industrial (-14%) and residential (-5%) sectors, while the transport, agriculture and forestry sectors (+4%), as well as services (+2%), recorded an increase. As an effect of the price dynamics, among the main energy sources the final consumption of petroleum products, widely used in the transport sector, increased (+6%), while natural gas (-10%), renewables and bio-liquids (-4 %) and electricity (-2%) decreased.

3 See http://ec.europa.eu/eurostat.

Despite a less intense temporal dynamic over the last decade[4], Italy confirmed its traditional favourable position within the European context in 2022. With a value corresponding to 84% of the EU27 average, Italy still ranked fifth in the European energy intensity ranking.

Figure 7.2 - Energy intensity, by sector. Years 2021 and 2022 (tonne of oil equivalent per million euro, chain linked volumes)



Source: ENEA, processing of data from Eurostat and Istat

In 2022, the overall decrease in energy intensity was mainly due to the industrial sector which fell to 82.6 TOE/M€ (-8 TOE/M€ compared to 2021, equal to -9%) and, to a less pronounced extent, to the services sector (-1 TOE/M€, equal to 8%). The latter, however, showed significantly lower levels of energy intensity than industry, equal to 13.7 TOE/M€ in 2022.

After a significant increase in 2021, the residential sector also recorded a contraction in final consumption in 2022 (-4%) which, in per capita terms, fell to 508 kilograms of oil equivalent (KEP), the lowest value of the last ten years with the sole exception of 2014 (486 KEP). The decline in household final energy consumption of the last year affected the entire EU27, with the exceptions of Greece, Malta and Cyprus. Overall, Italy ended the decade with a negative balance of 12% (approximately -70 KEP), higher than the value of the Union's average (-9.5%), Germany (-7.1%) and Spain (-9.9%), but lower than France (-18.2%). Thanks also to the progress recorded over time, Italy, again in 2022, achieved a per capita consumption lower than the EU27 average (541) and compared to France (547) and Germany (684), although it remained higher than Spain (299)[5].

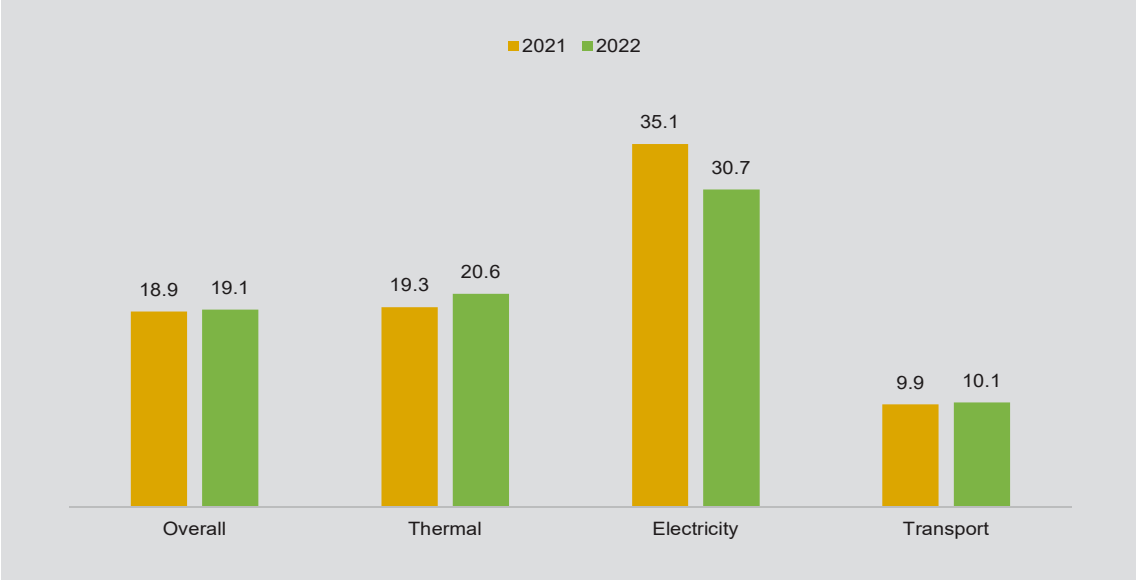
4 Between 2012 and 2022, Italy confirmed an overall saving of energy consumed per output unit of -15% (compared to -19% for Spain, -23% for both Germany and the EU27 on average, -26% for France), with an average annual rate of change in energy intensity (-1.6%) lower than France (-2.9%), Germany (-2.6%), EU27 (-2.5%) and Spain (-2.1%).

5 The discontinuities of the temporal trends of household consumption, as well as the differentials between countries, are conditioned by climatic seasonality, which influences thermal consumption.

In 2022, renewable energy sources marked a setback, even more relevant in view of the new 2030 objectives

In 2022, the net installed renewable energy generating capacity installed in Italy grew by 5%, rising from 959.8 to 1007.6 watts per capita, representing a 30% gain compared to 2012. Despite this growth, the overall share of energy from renewable sources (electricity, heat and transport sectors), equal to 19.1% of Gross Final Energy Consumption (GFC) in 2022, remained substantially stable compared to 2021 (18.9%; Figure 7.3), below the 21.2% target defined for 2022 by the trajectory of the 2023 Integrated National Energy and Climate Plan (INECP)[6].

Figure 7.3 - Share of renewable energy in gross final energy consumption, by sector. Year 2021 and 2022
(percentage values)



Source: GSE S.p.A. - Gestore dei Servizi Energetici; Terna S.p.A

The slowdown was primarily due to the electricity sector, which recorded a significant decline (-4.4 p.p.), mostly caused by adverse climatic conditions, particularly by a reduction in rainfall, that negatively impacted on hydroelectric production[7]. The share of gross domestic electricity consumption covered by renewable energy sources (RES), equal to 30.7%, reached the lowest level of the last decade. Nonetheless, renewable electricity remained the leading sector of RES. The thermal sector showed a recovery compared to 2021 trends, with consumption from RES as a percentage of GFC rising from 19.3% to 20.6% (+1.3 p.p.), compared to the 2023 INECP target of 21.3 % for 2022. The transport sector recorded a slight increase, rising from 9.9% to 10.1% (+0.2 p.p.), slightly below the 2023 INECP target of 10.6%, due to a

6 In June 2023, Italy transmitted to the European Commission a new and more ambitious release of the INECP, which provides targets and development trajectories for renewables by 2030, both at an overall and sectoral level (see Ministry of Environment and Energy Security. 2023. *Piano Nazionale Integrato Energia e Clima*. https://www.mase.gov.it/sites/default/files/PNIEC_2023.pdf).

7 See Terna, 2023. *Dati statistici sull'energia elettrica in Italia 2022*. https://download.terna.it/terna/ANNUARIO%20STATISTICO%202022_8dbd4774c25facd.pdf.

contrasting trend between a decrease in liquid biofuel consumption and a significant growth in bio-methane.

In 2022, the results achieved in the European Union - both for the region as a whole and for its major economies - were higher to those in Italy in all renewable sectors. Italy lagged behind the European average in terms of the overall contribution from RES (-3.9 p.p.) and for the electricity (-4.1 p.p.) and thermal sectors (-4.3 p.p.), showing only a slight advantage (+0.4 p.p.) in the transport sector.

The increasingly challenging national and international energy and climate targets for 2030 require a decisive acceleration in the production of energy from RES and a greater diversification of supply sources. This is crucial for counteracting the risks from exogenous shocks - such as the pandemic, the war between Russia and Ukraine and the resulting sharp increase in energy prices - which, over the past few years, have undermined the sustainability of European energy systems. At EU level, the Fit for 55 package (FF55), for the implementation of the Green Deal and the achievement of the REPowerEU[8] targets, has raised the binding European target for 2030 for RES to 42.5%. In Italy, the 2023 INECP, currently under review, has set the share of renewables in the GFC by 2030 at 40.5%, more than double the current one.

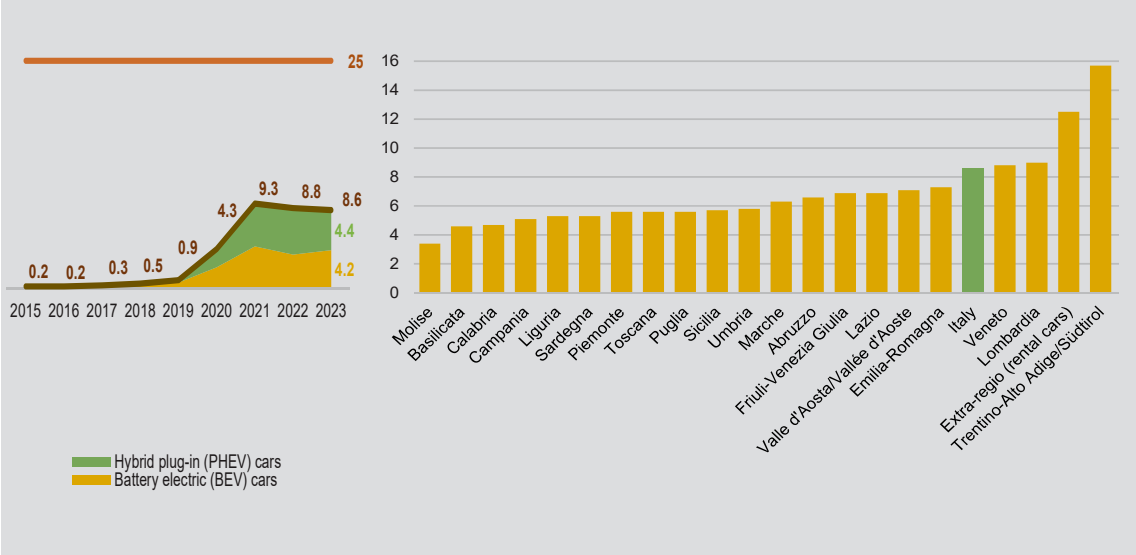
Strong growth in hybrid and electric cars, but the ETP objectives still far from being met

The Ecological Transition Plan (ETP) sets two targets relating to the diffusion of electric vehicles: first, to reach 6 million battery electric (BEV) or plug-in hybrid (PHEV) passenger cars by 2030 and second, to expand the market share of this segment up to 25%. In 2023, the total number of BEV and PHEV cars in circulation in Italy, increased by approximately 40% compared to the previous year, reaching 463,380 units. Despite the notable growth compared to 2015 (when the total number of BEVs and PHEVs amounted to only 5,541 units), both regulatory targets for 2030 still appeared very far. The share of newly registered electric or plug-in hybrid cars, which grew significantly in the two-year period 2020-2021, fell slightly in the following two years and stood at 8.6% in 2023 (Figure 7.3). The market share of BEV and PHEV cars varied significantly across regions[9]: it was particularly high in Trentino-Alto Adige/*Südtirol* (16%), higher than the average in Lombardia and Veneto (9%), and, conversely, very low in Molise, Basilicata and Calabria (all below 5%).

8 The FF55 package introduces a series of climate and energy innovations aimed at a EU objective of reducing greenhouse gas emissions by at least 55% by 2030. The REPowerEU plan, that seeks to reduce the EU's energy dependence on fossil fuels produced outside Europe, represents the response to disruptions in energy markets brought by Russia's invasion of Ukraine. Consider, in fact, that 2022 led to an increase in the index of energy dependence on foreign countries for almost all EU27 countries. Italy imported 79.4% of the sources used, that is the highest value in the EU27 (62.5%), after Greece, the Netherlands, Luxembourg, Cyprus and Malta (see http://ec.europa.eu/eurostat).

9 The regional registration quotas are calculated net of cars intended for rental, for which the place of registration does not constitute a significant territorial reference. For the purposes of calculating this indicator, these cars were therefore attributed to the Extra-regio class.

Figure 7.4 - Percentage of newly registered battery electric (BEV) or plug-in hybrid (PHEV) passenger cars, by region. Year 2015-2023 (percentage values)



Source: UNRAE

Energy Poverty in Italy in 2022[1]

In theory, the estimation of energy poverty (EP) should disregard the actual consumption of households (which depends not only on their needs, but also on their preferences) and should instead be based on a measure of physical energy demand compatible with a minimum level of well-being. This level is determined by the characteristics of the dwelling and the climate of the area of the country where the household resides.

In Italy EP is defined as the difficulty in purchasing a minimum basket of energy goods and services or, alternatively, as access to energy services which implies a diversion of resources, in terms of expenditure or income, exceeding a "normal value"[2]. In 2022, the dynamics of energy prices was marked by significant increases. According to Eurostat data, the average unit cost of electricity in Italy grew, on average per year, by 50% compared to 2021, while the cost of natural gas, the main energy vector used by households for cooking, domestic hot water production and heating, by 34.7%. These trends were influenced by the widespread diffusion of fixed price contracts among Italian households as well as by the huge government interventions on the final prices of electricity and gas, amounting to 16.8 billion euro[3].

Households reacted differently based on their price elasticity of demand (which varies depending on the energy vector considered and the well-being of the household[4]), the presence or absence of a fixed price contract (subscribed to by approximately half of Italian households[5]), or whether or not they were entitled to benefit from support measures against high energy costs. For this reason, the price increase did not affect all households equally. While all households experienced an increase of the incidence of energy spending, the poorest households, which benefited from targeted transfers in addition to generalised price containment measures, faced a lower growth in spending compared to households with overall spending around the median. By the end of the year, thanks to a winter with temperatures above the historical average (see Goal 13), the quantities of electricity and gas consumed reduced by 3% and 14% respectively.

In this context of significant price increases, but also of huge subsidies to households, in 2022 EP, as measured by the Italian Observatory on Energy Poverty (OIPE)[6] based on data made available by Istat Household Budget Survey, affected 2 million households, equal to 7.7% of the total, a reduction of 0.8 percentage points compared to the previous year (-189 thousand households). In particular, the amount of households in EP belonging to the first two deciles of the distribution of equivalent expenditure decreased (-220 thousand households), as they benefited most from the targeted aid, while those belonging to the next three deciles of the distribution increased (+45 thousand).

1 This section was edited by Luciano Lavecchia (OIPE - Italian Observatory on Energy Poverty) with contributions by Paola Ungaro.

2 See Ministry of Environment and Energy Security. 2017. *Strategia energetica nazionale 2017.* https://www.mase.gov.it/comunicati/strategia-energetica-nazionale-2017.

3 Households have benefited from numerous interventions, which can be grouped into two categories:1) generalised price interventions or tariff measures (gas VAT reduction from 22 to 5%, elimination of general system charges for electricity and gas) and 2) targeted transfers (increase in beneficiaries and amounts of the electricity and gas bonus, one-off bonus of 150 and 200 euro in July and November 2022, respectively). Please also note that - in 2022 - the range of beneficiaries, in particular those in households with fewer than four children, was extended as a consequence of the shift of the Indicator of equivalent economic situation (ISEE) threshold from 8,265 to 12,000 euro per year for access to the bonus (see UPB - Parliamentary Budget Office. 2023. *Budgetary policy report*, Chapter 5. https://en.upbilancio.it/2022-budgetary-policy-report/).

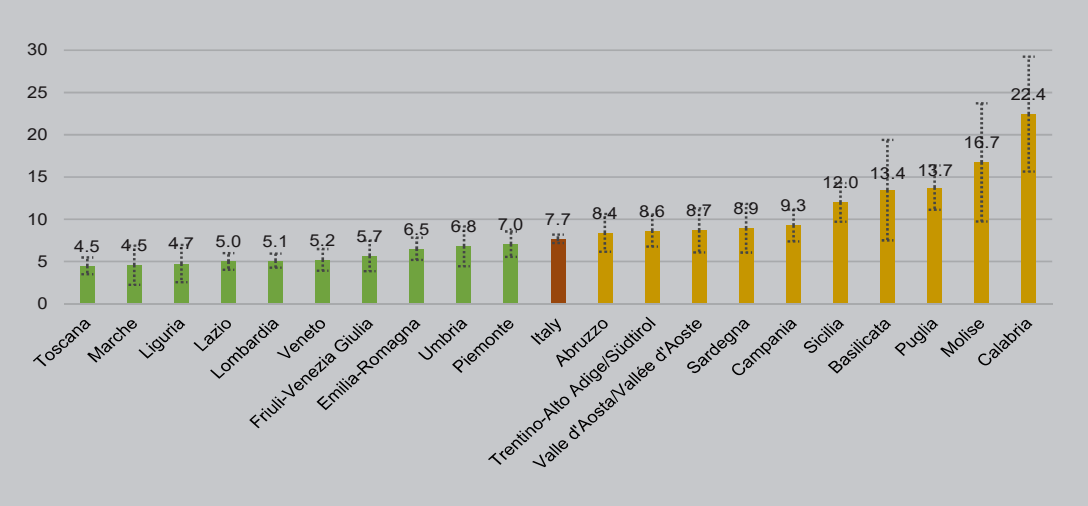
4 For an estimate, see Ivan Faiella, Luciano Lavecchia.2021."Households' energy demand and the effects of carbon pricing in Italy,"*Questioni di Economia e Finanza*, 614. Rome: Banca d'Italia.

5 See ARERA. 2023. *Monitoraggio Retail offerte e prezzi - Rapporto 2022*. https://www.arera.it/fileadmin//allegati/docs/23/342-23.pdf.

6 For a definition, see Istat. 2023. *Rapporto annuale Istat 2023*, paragraph 3.4.1. https://www.istat.it/storage/rapporto-annuale/2023/Rapporto-Annuale-2023.pdf.

In 2022 EP fluctuated, at a regional level, between a minimum of 4.5% in Toscana and Marche and a maximum of 22.4% in Calabria, the latter also experienced the greatest increase (5.7 p.p.) compared to a reduction or substantial stability in other regions (Figure 1).

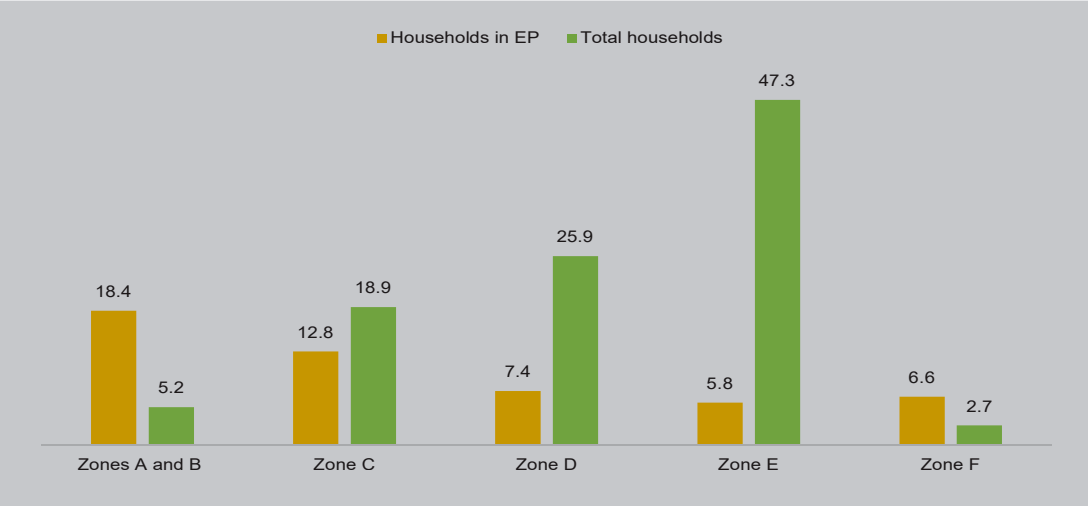
Figure 1 - Households in energy poverty, by region. Year 2022 (percentage values)



Source: OIPE, processing of data from Istat

The EP condition particularly affected households living in small towns and suburban areas. Furthermore, on average for the period 2014-2022, EP was more widespread in municipalities located in warmer climate zones[7] (18.4% for the municipalities in zones A and B) and lower in colder ones (6.6% in zone F) compared to a national average of 8.2% (Figure 2). This result is also affected by the higher incidence of electricity expenses in warmer areas, where electricity is primarily used for cooling (approximately double compared to municipalities in the colder areas), and vice-versa for heating.

Figure 2 - Proportion of total households and households in energy poverty, by climate zone. Years 2014-2022 average (percentage values)



Source: OIPE, processing of data from Istat

7 Italian municipalities are classified into six climate zones, from the warmest (A) to the coldest (F), defined on the basis of a measurement of the number of degree days. This list is reported in Italian Presidential Decree 412/93 and subsequent updates.

Table 7.1 - Statistical measures released by Istat, taxonomy compared to SDGs indicators, variations compared to the previous year and to 10 years before and convergence among regions

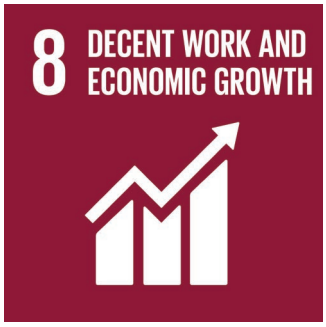
Ref. SDG	INDICATOR	Compared to SDG indicator	Value	VARIATIONS		CONVERGENCE AMONG REGIONS compared to 10 years before
				Compared to the previous year	Compared to 10 years before	
7.1.1	Proportion of population with access to electricity					
	Households very or fairly satisfied with the continuity of the service of electricity supply (Istat, 2023, percentage values)	Proxy	91.8			⇐⇒
	Inability to keep home adequately warm (Istat, 2023, percentage values)	National context	9.5			--
7.1.2	Proportion of population with primary reliance on clean fuels and technology					
	Market share of battery electric (BEV) or plug-in hybrid (PHEV) passenger cars (UNRAE, 2023, percentage values)	National context	8.6		(a)	⇒⇐
	Circulating battery electric (BEV) or plug-in hybrid (PHEV) passenger cars (UNRAE, 2023, N.)	National context	463,380		(a)	--
7.2.1	Renewable energy share in the total final energy consumption					
	Renewable energy share in the gross final energy consumption (GSE S.p.A. - Gestore dei Servizi Energetici, processing of data from GSE, Terna S.p.A., Enea, Ministry of the Environment and Energy Security, 2022, percentage values)	Proxy	19.1			⇐⇒
	Renewable energy share (transport sector excluded) in the gross final energy consumption (GSE S.p.A. - Gestore dei Servizi Energetici, processing of data from GSE, Terna S.p.A., Enea, Ministry of the Environment and Energy Security, 2022, percentage values)	National context	17.8			⇐⇒
	Renewable energy share in thermal sector (in the gross final energy consumption (GSE S.p.A. Gestore dei Servizi Energetici, processing of data from GSE, Terna S.p.A., Enea, Ministry of the Environment and Energy Security, 2022, percentage values	Partial	20.6			⇒⇐
	Electricity from renewable sources in the gross electricity consumption (Terna Spa, 2022, percentage values)	Partial	30.7			⇒⇐
	Renewable energy share in transport sector (in the gross final energy consumption) (GSE S.p.A. · Gestore dei Servizi Energetici, processing of data from GSE, Terna S.p.A., Enea, Ministry of the Environment and Energy Security, 2022, percentage values	Partial	10.1			⇐⇒
7.3.1	Energy intensity measured in terms of primary energy and GDP					
	Energy intensity (Enea, processing of data from Eurostat and Istat, 2022, tonnes of oil equivalent (Toe) per million euro)	Identical	84.93			=
	Energy intensity of industry sector (Enea, processing of data from Eurostat and Istat, 2022, tonnes of oil equivalent (Toe) per million euro)	Partial	82.64			=
	Energy intensity of services sector (Enea, processing of data from Eurostat and Istat, 2022, tonnes of oil equivalent (Toe) per million euro)	Partial	13.73			--
	Final energy consumption in households per capita (Eurostat, 2022, kilogram of oil equivalent (KGOE))	National context	508			--
7.b.1	Installed renewable energy generating capacity in developing countries (in Watts per capita)					
	Net installed renewable energy generating capacity (Istat, processing of data from International Renewable Energy Agency and Istat, 2023, Watt per capita)	Identical	1,104.4			--

Legend

- IMPROVEMENT
- STABILITY
- DETERIORATION
- -- NOT AVAILABLE / NOT SIGNIFICANT
- ⇒⇐ CONVERGENCE
- = STABILITY
- ⇐⇒ DIVERGENCE

Notes

(a) Variation compared to 2015



GOAL 8

PROMOTE SUSTAINED, INCLUSIVE AND SUSTAINABLE ECONOMIC GROWTH, FULL AND PRODUCTIVE EMPLOYMENT AND DECENT WORK FOR ALL[1]

In brief

- In 2023, the economic performance, although weakened, remained positive: however, the annual growth rates of real GDP in volume (+0.9%) and per capita (+1.0%) were lower than in 2022 and value added per employed person decreased by 0.7%.
- The recovery of the Italian labour market continued in 2023. The employment rate of 20-64 year olds rose to 66.3% (+1.5 percentage points) and the unemployment rate (7.7%) fell by 0.4 percentage points.
- Despite the recovery in recent years, the gap with the EU remained large: in 2023, Italy ranked last in Europe in terms of employment rate (-9 percentage points compared to the EU27 average) and second only to Greece and Spain in terms of unemployment rate (-1.6 p.p. compared to the EU27).
- The share of people working part-time for lack of alternatives continued to fall in 2023: there were as many as 3 women in this situation for every man.
- The drop in the informal employment rate that started in 2019 continued in 2023, accompanied by a slight reduction in territorial disparities.

1 This section was edited by Paola Ungaro with contributions by Gaetano Proto and Chiara Rossi.

The statistical measures released by Istat for Goal 8 are twenty-eight and refer to twelve UN-IAEG-SDGs indicators (Table 8.1). When comparing the last available year to the previous year, approximately half of the measures showed an improvement, thanks in particular to more favourable conditions of the Italian labour market and trends in domestic material consumption in relation to GDP (Figure 8.1). The high share of worsening measures was due to contractions in public spending on employment programmes and social protection for unemployed, as well as a decrease of the amount of banking services to the population. When comparing over a ten-year period, however, there were larger improvements and a minority share of worsening or stable measures.

Figure 8.1 - Time evolution of statistical measures released by Istat: last available year compared to the previous year and to 10 years before

In 2023 the trend of the economic cycle weakened, but remained positive

In 2023, the gross domestic product in Italy recorded a volume increase of 0.9%, reflecting a slowdown in economic activity compared to the previous year (+4%). Growth was primarily supported by domestic demand net of inventories, with an equal contribution from consumption (+1 percentage point, of which +0.7 p.p. from households and +0.2 p.p. from public administrations) and investments (+1 p.p.), while net foreign demand contributed only slightly[2].

Italian growth was faster than the average of both the EU27 and the euro area (+0.5% for both). Among major European economies, Italy grew more than France (+0.7%) but, for the second consecutive year, less than Spain (+2.5%). Germany, which was affected more than other countries from the impact of the energy crisis on industrial production, recorded a GDP contraction of 0.2%[3].

On a per capita basis, GDP increased by 1% in 2023 (+4.2% in the previous year), while GDP per employed person declined by 0.9% (+2.2% in 2022), determined by a more pronounced expansion in employment than in GDP, like in the previous years. Labour productivity – measured as value added per employed person – decreased by 0.7%[4].

2 See Istat. 2024. "GDP and general government net borrowing – Year 2023", *Statistics flash*. https://www.istat.it/en/press-release/gdp-and-general-government-net-borrowing-year-2023/; Istat. 2024. *Rapporto sulla competitività dei settori produttivi*. https://www.istat.it/it/archivio/295252.

3 See http://ec.europa.eu/eurostat.

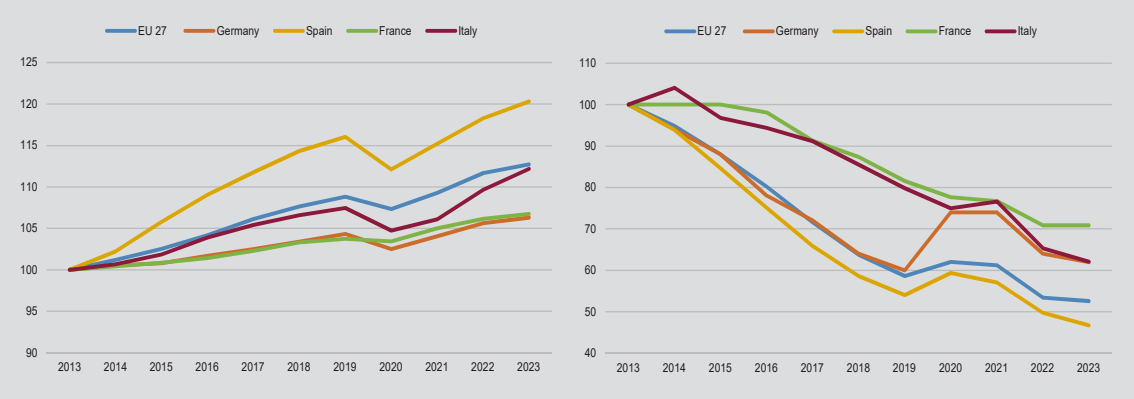
4 When measured in terms of value added per worked hour, the contraction in productivity was even deeper (-1.2%), as a result of a labour input dynamic characterised by a higher increase in hours worked (+2.3%) compared to that of the number of employed persons (+1.8%).

The only sectors with an expansive productivity trend were constructions (+2.7%), accommodation and food service activities (+1.4%), real estate activities (+0.2%) and art, entertainment and recreation activities, repair of household goods and other services (+6.9%).

Recovery of the labour market in 2023, but Italy still lagged deeply behind the European Union with persistent internal gaps

The Italian labour market continued its positive trend in 2023. The employment rate of 20-64 year olds stood at 66.3% (+1.5 percentage points compared to 2022); the unemployment rate at 7.7% (-0.4 p.p.). The increase in the employment rate - widespread throughout the European context - was particularly intense for Italy: more than doubling the average increase of the EU27 Member States (which saw a recovery of 0.7 p.p.) and second only to Malta (+1.6 p.p.). Italy also made more significant progress in reducing unemployment compared to the EU27 average (0.1 p.p.) and to the four major economies of the Union, excluding Spain (which recorded a decline of 0.8 p.p.). Despite this recent recovery, in the last decade (Figure 8.2) Italy has shown a slower dynamism compared to the European average (with an overall increase in the employment rate of 7.2 percentage points versus 8.5 p.p. for the EU27 and a decline in the unemployment rate of 4.7 p.p. vs.5.5), especially if compared to Spain (+11.9 and -13.9 p.p.). However, Italy's performance was better than that of Germany and France, which saw employment rate increases of 4.8 and 4.7 percentage points respectively, and unemployment rate decreases of 1.9 and 3 p.p.

Figure 8.2 - Employment rate (20-64 years old) and unemployment rate. Years 2012-2023 (fixed base index numbers 2013=100)

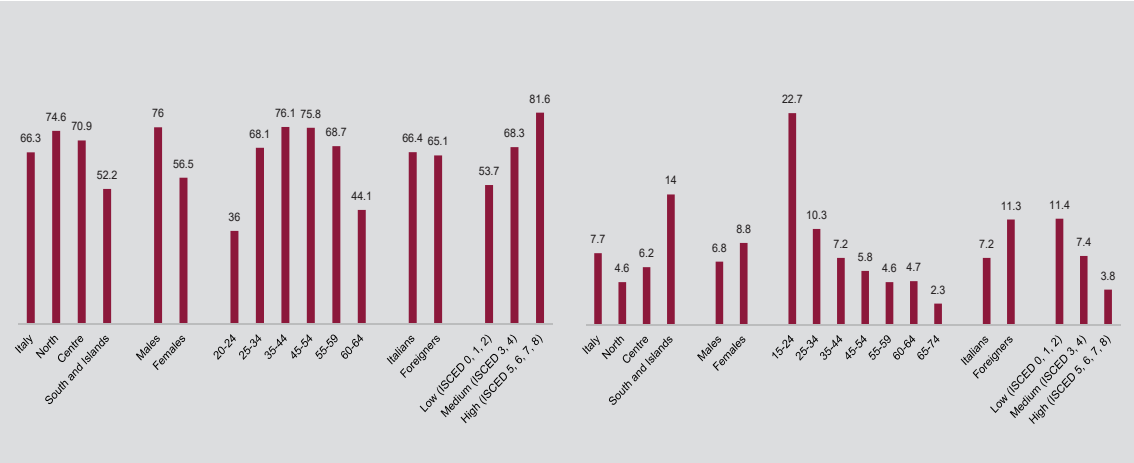


Source: Istat, processing of data from Eurostat

The gap between Italy and the European Union remained high. In 2023, Italy ranked last among EU27 countries for the employment rate, below the EU27 average (75.3%) by 9 percentage points (-13.7 p.p. for women and -4.4 p.p. for men). In the ranking of the unemployment rate, Italy was, on a par with Sweden, second only to Greece and Spain, with a gap of -1.6 p.p. compared to the EU27 (-2.4 p.p. for the female component and -1.0 for the male component).

While the past year's recovery acted selectively on specific segments of the population, it left much of the labour market's profound inequalities unchanged (Figure 8.3), with some limited exceptions. Employment growth benefitted women more than men (+1.5 p.p. vs. +1.3) and individuals in the South and Islands (+1.7 p.p.), especially in the Islands (+2.2), compared to the Centre (+1.2) and the North (+1.4). Women also recorded a deeper contraction of unemployment (-0.6 p.p. versus -0.3 p.p. for males) while at territorial level, the unemployment rate fell especially in the Centre (-0.8 p.p. compared to -0.5 p.p. in the North and -0.3 p.p. in the South and Islands).

Figure 8.3 - Employment rate (20-64 years old) and unemployment rate, by geographical area, gender, age, citizenship, educational attainment. Year 2023 (percentage values)



Source: Istat, Labour Force Survey

The gender gap, which widened last year, decreased slightly although it still stood at +2 percentage points for women, for the unemployment rate, and -19.5 p.p. for the employment rate, with levels well above EU27 average (respectively +0.6 p.p. and -10.2 p.p.). The youngest continued to record an employment rate (36% for 20-24 year olds) just over half the national average and an unemployment rate (22.7% for 15-24 year olds) three times higher than the national average. Although the dynamics of recent years have led to a slight reduction in territorial imbalances, to the disadvantage of the South and Islands, still in 2023 this geographical area had an employment rate lower than the Italian average of 14.1 p.p. and an unemployment rate higher of 6.3. Compared to 2022, the disadvantage of people with a lower level of education (at most a lower secondary school attainment) compared to more educated people (university degree) increased: -12.6 p.p. for the share of employed people in the population and +3.7 p.p. for the share of unemployed people in the labour force. Foreigners, who until 2019 had a higher employment rate than Italians, have faced a negative differential for the past four years (-1.2 p.p. in 2023), alongside a persistent disadvantage in the unemployment rate (+3.6 p.p.).

The share of part-time workers due to a lack of full-time opportunities decreased, but remained three times higher among women than men

The employment growth of 2023 can be attributed primarily to the standard component of employment (full-time and permanent). The share of employed in fixed-term jobs for at least five years, characterised by deeper work vulnerability, increased from 17.0% in 2022 to 18.1%. However, involuntary part-time work improved: the number of people employed in a part-time job due to a lack of full-time work opportunities fell for the fourth year in a row, to 9.6 out of 100 (-0.6 p.p.). Insufficient work intensity compared to worker's availability and contractual precariousness confirmed as more widespread among foreigners, employed in fixed-term jobs for at least five years in 20.1% of cases and in part-time jobs in 16.2% (compared to 17.7% and 8.8% for Italians), among less educated people (12.2% and 24.1% for those with at most a lower secondary school diploma compared to 6.1% and 18.2% for those with tertiary education) and among those in the South and Islands, particularly the Islands (respectively, 24% and 25% of fixed-term contracts and 13% and 15% of involuntary part-time, compared to 14% and 7% in the North). Involuntary part-time positions penalised above all women, with a share (15.6%) three times than men (5.1), and young people (18% for 15-24 year olds and 11% for 25-34 year olds). However, long-term fixed-term positions were higher among men (18.8% versus 17.4%) and among older people (37% among 55-59 year olds and 44% among 60-64 year olds).

Working from home was essentially stable and remained widespread especially among university graduates

After the significant expansion during the pandemic phase and the downsizing in 2022, in 2023 the percentage of employees working from home out of the total number of employees remained substantially stable, at 12%. The variations by gender brought the female component (11%) closer to the male one (13%), those by level of education brought the university graduates (27.4%) closer to the upper secondary school (9.4%) and lower secondary school graduates (2.1%), however, the educational gaps remained notable. The decline in working from home affected the territory uniformly, confirming a larger diffusion in the Centre (15.0%) and in the North (13.2%; 14.7% in the North-West) than the South and Islands (7.4%).

The reduction in the irregular employment rate continued and territorial gaps narrowed

In 2022, employed persons not in regular occupation[5] represented 10.8% of total employed persons, a decrease of 0.5 percentage points from the previous year. The decline continued the positive trend began in 2015, after a peak of 13.5%, with irregular employment steadily declining by nearly 3 percentage points between 2015 and 2022. In 2021, the largest contraction in irregular employment occurred in human health and social work activities (-1.7 p.p. points) and in agriculture, forestry and fishing and in construction (-1.2 p.p. for both).

5 Employees who do not comply with comply with work, fiscal and pension laws.

Conversely, there was a further slight increase within art, entertainment and recreation activities, repair of household goods and other services and within household services, the sectors with the highest rate of irregular employment (40.1% and 51.8% respectively), together with agriculture, in which almost a quarter of those employed were irregular (see Goal 2). Irregular employment was less widespread among workers in the North (9.3 in the North-West and 8.4 in the North-East) compared to those in the Centre (11.7%) and in the South and Islands (15.6%). Calabria (19.6%), Campania (16.5%) and Sicilia (16.0%) showed the highest rates of irregular work in Italy, yet these regions also recorded the highest contractions in irregular employment alongside Molise and Sardegna, confirming the progressive decrease of regional disparities.

The rate of fatal occupational injuries or injuries leading to permanent disability remained stationary

In 2022, the rate of fatal injuries and permanent disabilities improved, reaching 10 per 10,000 employed people, the lowest value in the last five years, down by 10% compared to 2021 (11.1). Although a convergence trend at territorial level was confirmed also in 2022, the frequency of fatal injuries and permanent disabilities in relation to employed people remained highly variable. Rates ranged from 8.7 in the North (-12.1% compared to the previous year) to 11 in the Centre (-4.3%), and reached 12.0 in the South and Islands (-8.4%). The inter-regional differences were even more pronounced: Umbria, the region with the highest injuries risk (16.7 fatal injuries and permanent disabilities per 10,000 employed) more than doubled the rates of Lombardia, Piemonte and Lazio (between 7.4 and 7.6). The injuries rate increased with the age of workers and was significantly higher for men (13.6 compared to 5.3 for women) and for foreign workers (15.9 compared to 9.4 for Italians). These trends were also affected by the different relative weight of these categories of workers in high-risk of injury occupational sectors, as well as by variations in territorial economic structure.

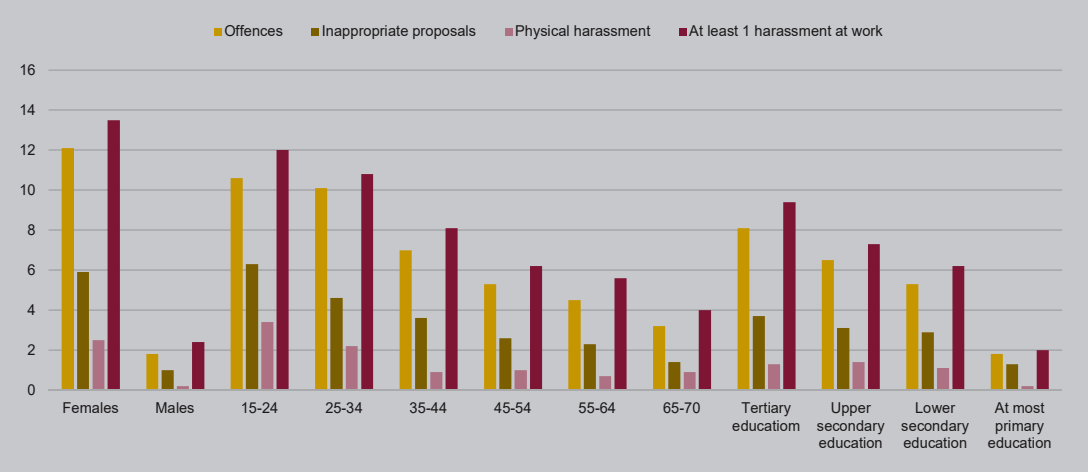
Harassment at work[1]

Harassment in the workplace is a pressing issue, which has only recently received specific attention in national and international legislation. The topic intersects with 2030 Agenda Goal 8, which aims to ensure decent work and promote safe, secure working environment for all workers, and Goal 5, which aims to end all forms of discrimination and violence, particularly towards women. Through Law no. 4 of 15 January 2021, Italy ratified International Labour Organisation Convention no.190 on the elimination of violence and harassment in the workplace. The EU Directive on the implementation of the principle of equal opportunities and equal treatment of men and women in matters of employment and occupation defines sexual harassment as "any form of unwanted verbal, non-verbal or physical conduct of a sexual nature occurs, with the purpose or effect of violating the dignity of a person, in particular when creating an intimidating, hostile, degrading, humiliating or offensive environment[2]". It requires monitoring the violence, with a specific focus on work life.

In compliance with Law 4/2021, in 2022-2023 Istat expanded the Citizen Safety Survey questionnaire to collect data on workplace harassment, harmonising data collection with the Eurostat guidelines. In previous editions of the survey, Istat had focused on sexual unwanted touching and workplace sexual blackmail.

Approximately 2 million 322 thousand people (7.3% of the population aged 15 to 70) have experienced some form of sexual harassment at work during their lifetime (Figure 1). Women accounted for 81.6% of the people harassed (equal to approximately 1 million 895 thousand). In addition, 298 thousand women have suffered sexual blackmail in the workplace. The incidence of people reporting sexual harassment in the workplace was therefore significantly higher among women (13.5% compared to 2.4% of men): 12.1% have reported offences (1.8% for men), 5.9% inappropriate proposals (1.0% among men), 2.5% physical harassment (0.2% for men). Harassment rates were particularly high among younger people, affecting 12% of those aged 15–24 and 10.8% of those aged 25–34. Harassment at work mainly affected young women, 21.2% in the age group between 15 and 24, compared to 4.8% of their male counterparts. The figure for women aged between 25 and 34 was slightly lower (18.9%, compared to 3.8% of men).

Figure 1 - Percentage of population aged 15 to 70 who have experienced sexual harassment at work during their lifetime, by gender, age class, educational attainment and kind of harassment. Years 2022-2023 (percentage values)



Source: Istat, Citizen Safety Survey

1 This section was edited by Alessandra Capobianchi, Maria Giuseppina Muratore, Alberto Violante and Claudia Villante with contributions by Paola Ungaro.

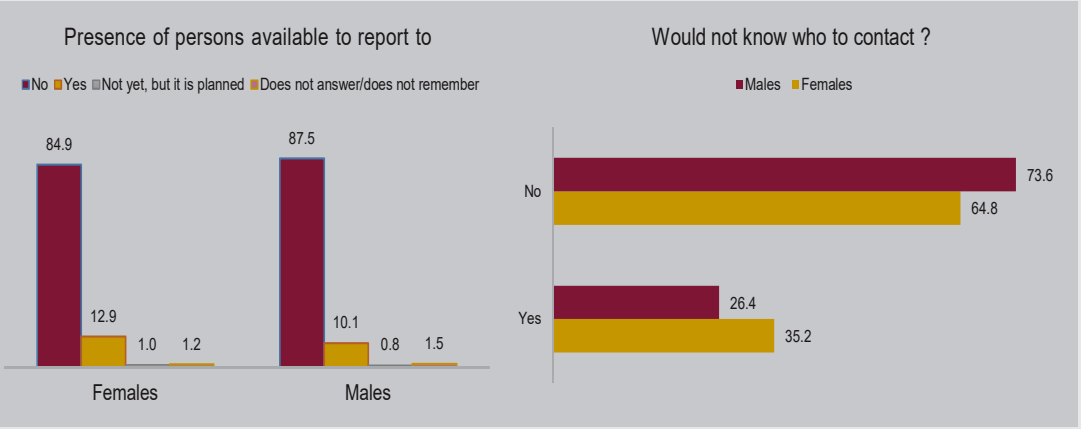
2 Dir.2006/54/EC, Article 2, paragraph 1, letter d (https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex%3A32006L0054).

Higher rates of harassment victims were found in the North-West (14.9%), followed by the Centre, the South and Islands, which all stood at around 14%, while the percentage was minimal in the North-East (9.7%). The highest prevalence was observed in Piemonte (20.3%), Umbria (16%) and Campania (15.7%). Among men, a similar trend was present, with a more notable concentration in central regions (3.7% against the average value of 2.4%), which was affected by the cases of Lazio (5.3%).

Few women contacted the police (2.3%) or other institutions (2.1%). However, 24.8% of women and 28.7% of men did not talk about it with anyone. Men tended more frequently than women to view these incidents as less severe, with 45.5% of men and 56.4% of women assigning very or fairly high severity to the harassment they experienced.

Considering all those who were employed at the time of the survey, and not just the victims, 87.5% of men and 84.9% of women declared no one was available at their workplace to report to any sexual harassment or to seek support (Figure 2). Similarly, 73.6% of men and 64.8% of women stated they would not know who to contact if subjected to sexual harassment. Furthermore, only a few workplaces offered training on how to handle harassment, with 93.6% of workers reporting a lack of such programmes.

Figure 2 - Employees, by presence of persons to report to or to contact at workplace in case of harassment and gender. Years 2022-2023 (percentage values)



Source: Istat, Citizen Safety Survey

Table 8.1 - Statistical measures released by Istat, taxonomy compared to SDGs indicators, variations compared to the previous year and to 10 years before and convergence among regions

Ref. SDG	INDICATOR	Compared to SDG indicator	Value	VARIATIONS		CONVERGENCE AMONG REGIONS compared to 10 years before
				Compared to the previous year	Compared to 10 years before	
8.1.1	Annual growth rate of real GDP per capita					
Annual growth rate of real GDP per capita (Istat, 2023, percentage values)		Identical	1.0	--	--	--
8.2.1	Annual growth rate of real GDP per employed person					
Annual growth rate of real GDP per capita (Istat, 2023, percentage values)		Identical	-0.9	--	--	--
Annual growth rate of value added in volume per employed person (Istat, 2023, percentage values)		National context	-0.7	--	--	--
Annual growth rate of real value added per worked hour (Istat, 2023, percentage values)		National context	-1.2	--	--	--
8.3.1	Proportion of informal employment in total employment, by sector and sex					
Share of employed person not in regular occupation (Istat, 2022, percentage values)		Proxy	10.8			⇒⇐
8.4.2	Domestic material consumption, domestic material consumption per capita, and domestic material consumption per GDP					
Domestic material consumption per capita (Istat, 2022, tonne per capita)		Identical	8.7			⇐⇒
Domestic material consumption per GDP (Istat, 2022, tonne per 1,000 euro)		Identical	0.29			⇐⇒
Domestic material consumption (Istat, 2022, million tonnes)		Identical	512.3			=
8.5.1	Average hourly earnings of employees, by sex, age, occupation and persons with disabilities					
Hourly earnings (Istat, 2018, euro)		Identical	15.6	(a)	(b)	--
Gender pay gap (Eurostat, 2022, percentage values)		National context	4.3			--
Share of employees with below 2/3 of median hourly earnings (Istat, 2020, percentage values)		National context	10.1			⇒⇐
8.5.2	Unemployment rate, by sex, age and person with disabilities					
Unemployment rate (Istat, 2023, percentage values)		Identical	7.7			⇐⇒
Non-participation rate (Istat, 2023, percentage values)		National context	14.8		(c)	⇐⇒
Employment rate (20-64) (Istat, 2023, percentage values)		National context	66.3			⇒⇐
Involuntary part time (Istat, 2023, percentage values)		National context	9.6		(c)	⇐⇒
Share of employed persons with temporary jobs since at least 5 years (Istat, 2023, percentage values)		National context	18.1		(c)	⇒⇐
Employed persons working from home (Istat, 2023, percentage values)		National context	12.0		(c)	⇐⇒
8.6.1	Proportion of youth (aged 15-24 years) not in education, employment or training					
People not in education, employment, or training (NEET) (aged 15-24) (Istat, 2023, percentage values)		Identical	12.7		(c)	⇐⇒
People not in education, employment, or training (NEET) (aged 15-29) (Istat, 2023, percentage values)		National context	16.1		(c)	⇐⇒
8.8.1	Fatal and non-fatal occupational injuries per 100,000 workers, by sex and migrant status					
Rate of fatal occupational injuries or injuries leading to permanent disability (INAIL, 2022, per 10,000 employed)		Proxy	10.0		(c)	⇒⇐
8.9.1	Tourism direct GDP as a proportion of total GDP and in growth rate					
Tourism direct GDP as a proportion of total GDP (Istat, 2019, percentage values)		Proxy	6.2	--	--	--
Number of jobs in tourism industries as a proportion of total jobs (Istat, 2019, percentage values)		National context	15.5	--	--	--
8.10.1	(a) Number of commercial bank branches per 100,000 adults and (b) number of automated teller machines (ATMs) per 100,000 adults					
Number of branches per 100,000 inhabitants (Istat, processing of data from Bank of Italy, 2023, per 100,000 inhabitants)		Proxy	34.2			⇐⇒
Number of ATM per 100,000 inhabitants (Istat, processing of data from Bank of Italy, 2023, per 100,000 inhabitants)		Proxy	64.2			⇒⇐
Number of institutions per 100.000 inhabitants (Istat, processing of data from Bank of Italy, 2023, per 100,000 inhabitants)		Proxy	0.7			⇐⇒

Table 8.1 continued **- Statistical measures released by Istat, taxonomy compared to SDGs indicators, variations compared to the previous year and to 10 years before and convergence among regions**

Ref. SDG	INDICATOR	Compared to SDG indicator	Value	VARIATIONS		CONVERGENCE AMONG REGIONS compared to 10 years before
				Compared to the previous year	Compared to 10 years before	
8.a.1	Aid for Trade commitments and disbursements					
Aid for trade (Ministry of Foreign Affairs and International Cooperation, 2023, million euro current prices)		Identical	(*)	--	--	--
8.b.1	Existence of a developed and operationalized national strategy for youth employment, as a distinct strategy or as part of a national employment strategy					
Total government spending on employment programmes and social protection for unemployed as a proportion of the national budgets (Istat, 2022, percentage values)		Proxy	2.245			--
Total government spending on employment programmes and social protection for unemployed as a proportion of GDP (Istat, 2022, percentage values)		Proxy	1.259			--

Legend

- IMPROVEMENT
- STABILITY
- DETERIORATION
- -- NOT AVAILABLE / NOT SIGNIFICANT
- ⇒⇐ CONVERGENCE
- = STABILITY
- ⇐⇒ DIVERGENCE

Notes

(a) Variation compared to 2014
(b) Variation compared to 2010
(c) Variation compared to 2018

(*) Refer to the table on www.istat.it

GOAL 9

BUILD RESILIENT INFRASTRUCTURE, PROMOTE INCLUSIVE AND SUSTAINABLE INDUSTRIALIZATION AND FOSTER INNOVATION[1]

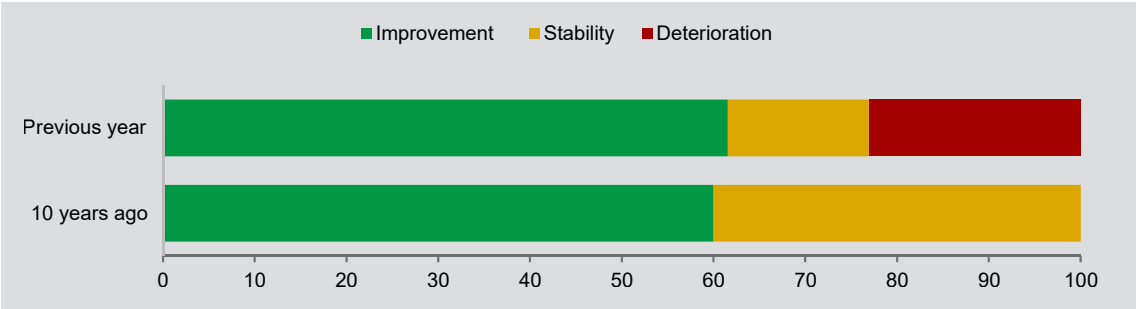
In brief

- Passenger transport experienced a period of growth in 2022, although it has not yet reached the levels of 2019.
- In 2022, freight transport exhibited a modest increase of 2.3% compared to 2021. This growth was largely driven by the road component.
- The quantity of carbon dioxide (CO_2) emitted per million units of output increased from 154.9 tonnes in 2021 to 158.5 tonnes in 2022.
- In 2021, research intensity declined to 1.43% of GDP.
- In 2023, the proportion of knowledge workers increased by 1 percentage point compared to 2022, reaching 18.8 %.
- The proportion of the workforce comprising ICT-skilled workers decreased significantly in 2023, reaching 3.1% of the total employed, a decline of 0.8 percentage points compared to the previous year.
- In 2023, 14% of enterprises engaged in online sales to end customers, while 9.7% conducted online sales to public institutions and other enterprises.

1 This section was edited by Leopoldo Nascia.

The statistical measures released by Istat for Goal 9 are twenty-four and refer to ten UN-IAEG-SDG indicators (Table 9.1). When comparing the last available year to the previous year, most of the measures showed improvement (freight transport, emissions, researchers, digital infrastructures and e-commerce) and only a few measures, research intensity, companies with innovative activities and ICT workers, showed signs of worsening (Figure 9.1). When comparing over a ten-year period, improvements prevailed, especially in the areas of research and innovation, emissions and e-commerce. However, railway infrastructures and the transportation of goods were stable, with no measures worsening.

Figure 9.1 - Time evolution of statistical measures released by Istat: last available year compared to the previous year and to 10 years before



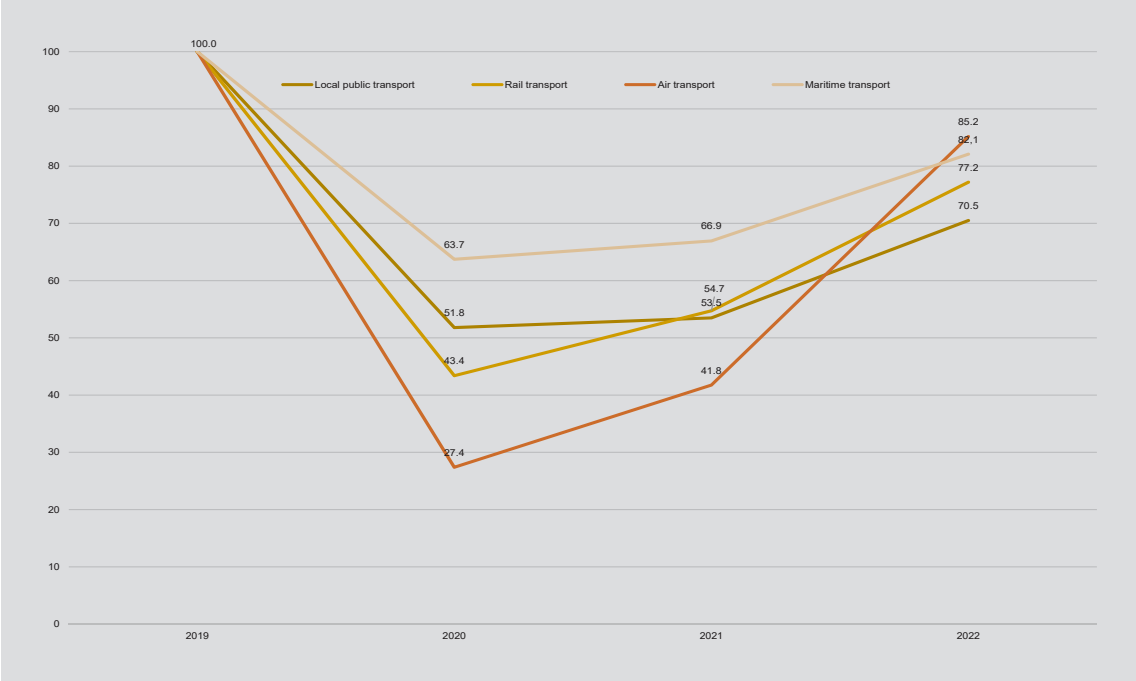
In 2022, passenger transport continued to grow

In 2022, passenger transport continued its growth trajectory already visible in 2021, also due to the economy recovery, although it had not yet returned to 2019 levels. Increased mobility was observed across all modes. Air and rail passenger transport, which during 2020 had suffered most from the pandemic restrictions, between 2021 and 2022 were characterised by a more pronounced recovery compared to local public transport and maritime transport. Air transport passengers doubled in 2022 since the previous year, but remained 15% lower than travellers in 2019. Rail transport grew by over 40% from 2021 and reached 70.5% of passengers in 2019 (Figure 9.2).

Freight transport increased primarily for road transport growth

In 2022, freight transport grew slightly by 2.3%, compared to 2021, largely due to increased road transport. Other modes maintained the level reached in 2021 (rail transport), or reduced (maritime transport). Compared with pre-pandemic years, road freight transport, which has steadily grown, represented the prevalent mode, with around two-thirds of goods transported in the country. The share of rail and maritime freight transport has remained stable over the years, while air transport continued to play a marginal role.

Figure 9.2 - Passengers mobility by modality (a)**. Years 2019 and 2022** (fixed base index number 2019=100)



Source: Istat, Air transport survey; Maritime transport survey; Rail transport survey, Survey on urban enviromental data
(a) Local public transport includes county capital towns and does not include subways.

The railway network has not recorded significant improvements

Between 2010 and 2021, the indicators of the railway network, showed little improvements in terms of extension of the track network relative to population and territory. Data show how in this period the railway network has improved only marginally in terms of sustainability (measured by the percentage of electrified lines), safety (measured by the percentage of double or multiple track railways), and performance (measured by the percentage of high-speed lines).

In 2022, CO_2 emissions intensity on value added decreased

In 2022, CO_2 emissions intensity decreased, falling to 154.9 tonnes per million euro (from 158.5 tonnes in 2021) resuming the downward trend interrupted in 2021. Although the overall data are positive, highly emission-intensive sectors, such as energy production, the manufacturing of chemical products and oil refineries, continued to increase values of CO_2 in light of the improvements recorded in transport and the extractive sector. In 2022, the supply of electricity, gas, steam and air conditioning stood at 3,219 tonnes of CO_2 per million euro, over 22% more than 2020 and almost 11% more than 2021.

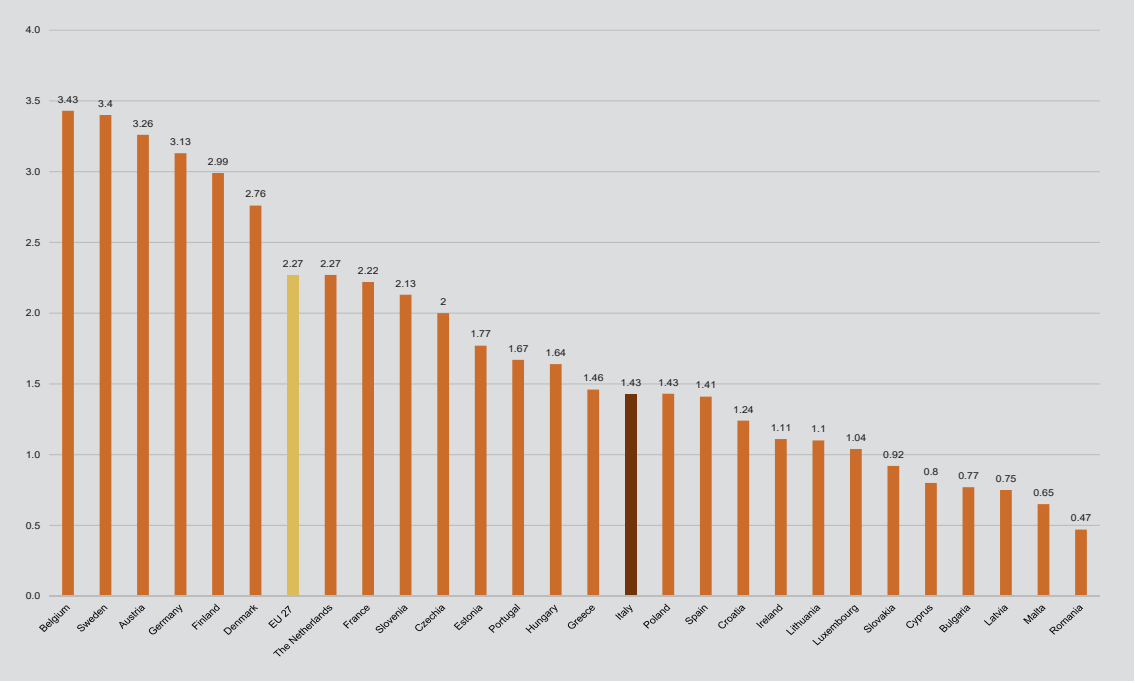
In 2021, research intensity decreased significantly

The statistical measures on R&D, innovation and digital technologies show a mixed picture in which, despite various improvements, critical issues are still ongoing, especially territorial gaps.

Research intensity, measured by the ratio of R&D expenditure to GDP, decreased in 2021, the last year with definitive data (1.43% of GDP, from 1.51% in 2020): the increase in spending on R&D of almost 1 billion euro (current prices), was in fact more than offset by the strong rebound in GDP following the recession of the first year of the pandemic (8.3% in real terms).

In 2021, for the first time in a decade, research intensity in Italy decreased moving further away from the previously objective for Europe 2020 (equal to 1.53% of GDP) and placing itself in fifteenth placed among the Member States of EU27, very far from the group of countries with research intensity above 2%. In 2021, the gap also widened compared to the EU27 average (2.27% of GDP; Figure 9.3).

Figure 9.3 - R&D intensity, by country. Year 2021 (percentage values)



Source: Eurostat

In 2021, there were 26.8 researchers per 10,000 inhabitants, up compared to 2020 and to previous years. However, the territorial and gender gaps were not reduced, with an intensity of researchers in the South and Islands and of females less than half compared to the rest of the country and compared to those of males.

In 2021, the share of value added of companies with medium-high technologies compared to the value added of the sector recorded a decline of 0.3 percentage points from 2020, reaching 31.6%.

In 2023, knowledge workers increased and those specialised in ICT decreased

In 2023, the share of knowledge workers (university-educated in scientific-technological roles), rose by 1 percentage point since 2022 and reached 18.8%.

However, ICT specialised workers, essential for the digitalisation of businesses, after years of growth, recorded a strong contraction in 2023: the share of total employed stood at 3.1%, 0.8 percentage points less than the previous year. The decline in the indicator, characterised by large territorial and gender gaps, was concentrated in the central and northern areas of the country, among males and among those employed with a university degree or PhD (ISCED 5, 6, 7, 8), which fell from 6.3% to 4.4%.

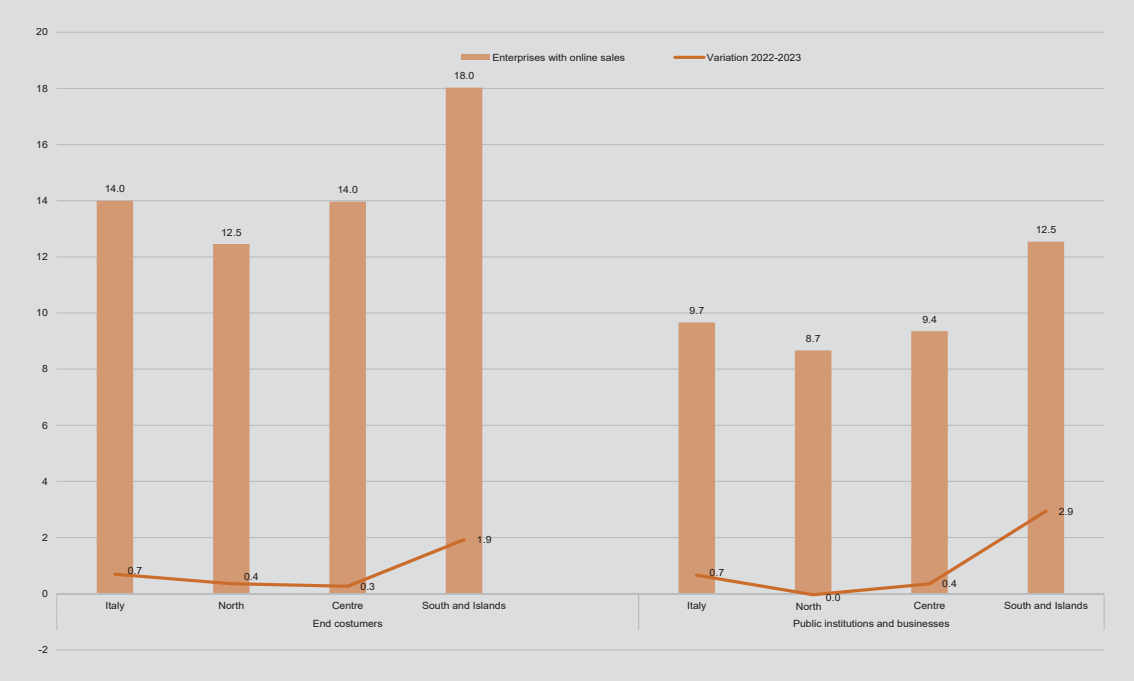
In 2023, e-commerce in businesses reached its greatest diffusion in the last ten years

2023 was a positive year for the spread of e-commerce, both for businesses and households (see Goal 17). In businesses, this sales method reached the highest diffusion rates in the last decade: 14% of businesses with at least ten employees sold online to end customers, 9.7% to public institutions and other businesses, in both cases up by 0.7 percentage points compared to the previous year.

As in the past, 2023 confirmed a greater diffusion of companies located in the South and Islands that sell online, both to end customers and to public institutions and businesses. 18% of companies in the South and Islands sell online to end customers, 12.5% to public institutions and businesses; in the Centre they are respectively 14% and 9.4%, and in the North they are 12.5% and 8.7% (Figure 9.4).

The greater diffusion of e-commerce in the South and Islands and Centre also derived from the weight assumed in these geographical areas by the services sector. The success of digital platforms in tourism and catering has favoured a greater concentration of companies active in e-commerce in these sectors. In 2023, 37.6% of companies with at least 10 employees in tourism and catering sold online to end customers and 20% to public institutions and businesses. Among other services, e-commerce was also widespread in commerce and information and communication activities, with a sustained growth over the years.

Figure 9.4 - Enterprises with at least 10 persons employed with web sales, by type of customer and geographical area. Years 2022 and 2023 (percentage values and percentage points)



Source: Istat, Survey on information and communication technologies in businesses

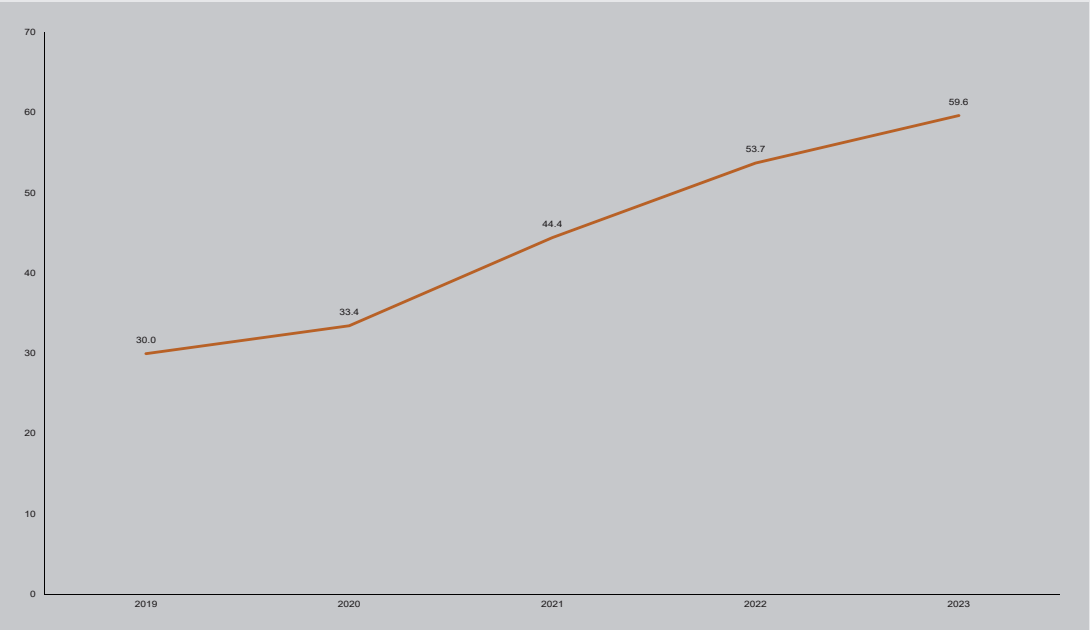
The spread of the fixed network of ultra-fast Internet access in the area[1]

Italian Communications Authority (AGCOM) has developed a database of all the country's Internet access networks[2], coordinated with the Digital Decade policy programme of the European Commission, which responds to the European pattern of a digitalised economy and society founded on the principles of solidarity, prosperity and sustainability. AGCOM, in compliance with the provisions of the Electronic Communications Code[3] and with the European guidelines, has set up a methodology to analyse connections and households density, which allows to assess the services availability.

To monitor the fixed ultra-fast Internet access (FTTH) network coverage is important to evaluate its potential growth, to achieve the objective of improving access to digital technologies for all Italian households and to provide a measure of the achievement of SDGs target 17.6 too. Over the last three years, general FTTH connectivity has grown significantly in a way that has encouraged growth in less served areas, classified as white areas[4].

At the end of 2023, the network recorded an increase of 5.9 percentage points compared to the previous year, with coverage of 59.6% of households. Since 2019, the growth of the FTTH network has been such as to double the share of households using the service (Figure 1).

Figure 1 - Population with availability of the FTTH network. Years 2019-2023 (percentage values)



Source: AGCOM

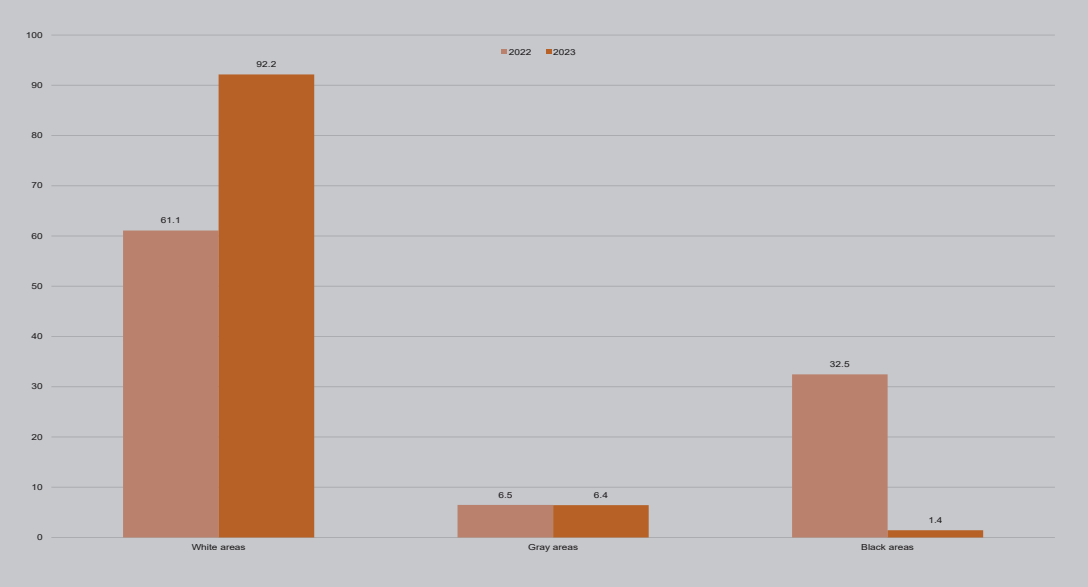
1 This section was edited by Aldo Milan (AGCOM) with contributions by Leopoldo Nascia.
2 It refers to the Broadband Map (www.agcom.it), a database which, among other aspects, allows to analyse the development of the Internet access supply at a single address and making comparative assessments of the different technologies and speeds.
3 Italian Legislative Decree no. 207/2021 implementing Directive 2018/1972, which modifies Italian Legislative Decree no. 259/03, containing the "Electronic Communications Code" and Italian Legislative Decree no. 48/2024 containing "Correction to the Electronic Communications Code".
4 The classification of the territory into black, grey and white areas was established by the European Commission to evaluate the level of infrastructural competition of the networks. "The white areas are those in which no ultra-fast fixed network is present nor is this network credibly planned within the reference time horizon". "The grey areas are those where there is only an ultra-fast fixed network or where such a network is credibly planned within the reference time horizon." "Black areas are those where at least two fixed ultrafast networks are present or where such networks are credibly planned within the reference time horizon (see Communication from the European Commission (2023/C 36/01)).

The territorial breakdown shows how 59.6% of households already had the availability of the FTTH network infrastructure in 2023. 71.9% of households who already have FTTH network available were located in black areas, 18.6% in white areas and only 9.5% in grey areas. Instead, the 40.4% of households that did not yet have access to the FTTH network and on which future network expansion interventions will focus, showed the highest weight of the grey and black areas: 49% were located in black areas, 26.7% in grey areas and only 14.3% in white areas.

In 2022, the FTTH network recorded an overall increase of approximately 775,000 geographical points[5]; during 2023, the network expanded with another 733,000 points. The slight deceleration in the increase of geographical points in 2023 must be analysed in the context of the specific areas of intervention: the expansion of the network was in fact mainly concentrated on the so-called white areas, i.e. the least served, where the population density is lower and the creation of the network infrastructure is therefore more complex.

The greater articulation in the less served areas resulted from a network coverage strategy aimed at reducing territorial gaps. In fact, the analysis by type of area shows how between 2022 and 2023 the expansion strategy of the FTTH network favoured the less served areas. 92% of the new points were located in white areas, demonstrating an investment that pursued the objective of more even and inclusive coverage of the country. Conversely, in the black areas, those best served by operators, the increase was very limited and equal to approximately 1% (Figure 2).

Figure 2 - Distribution of the newly covered areas by type. Years 2022 and 2023 (percentage values)



Source: AGCOM

5 The analysis refers to the geographical points corresponding to a 20m x 20m pixel. Each pixel practically corresponds to a postal (street) house number.

Table 9.1 - Statistical measures released by Istat, taxonomy compared to SDGs indicators, variations compared to the previous year and to 10 years before and convergence among regions

Ref. SDG	INDICATOR	Compared to SDG indicator	Value	VARIATIONS		CONVERGENCE AMONG REGIONS compared to 10 years before
				Compared to the previous year	Compared to 10 years before	
9.1.2	Passenger and freight volumes, by mode of transport					
Passenger volumes, by mode of transport (Istat, 2022, thousand)		Proxy		--	--	--
Freight volumes, by mode of transport (Istat, 2022, thousand)		Proxy	1,630,969			--
Kilometres of railways per 10,000 inhabitants (MIT - RFI, 2021, per 10,000 inhabitants)		National context	3.4	--	(a)	--
Kilometres of railways per 10,000 hectare (MIT - RFI, 2021, per 10,000 hectare)		National context	6.7	--	(a)	--
Double and multiple track railway out of total railway (MIT - RFI, 2021, percentage values)		National context	40.0	--	(a)	--
High speed railway out of total railway (MIT - RFI, 2021, percentage values)		National context	3.6	--	(a)	--
Electrical railway out of total railway (MIT - RFI, 2021, percentage values)		National context	67.2	--	(a)	--
9.2.1	Manufacturing value added as a proportion of GDP and per capita					
Manufacturing value added per capita (Istat, 2023, euro per capita)		Identical	4,517.8			--
Manufacturing value added as a proportion of total value added (Istat, 2023, percentage values)		Proxy	15.7	--	--	--
9.2.2	Manufacturing employment as a proportion of total employment					
Manufacturing employment as a proportion of total employment (Istat, 2023, percentage values)		Identical	15.3	--	--	--
9.3.1	Proportion of small-scale industries in total industry value added					
Share of small manufacturing enterprises value added to total value added of manufacturing (Istat, 2021, percentage values)		Proxy	40.2	--	--	--
9.3.2	Proportion of small-scale industries with a loan or line of credit					
Percentage of small scale enterprises with a least one line of credit (Istat, 2018, percentage values)		Proxy	51.6	--	--	--
9.4.1	CO_2 emission per unit of value added					
CO_2 emission per unit of value added (Istat, 2022, tonn/mil euro)		Identical	154.9			--
9.5.1	Research and development expenditure as a proportion of GDP					
R&D intensity (Istat, 2021, percentage values)		Identical	1.4			⇒⇐
Product and/or process innovative enterprises (per 100 enterprises) (Istat, 2018/2020, percentage values)		National context	50.9			⇒⇐
Software investment out of total investment(Istat, 2022, percentage values)		National context	8.3			--
Enterprises that have introduced innovation with positive impact on environment (per 100 enterprises) (Istat, 2018/2020, percentage values)		National context	37.0	--	--	--
9.5.2	Researchers (in full-time equivalent) per million inhabitants					
Researchers (in full time equivalent) (Istat, 2021, per 10,000 inhabitants)		Identical	26.8			⇒⇐
Impact of knowledge workers out of employment (Istat, 2023, percentage values)		National context	18.8		--	--
ICT specialists in employment (Istat, 2023, percentage values)		National context	3.1		--	--
9.b.1	Proportion of medium and high-tech industry value added in total value added					
Proportion of medium and high-tech industry value added in total value added (Istat, 2021, percentage values)		Identical	31.6		(b)	⇒⇐
9.c.1	Proportion of population covered by a mobile network, by technology					
Overall Fixed Very High Capacity Network (VHCN) coverage(Agcom, 2023, percentage values)		Proxy	59.6		--	--
Enterprises with at least 10 persons employed with web sales to end customers (Istat, 2023,percentage values)		National context	14.0			⇒⇐
Enterprises with at least 10 persons employed with web sales in the previous year to firms and public institutions (Istat, 2023, percentage values)		National context	9.7			⇒⇐

Legend and notes

- IMPROVEMENT
- STABILITY
- DETERIORATION
- -- NOT AVAILABLE / NOT SIGNIFICANT
- ⇒⇐ CONVERGENCE
- = STABILITY
- ⇐⇒ DIVERGENCE

Note

(a) Variation compared to 2010
(b) Variation compared to 2012

GOAL 10

REDUCE INEQUALITY
WITHIN AND AMONG COUNTRIES[1]

In brief

- The disposable income of households increased by 4.2% in 2023 compared to 2022. However, purchasing power decreased by 0.5% due to the rise in consumer prices by 5.9%.
- The distribution of income has become slightly less unequal. In 2022, the total income of the richest households was 5.3 times that of the poorest households (in 2021, this ratio was 5.6).
- Since 2000, the adjusted gross disposable income of households per capita, measured in purchasing power parity, has grown by 50.4%. This growth is less than that observed in all other EU countries (excluding Greece).
- In 2022, a total of 449,118 residence permits were issued, the highest number in over a decade. This represents an 85.9% increase compared to 2021.

1 This section was edited by Lorenzo Di Biagio with contributions by Eugenia Bellini, Cinzia Conti, Clodia Delle Fratte, Francesca Lariccia, Alessandra Milani and Carmela Squarcio.

The statistical measures released by Istat for Goal 10 are sixteen and refer to six UN-IAEG-SDGs indicators (Table 10.1). When comparing the last available year to the previous year, all measures improved, except purchasing power, which remained almost stable. When comparing over a ten-year period, half of the measures improved, especially those relating to income and inequality, while the other half (purchasing power and poverty measures) remained essentially stable (Figure 10.1).

Figure 10.1 - Time evolution of statistical measures released by Istat: last available year compared to the previous year and to 10 years before

Disposable income has increased but households purchasing power has fallen

In 2023, adjusted gross disposable income[2] per capita of the total households increased by 4.2%, from 25,505 euro in 2022 to 26,576 euro. Despite this, the significant growth in prices in the same period (+5.9% annual variation in the IPCA index) led to a 0.5% contraction in the purchasing power of consumer households, whose level was still lower than the level recorded in 2001.

The analysis of the territorial distribution of gross disposable income of consumer households for 2022 (Figure 10.2) reveals a clear disparity between the North (24,350 euro of per capita income) and the South and Islands (16,062 euro), with the Centre in an intermediate position (21,999 euro). Only in Lombardia and in the Autonomous Province of Bolzano/*Bozen* income exceeded 25,000 euro per capita, while in Calabria it did not reach 15,000. Over the last ten years, in Italy, nominal income has increased on average by 20.3% with all the southern regions, with the exception of Abruzzo, recording a higher increase than the national average. Net income inequality[3] has decreased and has reached its lowest level of the last fifteen years (5.3). Inequality was higher in the South and Islands, (5.4) than in the North (4.4) and the Centre (5.1) with Calabria standing out with very high values (8.5) and Basilicata shoving more limited disparity (3.6); see paragraph *The wealth of Italian households: distributional aspects*.

2 The correct term includes the value of services in kind provided by public administrations and public and non-profit institutions.

3 Net income inequality (indicator s80/s20) is measured by the ratio between the total equivalent income received by the 20% of the population with the highest income and the total equivalent income received by the 20% of the population with the lowest income.

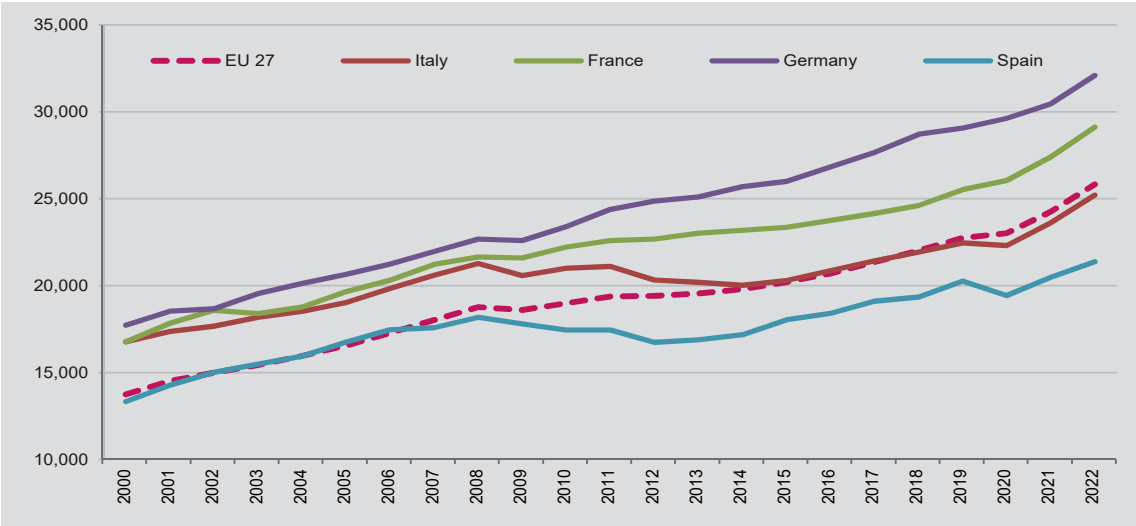
Figure 10.2 - Gross disposable income of consumer households per capita, by region. Years 2012 and 2022 (euro, current prices)

Source: Istat, National Accounts

Per capita income in Italy has grown less than in other EU countries

In comparison with European countries, the income fragilities of Italian households are even more evident. Since 2000, adjusted gross disposable income per capita, measured in purchasing power parity, has grown by 50.4%, a lower increase compared to both the EU27 average (+87.8%) and to any other country[4], with the exception of Greece. In 2000, Italy ranked as the sixth richest country, with per capita disposable income values higher than the EU27 average and in line with those of France and Germany (Figure 10.3). However, in 2022 Italy dropped to the tenth position, below the EU27 average and behind France and Germany, which on the contrary improved their positions.

Figure 10.3 - Adjusted gross disposable income of households per capita, by country. Years 2000-2022 (purchasing power standard, current prices)



Source: Eurostat

4 The data for Malta and Romania are not available for any year. The data for Bulgaria are only available up to 2017.

Migration flows: record number of new residence permits

In 2022, 449,118 residence permits were issued, the highest amount in over a decade, representing an increase of 85.9% compared to 2021 (Table 1). The increase can be primarily attributed to the issuing of new documents for protection and asylum reasons (more than sixfold), which represented 45.1% of the total new permits. This type of permits was issued especially to Ukrainian citizens for temporary protection (approximately 148 thousand). Ukrainian community recorded the largest increase in new permits issued, in both relative and absolute terms.

Even excluding the temporary protection permits related to the emergency from the war in Ukraine, the total number of new releases (around 300 thousand) during 2022 was still the highest in the last ten years. Increases were recorded not only for permits related to protection and asylum (+74.5%, without considering those issued to Ukrainian citizens), but also in other categories. Family permits, with 126,244 new issues, ranked in second position, reaching the highest level since 2011. The communities that have most requested this type of permit are those of Albania, Ukraine and Bangladesh. Therefore, the significant increase observed for Ukrainians also stood out for this type (+50.6% compared to 2021).

New permits for work reasons followed, with a very high increase (+32.2%) between 2021 and 2022, equivalent in absolute terms to 67,449, the highest value since 2013. Over 70% of this category of permits (almost 49 thousand) were granted in accordance with the 2020 regularisation provision (Italian Legislative Decree 34/2020). As the processing of applications for legalisation were very slow, numerous non-EU citizens' applications were only accepted in 2022. The region with the highest number of new work permits was Lombardia, followed by Emilia-Romagna, Veneto and Campania that reached cumulatively 54% of the total new work permits.

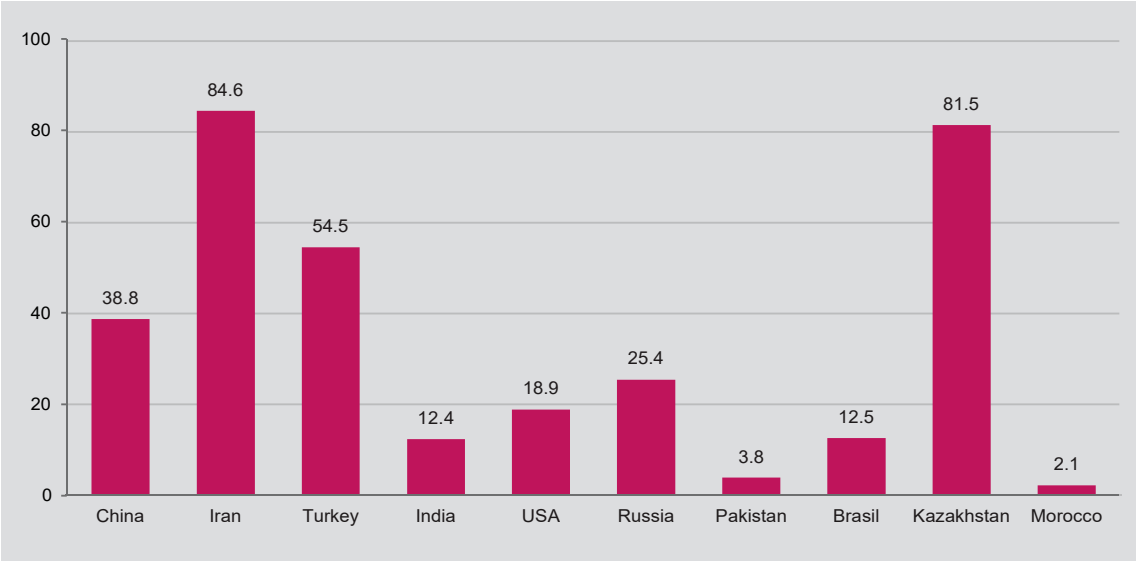
Table 10.1 - Non-EU citizens who entered Italy, by citizenship and reason for permit. Years 2021 and 2022
(N. and percentage values)

Countries of citizenship	Total		Reason for permit - Year 2022				
	2022	2021	Work	Family	Study	Asylum/Humanitarian	Other reasons
Ukraine	167,106	10,087	3.4	3.0	0.1	91.8	1.6
Albania	34,594	29,520	17.7	60.9	1.2	1.8	18.4
Bangladesh	24,530	15,974	18.5	35.9	0.8	39.2	5.5
Morocco	24,259	23,460	24.2	65.9	2.1	4.5	3.3
Pakistan	20,094	14,759	27.2	23.7	3.8	41.9	3.3
Egypt	16,976	11,550	13.0	40.4	2.1	29.4	15.0
India	14,479	12,680	36.8	44.1	12.4	2.1	4.7
Peru	10,611	5,980	38.8	33.4	1.6	17.5	8.6
China	10,503	8,686	31.9	26.5	38.8	1.2	1.5
Nigeria	9,062	7,799	10.7	40.5	1.6	39.5	7.6
Other countries	*116,904*	*101,100*	*20.3*	*40.5*	*14.1*	*15.8*	*9.3*
Total	**449,118**	**241,595**	**15.0**	**28.1**	**5.6**	**45.1**	**6.2**

Source: Istat, processing of data from Ministry of the Interior

Permits for study purposes increased by 42.6% compared to 2021; while the absolute values are relatively small (accounting for only 5.6% of new admissions) this particular group warrants attention. In fact, our country showed, compared to the other European countries, a lower capacity to attract foreign students. New documents issued for study were related to girls in 54.7% of cases. The majority of applications were submitted by Chinese citizens (more than four thousand), Iran, Turkey, India, the United States and over 1 thousand from the Russian Federation. Study mobility followed a unique migratory pattern compared to other kind of international migration. The country ranking for this category of new releases, in fact, differed largely from the general ranking of migratory flows. For some nationalities, study permits were the main reason for arriving in Italy (Figure 10.4). Iranians and Kazakhs represented respectively 84% and 81.5% of all new documents issued in the year. The average age of non-EU students who came in Italy with a regular permit was 25.6 years; they mainly settled in Lombardia, Lazio and Piemonte.

Figure 10.4 - Share of study permits issued to the top 10 nationalities out of all new permits issued. Years 2022
(percentage values)



Source: Istat, processing of data from Ministry of the Interior

The wealth of Italian households: distributional aspects[1]

The "Distributional accounts of household wealth" represent an advancement in national accounting that allows to document promptly the trend of wealth and its components in a manner that is consistent with aggregate statistics. In early 2024 these statistics were published for the first time for euro area countries, as experimental indicators (Distributional Wealth Accounts, DWA)[2]. The DWA data, which are quarterly and cover the period 2009-2023, incorporate data from the Household Finance and Consumption Survey (HFCS), coordinated by the European Central Bank and conducted every three years since 2009[3]. The DWA methodology employs estimation techniques to align the data collected through household surveys with macroeconomic national accounts variables, mitigating the common distortions of sample surveys such as: the difficulty and reticence of the respondents to accurately report their wealth; the lower propensity of wealthier households, who generally hold significant shares of total wealth, to participate in sample surveys.

At the end of 2023, the total net wealth of Italian households exceeded 10,000 billion euro with nearly half of it comprised of residential property[4]. The DWA allows to analyse the heterogeneity underlying these aggregates, for example by dividing households into three groups: (1) the class below the median, i.e. the bottom 50%; (2) the "intermediate" class, which corresponds to households whose net wealth is between the 50th and 90th percentile; (3) the richest 10%. In 2023, the wealthiest group held 60% of total net wealth, while the bottom 50% accounted for only about 7%.

Between 2010 and 2023, overall net wealth increased by approximately 13% at current prices[5]. That growth was driven by the very strong increase (29%) among the wealthiest decile of household, mainly due to the positive performance of shares and other equity investments, investment fund shares and life insurance products. The share of net wealth held by the richest 10% has therefore risen by around 7 percentage points since 2010, especially to the detriment of the middle class. The middle class recorded a decline in net wealth, due to the decline in the value of real estate assets, only slightly offset by the performance of riskier financial instruments. The net worth of the poorest half of households remained largely stable, following an increase in the value of real estate assets that was almost fully offset by a decline in financial wealth and higher debt.

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1 This section was edited by Andrea Neri and Francesco Vercelli (Banca d'Italia) with contributions by Lorenzo Di Biagio.

2 The main findings are discussed in: A. Neri, M. Spuri and F. Vercelli, 2024. "Distributional Wealth Accounts: methods and preliminary evidence", *Questioni di Economia e Finanza*, Rome: Banca d'Italia, 836 (https://www.bancaditalia.it/pubblicazioni/qef/2024-0836/index.html?com.dotmarketing.htmlpage.language=1). The data for Italy are published on the Banca d'Italia website (https://www.bancaditalia.it/statistiche/tematiche/conti-patrimoniali/conti-distributivi/index.html). Further details on the methodology used for Italy can be found in: A. Neri, M. Spuri and F. Vercelli, 2023."Combining survey and administrative data to estimate the distribution of household deposit", *Questioni di Economia e Finanza*, Rome: Banca d'Italia, 802 (https://www.bancaditalia.it/pubblicazioni/qef/2023-0802/index.html?com.dotmarketing.htmlpage.language=1).

3 See https://www.bancaditalia.it/statistiche/tematiche/indagini-famiglie-imprese/bilanci-famiglie/dati-indagine-europea/index.html. The year of the first edition of the HFCS varies between countries; for instance, the earliest data for Italy are from the Bank of Italy's Survey on Household Income (IBF) and refer to 2010. For this reason the DWA statistics for Italy start in the fourth quarter of 2010.

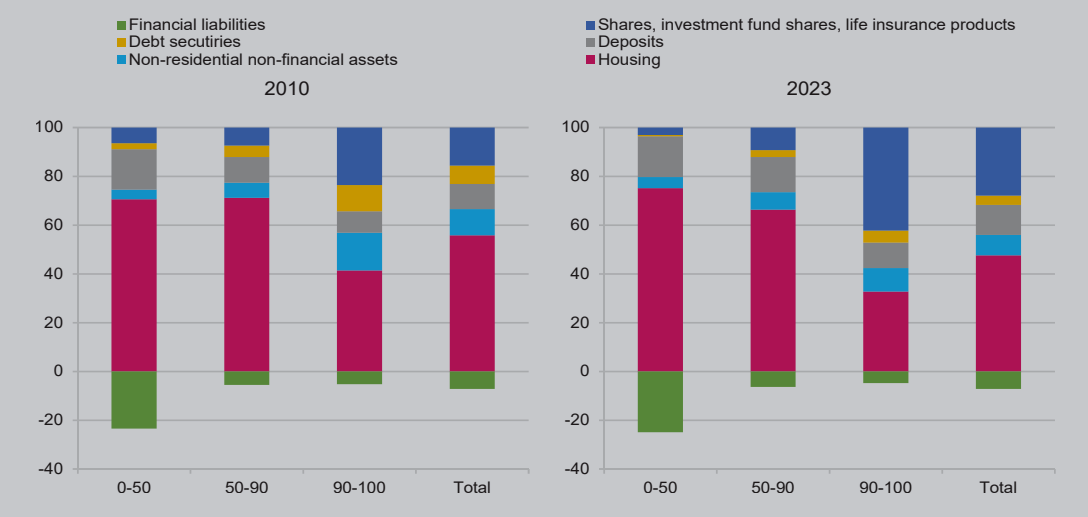
4 The wealth considered in the DWA differs from that represented in the national accounting aggregates, reported in the joint publication of Istat and Banca d'Italia The wealth of Italy's institutional sectors (https://www.istat.it/en/press-release/the-wealth-of-italys-institutional-sectors-years-2005-2022/). Indeed, it excludes some instruments for which the information is not available in the HFCS or the definitions are not consistent with those used in the national accounts. However, the instruments included in the DWA represent over 85% of the total financial assets of households and over three quarters of the liabilities. Furthermore, the data on non-financial activities in the DWA present elements of estimation compared to official aggregates, such as the extrapolation of information on non-financial activities for the quarters following the latest available data.

5 The DWAs only report data on the stocks of assets and liabilities and do not allow the change in stocks to be broken down into transactions and price effects.

As a result of these trends, between 2010 and 2023 the weight of houses on total wealth decreased by 5 p.p. for the intermediate class and by over 8 p.p. for the wealthiest households, while it rose by around 4 p.p. for the households below the median (Figure 1). By the end of 2023, housing accounted for three-quarters of wealth for the least well-off households, two-thirds for the middle class, and less than one-third for the richest 10%.

For this last group of households, the portfolio was more diversified, with over 40% of the wealth consisting of shares, investment fund shares and insurance products; up by almost 20 p.p. compared to 2010.

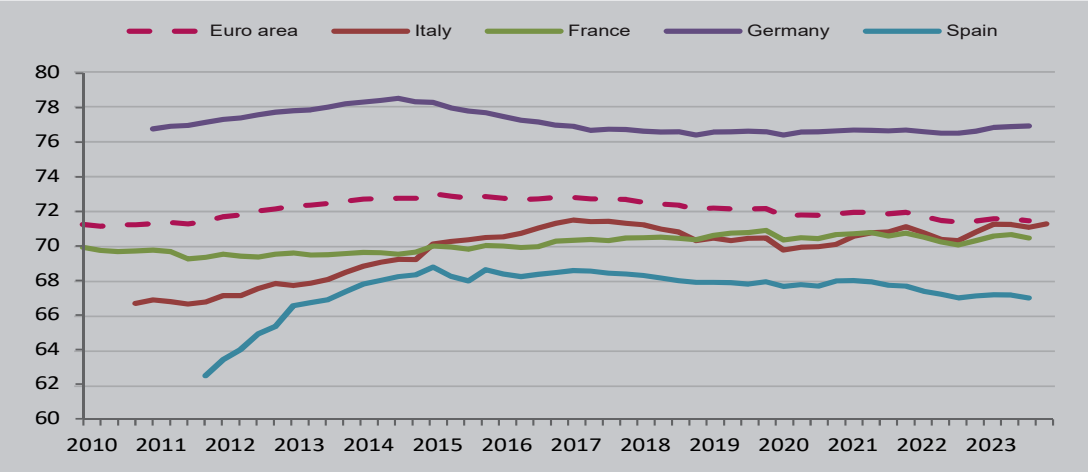
Figure 1 - Composition of wealth, by net wealth group (a). Years 2010 and 2023 (percentage values)



Source: processing of data from Banca d'Italia, Distributional Accounts on Household Wealth
(a) Households are divided into three classes based on the distribution of net wealth (the difference between assets and liabilities): below the 50th percentile; between the 50th and 90th percentiles; and above the 90th percentile.

The Gini index of net wealth, which measures the degree of inequality in its distribution, was currently in line with the euro area (Figure 2). Inequality in Italy was similar to France, higher than in Spain and lower than in Germany. The lower level of inequality in Italy as against Germany mainly reflects the share of net wealth held by households below the median, higher for Italian households also owing to the lower weight of debt on gross wealth.

Figure 2 - Net household wealth inequality (Gini index), by country. Years 2010-2023 (percentage values)



Source: ECB and processing of data from Banca d'Italia, Distributional Accounts on Household Wealth

Table 10.2 - Statistical measures released by Istat, taxonomy compared to SDGs indicators, variations compared to the previous year and to 10 years before and convergence among regions

Ref. SDG	INDICATOR	Compared to SDG indicator	Value	VARIATIONS		CONVERGENCE AMONG REGIONS compared to 10 years before
				Compared to the previous years	Compared to 10 years before	
10.1.1	Growth rates of household expenditure or income per capita among the bottom 40 per cent of the population and the total population					
Growth rates of household income per capita among the bottom 40 per cent of the population (Istat, 2022, percentage values)		Identical	0.69	--	--	--
Growth rates of household income per capita among the total population (Istat, 2022, percentage values)		Identical	-1.93	--	--	--
Disposable income inequality (Istat, 2022, pure number - income ratio)		Proxy	5.3			⇒⇐
Adjusted gross disposable income per capita (Istat, 2023, euro (current prices))		National context	26,576			--
Gross disposable income per capita (Istat, 2022, euro (current prices))		National context	21,089			⇒⇐
Purchasing power (Istat, 2023, million euro (chain linked))		National context	1,103,098			--
10.2.1	Proportion of people living below 50 per cent of median income, by sex, age and persons with disabilities					
People at risk of poverty (Istat, 2023, percentage values)		Identical	18.9			⇐⇒
People at risk of poverty - Number (Istat, 2023, thousand)		Identical	11,121			--
10.4.1	Labour share of GDP					
Labour share of GDP (Istat, 2023, percentage values)		Identical	50.70	--	--	--
10.7.2	Proportion of countries with migration policies that facilitate orderly, safe, regular and responsible migration and mobility of people					
Non EU citizens holding a long-term residence permit (Istat, processing of data from Ministry of the Interior, 2023, N.)		National context	3,727,706	--	--	--
Percentage of Non EU citizens holding a long-term residence permit (Istat, processing of data from Ministry of the Interior, 2023, percentage values)		National context	60.1	--	--	--
New permits (Istat, processing of data from Ministry of the Interior, 2022, N.)		National context	449,118	--	--	--
Number of acquisitions of citizenship (Istat, 2022, N.)		National context	213,716	--	--	--
Percentage of new permits issued for asylum and other humanitarian reasons (Istat, processing of data from Ministry of the Interior, 2022, percentage values)		National context	45.1	--	--	--
10.7.4	Proportion of the population who are refugees, by country of origin					
Residence permits for asylum (Istat, processing of data from Ministry of the Interior, 2023, per 1,000 permits)		Proxy	94.0	--	--	--
10.b.1	Total resource flows for development, by recipient and donor countries and type of flow (e.g. official development assistance, foreign direct investment and other flows)					
Total net bilateral ODA to Africa, LDCs, SIDS and Landlocked (Ministry of Foreign Affairs and International Cooperation, 2022, million euro (current prices))		Partial	(*)	--	--	--

Legend

- IMPROVEMENT
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- DETERIORATION
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- = STABILITY
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Notes

(*) Please refer to the table on www.istat.it

GOAL 11

MAKE CITIES AND HUMAN SETTLEMENTS INCLUSIVE, SAFE, RESILIENT AND SUSTAINABLE[1]

In brief

- In 2023, the share of households with difficult of connection with public transport increased (32.7%) and returned to pre-pandemic levels (33.5%).
- The share of frequent users of public transport (12.9%) in the population aged 14 and over remained stable in 2023, as did the share of students using public transport to get to their place of study (25.5%). The share of employed persons using only private transport was also stable (76%).
- In 2022, there was no progress in the provision of local public transport (LPT), with 4,696 seat-kilometres per inhabitant, the same as the previous year.
- In 2022, municipal waste production decreased in two out of three capitals compared to 2021 and was below 2019 levels in more than 50% of cities.
- Air quality worsened: in 2022, annual average concentrations increased in 56 capital cities of for $PM_{2.5}$ and in 75 for PM_{10}.

1 This section was edited by Domenico Adamo with contributions by Luigi Costanzo, Silvana Garozzo, Valentina Joffre, Antonino Laganà and Donatella Vignani.

The statistical measures released by Istat for Goal 11 are thirty-two and refer to nine UN-IAEG-SDGs indicators (Table 11.1). When comparing the last available year to the previous year, the improving and stable measures were around a third, while the worsening ones were just over a third. The unfavourable trends were mostly related to the anthropic pressures exerted on the urban environment after the post-pandemic recovery. When comparing over a ten-year period, the share of improving measures increased, as well as the share of worsening measures (four out of ten; Figure 11.1).

Figure 11.1 - Time evolution of statistical measures released by Istat: last available year compared to the previous year and to 10 years before

The share of households reporting difficulties with public transport increased

In 2023, the share of households reporting difficulties in accessing public transport increased to 32.7% (from 30.6% in 2022), almost returning to the pre-pandemic level (33.5% in 2019). A similar trend was observed throughout the national territory, maintaining the variability seen in past years: greater difficulties were reported in municipalities with 2,000 inhabitants or less (44.1%) and in metropolitan area suburbs (38.7%). Households in the North reported fewer difficulties (28.8%) compared to the national average.

Public transport usage and public transport offerings remained stable

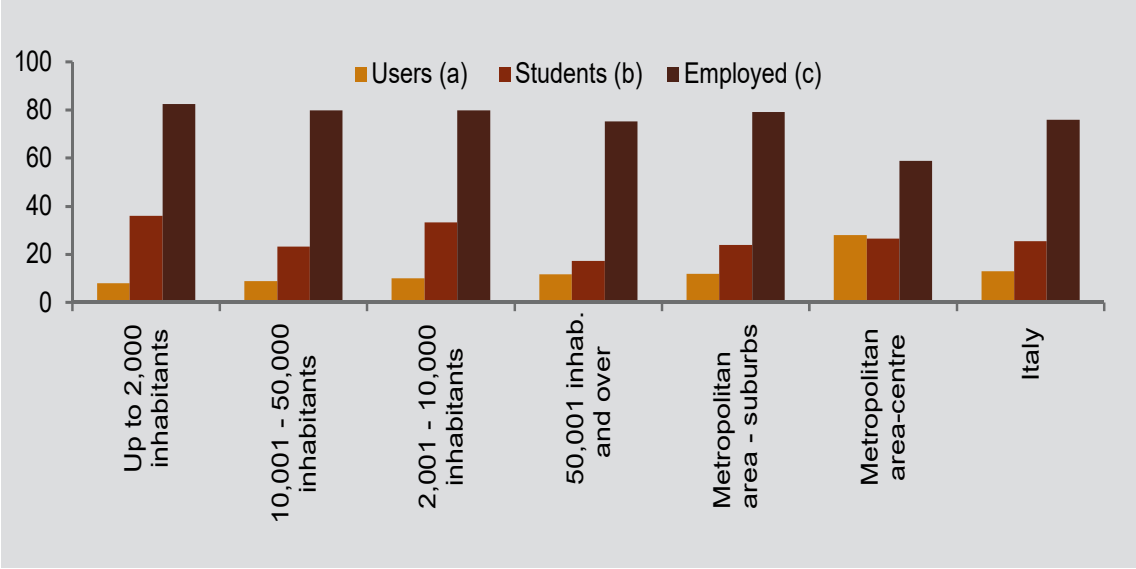
In 2023, public and private transport usage habits remained largely unchanged. Frequent users of public transport[2], who were just over one in ten among people aged 14 and over (12.9%), increased as the demographic size of the municipality of residence increased, ranging from 7.9% in municipalities with 2,000 inhabitants or less to 27.9% in the centre of metropolitan areas.

One in four students regularly used public transport to reach the place of study, with the proportion rising to one in three in municipalities with fewer than 10,000 inhabitants. The share of employed people who went to work only by private vehicle was high (76%), though this figure fell to 58.9% in the central municipalities of metropolitan areas (Figure 11.2).

The overall provision of local public transport services in provincial capitals also remained almost unchanged, reaching an average of 4,696 seat-km per inhabitant (-0.8% compared to the previous year), after fully recovering the sharp decline seen in 2020, due to the pandemic.

2 Frequent users of public transport are defined as people aged 14 and over who use public transport several times a week. Regular users are those who answer affirmatively to the question “Do you usually use any public or private means of transport to go to your place of work or study (including nursery and kindergarten)?”.

Figure 11.2 - Frequent users, students who usually travel of public transportation, and employed who usually travel private transportation, by type of municipality. Year 2023 (percentage values)



Source: Istat, Survey on Aspects of daily life
(a) Percentage of population aged 14 and over who use public transport several times a week (bus, trolley bus, tram within their own municipality; bus or coach connecting different municipalities; train).
(b) Percentage of students aged less than 35 who usually travel to their study place only by public transports.
(c) Percentage of employed persons who usually travel by private transportation to work place.

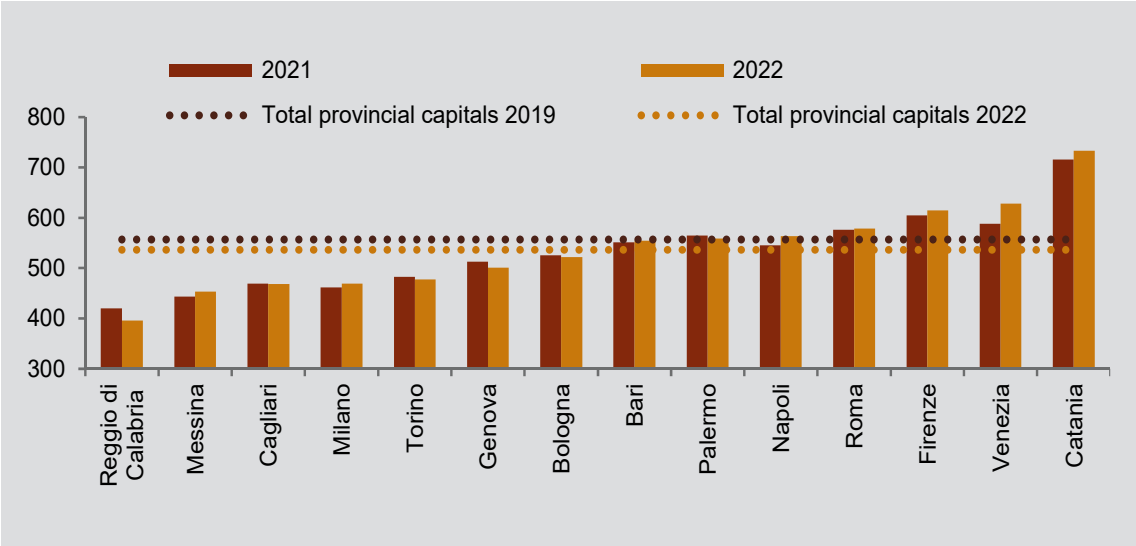
Municipal waste sent to landfill decreased

In 2022, the share of municipal waste sent to landfill, which has a high impact on the environment and human health, continued to decrease, reaching 17.8% of total municipal waste (-1.2 percentage points compared to 2021). Despite this positive trend, territorial distribution remained critical and significantly affected by the dynamics of inter-regional import/export. Of the total 5.2 million tonnes of urban waste disposed of in landfills, 1.8 are disposed of in the regions of the Centre (34%), 1.1 in the Islands (21%), 0.9 in the South (18%), 0.8 in the North-West (15%) and 0.6 in the North-East (12%), although the largest volume of urban waste was produced in the North.

Municipal waste production decreased

In 2022, municipal waste production decreased compared to the previous year (see Goal 12). The decline was more limited in provincial capitals, which produced 32.6% of urban waste (9.4 million tonnes; -0.7% compared to 2021). Production in the capitals amounted to 536.4 kg per inhabitant, a reduction from 2021 (-1.6 kg) and significantly below the pre-pandemic level (556.8 in 2019). Waste per capita decreased in two thirds of provincial capitals and was lower than 2019 levels in more than half of the capitals. However, in the metropolitan capitals there was an average increase of 3.8 kg per inhabitant. Napoli, Roma, Firenze, Venezia and Catania, which recorded an increase compared to 2021, exceeded the average waste per capita of the provincial capitals, while Reggio di Calabria, Torino and Genova were below average and showed a decrease (Figure 11.3).

Figure 11.3 - Municipal waste generated in provincial capitals. Years 2019, 2021 and 2022 (kg per inhabitant)

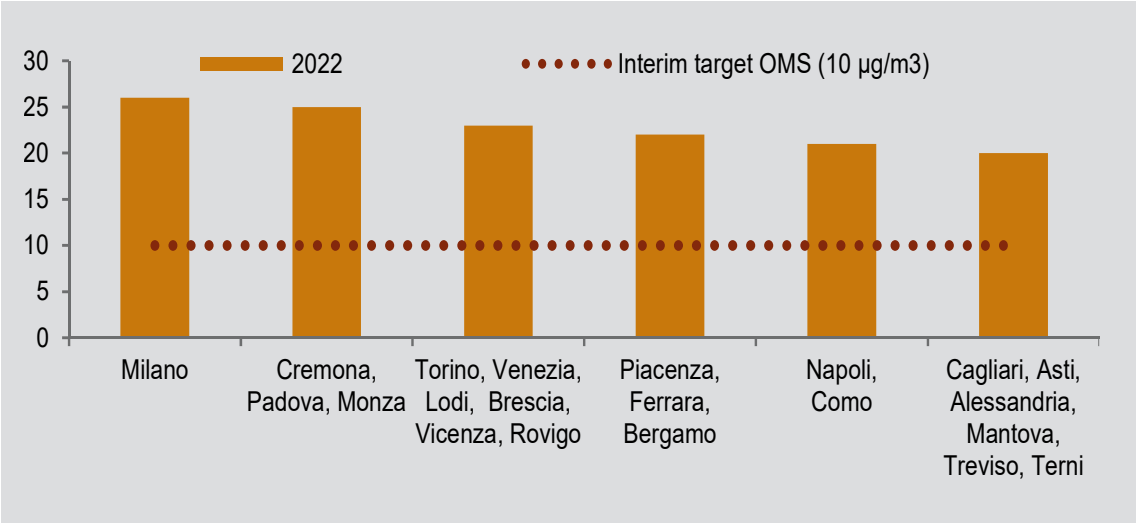


Source: Istat, Processing of data from ISPRA

Fine dust pollution once more on the rise

In 2022, after a period of constant improvement, air quality worsened due to the increased levels of fine particulates: $PM_{2.5}$ concentration rose from 71.7% in 2021 to 76.2%. The average annual concentrations of $PM_{2.5}$ increased in 56 of the 93 provincial capitals that monitor air quality. The PM_{10} trend worsened in 75 of the 100 monitored capitals. The last significant worsening occurred in 2017 (with increases in average values in approximately half of the provincial capitals for $PM_{2.5}$ and in four out of ten for the PM_{10}), while, from 2018 to 2021, a clear trend towards a reduction in average annual concentrations was observed in most provincial capitals.

Figure 11.4 - Annual mean concentration of $PM_{2.5}$ at or above twice the WHO interim target in provincial capitals. Year 2022 (µg/m^3)



Source: Istat, Processing of data from ISPRA

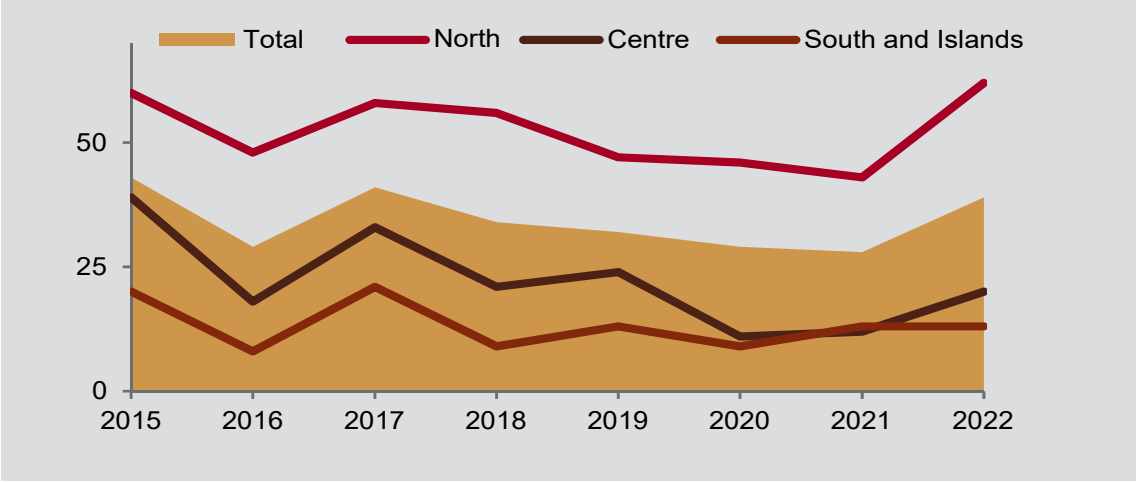
The World Health Organization (WHO) interim targets[3] were exceeded in 84 out of 100 provincial capitals with valid measurements for the PM_{10} and in 83 out of 93 for $PM_{2.5}$. Furthermore, average annual $PM_{2.5}$ levels exceeded the WHO limit in 46 northern capitals. The most serious situations were observed in 21 capitals, where average annual concentrations doubled the limit. The highest value was observed in Milano (26 µg/m³), followed by 12 other cities, all in the North (including Torino and Venezia) where levels reached up to 22 µg/m³. The highest values among the metropolitan capitals of the South and Islands were in Napoli (21 µg/m³) and in Cagliari (20 µg/m³; Figure 11.4).

Ozone exceedances rose especially in the North

In 2022, ozone, a substance produced in the atmosphere through photochemical reactions of other pollutants, showed a trend similar to that of fine particles, with an increase in the number of days of exceeding the long-term objective[4], after the decreases recorded from 2018 to 2021 (Figure 11.5). Exceedance days increased in 64 out of 89 monitored provincial capitals with an average of 39 non-compliance days (compared to 28 in 2021).

This trend, as well as the high number of exceedance days, was observed almost exclusively in the North where the average number of days fell from 58 in 2017 to 43 in 2021, before rising again to 62 in 2022. In 16 capitals there were more than 70 days of exceedance, with Milano (79) and Torino (99), reporting the highest values among the provincial capitals. In contrast, the trend in the Centre and South and Islands has remained stable in recent years, with a much lower number of exceedance days than in the North (less than a third). The 5 capitals for which ozone monitoring did not detect exceedance days were all located in the South and Islands: Teramo, Campobasso, Nuoro, Carbonia and Cagliari (among the metropolitan ones).

Figure 11.5 - Ozone (O_3) target exceedances in municipalities capital of the province/metropolitan cities. Years 2015-2022
(average number of days)



Source: Istat, Processing of data from ISPRA
(a) The ozone target not to be exceeded is 120 µ/m³ for the daily 8-hour moving average.

3 These are 20 µg/m³ for the PM_{10} and 10 µg/m³ for the $PM_{2.5}$. See World Health Organization. 2021. *WHO global air quality guidelines: particulate matter, ozone, nitrogen dioxide, sulphur dioxide and carbon monoxide*. https://www.who.int/publications/i/item/9789240034228.

4 It is 120 µg/m³ of the 8-hour daily moving average.

Intrusions of desert dust: how much do they contribute to ground level PM_{10} in Italy?[1]

Italy, along with Spain and Greece, is one of the European countries most affected by desert dust transport phenomena, mainly from the arid areas of Africa (primarily the Sahara desert), but also from the Middle East and Central Asia. These "sandy clouds," often shown by satellite images, can affect large geographical areas simultaneously, and extend vertically into the atmosphere up to 10 km altitude. When this mineral dust transport affects the lower atmospheric layers, it contributes to significantly increasing PM_{10} levels at the ground level, often causing exceedances of the daily limit value (50 µg/m³) set by the European Directive on air quality[2]. The same European Directive provides for the possibility of discount the natural contribution of desert dust from PM_{10}[3]. In Italy, a past study coordinated by CNR (National Research Council) has adapted the European Guidelines in this regard, defining a methodology[4] which, starting from 2024, will be adopted by MASE (Ministry of the Environment and Energy Security) to estimate the contribution of desert dust in a uniform way across the entire national territory, with the contribution of CNR-ISAC (Institute of Atmospheric Sciences and Climate), ENEA (Italian National Agency for New Technologies, Energy and Sustainable Economic Development), ISPRA (Italian Institute for Environmental Protection and Research) and SNPA (National System for Environmental Protection).

An analysis performed with this methodology for the period 2006-2012[5] estimated that in Italy desert dust intrusions have impacted air quality between 10% (North) and 30% (South) of the days of the year, carrying an average of approximately 10 µg/m³ of PM_{10} per event day. This impact has resulted in average annual concentration in the range of 1 to 3 µg/m³, with peaks of up to 10 µg/m³ in Sicilia. A more recent analysis for the year 2022 confirms this statistics and the decreasing of geographical gradient of the desert dust from South to North (Figure 1), due to the growing distance from the main African desert areas of origin and to dry and wet particle loss along the way towards Europe. In 2022, the average number of days affected by a desert sand transport and soil intrusion event was 76 (with a territorial variability between 47 and 119), equal to 20% (12%-33%). The events had an average duration of 3.5 days (2.5 – 4.7), with a maximum of approximately 12 days. On event days, the average contribution to the daily PM_{10} concentration was 9.2 µg/m³ (5.0 – 15.0). The number of deductible days in each station, i.e. the number of days in which the additional contribution of desert dust led to PM_{10} limit exceedances, was on average 5.7 (0 – 17). While 114 monitoring stations exceeded the daily limit value (50 µg/m³, not to be exceeded more than 35 times in a calendar year), this number was reduced to 95 after subtraction of the desert contribution. In other words, 19 monitoring stations were no longer in breach for exceeding the daily limit value.

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1 This section was edited by Francesca Barnaba (CNR-ISAC), Andrea Bolignano (ENEA), Giorgio Cattani (ISPRA), Maria Antonietta Reatini (ISPRA), Michele Stortini (ARPAE Emilia-Romagna) and Marco Vecchiocattivi (ARPA Umbria) with contributions by Domenico Adamo.

2 See European Directive 2008/50/EC, implemented in Italy with Italian Legislative Decree155/2010: https://www.gazzettaufficiale.it/eli/id/2010/09/15/010G0177/sg.

3 European Commission, 2011. *Establishing Guidelines for Demonstration and Subtraction of Exceedances Attributable to Natural Sources under the Directive 2008/50/EC on Ambient Air Quality and Cleaner Air for Europe*: https://eur-lex.europa.eu/eli/dir/2008/50/oj. The data should also be considered in relation to the safety threshold for human health of total PM_{10} set by the WHO at 15 µg/m³ annual average (World Health Organization. 2021. *WHO global air quality guidelines: particulate matter ($PM_{2.5}$ and PM_{10}), ozone, nitrogen dioxide, sulphur dioxide and carbon monoxide.*).

4 Barnaba F., Bolignano A., Di Liberto L., Morelli M., Lucarelli F., Nava S., Perrino C., Canepari S., Basart S., Costabile F., Dionisi D., Ciampichetti S., Sozzi R., Gobbi G.P..2017. "Desert dust contribution to PM_{10} loads in Italy: Methods and recommendations addressing the relevant European Commission Guidelines in support to the Air Quality Directive 2008/50". *Atmospheric Environment*, 161 https://doi.org/10.1016/j.atmosenv.2017.04.038.

5 Barnaba F., Romero N.A., Bolignano A., Basart S., Renzi M., Stafoggia M..2022. "Multiannual assessment of the desert dust impact on air quality in Italy combining PM_{10} data with physics-based and geostatistical models". *Environment International*, 163. https://doi.org/10.1016/j.envint.2022.107204.

Figure 1 - Estimation of desert dust contribution to PM_{10} annual mean in air quality monitoring stations. Year 2022 ($\mu g/m^3$)

Source: ISPRA

Finally, it should also be underlined that the majority of studies evaluating the impact on health of desert sand transport events (84.8% according to a recent bibliographical review) have reported significant associations with mortality and respiratory morbidity and cardiovascular disease of the exposed population[6]. The deduction of the contribution of desert dust at PM_{10} levels should therefore not be understood as motivated by an absence of impact of natural particles of desert origin on health, but instead with the aim of evaluating the net component due to anthropic pressures which can be the subject of mitigation policies.

6 Lwin K.S., Tobias A., Chua P.L., Yuan L., Thawonmas R., Ith S., et al..2023. "Effects of desert dust and sandstorms on human health: A scoping review". *GeoHealth*, 7.https://doi.org/10.1029/2022GH000728.

Table 11.1 - Statistical measures released by Istat, taxonomy compared to SDGs indicators, variations compared to the previous year and to 10 years before and convergence among regions

Ref. SDG	INDICATOR	Compared to SDG indicator	Value	VARIATIONS		CONVERGENCE AMONG REGIONS compared to 10 years before
				Compared to the previous year	Compared to 10 years before	
11.1.1	Proportion of urban population living in slums, informal settlements or inadequate housing					
	Share of total population living in a dwelling with a leaking roof, damp walls, floors or foundation, or rot in window frames of floor (Istat, 2023, percentage values)	Proxy	17.1			⇐⇒
	Overcrowding rate (Istat, 2023, percentage values)	Proxy	25.4			⇒⇐
	Noise from neighbours or from street (Istat, 2023, percentage values)	Proxy	11.2			⇐⇒
11.2.1	Proportion of population that has convenient access to public transport, by sex, age and persons with disabilities					
	Households with difficulties of connection with public transport (Istat, 2023, percentage values)	Proxy	32.7			=
	Students who travel to their study place, only by public transport (Istat, 2023, percentage values)	National context	25.5			=
	Employed who travel by private means of transport (Istat, 2023, percentage values)	National context	76.0			⇒⇐
	Seat-Km of public transport networks (Istat, 2022, values per inhabitant)	National context	4,696			⇐⇒
	Frequent users of public transport (Istat, 2023, percentage values)	National context	12.9			=
11.3.1	Ratio of land consumption rate to population growth rate					
	Soil sealing from artificial land cover per capita (ISPRA, 2022, m² per inhabitant)	Proxy	364		(a)	⇐⇒
	Illegal building rate (Cresme, 2022, per 100 building permits issued)	National context	15.1			⇒⇐
11.4.1	Total expenditure per capita on the preservation, protection and conservation of all cultural and natural heritage, by source of funding (public, private), type of heritage (cultural, natural) and level of government (national, regional, and local/municipal)					
	Public expenditure per capita spent on the preservation of the cultural and natural heritage (Istat, 2022, Euro (current prices)	Proxy	43.5			--
11.5.1	Number of deaths, missing persons and directly affected persons attributed to disasters per 100,000 population					
	Population at risk of flood (ISPRA, 2020, percentage values)	National context	11.5		(b	⇒⇐
	Population at risk of landslides (ISPRA, 2020, percentage values)	National context	2.2		(b	⇒⇐
	Deaths and missing persons due to floods (ISPRA, 2022, N.)	Partial	25	--	--	--
	Deaths and missing persons due to landslides (ISPRA, 2022, N.)	Partial	14	--	--	--
	Injured persons due to floods (ISPRA, 2022, N.)	Partial	56	--	--	--
	Injured persons due to landslides (ISPRA, 2022, N.)	Partial	27	--	--	--
11.6.1	Proportion of municipal solid waste collected and managed in controlled facilities out of total municipal waste generated, by cities					
	Landfill of waste (ISPRA, 2022, percentage values)	Proxy	17.8			⇐⇒
	Municipal waste generated (Istat, processing of data from ISPRA, 2022, Kg per inhabitant)	National context	492			=
11.6.2	Annual mean levels of fine particulate matter (e.g. $PM_{2.5}$ e PM_{10}) in cities (population weighted)					
	Urban population exposure to air pollution by particulate matter - $PM_{2.5}$ (Eurostat, 2020, micrograms per m^3)	Identical	15	--	--	--
	Urban population exposure to air pollution by particulate matter - PM_{10} (Eurostat, 2019, micrograms per m^3)	Identical	25.5	--	--	--
	Air quality - $PM_{2.5}$ (Istat, processing of data from ISPRA, 2022, percentage values)	Proxy	76.2			⇐⇒
	PM_{10} daily limit exceeds in provincial capitals (Istat, processing of data from ISPRA, 2022, number of days)	Proxy	31			--
	PM_{10} Annual mean concentration in provincial capitals (Istat, processing of data from ISPRA, 2022, microgram per m^3; Italy value indicates the number of municipalities with a value above the limit)	Proxy	84		(c	--
	$PM_{2.5}$ Annual mean concentration in provincial capitals (Istat, processing of data from ISPRA, 2022, microgram per m^3; Italy value indicates the number of municipalities with a value above the limit)	Proxy	83			--
	NO_2. Nitrogen dioxide. Annual mean concentration in provincial capitals (Istat, processing of data from ISPRA, 2022, microgram per m^3; Italy value	National context	9		(c	--
	O_3 Ozone daily limit exceeds in provincial capitals (Istat-ISPRA, 2022, number of days)	National context	84		(c	--
	Number of Summer days (anomalies with respect to Climatic Normal 1981-2000 In regional and metropolitan city capitals) (Istat, 2022, N.)	National context	(*)	--	--	--
	Number of Tropical nigths (anomalies with respect to Climatic Normal 1981-2000 in regional and metropolitan city capitals) (Istat, 2022, N.)	National context	(*)	--	--	--
	Number of Dry days (anomalies with respect to Climatic Normal 1981-2000 in regional and metropolitan city capitals) (Istat, 2022, N.)	National context	(*)	--	--	--
11.7.1	Average share of the buil-up area of cities that is open space for public use for all, by sex, age and persons with disabilities					
	Incidence of urban green areas on urbanized area of the cities (Istat, 2022, m² per 100 m² of urbanized areas)	Proxy	8.7		--	--
11.7.2	Proportion of persons victim of physical or sexual harassment, by sex, age, disability status and place of occurrence, in the previous 12 months					
	Persons aged 14-65 years old victims of at least one form of sexual harassment in the last 12 months (Istat, 2015/16, percentage values)	Identical	5.1	--	--	--

Legend

- IMPROVEMENT
- STABILITY
- DETERIORATION
- -- NOT AVAILABLE / NOT SIGNIFICANT
- ⇒⇐ CONVERGENCE
- = STABILITY
- ⇐⇒ DIVERGENCE

Notes

(a) Variation compared to 2012
(b) Variation compared to 2015
(c) Variation compared to 2013
(*) Refer to the table on www.istat.it

GOAL 12

ENSURE SUSTAINABLE CONSUMPTION AND PRODUCTION PATTERNS[1]

In brief

- In 2022, domestic material consumption still grew slightly in volume and in relation to population, but decreased in relation to GDP at 0.29 tonnes per 1,000 euro. However, the decoupling process between material consumption and business cycle has slowed down in recent years.
- In 2022, the amount of municipal waste generated per capita decreased once more, reaching 492 kg per inhabitant and approaching the minimum levels observed during the pandemic (487 kg).
- The year 2022 marked a recovery in waste management processes: the recycling rate of municipal waste (49.2%) grew again; the share of separate collection, up by 1.2 p.p., stood at 65.2%. However, delays with respect to regulations remained significant and territorial gaps widespread.
- Social/environmental reporting remained uncommon in PA (14.5% of public institutions was involved in 2021/2022), but over half of public administrations (51.7%) made green purchases.
- Fossil fuel subsidies as a percentage of GDP (0.81%) still on the rise in 2022.

1 This section was edited Paola Ungaro with contributions by Aldo Femia, Flora Fullone, Claudio Paolantoni, Silvana Garozzo and Angelica Tudini.

The statistical measures released by Istat for Goal 12 are twenty-seven and refer to eight UN-IAEG-SDGs indicators (Table 12.1). When comparing the last available year to the previous year, more than half of the measures showed a negative variation, mainly due to less favourable conditions in the use of material resources – such as an increase in internal material consumption and a contraction in the rate of circular use of materials - along with the impact of tourism recovery and the increase in subsidies for fossil fuels compared to GDP (Figure 12.1). However, measures related to waste management and energy generation capacity from renewable sources showed a positive change. When comparing over a ten-year period, greater progress was observed.

Figure 12.1 - Time evolution of statistical measures released by Istat: last available year compared to the previous year and to 10 years before

In 2022, material consumption continued to grow slightly in volume, but decreased in relation to the GDP

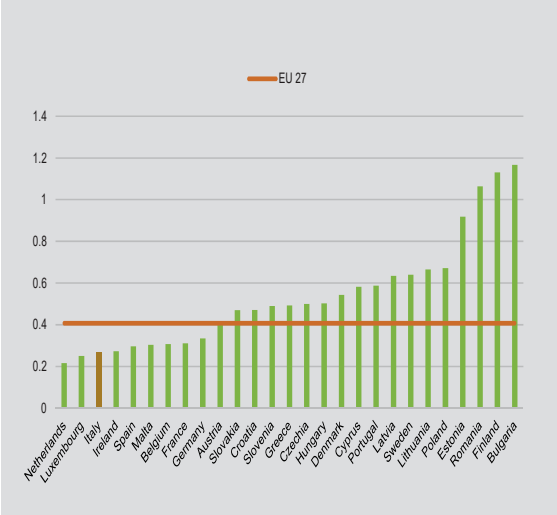
After a significant increase in 2021 (+10.1%), driven by the resumption of production activities, the volume of Domestic Material Consumption (DMC)[2] grew slightly again in 2022, reaching 512.3 million tonnes (+6.8 compared to the previous year, a percentage increase of 1.3%), reaching a level that has not been recorded in Italy since 2012 (592 million tonnes). Per capita DMC increased from 8.5 to 8.7 tonnes (+2.4%), also reaching a peak, except for 2012 (Figure 12.2).

2 Domestic material consumption is a measure of the quantity of matter, other than water and air, used annually by the socio-economic system and released into the environment (incorporated into emissions or effluents) or accumulated in new anthropogenic stocks (both capital goods and other durable goods and waste).

Figure 12.2 - Domestic material consumption per capita and per GDP. Years 2011-2022 (tonne per capita and tonne per 1,000 euro, chain-linked volumes)

Source: Istat, Material flow accounts; Eurostat

Figure 12.3 - Domestic material consumption per capita and per GDP, by country. Year 2022 (tonne per 1,000 euro at purchasing power parity)



Source: Istat, Material flow accounts; Eurostat

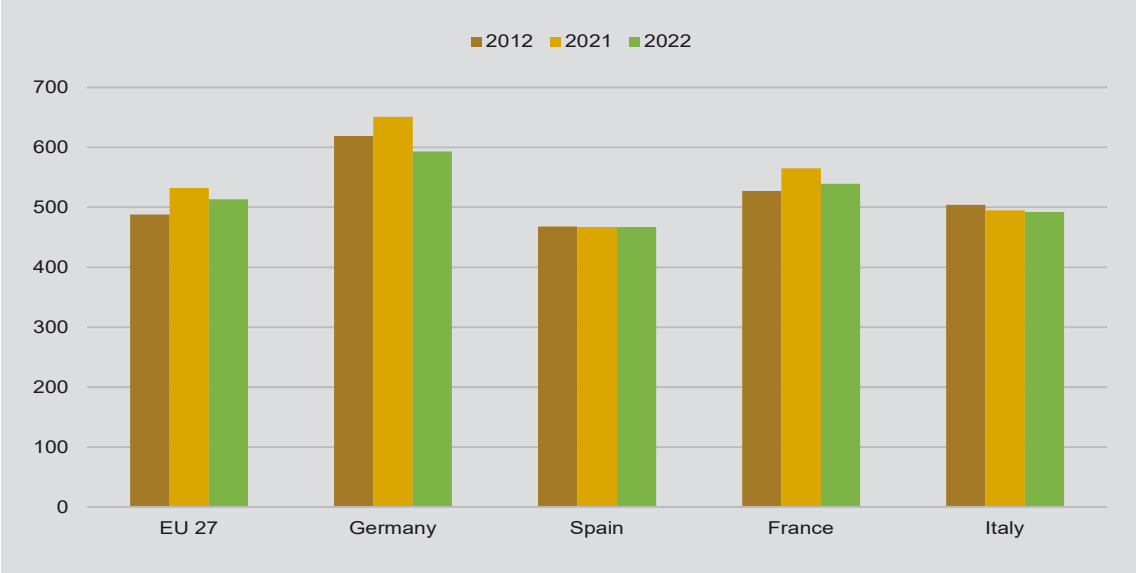
The ratio between material consumption and GDP, which also grew in 2021, instead underwent a slight contraction in 2022 (-3.3%), returning to the levels of 2019-2020 (0.29 tonnes per 1,000 euro). After significant past improvements (-40% between 2006, the year from which the material consumption per unit of output began to decrease, and 2015, with a particularly intense reduction in the second phase of the economic crisis), since 2016, decoupling between economic cycle and material consumption suffered a setback, with greater stationarity of the DMC/GDP ratio.

In the European context, Italy stood out for its advanced decoupling between economic growth and use of resources. Even considering different national production structures and impacts of the transformations in European economies in favour of lower material consumption sectors, Italy ranked third among EU27 countries in the decreasing ranking of the ratio of DMC to GDP (Figure 12.3), and second in material consumption per capita.

The per capita production of urban waste decreased again

In 2022, municipal waste (MW) production in Italy decreased by 1.8% (-9 kg), reaching 492 kg per inhabitant. Although it was unable to compensate for the significant growth due to the recovery in consumption in 2021 (+2.9%), the per capita level of MW produced was close to the level reached during the lockdown (487 kg/inhabitant) and still remained slightly lower than ten years ago (498).

Figure 12.4 - Generation of municipal waste per inhabitant, by country. Years 2012, 2021 and 2022 (Kilogram per capita)



Source: Eurostat; Istat, processing of data from ISPRA

Italy's trend over the last year was in line with the average of the EU27 and other major European economies (Figure 12.4), except for Spain, which remained stable at the levels of ten years ago[3]. In 2022, Italy's per capita MW production was lower than EU27 average (513 kg), Germany (593 kg) and France (539 kg), and higher than Spain (467 kg). In Italy, thanks to the contribution of the Autonomous Provinces of Trento and Bolzano/*Bozen* and Lombardia, the most significant reduction in waste per capita was observed in the North (-2.1% compared to 2021), which however remained the area with the highest production of MW (505 kg per inhabitant). The Centre followed with 531 kg (-1.1%). The South and Islands produced the lowest quantity of MW per inhabitant (452 kg; -1.3%).

In 2022 there were signs of improvement in waste cycle management, but delays and territorial gaps were still significant

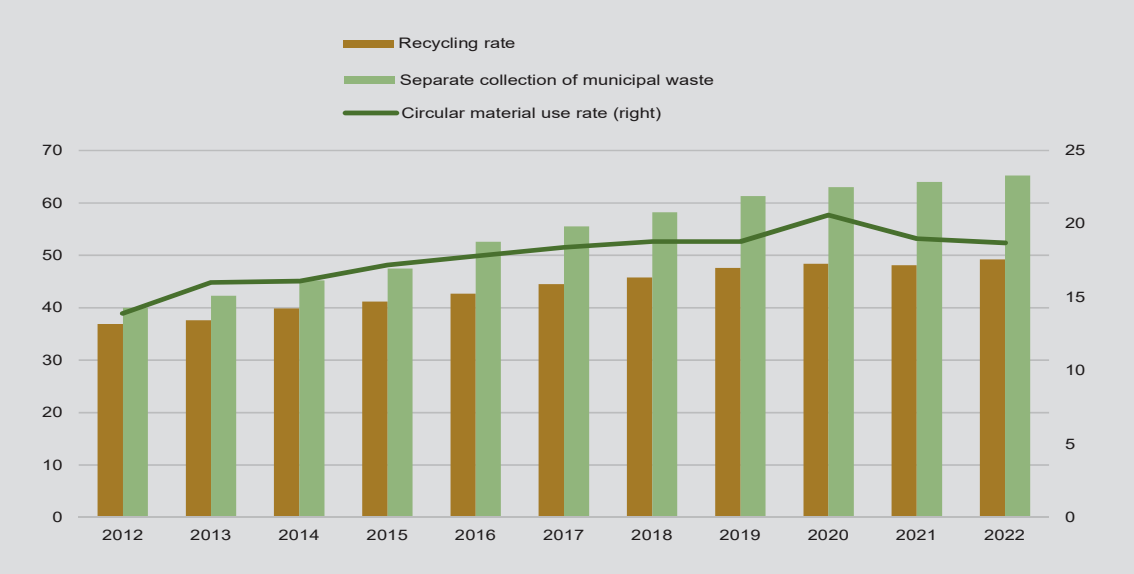
Waste management improvements resumed in 2022, after they have been partially interrupted in the previous year.

The recycling rate increased to 49.2% (+1.1 percentage points compared to last year and +12.3 percentage points compared to ten years before). After a drop to 48.1% in 2021 (Figure 12.5), Italy restored the trajectory towards the 55% target set by the European Union for 2025[4].

The share of MW sent in an undifferentiated manner to landfill also improved (see Goal 11). The percentage of MW for separate collection increased by 1.2 percentage points and reached 65.2%, confirming the overall slowdown compared to the growth rate of the last decade (+25.2 points compared to 2012) and reaching, with ten years of delay, the 65% target envisaged by the legislation for 2012.

3 See http://ec.europa.eu/eurostat.
4 Directive 2018/851/EU sets targets for 2025 (55%), 2030 (60%) and 2035 (65%).

Figure 12.5 - Recycling rate and separate collection of municipal waste (a) **and circular material use rate. Years 2012-2022** (percentage values)



Source: ISPRA; Istat, processing of data from ISPRA; Eurostat
(a) The data from 2016 to today are only partially comparable with previous years, due to a change in the calculation criteria for production and collection data.

Despite these advances, territorial gaps remained wide. The South and Islands (+31 p.p.) and the Centre (+28 p.p.) were at levels of separate waste collection (in order, 57.5 % and 61.5%) well below the northern area (74.3% in the North-East and 69.7% in the North-West), although the most important improvements in the last decade compared to the North (+19 percentage points compared to 2012). At a regional level, the percentage of separate waste collection ranged from 52% in Sicilia, 55% in Lazio and Calabria and 56% in Campania, to 76% in Veneto and Sardegna. Furthermore, the Autonomous Province of Trento exceeded 80% for the first time in 2022.

The rate of circular use of materials continued to fall

After a positive trajectory since 2010, in 2022 the circular use rate of materials – equal to the share of material recovered and fed back into the economy in overall material use - decreased for the second consecutive year, albeit slightly (-0.3 percentage points), especially compared to the significant decline in 2021 (-1.6 p.p.). In the European context, due to the substantial stability of EU27 average (+0.1 p.p.), only twelve countries recorded a positive change; while Belgium, the Netherlands, Finland, Poland, Slovenia, Denmark and Greece recorded more significant decreases[5]. Despite the trend reversal of the last two years, Italy has benefited from important progress in the last ten years (+4.8 p.p.). Thanks to this, our country confirmed once again in 2022 as one of the most virtuous, ranking fourth in the EU27, after the Netherlands (27.5%), Belgium (22.2%) and France (19.3%), with a share of circular use of materials more than 7 p.p. higher than the EU27 average (11.5%).

5 See http://ec.europa.eu/eurostat.

Social/environmental reporting are not yet widespread in the PA, but more than half of the purchases complied with minimum environmental criteria

In 2021/2022, 14.5 out of 100 public institutions adopted forms of social and/or environmental reporting. They were more numerous in the Islands (18%) and in the Centre (17%). Social/environmental reporting was particularly common in Sicilia and Abruzzo (above 20%) and Emilia-Romagna, Umbria and Liguria, and less widespread in Piemonte, Sardegna and Lombardia (below 11%).

In 2022, 51.7% of Public Administrations performed at least one procedure for the purchasing of goods and/or services by adopting minimum environmental criteria. Green Public Procurement was more widespread in the North-East (63%), particularly in the Autonomous Provinces of Trento and Bolzano/*Bozen* (73% and 70% respectively) and in Veneto (61%), but also in Toscana (57%) and Sardegna (59%). The lower intensity of green purchases in the South and Islands (45%) was due in particular to Molise (31%) and Sicilia (39%).

The share of fossil fuel subsidies in GDP grew for the second year in a row

In 2022, fossil fuel subsidies in Italy amounted to 0.81% of GDP, a significant increase compared to the previous year (+0.06 p.p.) and compared to 2016 (+0.11 p.p.). The increase in the last year was mainly due to the growing value of the emission quotas, assigned free of charge, as part of the Emission Trading System (ETS)[6]. The increase was originated also by two fiscal measures: excise duty exemption on energy products for aviation fuel, that increased due to the recovery of air transport after the significant slowdown in 2020-2021, and reduced VAT on domestic use electricity, related to the increase in the price of electricity in 2022.

With the recovery of tourist demand, the impact of tourism on waste also grew again

After a drastic reduction for mobility restrictions during the pandemic, when tourist intensity was halved (from 7,301 to 3,495 presences in accommodation establishments per 1,000 inhabitants), 2021 showed an expansionary trend (+40%), consolidated in the following year (+43%). In 2022, the tourist intensity index was close to 7,000 presences per 1,000 inhabitants, almost close to pre-pandemic levels. The tourist demand recovery increased pressures on the environment associated with the release of greater loads of pollutants (see the paragraph *Emissions from road transport for tourism purposes*). The increase in waste production determined one of the most significant impacts.

6 The emissions permit trading system was established at community level as a tool for reducing emissions. The main regulated sectors are the production of energy, metals, cement, ceramics and bricks, glass, paper, aluminium, chemicals as well as air transport.

The impact of tourism on waste[7], which collapsed in 2020 to 4.7 kilograms per equivalent inhabitant (-52% compared to 2019), increased in 2021 to 6.6 kg (+41%) and, in 2022, reached 9.3 kg (+41%). Tourist intensity, as well as the impact of tourism on waste, showed considerable territorial variability, due to the varying tourist attractiveness of the territories, starting from Molise (less than 1,500 presences in accommodation facilities per 1,000 inhabitants and 1.5 kg of waste per inhabitant equivalent) to Trentino-Alto Adige/*Südtirol* (over 48,000 presences and 57 kg).

7 The impact of tourism on waste is equal to the difference between the per capita production of urban waste calculated with the resident population and the per capita production of urban waste calculated with the equivalent population. The equivalent population is calculated by adding to the resident population the number of tourist presences registered in the year and spread over 365 days.

Emissions from road transport for tourism purposes[1]

Tourism, a vital sector for European economies, faces the dual challenge of stimulating economic growth while preserving environmental sustainability. Within the framework of 2030 Agenda specific targets - 8.9, 12.b, 14.7 - and the entire Goal 13 underline the need to balance tourism development with environmental preservation. Official statistics often provide only a limited view on the environmental impact of tourism, not fully capturing its complexity and scope. This highlights the need for improved monitoring methodologies.

To address this challenge, ISPRA, in collaboration with Istat, has developed an innovative approach that integrates data from official statistics to analyse in more detail the relationship between tourism and the environment in Italy. This method allows to estimate emissions caused by tourist road transport. Data on mileage of tourist routes performed by road transport in the trips by the Istat Trips and holidays Survey and data on average emission factors from road transport by ISPRA were used[2]. The result is a new indicator which estimates the emissions of the main air pollutants caused by tourist road transport, identifying the car as the main mode of transport and a significant source of emissions[3].

The indicator, developed and constantly updated by ISPRA, available in the Environmental Indicators database[4], contributes to the understanding of the environmental impact of tourism, promoting the development of more effective monitoring strategies and sustainability policies at both national and European level. Recognised as best practice by the United Nations World Tourism Organisation (UNWTO)[5], the indicator provides a basis for future research, encouraging reflection on how demographic, socio-economic dynamics and ecological transition can influence travel choices and the environmental footprint of tourism.

A detailed analysis of 2022 emissions reveals significant regional variations in Italy: Puglia, Toscana, Lombardia and Emilia-Romagna recorded the highest emissions, due to the volume and distance of travel; conversely, Molise, Basilicata, Umbria and Friuli-Venezia Giulia showed the lowest emissions (Figure 1). Compared to 2018, most regions saw a reduction in emissions in 2022, with a particularly notable decrease in Molise (-61.2%).

COVID-19 pandemic significantly affected annual changes in emissions. Regions with strong mountain tourism witnessed an increase in emissions in 2022, due to the resumption of travel after the 2021 restrictions, particularly during winter months, traditionally dedicated to the ski season. These changes in travel patterns have been analysed in specific studies[6], which have highlighted how the lockdowns and reopening phases changed travel behaviours, often resulting in an intensification in certain periods and in specific places.

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1 This section was edited by Giovanni Finocchiaro, Silvia Iaccarino and Francesca Palomba (ISPRA) with contributions by Paola Ungaro.

2 For methodological details, see Betta, L.; Dattilo, B.; di Bella, E.; Finocchiaro, G.; Iaccarino, S. 2021. "Tourism and Road Transport Emissions in Italy", *Sustainability*, 13, 12712 (https://doi.org/10.3390/su132212712).

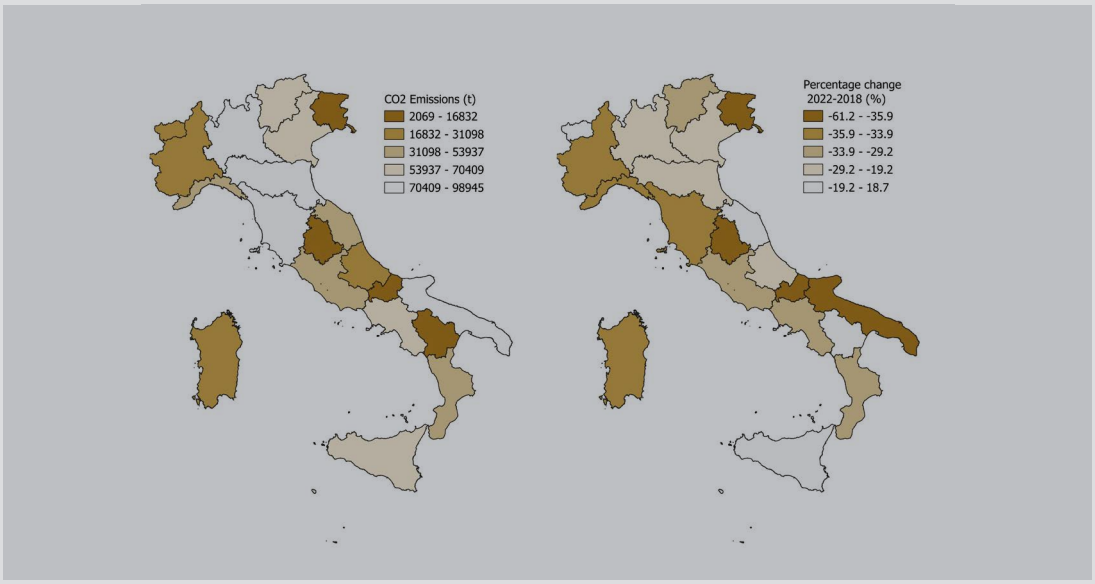
3 Emissions of CO_2, $PM_{2.5}$, COV, CO and NO_x are considered, chosen as the most representative pollutants of road transport.

4 See https://indicatoriambientali.isprambiente.it.

5 The indicator was presented as a pilot experience of measuring tourism sustainability in the context of UNWTO activities which recognised the advantage of an approach that goes beyond the accounting one suggested by the Environmental-Economic Accounting System (SEEA), theoretically replicable by all European countries (see UNWTO.2019. *Measuring the Sustainability of Tourism: Learning from Pilots*. (https://www.e-unwto.org/doi/epdf/10.18111/9789284424061).

6 See. Scott, D., Hall, C. M., & Gössling, S..2020."Pandemics, tourism and global change: A rapid assessment of COVID-19", *Journal of Sustainable Tourism*, 29(1).

Figure 1 - CO_2 emissions from domestic tourist travel and percentage change 2018-2022, by region of destination. Year 2022 (tonnes and percentage values)



Source: ISPRA

These data are essential to shed light on the impact of tourism on the environment and to develop strategies that can ensure more sustainable tourism development, aligned with the SDGs. The importance of proactive strategies for tourism management is highlighted, which consider not only post-pandemic economic recovery but also the imperative of environmental sustainability and a reconsideration of tourism in terms of its contribution to the global health of the planet as well as to economic growth[7].

7 See Higgins-Desbiolles, F..2020. "The "war over tourism": Challenges to sustainable tourism in the tourism academy after COVID-19", *Journal of Sustainable Tourism*, 29(4).

Table 12.1 - Statistical measures released by Istat, taxonomy compared to SDGs indicators, variations compared to the previous year and to 10 years before and convergence among regions

Ref. SDG	INDICATOR	Compared to SDG indicator	Value	VARIATIONS		CONVERGENCE AMONG REGIONS compared to 10 years before
				Compared to the previous year	Compared to 10 years before	
12.2.2	Domestic material consumption, domestic material consumption per capita, and domestic material consumption per GDP					
	Domestic material consumption per capita (Istat, 2022, tonne per capita)	Identical	8.7			⇐⇒
	Domestic material consumption per GDP (Istat, 2022, tonne per 1,000 euro)	Identical	0.29			⇐⇒
	Domestic material consumption (Istat, 2022, million tonnes)	Identical	512.3			=
12.4.2	(a) Hazardous waste generated per capita; and (b) proportion of hazardous waste treated, by type of treatment					
	Amount of hazardous waste generated (ISPRA, 2021, tonne)	Proxy	10,667,886	..	..	..
	Hazardous waste sent to the recovery operations (ISPRA, 2021, tonne)	Proxy	4,900,356	..	..	..
	Hazardous waste disposed of (ISPRA, 2021, tonne)	Proxy	5,137,322	..	..	..
12.5.1	National recycling rate, tons of material recycled					
	National recycling rate (ISPRA, 2022, percentage values)	Proxy	49.2			..
	Separate collection of municipal waste (ISPRA, 2022, tonne)	Proxy	18,931,928			..
	Separate collection of municipal waste (Istat, processing of data from ISPRA, 2022, percentage values)	Proxy	65.2			⇒⇐
	Municipal waste collected (Istat, processing of data from ISPRA, 2022, Kg per inhabitant)	National context	492			=
	Circular material use rate (Eurostat, 2022, percentage values)	National context	18.7			..
12.6.1	Number of companies publishing sustainability reports					
	Percentage of enterprises with at least 3 persons employed drafting environmental and sustainability reports and/or accounts (Istat, 2016/2018, percentage values)	Proxy	2.5	..	..	..
	Percentage of enterprises with at least 3 persons employed acquiring voluntary environmental certification of product or process (Istat, 2016/2018, percentage values)	National context	8.2	..	..	..
	Public Institutions that adopt forms of social and/or environmental reporting (Istat, 2021/2022, percentage values)	Proxy	14.5	..	..	..
	Number of organisations/enterprises with EMAS registration (ISPRA, 2022, N.)	National context	1,077	..	..	..
	Number of local units with UNI EN ISO 14001 Environmental management system Certification (Istat, processing of data from Accredia, 2022, N.)	National context	29,130	..	..	..
	Number of local units with UNI CEI EN ISO 50001 Energy management system Certification (Istat, processing of data from Accredia, 2022, N.)	National context	2,398	..	..	..
	Enterprises that have introduced innovation with positive impact on environment (Istat, 2020, percentage values)	National context	37.0	..	..	..

Table 12.1 continued - **Statistical measures released by Istat, taxonomy compared to SDGs indicators, variations compared to the previous year and to 10 years before and convergence among regions**

Ref. SDG	INDICATOR	Compared to SDG indicator	Value	VARIATIONS		CONVERGENCE AMONG REGIONS compared to 10 years before
				Compared to the previous year	Compared to 10 years before	
12.7.1	Degree of sustainable public procurement policies and action plan implementation					
Public institutions that purchase goods and/or services by adopting minimum environmental criteria (CAM), in at least one purchase procedure (Green purchases or Green Public Procurement) (Istat, 2022, percentage values)		National context	51.7	--	--	--
12.a.1	Installed renewable energy generating capacity in developing countries (in Watts per capita)					
Net installed renewable energy generating capacity (Istat, processing of data from International Renewable Energy Agency and Istat, 2023, Watt per capite)		Identical	1,104.4			--
Total net official development assistance (ODA) gross deliveries for research in the different areas of intervention (Ministry of Foreign Affairs and International Cooperation, 2023, million euro, current prices)		National context	5.6			--
12.b.1	Implementation of standard accounting tools to monitor the economic and environmental aspects of tourism sustainability					
Implementation of standard accounting tools to monitor the economic and environmental aspects of tourism sustainability (Istat, 2021, N.)		Identical	(*)	--	--	--
Impact of tourism on waste (ISPRA, 2022, kg per equivalent inhabitant)		National context	9.3			=
Tourism intensity index (ISPRA, 2022, per 1,000 inhabitants)		National context	6,980	--	--	--
Nights spent in open air establishments, farmhouses and mountain refuges on nights spent in all the accommodation establishments (Istat, 2022, percentage values)		National context	20.3			⇐⇒
Tourism trips in Italy by type of trip and main means of transport (Istat, 2023, percentage values)		National context	(*)	--	--	--
12.c.1	Amount of fossil-fuel subsidies (production and consumption) per unit of GDP					
Fossil-fuel subsidies as a percentage of GDP (Ministry of the Economy and Finance, 2022, percentage values)		Identical	0.81		(a)	--

Legend

	IMPROVEMENT	⇒⇐	CONVERGENCE
	STABILITY	=	STABILITY
	DETERIORATION	⇐⇒	DIVERGENCE
--	NOT AVAILABLE / NOT SIGNIFICANT		

Notes

(a) Variation compared to 2016
(*) Refer to the table on www.istat.it

GOAL 13

TAKE URGENT ACTION TO COMBAT CLIMATE CHANGE AND ITS IMPACTS[1]

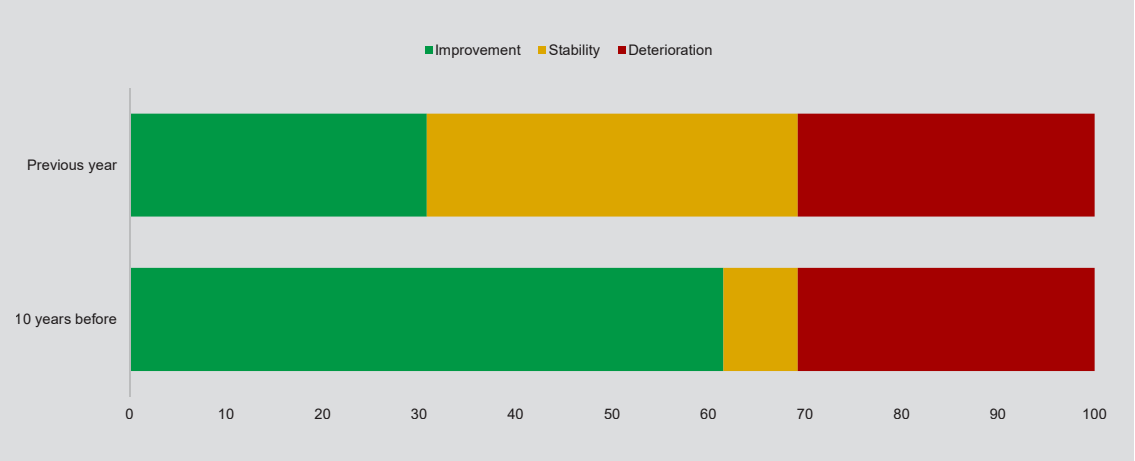
In brief

- The advantage achieved in 2020 in reducing GHG emissions as a result of the restrictive measures for the pandemic emergency was eroded in 2021 in Italy and Europe. In 2022, Europe's emissions fell again, confirming the downward trend measured since 1990.
- The emissions of the Italian economy in 2022 were broadly stable compared to the previous year (+0.1%), but this was the result of opposite dynamics for households (-1.3%) and productive activities (+0.7%).
- The trend in temperature anomalies compared to normal climatological increased in 2022, at global level (+0.49°C) and in Italy (1.23°C).
- In many Italian regions, the risk of floods (11.5%) and landslides (2.2%), also a consequence of climate change, was high in 2020.
- In 2022 the area covered by fire (2.4 per 1,000 km^2) was again within the average value of the last ten years, following the peak in 2021 (5.0 per 1,000 km^2).
- For 70.8% of people, concern about climate change and greenhouse effect was among the top five environmental concerns in 2023; in growth after the decline in 2021.

1 This section was edited by Giovanna Tagliacozzo with contributions by Tiziana Baldoni, Elisabetta Del Bufalo, Renato Magistro and Silvia Zannoni.

The statistical measures released by Istat for Goal 13 are twenty-one and refer to three UN-IAEG-SDGs indicators (Table 13.1). When comparing the last available year to the previous year, the measures with positive variation referred to forest fires and emissions of air pollutants such as $PM_{2.5}$, Sox and Nox. Total greenhouse gas emissions (according to the national emissions inventory UNFCCC and according to the national accounts) and COVNM emissions of air pollutants remained stable. The share of the population exposed to the risk of landslides and that residing in landslide risk areas per km² remained unchanged, while measures on floods showed a negative change. Emissions of CO_2 and of other climate-altering gases per inhabitant, and emissions of atmospheric pollutant NH_3 were negative. When comparing over a ten-year period, improvements are more frequent (Figure 13.1).

Figure 13.1 - Time evolution of statistical measures released by Istat: last available year compared to the previous year and to 10 years before



In 2022, greenhouse gas emissions stabilised at values that still remained lower than pre-pandemic ones

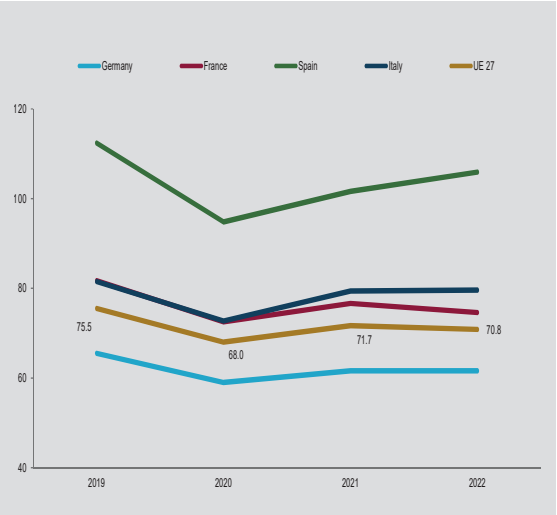
In 2022, Europe's greenhouse gas emissions were 3.5 billion tonnes of CO_2 equivalent[2], 29.2% less than in 1990[3]. The sharp reduction observed between 2019 and 2020, because of measures to mitigate *COVID-19* (emissions fell to 68.0% of the 1990 value), was followed by a recovery in 2021 (71.7), although without reaching pre-pandemic levels, as confirmed by the 2022 index, which stabilised at 70.8 (Figure 13.2). The same trend occurred in France. In Germany, stability was recorded in the last year (2022), while in Italy the index dropped from 81.5 in 2019 to 72.7 in 2020 but rose in both 2021 (79.4) and 2022 (79.6). Spain showed a similar trend, with emissions levels that once again exceeded the 1990 baseline (Figure 13.2).

2 Measure used for monitoring Goal 13 in Europe (https://ec.europa.eu/eurostat/web/sdi/database/climate-action). The greenhouse gas emissions used for this purpose exclude Land Use, Land Use Change and Forestry (LULUCF) and international shipping and include international aviation.

3 Baseline year for monitoring of the objectives established by international agreements.

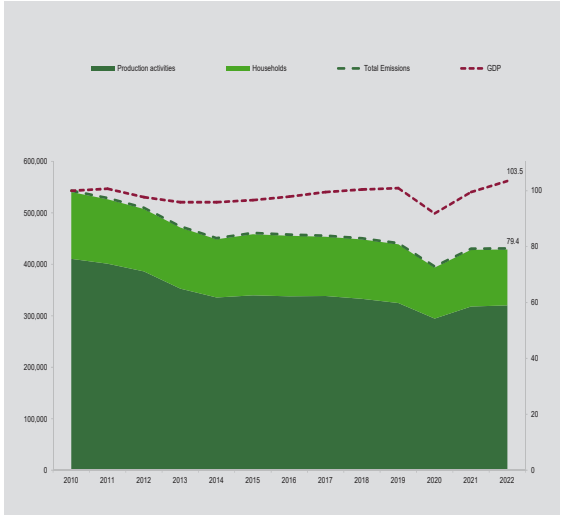
In 2022, greenhouse gas emissions from Italian resident units (production units and households) were 429 million tonnes of CO_2 equivalent[4]. Compared to 2019, a reduction in greenhouse gas emissions of 2.3% was observed. Production activities, responsible for three-quarters of emissions (320 million tonnes), decreased by 1.5% compared to 2019. Households, which generated the remaining quarter (109 million tonnes), showed a greater contraction, of -4.50%, between 2019 and 2022.

Figure 13.2 - Greenhouse gas emissions (a) **CO_2 equivalent, by country. Years 2019-2022** (fixed base index numbers, 1990=100)



Source: Eurostat
(a) Excluding LULUCF, including international aviation.

Figure 13.3 - Total greenhouse gases (GHG) according to national air emissions accounts, by industry and households, and Greenhouse gas emissions and GDP. Years 2019-2022 (a) (thousand tonnes CO_2 equivalent, fixed base index numbers 2010=100)



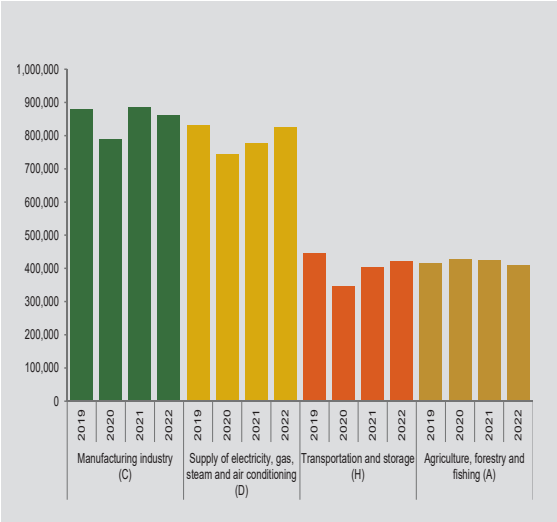
Source: Istat, Air emissions accounts
(a) 2022 data are provisional.

Four sectors - manufacturing, transportation, electricity supply activities, agriculture, forestry and fishing - were responsible for approximately 80% of the emissions generated by production activities (Figure 13.4). In 2022 emissions increased in the electricity production and transportation sectors. In the first case, the rise was mainly driven by changes in in the energy mix used for the electricity production induced by the energy crisis, with the replacement of natural gas with fossil fuels with a higher carbon content (see Goal 7). The recovery of air and land traffic along with a return to normal mobility patterns contributed to the increase in the transportation sector emissions. Other production activities recorded negative changes in 2022 compared to the previous year.

4 Data from Istat's atmospheric emissions accounts are consistent with the principles and standards of national economic accounts and refer to resident units. In Italy, however, in 2022 greenhouse gas emissions amounted to 418,325 thousand tonnes of CO_2 equivalent according to the national emissions inventory produced by ISPRA and consistent with the communication for Italy within the framework of the United Nations Framework Convention on Climate Change (UNFCCC). This measure, which excludes "Land Use, Land Use Change and Forestry" (LULUCF), navigation and international aviation, responds to the territorial principle. The difference between the two measures stems from the balance between the emissions of resident units operating abroad for road, air and maritime transport activities (which are included in the calculation of Italy's GDP even when they take place abroad) and the emissions of non-resident units operating on the national territory for the same activities (which are instead excluded).

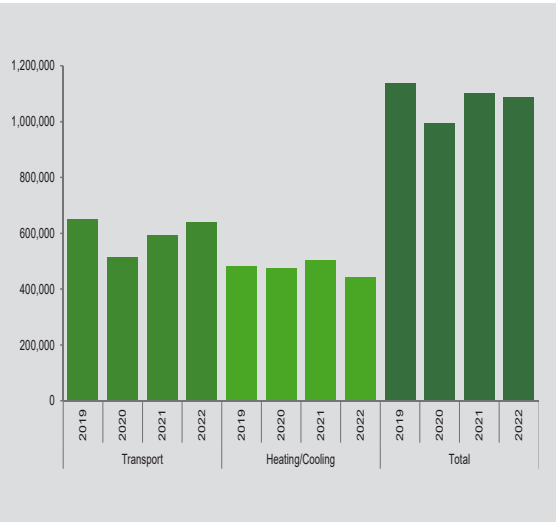
Household overall emissions decreased by 1.3% in 2022 compared to the previous year (Figure 13.4). The transport and heating components contributed differently and mainly reflected the effects of resumed travel and the mild temperatures during part of 2022.

Figure 13.4a - Total greenhouse gases (GHG) generated by production activities, by industry (a)**. Years 2019-2022** (thousands of tonnes of CO_2 equivalent)



Source: Istat, Air emissions accounts
(a) 2022 data are provisional.

Figure 13.4b - Total greenhouse gases (GHG) generated by households, by use (a)**. Years 2019-2022** (thousands of tonnes of CO_2 equivalent)

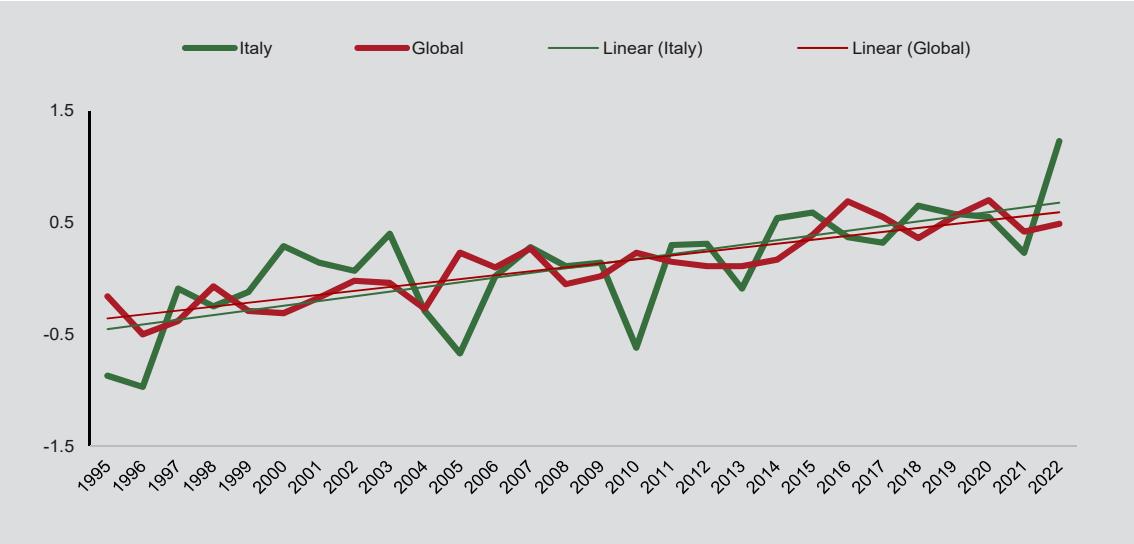


Source: Istat, Air emissions accounts
(a) 2022 data are provisional.

In Italy temperatures increased above the global average

Temperature increases occur with varying intensities depending on the geographic and climatic zones. Italy and the entire Mediterranean basin are considered climate change hotspot areas, as they are most affected in terms of effects and impacts. Average temperature anomalies in 2022 showed a global increase of 0.43°C, while in Italy the increase was of 1.23°C compared to 1991-2020, the basic reference period (climatological normal). Time series documents this growth trend at both global and national level (Figure 13.5).

Figure 13.5 - Global average temperature anomalies on land and in Italy, compared to normal climatological values 1991-2020. Years 1995-2022 (Degree Celsius)



Source: ISPRA

A significant share of the population lived in high risk areas for landslides and floods

In 2020 in Italy, 11.5% of the population lived in medium flood hazard zones and 2.2% in areas with "high or very high" landslide hazard. Flood risks affected more than half of the population of Emilia-Romagna (62.5%). In 2020, flood risk was higher on average than in previous measurements in 2017 (10.4%) and 2015 (10.0%). Landslide risk remained stable across these three years. Valle d'Aosta/*Vallée d'Aoste* (12.1%) had the largest share of population exposed to the risk of landslides. In 2022, there were 25 deaths and missing people due to floods and 14 due to landslides. People injured were, respectively, 56 and 27; higher than in previous years.

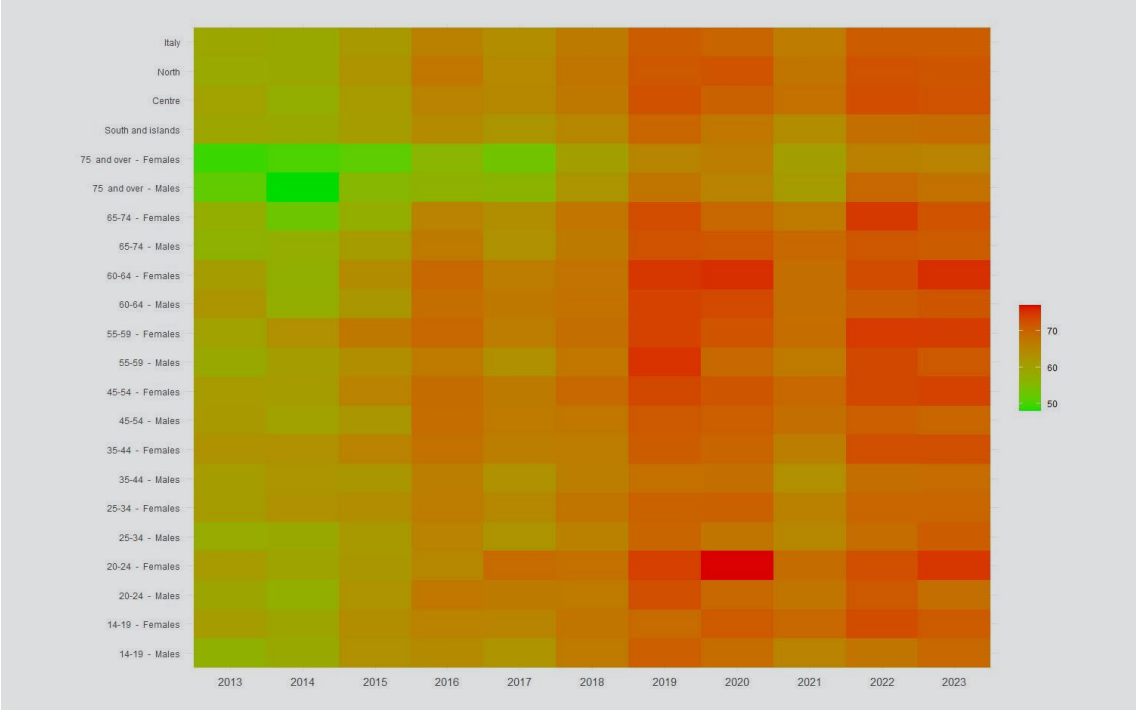
The impacts of forest fires in 2022 returned to the ten-year average

In 2022, there were 6,529 fires. The burnt forest area (2.4 per 1,000 km^2) returned to the ten-year average, following peaks of 2021 (5.0 per 1,000 km^2) and 2017 (5.4). The most severe impacts in 2022 were recorded in Sicilia (9.8), Calabria (4.3) and Sardegna (4.0).

Now the pandemic crisis has passed, concern about climate change and the greenhouse effect is growing

In 2023, for 70.8% of people aged 14 and over, climate change and the greenhouse effect are among the top five environmental concerns. After a decline in 2021 (66.5%), in the last two years the indicator returned to pre-pandemic levels (71.0% in 2019 and in 2022). Over time, this concern has gradually increased, although to a lesser extent among men and older age groups (Figure 13.6).

Figure 13.6 - Concern for climate change and greenhouse effect (a)**, by geographical area, age class and gender. Years 2013-2023** (percentage values)

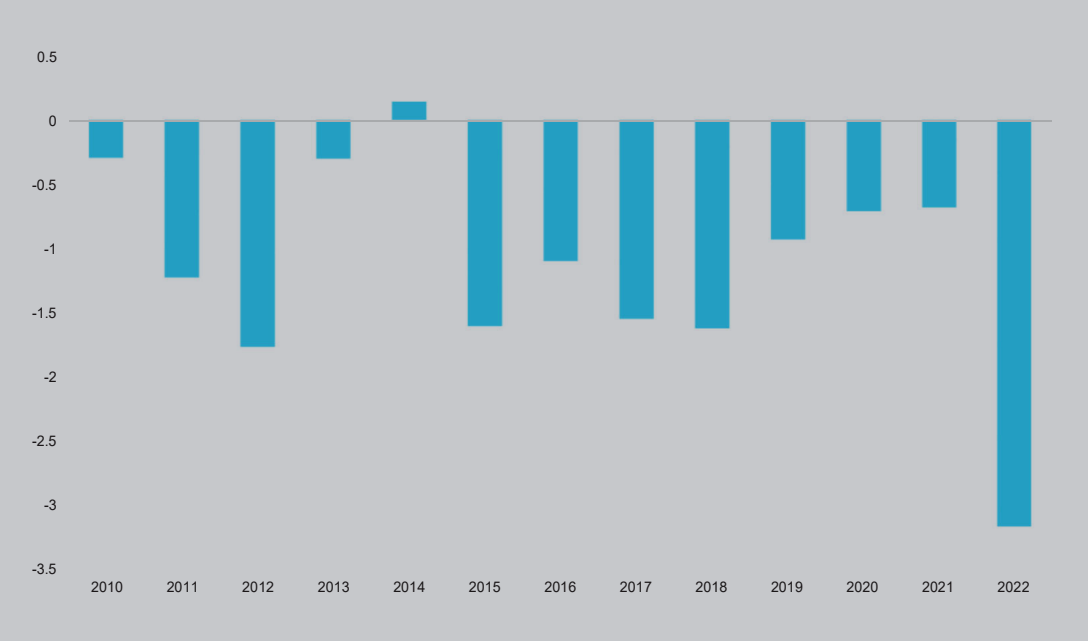


Source: Istat, Survey on Aspects of daily life
(a) Percentage of people aged 14 and over who believe that climate change, greenhouse effect and the ozone hole are among the five most important environmental problems.

The state of Alpine glaciers and its impacts[1]

The analysis of climate changes in the recent past and of future projections under different scenarios are crucial to define both adaptation and mitigation policies. The presence of solid water (ice and snow) in our territory is of particular importance. The Italian side of the Alpi is largely suffering, especially with regard to glacier extensions and snow stored in our mountains during the cold six-month period. The trend of the mass balance of Italian glaciers, the possible variations in area and volume of Alpine glaciers and the variation in seasonal snow cover in the Po basin are three relevant indicators to provide a picture of the present and future situation, and the related impacts on water resources and on other activities.
Many Italian glaciers have recorded negative mass balances since the end of the eighties. A negative balance occurs when summer losses (snow and ice melt) are greater than winter accumulations (seasonal snow). The cause of this trend, and the consequent reduction in area and volume, is that our glaciers are not in equilibrium with the average temperature of the Alpi, but they are still responding slowly to the warming of recent decades. Recently we have observed a worsening of the reduction trend. In 2022, glaciers across the entire Alpine range recorded a sharp decline. The mass balance on the Italian side decreased by over 200%, with average losses of around 3 metres of water equivalent compared to the average loss of 0.9 metres in the decade 2010-2021[2] (Figure 1).

Figure 1 - Average mass balance of Italian glaciers (a)**. Years 2010-2022** (metres of water equivalent)

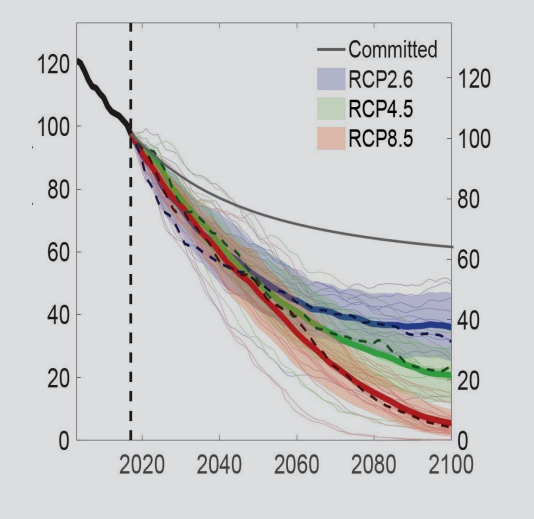


Source: CNR, processing of data from World Glacier Monitoring Service - WGMS
(a) Calculated on 13 Alpine and one Apennine glacier bodies.

1 This section was edited by Antonello Pasini, Fabrizio de Blasi, Jacopo Gabrieli (National Research Council), with contributions by Giovanna Tagliacozzo.
2 World Glacier Monitoring Service - WGMS.2024. Fluctuations of Glaciers Database. Zurich, Switzerland. https://doi.org/10.5904/wgms-fog-2024-01.

Recent studies on future scenarios of Alpine glacial bodies have shown that by 2100, even if the average temperature remained constant, they would lose approximately 30% of the surface and volume of 2017. This is a "committed" and inevitable loss, to which we must adapt (Figure 2). However, we must absolutely avoid reaching decidedly worse climate scenarios. For example, in the so-called "business as usual", scenario without countermeasures, our glaciers would lose over approximately 90% of their surface and volume. It is therefore necessary to adapt to a loss that appears inevitable, but it is crucial at the same time to mitigate the situation to avoid scenarios to which it would be very difficult to adapt.

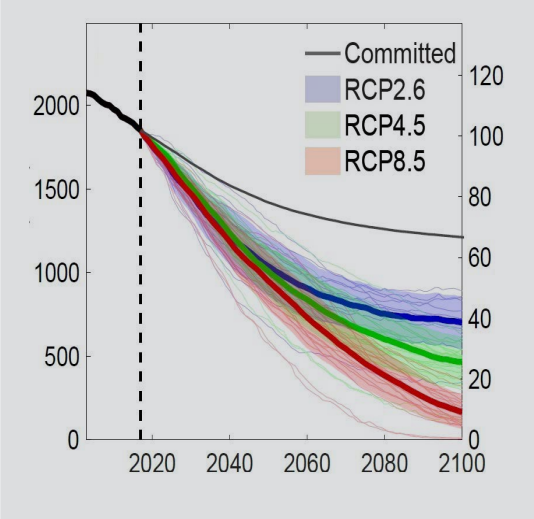
Figure 2a - Trends (observed and predicted) in Alpine glacier volume (a)**. Years 2000-2100** (km^3 and volume fraction compared to 2017 in percentage values)



Source: Zekollari *et al.* 2019. *Modelling the future evolution of glaciers in the European Alps under the EURO-CORDEX RCM ensemble.* https://tc.copernicus.org/articles/13/1125/2019/

(a) Projections with respect to future climate scenarios proposed by the Intergovernmental Panel on Climate Change (IPCC) in 2014. The red curve represents the "business as usual" scenario.

Figure 2b - Trends (observed and projected) in the area of Alpine glaciers (a)**. Years 2000-2100** (km^2 and area fraction compared to 2017 in percentage values)



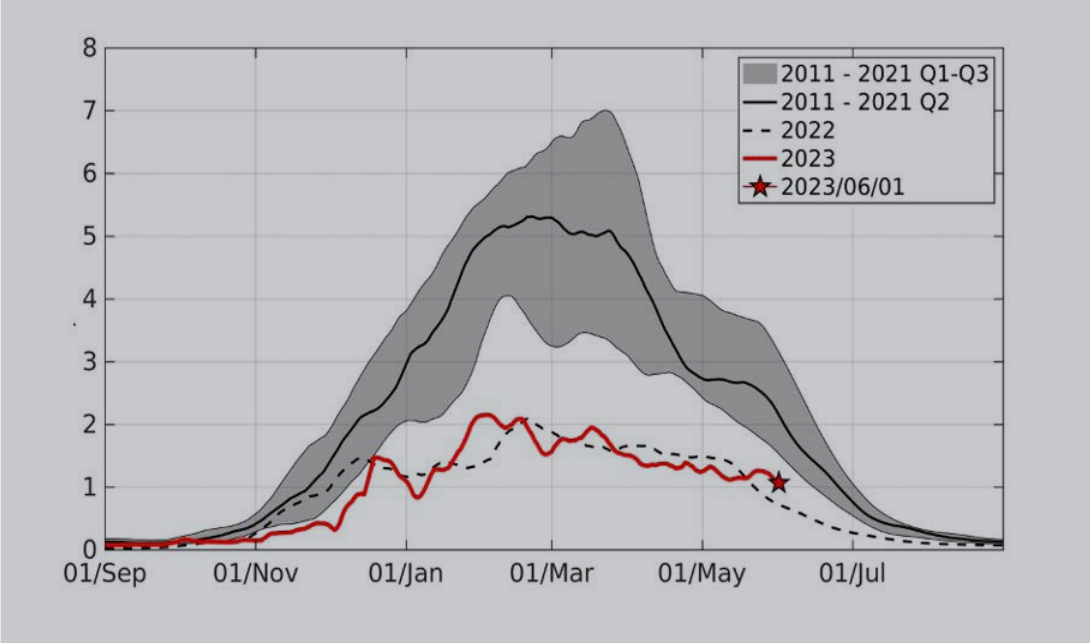
Source: Zekollari *et al.* 2019. *Modelling the future evolution of glaciers in the European Alps under the EURO-CORDEX RCM ensemble.* https://tc.copernicus.org/articles/13/1125/2019/

(a) Projections with respect to future climate scenarios proposed by the Intergovernmental Panel on Climate Change (IPCC) in 2014. The red curve represents the "business as usual" scenario.

The increase in annual temperatures determines a larger fraction of liquid precipitation (rain) rather than solid precipitation (snow) even during typically winter periods, with a consequent decrease in seasonal snow drifts in March and April. The Snow Water Equivalent (SWE; Figure 3) provides a measure of the snow stored in the mountains. In both 2023 and 2022, the snow stored in the mountains from which the rivers that flow into the Fiume Po originate, significantly differed from the average of the previous decade. This means fewer water resources for Pianura Padana, which in fact has suffered from two particularly dry years.

In conclusion, the loss of solid water in our mountains must be carefully monitored and predicted due to its important impact on water resources for numerous activities such as agriculture and winter tourism. Only accurate knowledge can allow implementing the necessary adaptation and mitigation actions.

Figure 3 - Snow Water Equivalent (SWE) for the Fiume Po Basin. Years 2011-2023 (SWE billion m^3)



Source: CIMA, Research Foundation (2023)

Table 13.1 - Statistical measures released by Istat, taxonomy compared to SDGs indicators, variations compared to the previous year and to 10 years before and convergence among regions

Ref. SDG	INDICATOR	Compared to SDG indicator	Value	VARIATIONS		CONVERGENCE AMONG REGIONS Compared to 10 years before
				Compared to the previous year	Compared to 10 years before	
13.1.1	Number of deaths, missing persons and directly affected persons attributed to disasters per 100,000 population					
	Population at risk of flood (ISPRA, 2020, percentage values)	National context	11.5	(a)	(b)	⇒⇐
	Population at risk of landslide (ISPRA, 2020, percentage values)	National context	2.2	(a)	(b)	⇒⇐
	Resident population in flood risk areas per km^2 (ISPRA, 2020, inhabitants per km^2)	National context	22.57	(a)	(b)	⇒⇐
	Resident population in landslide risk areas per km^2 (ISPRA, 2020, inhabitants per km^2)	National context	4.32	(a)	(b)	⇒⇐
	Number of deaths and missing persons due to floods (ISPRA, 2022 N.)	Partial	25	--	--	--
	Number of deaths and missing persons due to landslides (ISPRA, 2022, N.)	Partial	14	--	--	--
	Number of people injured by floods/flooding (ISPRA, 2022, N.)	Partial	56	--	--	--
	Number of people injured by landslides (ISPRA, 2022, N.)	Partial	27	--	--	--
	Global average temperature anomalies on land and in Italy, compared to normal climatological values 1991-2020 (ISPRA, 2022, degree Celsius)	National context	0.49 Global 1.23 Italy	--	--	--
	Impact of forest fires (Processing of data from Command of Forestry Corps, 2022, per 1.000 km^2)	National context	2.4			⇒⇐
	Number of the seismic movements (>= 4.0) by magnitude class (National Institute of Geophysics and Volcanology (Ingv), National Earthquake Centre, 2022, N.)	National context	19	--	--	--
13.2.2	Total greenhouse gas emissions per year					
	Greenhouse gas emissions (GHG) inventory totals (UNFCCC) (ISPRA, 2022, tonne CO_2 equivalent)	Identical	418,325,004			--
	Balance between the emissions caused by transport activities carried out by residents in the Rest of the World (+) and in Italy by non-residents (-) (Istat, 2022, tonne CO_2 equivalent)	Identical	10,589,818	--	--	--
	Total greenhouse gases according to national air emission accounts (Istat, 2022, tonne CO_2 equivalent)	Identical	428,914,822			--
	Emissions of CO_2 and other greenhouse gasses (Istat-ISPRA, 2022, tonne per inhabitant)	National context	7.3			--
	National $PM_{2.5}$ emissions (ISPRA, 2022, thousand tonnes)	National context	144.2			--
	National SOx emissions (ISPRA, 2022, thousand tonnes)	National context	88.1			--
	National NOx emissions (ISPRA, 2022, thousand tonnes)	National context	620.1			--
	National NH_3 emissions (ISPRA, 2022, thousand tonnes)	National context	350.8			--
	National COVNM emissions (ISPRA, 2022, thousand tonnes)	National context	823.0			--
13.3.1	Extent to which (i) global citizenship education and (ii) education for sustainable development are integrated into (a) national education policies, (b) curricula, (c) teacher training and (d) student assessment					
	Concern for climate change and greenhouse effect (Istat, 2023, percentage values)	Proxy	70.8	--	--	⇒⇐

Legend

- IMPROVEMENT
- STABILITY
- DETERIORATION
- -- NOT AVAILABLE / NOT SIGNIFICANT
- ⇒⇐ CONVERGENCE
- = STABILITY
- ⇐⇒ DIVERGENCE

Notes

(a) Variation compared to 2017
(b) Variation compared to 2015

GOAL 14

CONSERVE AND SUSTAINABLY USE THE OCEANS, SEAS AND MARINE RESOURCES FOR SUSTAINABLE DEVELOPMENT[1]

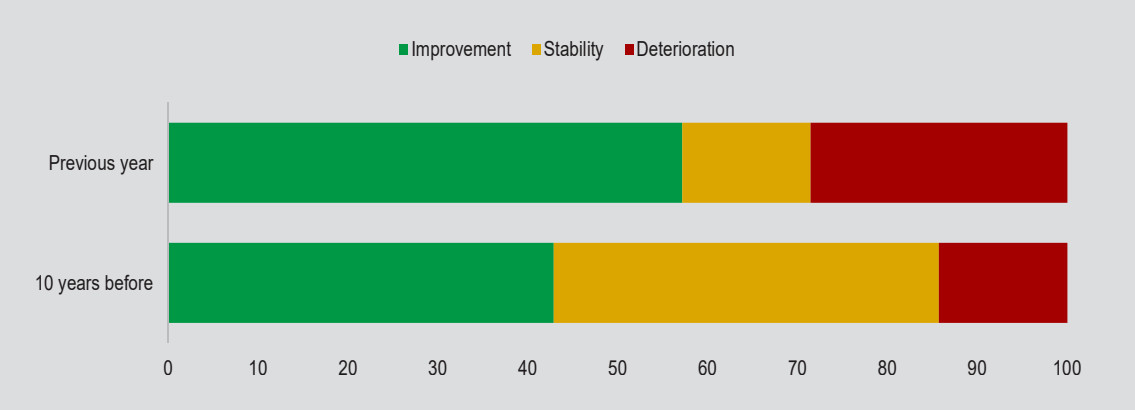
In brief

- In 2022, the beached marine litter increased to 303 per 100 metres of beach (in 2021 it was 273); it is still far from the EU target (20 litter per 100 metres).
- In 2021, 11.2% of total marine areas was protected, in line with 2020 SDGs 14.5 target, but still far from the 2030 EU Strategy.
- The fish stock in over exploitation decreased in 2021 (73.7%, -8.9 p.p. compared to 2020), but remained above sustainable levels.
- In 2022, bathing waters with excellent quality were 97.9%, on the rise and in line with the EU Bathing Directive minimum standards.

1 This section was edited by Antonino Laganà with contributions by Tiziana Baldoni.

The statistical measures released by Istat for Goal 14 are seven and refer to three UN-IAEG-SDGs indicators (Table 14.1). When comparing the last available year to the previous year, just over half of the statistical measures improved (over-exploited fish stocks, bathing waters with excellent quality and marine areas of the Natura 2000 network), while the measurement of beached marine waste worsened. When comparing over a ten-year period, the situation is similar but the share of over-exploited fish stocks worsened, while the number of beached marine waste decreased (Figure 14.1).

Figure 14.1 - Time evolution of statistical measures released by Istat: last available year compared to the previous year and to 10 years before



Beached marine waste increased, after a decline since 2015

In Italy in 2022, 303 pieces of beached waste every 100 metres were recorded, an increasing number compared to the previous year (273). This is a density that is much higher than the threshold established by the European Commission (20/100 m) for the achievement of Good Environmental Status (GES)[2] as outlined in the European Marine Strategy (MSFD - Marine Strategy Framework Directive)[3].

Although, the available time series is insufficient for a long-term analysis, between 2015 and 2022, a gradual decrease was observed in total marine waste found along Italian beaches (Figure 14.2), from 518 in 2015 to 413 in 2019 and 303 in 2022. However, there was a reversal in the last year (+30 waste/100 m). Along the Italian coasts, a third of beached marine waste is represented by single-use plastic objects; the decreasing trend since 2015 in this type of waste indicates that the plastic reduction measures launched starting from 2018[4] are beginning to take effect. Discontinuous trends over time are observed in the marine sub-region of Mar Adriatico (from 577 waste/100 m in 2015 to 376 in 2022) and the western Mar Mediterraneo (from 533 to 266). A more constant decrease for the years from 2015 to 2021 is

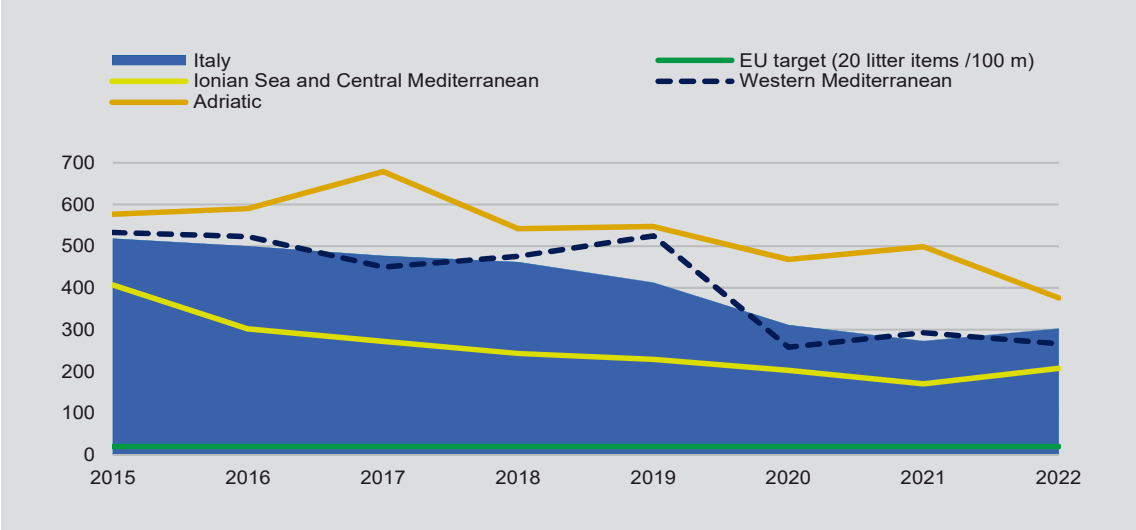
2 The "Good Environmental Status" goal intends to preserve the ecological diversity, vitality of the seas and oceans so that they are clean, healthy and productive, by preserving the marine environment at a sustainable level for present and future generations.

3 See: *Marine Strategy Framework Directive*, Directive 2008/56/EC: https://www.mase.gov.it/pagina/la-direttiva-europea-sulla-strategia-marina, transposed in Italy by Legislative Decree n. 190/2010.

4 In 2018, was banned the use of plastic bags in supermarkets (Law 123/2017), in 2019, the sale of plastic cotton buds (Budget Law 2017), and in 2021, finally, a reduction in mono use plastics was established (EU Directive 2019/904).

observed in the sub-regions of Mar Ionio and Mediterraneo Centrale (from 407 to 170) which however in 2022, represented the only sub-region with an increase (+37 waste/100 m).

Figure 14.2 - Beached marine litter, by marine sub-region. Years 2015-2022 (number per 100 metres of beach)



Source: ISPRA

11.2% of marine areas were protected

The protection of natural areas is central in the European Commission's Biodiversity Strategy (SEB 2030), implemented at national level through the 2030 Biodiversity Strategy (SNB 2030), aimed at mitigating climate change. The EU Strategy calls for an expansion of existing protected areas and a restoration of degraded ecosystems by 2030[5], in order to protect 30% of land and sea surfaces.

In 2021 marine protected areas[6] covered 39,201 km^2, equal to 11.2% of the marine surface area under Italian jurisdiction (which includes territorial waters and Ecological Protection Zones). In 2016 they were 10.3% (36,173 km^2). The level reached by Italy ensures a good coverage, in line with the SDGs 14.5 target of the for 2020, but still far from the 30% set by the SEB for 2030.

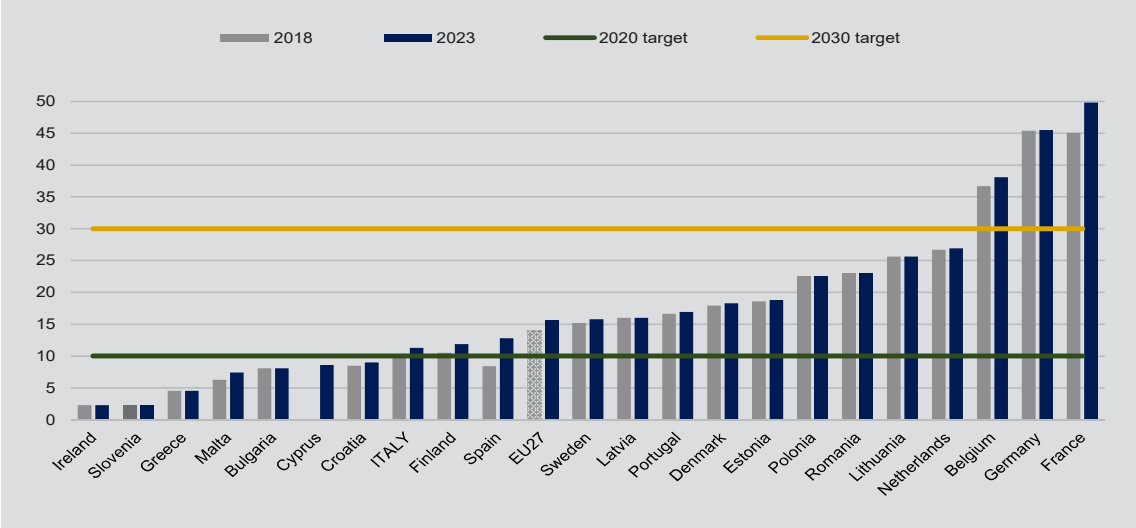
At European level, France, Belgium and Germany have largely exceeded the EU target for the state of conservation and restoration of marine areas; the Netherlands and Lithuania follow closely, with 26.9% and 25.6% respectively (Figure 14.3). All the other countries[7] will have to intensify their efforts to meet the new commitments outlined in the new EU Strategy and in the new global Montreal pact, the "Global Biodiversity Framework".

5 Degraded areas include wetlands, forests, marine ecosystems, agroecosystems, rivers, lakes, alluvial habitats and urban ecosystems.

6 The marine protected areas may present overlaps. In these cases, the union of the areas is considered.

7 The data of the World Database on Protected Areas were used to verify the achievement of SDGs target 14.5 and SEB 2030 by the 21 EU countries bordering the sea. The data for Italy, relating to the year 2021 and sourced from ISPRA, are the latest available.

Figure 14.3 - Marine protected areas, by country. Years 2018 and 2023 (percentage values)



Source: WDPA and ISPRA

The sustainability of fishing has improved

In 2022, the decline in the Italian fishing fleet continued (from 11,864 to 11,780 boats), part of a broader decrease since 2008 (-11.9%, representing a total of 1,589 boats). The reduction is due to the new strict measures introduced by the Common Fisheries Policy (CFP), which encourages the exit of fishing vessels from fleets with specific measures of permanent cessation, to ensure a sustainable balance between fleet capacity and fishing opportunities.

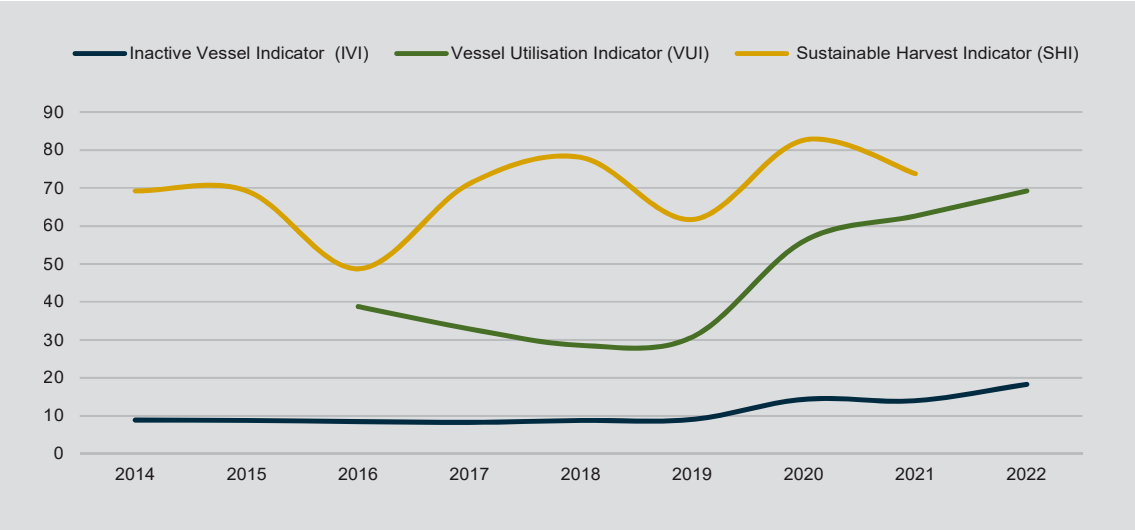
The SHI (Sustainable Harvest Indicator) index, adopted in the community guidelines, is used to measures the fleet imbalance[8] and assess overcapacity in fishing fleets and the number of vessels to be permanently retired. In 2021, 73.7% of the fleet caused the overexploitation of fish stocks (with 45 fleet segments imbalanced out of 61). The SHI index has improved (-8.9 percentage points) compared to 2020, when 38 out of 46 fleet segments were imbalanced. Between 2014 and 2021, fish stocks remained overexploited, with quotas exceeding sustainable yearly limits: from 69.2% in 2014 to 82.6% in 2020 (the maximum value), to decrease in 2021 at 73.7%.

To evaluate the intensity of use of the boats, two different indicators were used among the possible balance measures, proposed in the community guidelines[9]: the percentage of inactive ships compared to the total fleet (Inactive Vessel Indicator IVI) and the level of use of fishing vessels (Vessel Utilisation Indicator - VUI). The inactivity indicator rose from 8.9% in 2014 to 18.3% (1/5 of the total vessels) in 2022, while that relating to the underutilisation of vessels almost doubled increasing from 38.8% to 69.2% (Figure 14.4).

8 SHI, calculated as the ratio between current fishing mortality (F_C) and maximum sustainable mortality (F_{MSY}), is defined as imbalanced if higher than 1 and with a threshold higher than 0.4 for at least two out of the three years in the period 2019-2021.

9 Guidelines for analysis of the balance between fishing capacity and fishing possibilities pursuant to art.22, of the Regulation of the European Parliament and of the Council on the common fisheries policy (1380/2013).

Figure 14.4 - Fishing sustainability indicators. Years 2014-2022 (percentage values)



Source: Masaf

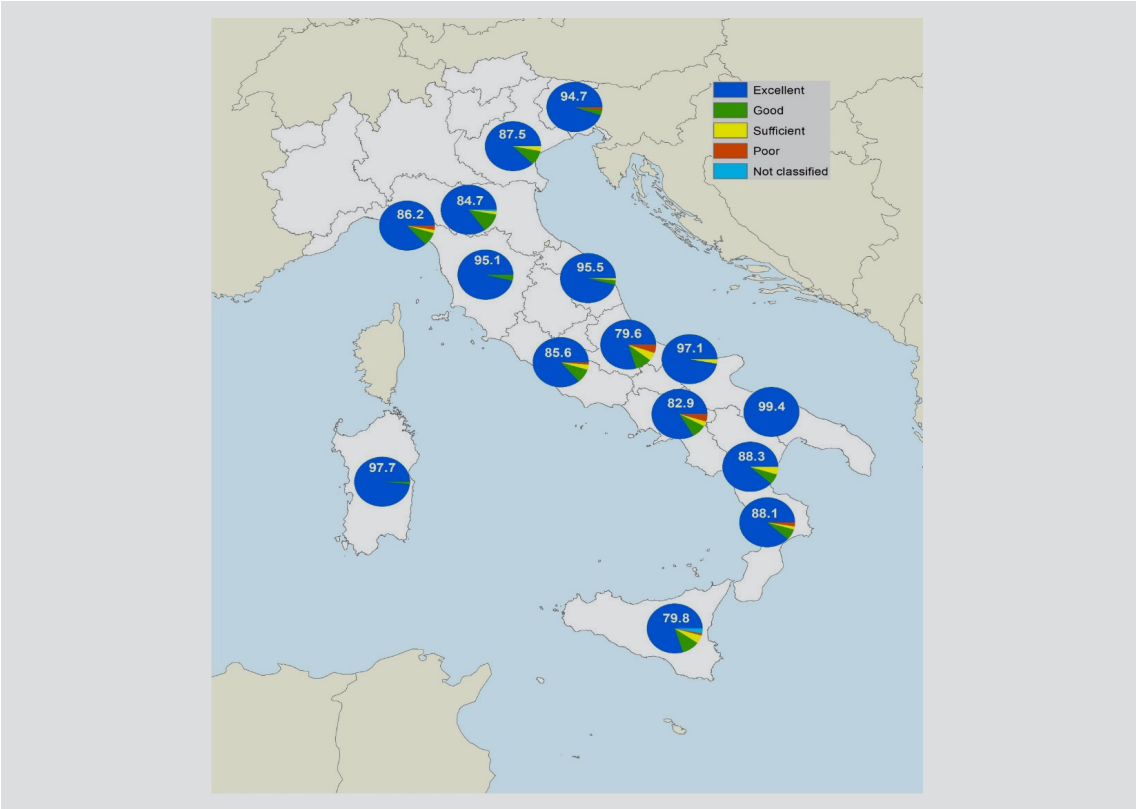
The share of marine waters with excellent quality has grown

33.4% of the bathing waters of the EU27 (12,912 sites in total) are in Italy. In 2022, on 4,854 marine-coastal waters monitored in Italy, 4,358 (89.8%) were classified as excellent bathing water (+1.7 percentage points compared to 2021), 285 were rated as good (5.9%, -0.7 p.p.), 108 sufficient (2.2%, -0.6 p.p.), 69 poor (1.4%, -0.5 p.p.) and 34 recorded an insufficient sampling (0.7%, +0.04 p.p.). Puglia, with 99.4%, stood out for the incidence of waters classified as excellent (Figure 14.5), followed by Sardegna (97.7%), while Abruzzo had the lowest share (79.6%), though it improved compared to 2021 (+7.0 p.p.). All regions contributed to the increase in excellent waters in the last year, with the exception of Emilia-Romagna[10] (from 93.8% to 84.7%) and Toscana (-0.8 p.p.). In 2022, 97.9% of Italian bathing sites (4,751) were classified as at least sufficient, nearly meeting the minimum standards set by the EU Bathing Directive[11].

10 The reduction is associated with various factors, such as severe drought, increase in sea temperatures, storm surges and poor ventilation, which have contributed to the increase in a number of microbiological parameters beyond the threshold established by law.

11 The Bathing Directive establishes that all bathing water should be classified as at least sufficient and that each water should improve its quality status or should maintain it, where it is already excellent.

Figure 14.5 - Marine-costal water, by water quality status. Year 2022 (percentage values)



Source: EEA

Macro-waste floating in rivers near the sea[1]

With the aim of increasing knowledge on the origin and way by which macro-waste ends up floating in the sea[2], the Italian pilot project for monitoring of the Marine Strategy Framework Directive involved monitoring 12 rivers[3] flowing in the three marine sub-regions identified by the Directive (Mar Mediterraneo Occidentale, Mar Adriatico, Mar Ionio and Mediterraneo Centrale). During the preliminary phase, two activities were performed in parallel: visual monitoring of macro-waste and, on a subset of the rivers, tracing waste pathways before reaching the sea. The two activities, distinct but complementary, allowed to acquire information on the quantity, size, type of material and category of use of floating macro-waste (visual census, created by bridges on the basis of the RIMMEL protocol), as well as the dynamics of transport and accumulation of waste along waterways. The monitoring was performed by ISPRA, in collaboration with the Sustainable Development Foundation and Nauta Scientific, with funds from the Ministry of the Environment and Energy Security (MASE).

Nationally, the majority of identified objects were made of plastic or of other artificial polymers (84.6%) and 35.2% were single-use plastic objects. The other most frequent types, with significantly lower values, were paper (4.6%) and metal (2.1%) objects. Due to the general small size of the waste observed, caused by the fragmentation processes determined by the long times spent in the riverbeds, approximately 65% of the waste intercepted could not be assigned to a specific use category. Among the recognisable types, containers for food consumption were the predominant category (19.4%).

The data collected through tracking suggest that the movement of floating macro-waste along rivers occured over relatively short distances, even in conjunction with flow rates that are significantly higher than average. Many devices were blocked for extended periods by vegetation and moved again, but for short distances, by sudden changes in water levels induced by natural factors or by artificial hydraulic barriers. In the 2022/2023 monitoring Sarno and Tevere (data from the Fiumicino canal) transported the highest amount of objects before reaching the sea, respectively, 65.9 and 62.4 macro-floating pieces of waste larger than 2.5 cm every hour. Those with the least scattered waste are Agri and Neto, with less than one object sighted per hour (Table 1).

Preliminary data from river mouths indicate that the majority of floating objects were made of artificial polymers, belonging to the "food consumption" and "personal hygiene" sectors. The results in the pilot study at the mouth of the Fiume Tevere, for the eight years considered, show a general increasing trend, although the last three years have seen a slight decrease as was predictable, with minimum values recorded in 2020 (Figure 2).

1 This section was edited by Roberto Crosti, Elena Santini, Antonella Arcangeli (ISPRA) with contributions by Antonino Laganà.

2 The operational agreement between the Ministry of the Environment and Energy Security and ISPRA for the monitoring of the Framework Directive on Marine Strategy takes into consideration floating macro-waste with dimensions greater than 2.5 cm, in rivers in stations close to the sea.

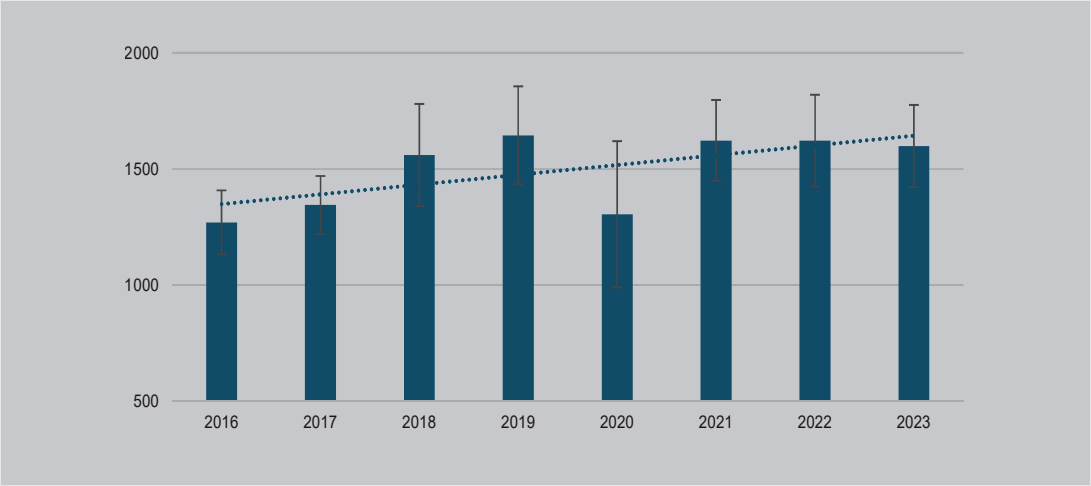
3 The rivers monitored are: Adige, Po', Magra, Reno, Ombrone, Tevere, Misa, Pescara, Sarno, Agri, Neto and Simeto.

Table 1 - Object entering the sea from rivers and related sampling error. Year 2022-2023 (number per hour)

Fiume	N objects/ hour
Sarno	65.9±18.7
Tevere (Fiumicino)	62.4±21.2
Po (a)	33.2±10.8
Magra (a)	17.0±3.0
Reno (a)	8.2±2.9
Misa	6.1±3.5
Adige (a)	5.5±2.4
Pescara	4.1±1.7
Simeto	3.4±1.1
Ombrone	1.8±1.7
Agri	0.9±0.5
Neto	0.8±0.3

Source: ISPRA
(a) Data are underestimated (for objects in the 2.5 and 5 cm class), due to monitoring conditions.

Figure 1 - Number of floating macro waste found at the mouth of Fiume Po. Years 2016-2023 (number per km²)



Source: ISPRA

Table 14.1 - Statistical measures released by Istat, taxonomy compared to SDGs indicators, variations compared to the previous year and to 10 years before and convergence among regions

Ref. SDG	INDICATOR	Compared to SDG indicator	Value	VARIATIONS		CONVER - GENCE AMONG REGIONS compared to 10 years before
				Compared to previous year	Compared to 10 years before	
14.1.1	Beached marine litter					
Beached marine litter (ISPRA, 2022, N. per 100 metres beach length)		National context	303		(a)	⇐⇒
14.4.1	Proportion of fish stocks wirthin biologically sustainable levels					
Fish stock in over exploitation (Ministry of Agriculture, Food Sovereignty and Forestry, 2021, percentage values)		Proxy	73.7		(b)	--
14.5.1	Coverage of protected areas in relation to marine areas					
Bathing sites with excellent water quality (European Environment Agency, 2022, percentage values)		National context	89.8			⇒⇐
Coastal bathing waters (Istat Processing of data from Ministry of Health, 2019, percentage values)		Proxy	65.5		(c)	⇒⇐
Marine protected areas (ISPRA, 2021, percentage values)		Identical	11.2	(e)		--
Marine protected areas EUAP (Ministry of the Environment and Energy Security, 2019, km^2)		Partial	3,076	(d)	(d)	=
Marine areas included in the network Natura 2000 (Ministry of the Environment and Energy Security, 2023, km^2)		Partial	22,840		(b)	=

Legend

- IMPROVEMENT
- STABILITY
- DETERIORATION
- -- NOT AVAILABLE / NOT SIGNIFICANT
- ⇒⇐ CONVERGENCE
- = STABILITY
- ⇐⇒ DIVERGENCE

Notes

(a) Variation compared to 2015
(b) Variation compared to 2014
(c) Variation compared to 2013
(d) Variation compared to 2012
(e) Variation compared to 2016

GOAL 15

PROTECT, RESTORE AND PROMOTE SUSTAINABLE USE OF TERRESTRIAL ECOSYSTEMS, SUSTAINABLY MANAGE FORESTS, COMBAT DESERTIFICATION, AND HALT AND REVERSE LAND DEGRADATION AND HALT BIODIVERSITY LOSS [1]

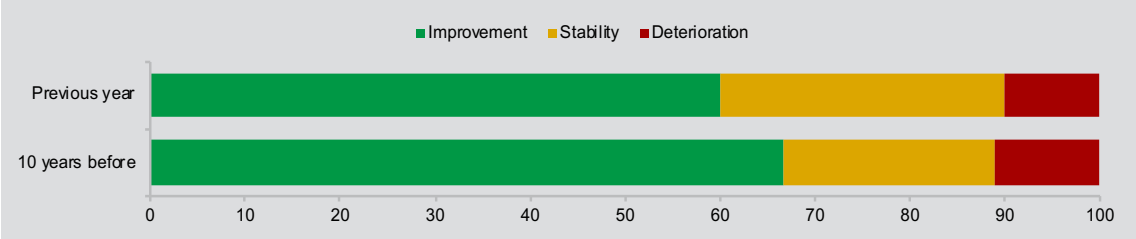
In brief

- In 2022, protected areas covered 21.7% of the national territory; the goal set by the National biodiversity strategy is to reach 30% by 2030.
- In 2022, certified forest areas increased by 4%. However, their extent in relation to forest areas remained well below the European average.
- Green cover of mountain areas decreased by 0.2 p.p. from 2012 to 2022; over 20% of the losses was located in high mountain areas (above 1,000 m a.s.l.).
- After the pandemic, soil consumption speeded up. In 2022, the area affected by soil sealing from artificial coverage was 7.14% of the national territory.
- In 2022, 31% of the species of vertebrates living in Italy was threatened with extinction. The share was even higher for aquatic species

1 This section was edited by Luigi Costanzo.

The statistical measures released by Istat for Goal 15 are twenty-two and refer to ten UN-IAEG-SDG indicators (Table 15.1). When comparing the last available year to the previous year, situations of stability largely prevailed, and the number of improving measures was equal to that of worsening measures. Stability remained predominant even when comparing over a ten-year period, generally more significant for environmental indicators, with a slight prevalence of improving measures over worsening ones (Figure 15.1).

Figure 15.1 - Time evolution of statistical measures released by Istat: last available year compared to the previous year and to 10 years before



Coverage of protected areas far short of the 2030 target

In the last decade, there has been no progress in the share of national territory belonging to protected areas (21.7% in 2022, to be increased to 30% by 2030 according to the National Biodiversity Strategy)[2]. In 2023, the protected areas system ensured broad but partial coverage of the 172 Key Biodiversity Areas (KBA) located in Italy: on average, 76.7% in terrestrial ecosystems and 85.1% in freshwater ecosystems; the average KBA coverage in mountain ecosystems was 75.5%[3].

Certified forest areas have increased

In 2022, certified forest areas in Italy amounted to 967 thousand hectares (+4% from the previous year)[4]. Despite a growth higher than the European context in recent years (Figure 15.2), the land surface of certified areas remained, in Italy, very limited compared to that of forest areas (9.6% in Italy, face to 16.7% in Europe and 19.5% in Southern Europe)[5]. Promoting forest certification is one of the targets of the National Forestry Strategy (2022), which aims for sustainable growth in domestic timber production[6]. Italy, in fact, is a net

2 https://www.mase.gov.it/pagina/strategia-nazionale-la-biodiversita-al-2030. The surface of protected areas is the total land surface, net of overlaps, of the sites belonging to the Official list of protected natural areas (EUAP, 2010) and/or the Natura 2000 network (Sites of Community Importance, Special Conservation Areas pursuant to Dir.92/43/EEC "Habitat" and Special Protection Areas pursuant to Dir.2009/147/EC "Birds").

3 The KBAs (Key Biodiversity Areas) are defined as "sites that contribute significantly to the global persistence of biodiversity". https://portals.iucn.org/library/sites/library/files/+documents/2016-048.pdf. The KBA coverage rate from protected areas is the average of the rates of the individual areas, not weighted by their land area.

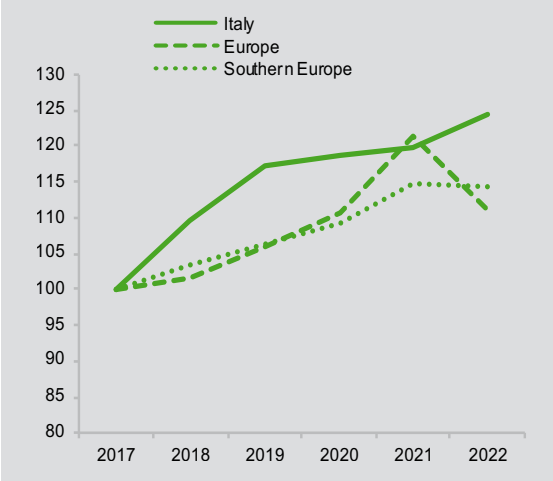
4 Forestry certification is a voluntary procedure for enterprises, released by accredited bodies to verify the compliance of production processes with standards of environmental protection, social equity and economic efficiency.

5 https://unstats.un.org/sdgs/dataportal (2020 data).The proportion between certified areas and forest areas is not a composition ratio, as the former may include timber production areas that are not classified as forest areas.

6 See Ministry of Agriculture, Food Sovereignty and Forestry. 2022. Strategia Forestale Nazionale. https://www.politicheagricole.it/flex/cm/pages/ServeBLOB.php/L/IT/IDPagina/15339.

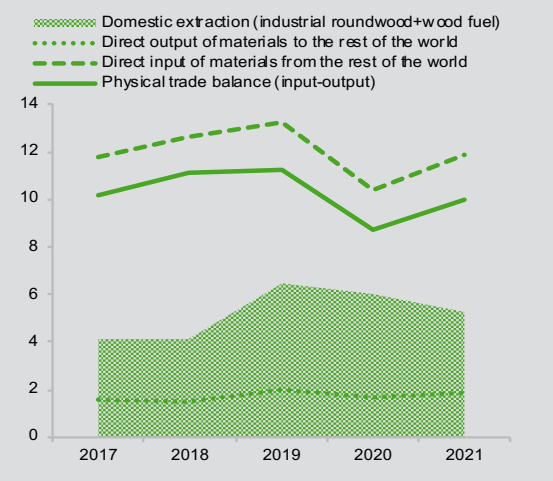
importer of wood and wood products, transferring much of the pressure on forestry resources abroad. Between 2017 and 2021, the direct input of materials from abroad for the "wood and wood products" category was 12 million tonnes per year, compared to domestic extraction of 5.2 million tonnes a year of roundwood and wood fuel[7] (Figure 15.3).

Figure 15.2 - Forest area certified under an independent verification scheme. Years 2017-2022 (fixed base index numbers 2015=100)



Source: Istat-ISPRA (Italy), UNSD (Europe, Southern Europe)

Figure 15.3 - Domestic extraction of wood and wood and wood products trade with the rest of the world. Years 2017-2021 (million tonnes)



Source: Istat, National accounts

Vegetation cover decreasing even in the high mountains

The mountain green cover index[8] was 90.2% in 2022, slightly lower than 2012 (-0.2 p.p., equivalent to an average loss of approximately 4,300 hectares per year of vegetated areas, either natural or agricultural). More than 20% of these losses were located at an altitude of over 1,000 metres above sea level, affecting fragile high mountain ecosystems[9]. In mountain areas, vegetation cover decreased especially in Piemonte (-1.2% compared to 2012) and in Sicilia (-0.9%), while it increased by 0.4% in the Marche (Figure 15.4).

Land consumption accelerated after the pandemic

Italy has committed to zero net land consumption through the National Strategy for Sustainable Development (2022)[10]. In 2022, soil sealing due to artificial land cover (the

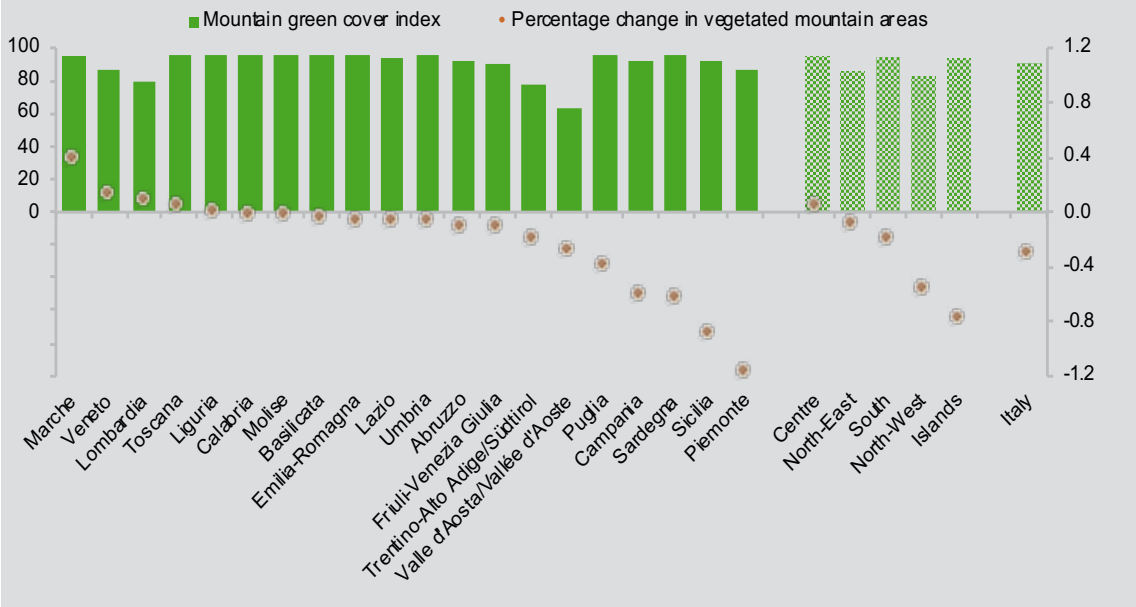
7 See Istat, Material flow accounts. https://esploradati.istat.it/databrowser/#/en .

8 The index measures the incidence of natural and agricultural vegetated areas on the surface of 7 classes of territory over 300 m above sea level, defined by altitude and slope. https://unstats.un.org/sdgs/metadata/files/Metadata-15-04-02.pdf.

9 See ISPRA. 2024. Environmental data yearbook. https://indicatoriambientali.isprambiente.it/it/temi.

10 Ministry of Environment and Energy Security. 2022. National strategy for sustainable development – Objective II.2:"Achieving neutrality in net land consumption and combating land degradation and desertification". https://www.mase.gov.it/sites/default/files/archivio/allegati/sviluppo_sostenibile/ALL1_SNSvS_2023_Strategia_e_allegati.pdf. Soil sealed by buildings and infrastructures cannot perform its ecological functions (production of plant biomass, carbon absorption, regulation of the climate and water, phosphorus and nitrogen cycles). Furthermore, in a fragile territory such as the Italian one, soil consumption represents a significant factor of hydrogeological risk and landscape degradation.

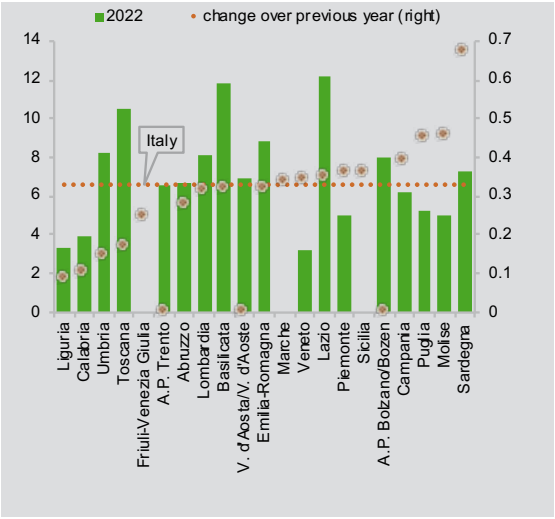
Figure 15.4 - Mountain green cover index and changes in vegetation cover in mountain areas compared to 2012, by region and geographical area. Year 2022 (percentage values)



Source: ISPRA

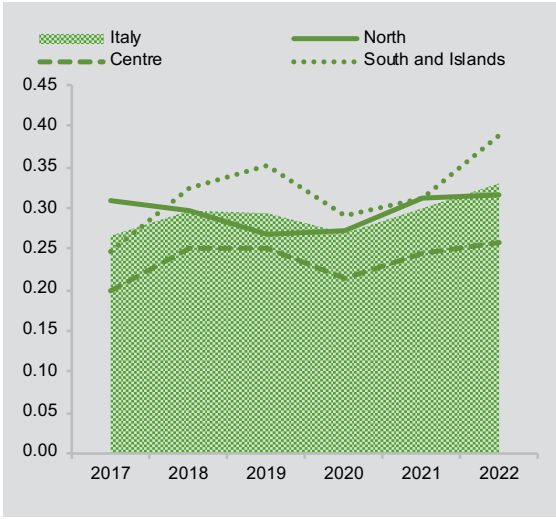
share of "consumed" soil over the total land surface) was 7.14% (8.55% in the North, 6.76% in the Centre, 5.93% in the South and Islands), exceeding 10% in Lombardia, Veneto and Campania. To meet the goal, the growth of sealed surfaces must be stopped, whereas it has increased, on average, by 58.9 km^2 per year since 2012. After a slight decline in 2020, the growth rate has risen again, especially in the South and Islands, and in 2022 it was significantly higher than the national average in Sardegna, Molise and Puglia (Figure 15.5).

Figure 15.5a - Soil sealing from artificial land cover, by region. Year 2022 (percentage values)



Source: ISPRA

Figure 15.5b - Change in land area sealed from artificial cover, by geographical area. Years 2017-2022 (percentage values)

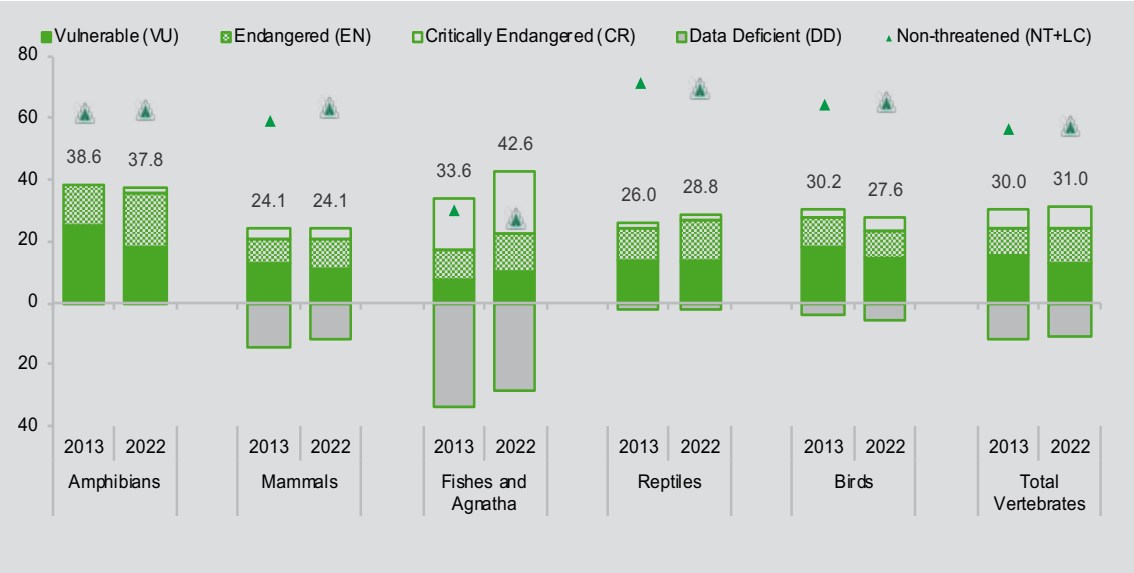


Source: ISPRA

Almost a third of the vertebrate species present in Italy were at risk of extinction

Biodiversity loss can be measured by evaluating the evolution over time of the risk of species extinction in a given area, according to the standards of the Red List of threatened species of the International Union for Conservation of Nature (IUCN). The significance of a comprehensive Red List Index for Italy is limited by the reduced coverage of the national Red Lists available[11]. The Italian Vertebrates list (2013), recently updated to 2022, allows, however, to observe the trends of a very large group of species, comparing the results of two subsequent assessments. Vertebrate species threatened with extinction in Italy ("vulnerable", "endangered" or "critically endangered", according to the IUCN classification) were 31% of those assessed, 1 percentage point higher than in 2013 (Figure 15.6) while the incidence of non-threatened species remained substantially stable (around 57%) and that of "data deficient" species fell from 11.5% to 10.7%[12].

Figure 15.6 - Proportion of species threatened with extinction (vertebrates), by *taxon* and level of the threat. Years 2013 and 2022 (percentage values)



Source: IUCN-Italian Committee, Federparchi, Ministry of the Environment and Energy Security

Among threatened species, the proportion of those in extreme risk classes has grown (threatened species increased from 9.2 to 11.1%, and those in critical danger from 5.6 to 7%), while vulnerable species, exposed to a lower risk, have decreased (from 15.2 to 12.9%). The disaggregation by *taxa* shows a more marked deterioration for aquatic species (Fish and Agnatha), which presented the highest share and the greatest increase in threatened species (42.6%, +9 p.p. since 2013).

The share of threatened species was also very high among the Amphibians (37.8%, a slight decrease compared to 2013) and increased significantly among the Reptiles (from 26 to

11 For the IUCN classification of threatened species and the problems associated with the application of the Red List Index at national level, see the paragraph *The Red List Index for Italy: problems and prospects*. The Italian Red Lists are published on the website of the Italian IUCN Committee. https://www.iucn.it/.

12 The number of species assessed (172 in 2013, 182 in 2022) also includes those that are extinct (1% in 2013, 1.4% in 2022).

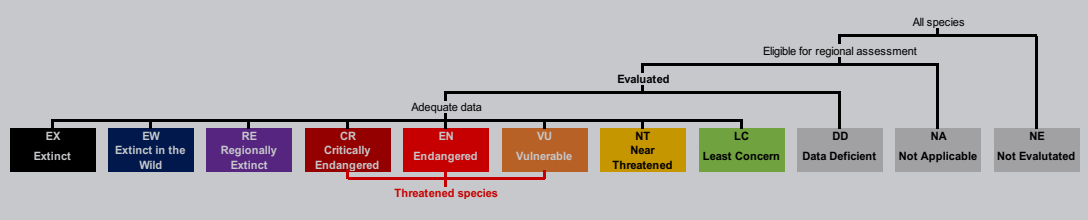
28.8%, although remaining lower than the average for Vertebrates), while it was stable among the Mammals (24.1%, with a slight increase in the share of non-threatened species) and decreased among the Birds (from 30.2 to 27.6%).

Among the other groups of species assessed in Italy (for which, however, no updates are yet available), the shares of species threatened with extinction were lower: 11.2% for the Dragonflies, 21% for the Saproxylic Coleoptera, 9% for the Corals (referring to 2014), 6.3% for the Butterflies (2015) and 10.6% for the Bees (2018).

The Red List Index for Italy: problems and prospects[1]

The Red List Index (RLI) is a tool aimed at monitoring variations in the conservation status of biodiversity at a global or local level, which provides a summary assessment of how the risk of extinction of individual species or groups of species (*taxa*) changes based on data from the IUCN Red List of Threatened Species[2], which classifies species into 11 risk categories (Figure 1). The RLI is the UN-IAEG indicator designated to monitor progress towards target 15.5 of 2030 Agenda ("Take urgent and significant action to reduce the degradation of natural habitats, halt the loss of biodiversity and, by 2020, protect and prevent the extinction of threatened species").

Figure 1 - The IUCN Red List categories on extinction risk



Source: IUCN

The value of the RLI represents the changes in the conservation status of the species: decreasing trends in the index signal an acceleration of the loss of biodiversity (and therefore, higher pressure on the species considered), while increasing values indicate a slowdown, which may be the effect of the protection measures implemented. Regular monitoring of the RLI is therefore essential to evaluate the effectiveness of biodiversity protection policies.

The RLI can only be applied for *taxa* that are evaluated repeatedly over time, and on a global scale it is only available for Birds, Mammals, Amphibians, Cycadaceae and Corals. The RLI clearly demonstrates that the status of these large groups is still in decline. The United Nations Global SDG Database currently releases the 2000-2024 time series of an aggregate global estimate, calculated based on the data available for the five groups mentioned, and the national estimates derived from this for a large number of countries, including Italy[3]. At a global level, the index shows a constantly negative trend (from 0.801 in 2000 to 0.721 in 2024) and the estimates released for Italy are no exception, falling from 0.910 in 2000 to 0.870 in 2024 (Figure 2).

However, it should be noted that a correct calculation of the RLI on a national scale should be based on an assessment of the changes in the conservation status of species performed repeatedly and specifically for Italy, rather than through the extrapolation of global data. Therefore, Istat-SDGs statistical system preferred to include some partial measures ("proportion

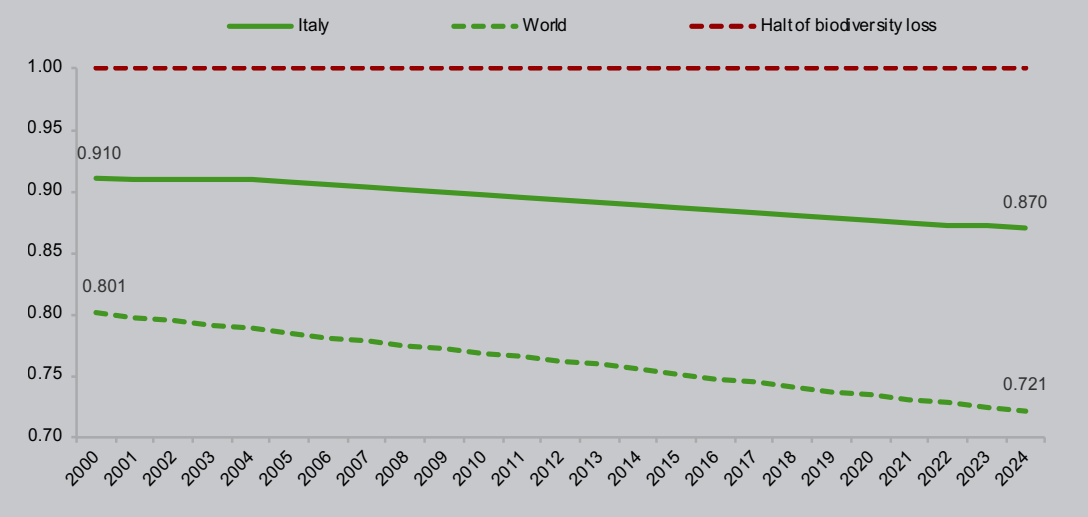
1 This section was edited by Piero Genovesi (ISPRA) with contributions by Luigi Costanzo.

2 https://www.iucnredlist.org/assessment/red-list-index. For the calculation methodology, see Butchart et al. 2010. "Global Biodiversity: Indicators of Recent Declines". Science, 328.

3 The data released come from BirdLife International and IUCN (https://unstats.un.org/sdgs/dataportal/database) and are based "on global estimates of the risk of extinction, according to the IUCN categories, of Mammals, Birds, Amphibians, Corals and Cycadaceae, derived from national data, disaggregated on the national scale and weighted in proportion to the distribution of each species in the country" . https://unstats.un.org/sdgs/metadata/files/Metadata-15-05-01.pdf. See Butchart et al.2005. "Using Red List Indices to measure progress towards the 2010 target and beyond", Philosophical transactions of the Royal Society B, 360. https://www.researchgate.net/publication/7922778_Using-Red-List-Indices-to-measure-progress-towards-the-2010-target-and-beyond; Idem. 2007. "Improvements to the Red List Index", PLoS ONE 2 (1): e140. https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0000140.

of species threatened with extinction, by level of the threat"), calculated as percentages of threatened species (CR+EN+VU, in the diagram of Figure 1) out of the total number of species assessed, according to the national Red Lists published by the Italian IUCN Committee, jointly with the Ministry of the Environment and Energy Security and Federparchi[4].

Figure 2 - Red List Index. Years 2000-2024 (index)



Source: UNSD, SDG Global database (BirdLife International and IUCN)

In recent years, numerous assessments of the conservation status of groups of species on a national scale, applying the IUCN criteria, have been conducted and published. The Italian Red Lists currently include assessments of all species of freshwater Fish, Amphibians, Reptiles, breeding Birds, Mammals, Cartilaginous fish, Dragonflies, Corals and Saproxylic coleoptera, indigenous to the country. Furthermore, it evaluated 197 species of Flora, i.e. those included in the annexes of Directive 92/43/EEC "Habitat" and the Bern Convention. A further contingent of *taxa*, which includes vascular species, Lichens, Bryophytes and Fungi, among the most threatened or endemic in Italy, has also been assessed using the IUCN criteria, thus defining the risk categories into which they fall. Currently, however, there are two complete and successive assessments only for Italian vertebrates (Amphibians, Fish, Mammals, Reptiles and Birds), performed in 2013 and 2022, which confirm a negative trend in the risk of extinction. For Vertebrates, therefore, the available data would already allow a more accurate calculation of an RLI for Italy. This calculation, however, should be corroborated by a retrospective analysis of the conservation status to ascertain which of the status changes recorded between 2013 and 2022 can be considered genuine (i.e. due to an actual change in the risk of extinction) and which can be deemed spurious (due to reasons such as taxonomic changes, acquisition of new knowledge, or incorrect application of criteria in previous assessments). Furthermore, it is necessary to expand the database with updating of the other national Red Lists, published between 2014 and 2018.

4 https://www.iucn.it/liste-rosse-italiane.php.

Table 15.1 - Statistical measures released by Istat, taxonomy compared to SDGs indicators, variations compared to the previous year and to 10 years before and convergence among regions

Ref. SDG	INDICATOR	Compared to SDG indicator	Value	VARIATIONS		CONVERGENCE AMONG REGIONS compared to 10 years before
				Compared to previous year	Compared to 10 years before	
15.1.1	Forest area as a proportion of total land area					
Forest area as a proportion of total land area (FAO-INFC, 2020, percentage values)		Identical	32.4			---
Forest area index (Istat-ISPRA, processing of data from FAO and National Forest and Carbon Sink Inventory, 2020, percentage values)		National context	37.8			---
15.1.2	Proportion of important sites for terrestrial and freshwater biodiversity that are covered by protected areas, by ecosystem type					
Average proportion of Terrestrial Key Biodiversity Areas (KBAs) covered by protected areas (BirdLife International, IUCN and UNEP-WCMC, 2023, percentage values)		Identical	76.7			---
Average proportion of Freshwater Key Biodiversity Areas (KBAs) covered by protected areas (BirdLife International, IUCN and UNEP-WCMC, 2023, percentage values)		Identical	85.2			---
Protected natural areas (Istat, processing of data from Ministry of the Environment and Energy Security, 2022, percentage values)		National context	21.7			=
15.2.1	Progress towards sustainable forest management					
Forest area net change rate (FAO, 2020, percentage values)		Identical	0.58	---	---	---
Above-ground biomass in forest (FAO, 2015, tonne per hectare)		Identical	110.6	---	---	---
Proportion of forest area within legally established protected areas (FAO, 2020, percentage values)		Identical	35.1			---
Forest area certified under an independent verification scheme (Istat-ISPRA, processing of data from FSC Italy and PEFC Italy, 2022, thousand hectares)		Identical	967			---
15.3.1	Proportion of land that is degraded over total land area					
Soil sealing from artificial land cover (ISPRA, 2022, percentage values)		Proxy	7.14			=
Fragmentation of natural and agricultural land (ISPRA, 2022, percentage values)		National context	40.8			=
15.4.1	Coverage by protected areas of important sites for mountain biodiversity					
Average Proportion of Mountain Key Biodiversity Areas (KBAs) covered by protected areas (BirdLife International, IUCN and UNEP-WCMC, 2023, percentage values)		Identical	75.5		(a)	---
15.4.2	Mountain Green Cover Index					
Mountain Green Cover Index (ISPRA, 2022, percentage values)		Identical	90.2	---		=
15.5.1	Red List Index					
Proportion of species threatened with extinction, by level of the threat: Vertebrates (IUCN-Italian Committee, Federparchi, Ministry of the Environment and Energy Security, 2022, percentage values)		Proxy	31.0	---	(b)	---
Proportion of species threatened with extinction, by level of the threat: Dragonflies (IUCN-Italian Committee, Federparchi, Ministry of the Environment and Energy Security, 2014, percentage values)		Proxy	11.2	---	---	---
Proportion of species threatened with extinction, by level of the threat: Saproxylic Coleoptera (IUCN-Italian Committee, Federparchi, Ministry of the Environment and Energy Security, 2014, percentage values)		Proxy	21.0	---	---	---
Proportion of species threatened with extinction, by level of the threat: Butterflies (IUCN-Italian Committee, Federparchi, Ministry of the Environment and Energy Security, 2015, percentage values)		Proxy	6.3	---	---	---
Proportion of species threatened with extinction, by level of the threat: Bees (IUCN-Italian Committee, Federparchi, Ministry of the Environment and Energy Security, 2018, percentage values)		Proxy	10.6	---	---	---
Proportion of species threatened with extinction, by level of the threat: Corals (IUCN-Italian Committee, Federparchi, Ministry of the Environment and Energy Security, 2014, percentage values)		Proxy	9.0	---	---	---
15.7.1 15.c.1	Proportion of traded wildlife that was poached or illicitly trafficked					
Checks done in application of the CITES (ISPRA, processing of data from CFS and CUTFAA, 2016, N.)		Proxy	67,683	---	---	---
Offences detected in application of the CITES (ISPRA, processing of data from CFS and CUTFAA, 2022, N.)		Proxy	950			---
15.8.1	Proportion of countries adopting relevant national legislation and adequately resourcing the prevention or control of invasive alien species					
Spread of alien animal and plant species (ISPRA, 2021, N.)		National context	674			---

Legend

- IMPROVEMENT
- STABILITY
- DETERIORATION
- --- NOT AVAILABLE / NOT SIGNIFICANT
- ⇒⇐ CONVERGENCE
- = STABILITY
- ⇐⇒ DIVERGENCE

Note

(a) Variation compared to 2015
(b) Variation compared to 2013

GOAL 16

PROMOTE PEACEFUL AND INCLUSIVE SOCIETIES FOR SUSTAINABLE DEVELOPMENT, PROVIDE ACCESS TO JUSTICE FOR ALL AND BUILD EFFECTIVE, ACCOUNTABLE AND INCLUSIVE INSTITUTIONS AT ALL LEVELS[1]

In brief

- In 2022, the intentional homicide rate in the population exhibited a slight increase (from 0.5 to 0.6 per 100,000 inhabitants) and returned to the 2018 level. In 2023, the first provisional data indicate a substantial stability of the phenomenon (336 homicides, corresponding to 0.6 per 100,000 residents).
- In 2023, the ratio of prison population to available places in Italian prisons rose, reaching a level of overcrowding (118 inmates per 100 available places) almost identical to that of 2019.
- The share of unsentenced detainees in the prison population (15.4%) increased slightly (+0.3 p.p.) in 2023. The increase was most marked in the prison population of non-Italian citizens (+1.1 p.p.).
- The length of civil proceedings increased significantly from 433 to 460 days in 2023 in comparison with the previous year.

1 This section was edited by Alberto Violante with contributions by Maria Giuseppina Muratore and Franco Turetta.

The statistical measures released by Istat for Goal 16 are fourteen and refer to five UN-IAEG-SDGs indicators (Table 16.1). When comparing the last available year to the previous year, the measures improving were less than the measures deteriorating. The deterioration was primarily due to measures related to Prison condition and political representation of young and women When comparing over a ten-year period, the improvement appeared more evident thanks to the progress of the measures on intentional homicides, trust in the judicial system the length of civil proceedings, and services accessibility (Figure 16.1).

Figure 16.1 - Time evolution of statistical measures released by Istat: last available year compared to the previous year and to 10 years before

The number of homicides continued to grow

After the minimum reached in 2020, intentional homicides increased in 2022, as they did in the previous year, rising from 0.5 to 0.6 per 100,000 residents. In 2023, provisional data from the Ministry of the Interior indicated that the homicide rate remained essentially stable (0.6 homicides per 100,000 inhabitants). The growth in 2022 affected almost the entire country, with a particular increase in the South (+15 homicides, raising the homicide rate from 0.7 in 2021 to 0.8) and in the North-West (+10 homicides; from 0.4 to 0.5).

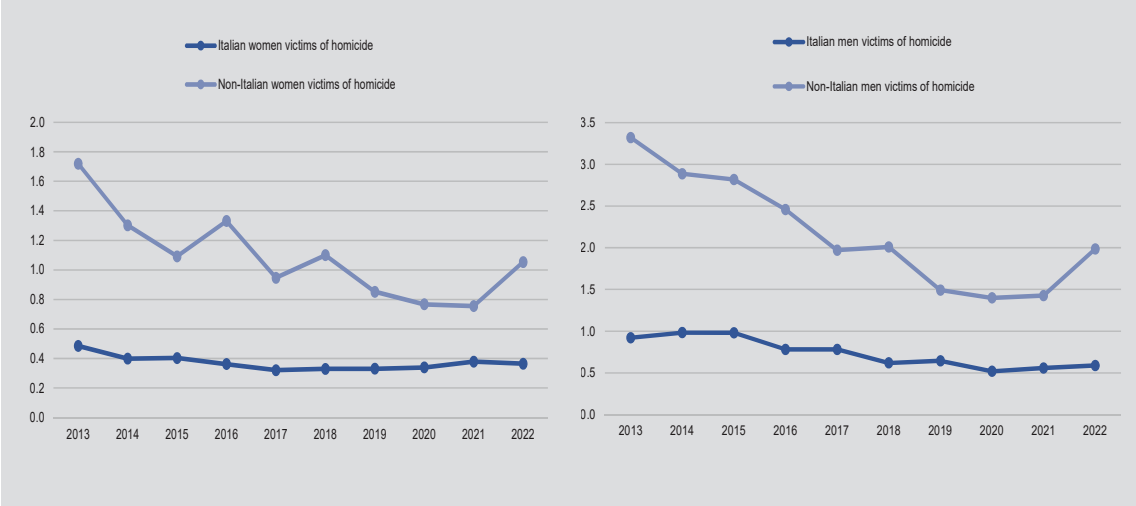
In the South, mafia-related homicides increased (14 additional crimes, which almost entirely represented the above-mentioned increase). Robbery related homicides, which contributed to about a quarter of the national increase, did not show a territorial characterisation.

In comparison with other countries[2], Italy's homicide rate remained particularly low, thanks also to a steady decline in the last decade. In France, homicide rate was more than double than in Italy (1.2 per 100,000 inhabitants), while in Germany was 0.8 (one third higher than in Italy).

2 See http://ec.europa.eu/eurostat.

The decline in the homicide rate has affected both Italian citizens and foreign victims. Non-Italian citizen population, in particular, who recorded in 2013 more than triple victimisation rate than Italian population, benefited from a proportionately larger decrease in homicidal violence than Italian citizens (Figure 16.2). However, in the last available year, there was a notable reversal of this trend for non-Italian citizens.

Figure 16.2 - Number of intentional homicides, by gender and citizenship. Years 2019-2022 (per 100,000 inhabitants)



Source: Ministry of Interior

Prison crowding returned to pre-pandemic levels

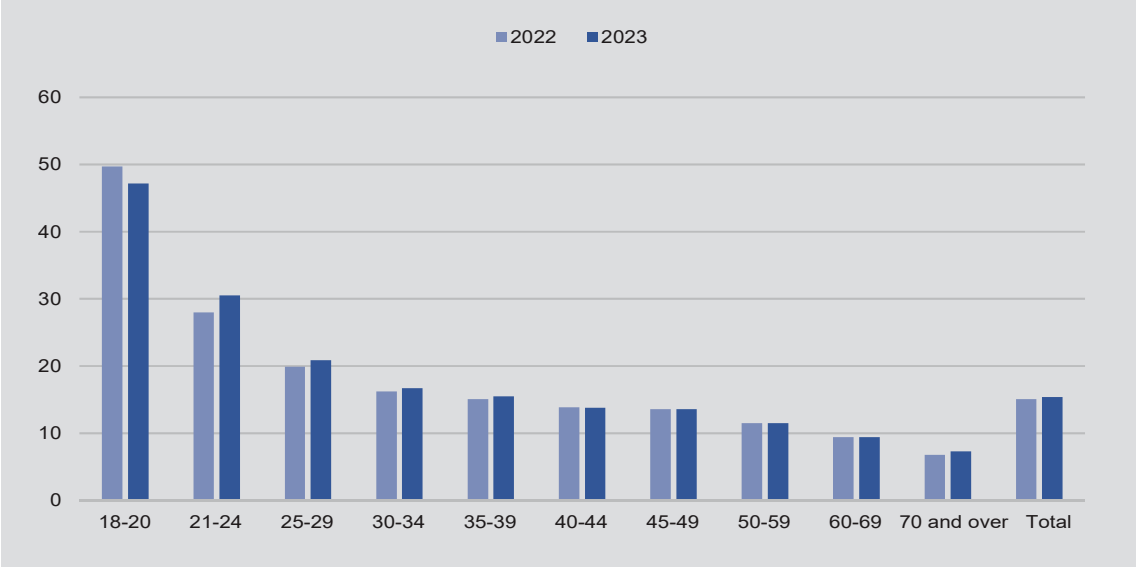
In 2023, prison density, measured by comparing the average annual prison population to available places, grew significantly, from 109.5 to 117.6 prisoners per 100 available places[3]. The increase was due marginally to the reduction in places but more significantly to the entry of new prisoners into pre-trial detention.

Compared to 2022, the increase of the unsentenced detainees out of the overall prison population was marginal (from 15.1% to 15.4%). This component was concentrated among the younger prisoners (+2.5 percentage points in the age group between 21 and 24 years, +1 p.p. for those aged 21 - 29; Figure 16.3). The increase in the prison population was not fully represented by new entries from freedom since they amounted only to 2,536 compared to the overall increase of 3,970 prisoners between 2022 and 2023. This discrepancy is attributable both to the lower influx of prisoners into alternative prison sentences favoured with specific legislative measures during the pandemic[4], and to fewer returns from house arrest.

3 The available places are calculated on an average availability of 9 m^2 for single cell and of 5 additional m^2 for each inmate above the second for multiple cells.

4 Italian legislative decree 28 of 30/04/2020 and Italian legislative decree 29 of 10/05/2020.

Figure 16.3 - Percentage of unsentenced detainees in the overall prison population, by age. Years 2022 and 2023
(percentage values)



Source: Ministry of Justice – Department of Prison administration

Non-Italian citizens have contributed significantly to the growth of the prison population in the post-pandemic years. In 2023, they represented 40.6 % of admissions from freedom. The increase in the share of non-Italian unsented prisoners was equal to 1.1 p.p., compared to 0.1% of Italians.

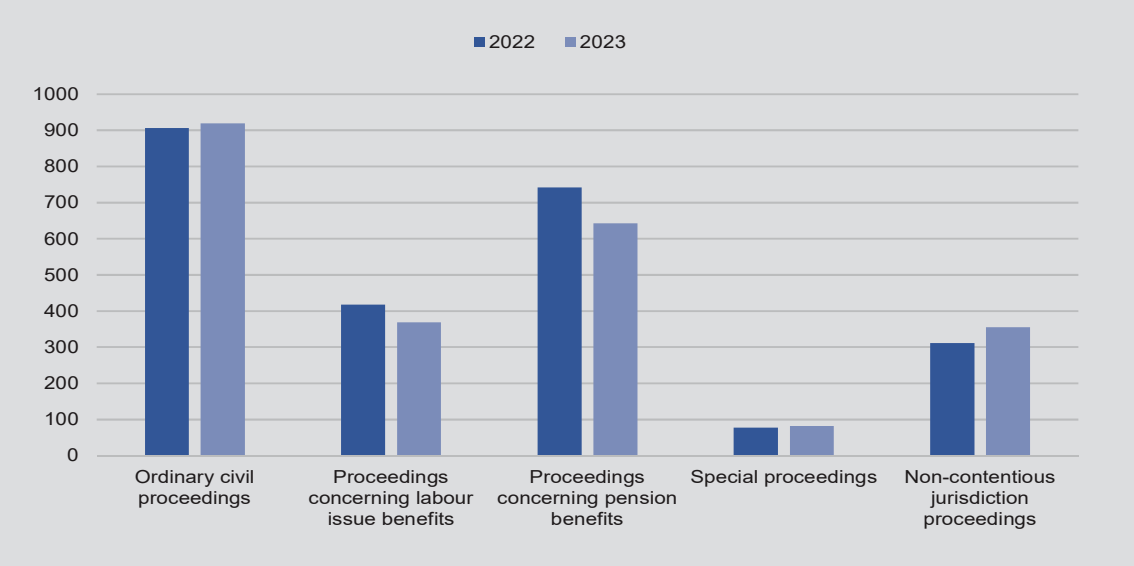
The length of civil proceedings, especially ordinary ones, increased

In 2023, the duration of civil proceedings increased once again (average duration of 460 days, an increase of 27 days compared to 2022), cancelling out a large share of the time reduction recorded since 2014, the year of introduction of the electronic civil trial. Although the new procedures did not allow citizens to reduce significantly the filing of civil cases during the years of the pandemic, 2020-2021 saw a slowdown in court proceedings, due to the mitigation measures[5].

The national average data conceal significant regional disparities. Lazio (+114 days) and Molise (+113 days) stand out among the regions characterised by an increase in the average duration. Valle d'Aosta/*Vallée d'Aoste* (-363 days) and, to a lesser extent, the Autonomous Province of Trento (-21 days) and Toscana (-12 days) recorded a decrease in the average duration, as well as Calabria (-27 days), Puglia (-24 days) and Basilicata (-1 day), all characterised by a very high average duration of proceedings. The increase in duration varied according to the subject of the proceedings. Ordinary jurisdiction cases increased by 44 days, cases relating to employment and social security decreased by 49 and 99 days respectively. Ordinary jurisdiction proceedings, which represent the majority of filed and have an average duration double that of the average, increased by 12.5 days.

5 See Istat.2024. "Cittadini e Giustizia Civile. Anno 2023". *Statistiche Report*. Roma:Istat. https://www.istat.it/it/files//2024/05/REPORT-GIUSTIZIA-CIVILE-1.pdf.

Figure 16.4 - Duration of civil proceedings, by type of matter. Years 2022 and 2023 (number of days)

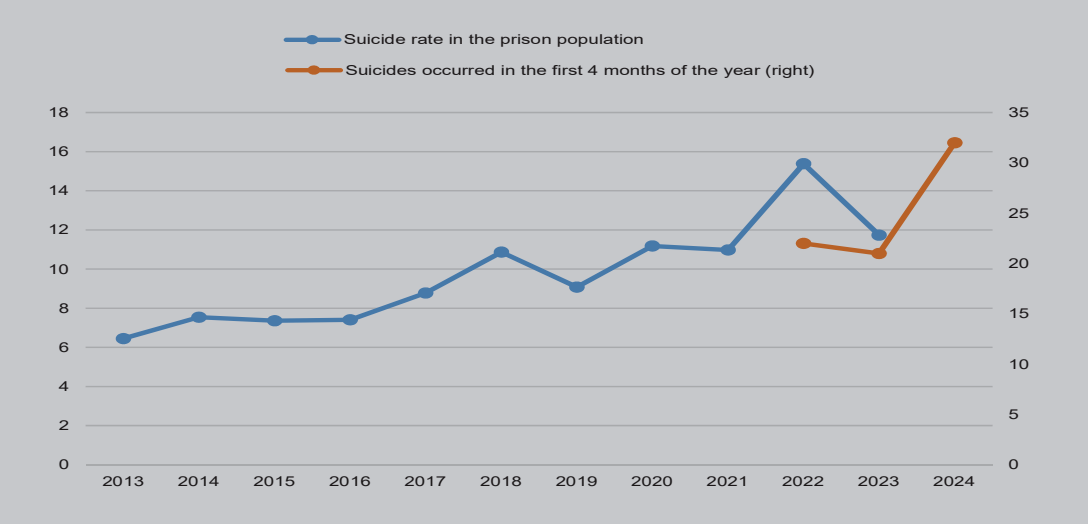


Source: Ministry of Justice

Extent and dynamics of suicides in prison[1]

Goal 16 of the 2030 Agenda aims, among other objectives, to ensure fair treatment of the population in detention conditions. The analysis of critical events that occur in Italian prisons offers valuable insight the in-depth study of the living conditions of the prison population.
As of 31 December 2022, the total detained population consisted of 56,174 people, 2,372 of whom were women (4%). During the year, 85 people committed suicide, the highest figure in the last ten years (Figure.1). 80 were men and 5 women; 49 were Italians and 36 foreigners, originating from 16 different countries. The age groups most involved were those between 26 and 39 years (37 people) and between 40 and 54 years (29 people), while the remaining people were distributed in the classes 18-25 years (10 people), 55-69 years (6 people) and over 70 years (3 people). The average age of the 85 people who committed suicide was 40.

Figure 1 - Suicide rate among the prison population and suicides occurred in the first 4 months of the year (per 1000 detainees, absolute values)

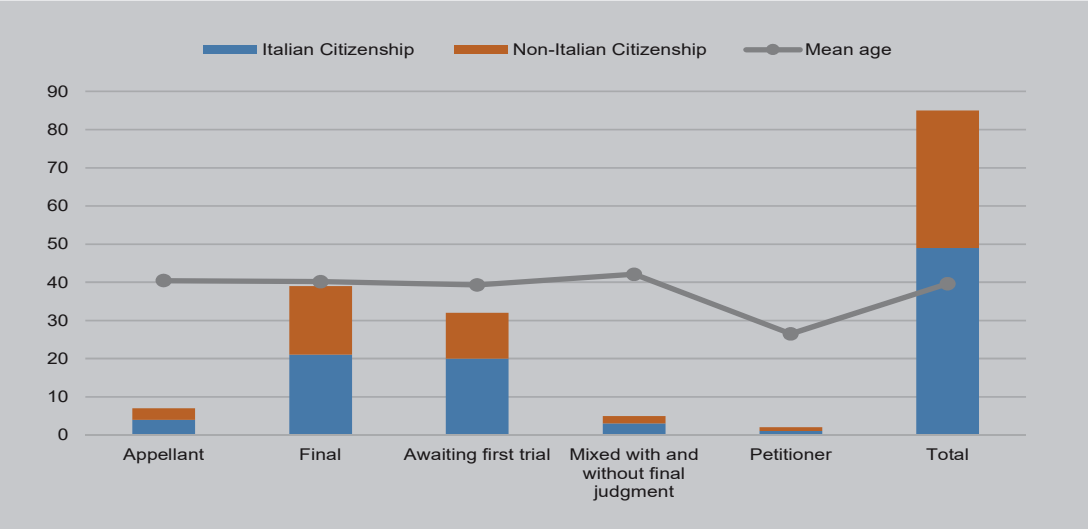


Source: Ministry of Justice – Department of Prison administration

In 76 cases (89.4%) hanging was the method used, followed by gas inhalation in 4 cases and by injuries to the veins in 3 cases. In 2 cases, the method was not reported.
Most of the people who committed suicide in prison (39) had been definitively judged and sentenced, 5 people had a so-called "mixed with definitive" position, i.e. they had at least one final conviction and other criminal proceedings underway. 32 people were unsentenced, 7 were appellants and 2 were applicants (Figure 2). The majority of people who committed suicide were accused or convicted for property crimes (54), followed by crimes against the person (39) and the similar category of crimes against the family (11). These last two types reached 59%. Among the crimes against the person, there were 12 crimes of personal injury, 13 of murder (attempted or committed), 3 of sexual violence and 11 of domestic abuse. Other types of crime were of little significance, such as those against public and private safety and against the administration of justice.

1 This section was edited by Alessandro Albano, Fabrizia Pinelli, Giovanni Suriano (National Guarantor of the rights of persons deprived of personal liberty) with contributions by the President of the College Prof. Felice Maurizio D'Ettore.

Figure 2 - Suicides in prison, by prisoner's legal position, citizenship and age (percentage values and mean age)



Source: Ministry of Justice – Department of Prison administration

In terms of length of stay at the institute where the suicide occurred, over half of the suicides (50 people) occurred within the first six months of incarceration: 21 within the first three months and 15 within the first 10 days (10 of which even within the first 24 hours of entry). There were concentration peaks during holiday periods, such as the month of August, in which, probably, the presence of staff and individuals from the external community in the institutes decreased and activities inside the prison, like schools, were reduced.
Data relating to critical events[2] reveal factors of fragility or vulnerability, which characterised 68 of the 85 suicidal detainees, 28 of whom (i.e. 33%) had previously attempted suicide at least once (in 7 cases more than one attempt). Furthermore, 24 people (i.e. 28%) had been subjected to the measure of extensive surveillance[3] and of these 19 were also being monitored at the time of the suicide. 20 people, all of foreign nationality, among suicidal detainees, were homeless - therefore with a factor of social vulnerability. This trend has clearly increased compared to previous years.
The institutions in which the suicides occurred were 57 (equal to 30% of the total penitentiary facilities), 7 of which were prisons where 10 inmates committed suicide. In 12 of these 57 institutions, deaths registered as "due to causes to be ascertained" were also detected. In the closed custody sections there were 57 cases, while in the open custody sections there were 28 cases.

2 According to the definition of the Survey on Critical Events in Penitentiary Institutions of the Department of Penitentiary Administration, all phenomena that put one's own or others' safety at risk and, more generally, security within penitentiary institutions, are critical events.

3 The expression large/very large surveillance refers to differentiated control and observation regimes that are reserved for some inmates reported by professional socio-health teams usually upon entry into the prison.

Table 16.1 - Statistical measures released by Istat, taxonomy compared to SDGs indicators, variations compared to the previous year and to 10 years before and convergence among regions

Ref. SDG	INDICATOR	Compared to SDG indicator	Value	VARIATIONS		CONVERGENCE BETWEEN REGIONS compared to 10 years before
				Compared to the previous years	Compared to 10 years before	
16.1.1	Number of victims of intentional homicide per 100,000 population, by gender and age					
	Intentional homicide rate (Ministry of the Interior, 2022, Number of intentional homicide on total population per 100,000)	Identical	0.5			=
16.1.3	Proportion of population subjected to (a) physical violence (b) psychological violence and (c) sexual violence in the previous 12 months.					
	Proportion of persons victims of robbery in the previous 12 months (Istat, 2015/16, percentage values)	Partial	0.2	--	--	--
	Proportion of persons victims of physical assault in the previous 12 months (Istat, 2015/16, percentage values)	Partial	1.2	--	--	--
16.1.4	Proportion of population that feel safe walking alone around the area they live					
	Perception of safety walking alone in the dark (Istat, 2023, percentage values)	Identical	60.6		(a)	⇒⇐
16.2.3	Proportion of young women and men aged 18-29 years who experienced sexual violence by age 18					
	Proportion of young women and men aged 18-29 years who experienced sexual violence by age 18 (Istat, 2015/16, percentage values)	Identical	Women 4.1 Men 0.7	--	--	--
16.3.1	Proportion of victims of violence in the previous 12 months who reported their victimization to competent authorities or other officially recognized conflict resolution mechanism					
	Reporting rate of physical assault on population aged 14-65 years old (Istat, 2015/16, percentage values)	Partial	27.0	--	--	--
16.3.2	Unsentenced detainees as a proportion of overall prison population					
	Percentage of adult unsentenced detainees out of overall prison population (Ministry of Justice - Department of prison administration, 2023, percentage values)	Identical	15.1			=
	Juveniles and young adults unsentenced detainees in detention centers for juveniles and young adults (Ministry of Justice - Department of juvenile justice, 2022,percentage values)	Identical	73.2		(a)	--
	Prison density (Istat processing on data of Ministry of Justice - Department of prison administration, 2023, percentage values)	National context	109.5			⇒⇐
16.5.1	Proportion of persons who had at least one contact with a public official and who paid a bribe to a public official, or were asked for a bribe by those public officials, during the previous 12 months					
	Households that received requests for money, favours or other in exchange for facilities or services: at least one case of corruption in their lifetime (Istat, 2015/16, percentage values) (Istat, 2015/16, percentage values)	Proxy	7.9	--	--	--
	Households that received requests for money, favours or other in exchange for facilities or services: at least one case of corruption in the last 3 years (Istat, 2015/16, percentage values)	Proxy	1.7	--	--	--
	Households that received requests for money, favours or other in exchange for facilities or services: at least one case of corruption in the last 12 months (Istat, 2015/16, percentage values)	Proxy	1.2	--	--	--
16.6.2	Proportion of population satisfied with their last experience of public services					
	Trust in judicial system (Istat, 2023, mean score)	Partial	4.8			⇒⇐
	Trust in Police and Fire Brigades (Istat, 2023, mean score)	Partial	7.4			⇒⇐
	Composite index of service accessibility (Istat, 2020-2022, percentage values)	Partial	5.7			⇐⇒
	Length of civil proceedings (Ministry of Justice - Judicial organization Department, 2023, number of days)	National context	433			⇒⇐
16.7.1	Proportions of positions in national and local institutions, including (a) the legislatures; (b) the public service; and (c) the judiciary, compared to national distributions, by sex, age, persons with disabilities and population groups					
	Women and political representation in Parliament (Istat processing on data from Chamber of Deputies and Senate, 2022, percentage value)	Identical	33.7	(b)	(c)	=
	Youth and political representation in Parliament (Istat processing on data from Chamber of Deputies and Senate, 2022, percentage value)	Identical	23.5	(b)	--	⇐⇒

Legend

- IMPROVEMENT
- STABILITY
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Notes

(a) Variation compared to 2013
(b) Variation compared to 2018
(c) Variation compared to 2014

GOAL 17

STRENGTHEN THE MEANS OF IMPLEMENTATION AND REVITALIZE THE GLOBAL PARTNERSHIP FOR SUSTAINABLE DEVELOPMENT[1]

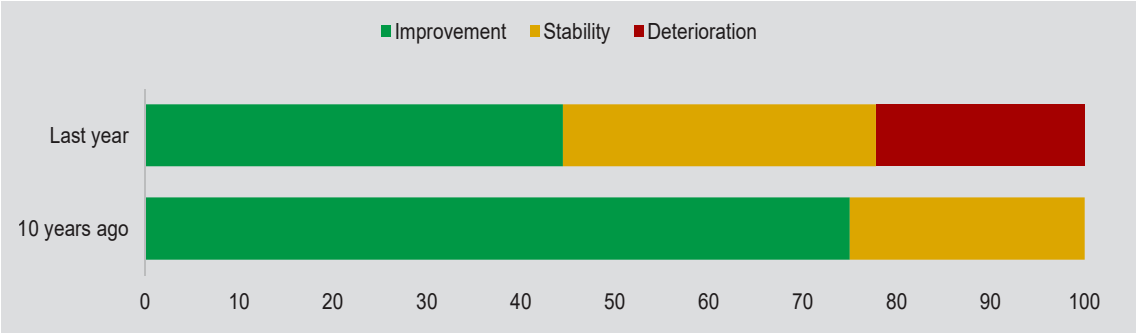
In brief

- In 2023, the ratio of general government tax revenues to GDP in Italy remained stable at 42.5 % in comparison to 2022, representing a slight decline in 2003 compared to the previous decade.
- Italy's proportion of gross national income allocated to Official Development Assistance declined to 0.27% in 2023.
- The outward remittance flow of migrants has exhibited a decline since 2022, with a reduction from 8.21 billion euro to 8.17 billion euro (current prices) observed in 2023.
- The proportion of Italians who use the Internet increased from 77.5% in 2022 to 79.5% in 2023. This represents a 2 percentage point increase. However, there remained territorial, gender and educational gaps in Internet usage.
- In 2023, the penetration of E-commerce and E-banking increased, with 39.4% and 51.8% of the population, respectively, utilising these services.

1 This section was edited by Leopoldo Nascia.

The statistical measures released by Istat for Goal 17 are ten and refer to five UN-IAEG-SDG indicators (Table 17.1). When comparing the last available year to the previous year, just under half of the measures show an improvement, while the two relating to Official Development Assistance have worsened (Figure 17.1). When comparing over a ten-year period, the improving measures prevail and none worsen.

Figure 17.1 - Time evolution of statistical measures released by Istat: last available year compared with 10 years before and the previous year



In 2023, in Italy the relationship between Public Administration tax revenues and GDP remained stable

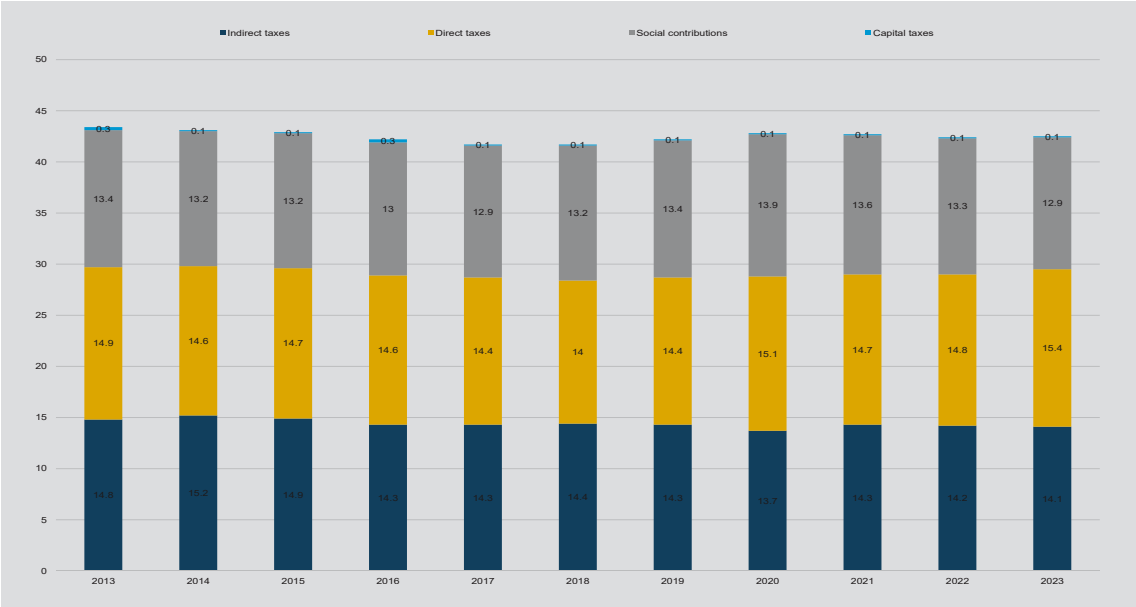
Fiscal revenues, which include both taxes and parafiscal revenues, i.e. social security contributions, traditionally in Italy reached levels higher than the EU27 average. In 2022, Italy was the sixth country in terms of share of tax revenue to GDP, with 42.5%, after France (48%), Belgium (45.6%), Austria (43.6%), Greece and Finland (both with 43.1%)[2].

In 2023, Public Administration revenues accounted for 42.5% of GDP, a stable percentage since 2022 and a slight decrease by 0.9 points compared to ten years earlier. Over the years, this share has shown minor fluctuations although with some changes in their composition (Figure 17.2). The share of Public Administration revenue to GDP showed a slight contraction in 2013-2018, before rising again in the following years.

Direct taxes, i.e. taxes that directly affect income such as Irpef, Ire and Irap, reached 15.4% of GDP in 2023, a peak since 2004, up by 0.6 percentage points since 2022 and by 0.5 points since 2013. Indirect taxes, such as VAT and excise duties on alcohol, tobacco and energy products, have decreased over the years, falling from 14.9% of GDP in 2013 to 14.1% in 2023. They have decreased steadily over the years, with a sudden drop in 2020 due to measures to combat the pandemic. Social contributions, both actual and notional, in 2023 reached their lowest level in the last ten years: the total contributions stood at 12.9% of GDP in 2023, compared to 13.3% in 2022.

2 See http://ec.europa.eu/eurostat.

Figure 17.2 - Ratio of public administration tax revenues to GDP, by tax tipology. Years 2013-2023
(percentage values)



Source: Istat, National Accounts

Italy's share of public development assistance, lower than that of many EU countries, has decreased

Official Development Assistance (ODA) refers to government aid to promote the development of foreign countries that are the object of cooperation. Italy has traditionally allocated a share of resources to ODAs, compared to gross national income (GNI), lower than the European average, although it has increased over the years. In 2022, the country directed a flow equal to 0.33% of GNI to ODA significantly below the EU27 average of 0.58%. This ranks Italy in fifteenth place among European Union donors, with much lower values than France and Germany, which respectively recorded an ODA flow equal to 0.56% and 0.85% of GNI. In 2023, according to provisional data, the share of ODA in gross national income, after an increase in 2022, fell to 0.27%. According to provisional data in 2022 the share of ODA for less developed countries[3] also declined, from 0.08% in 2021 to 0.05% in 2022.

The flow of immigrants' remittances abroad suffered a setback compared to the previous year

In 2023, migrants' remittances abroad[4] though remaining above the threshold of 8 billion euro at current prices, decreased from 8.21 billion euro to 8.17 billion euro since 2022.

The regional composition of remittance flows abroad has remained constant over the years, retracing the distribution of foreign residents. In 2023, over 55% of remittances were concentrated in four regions: Lombardia (22.6%), Lazio (14.8%), Emilia-Romagna (10.4%) and Veneto (8.5%; Figure 17.3).

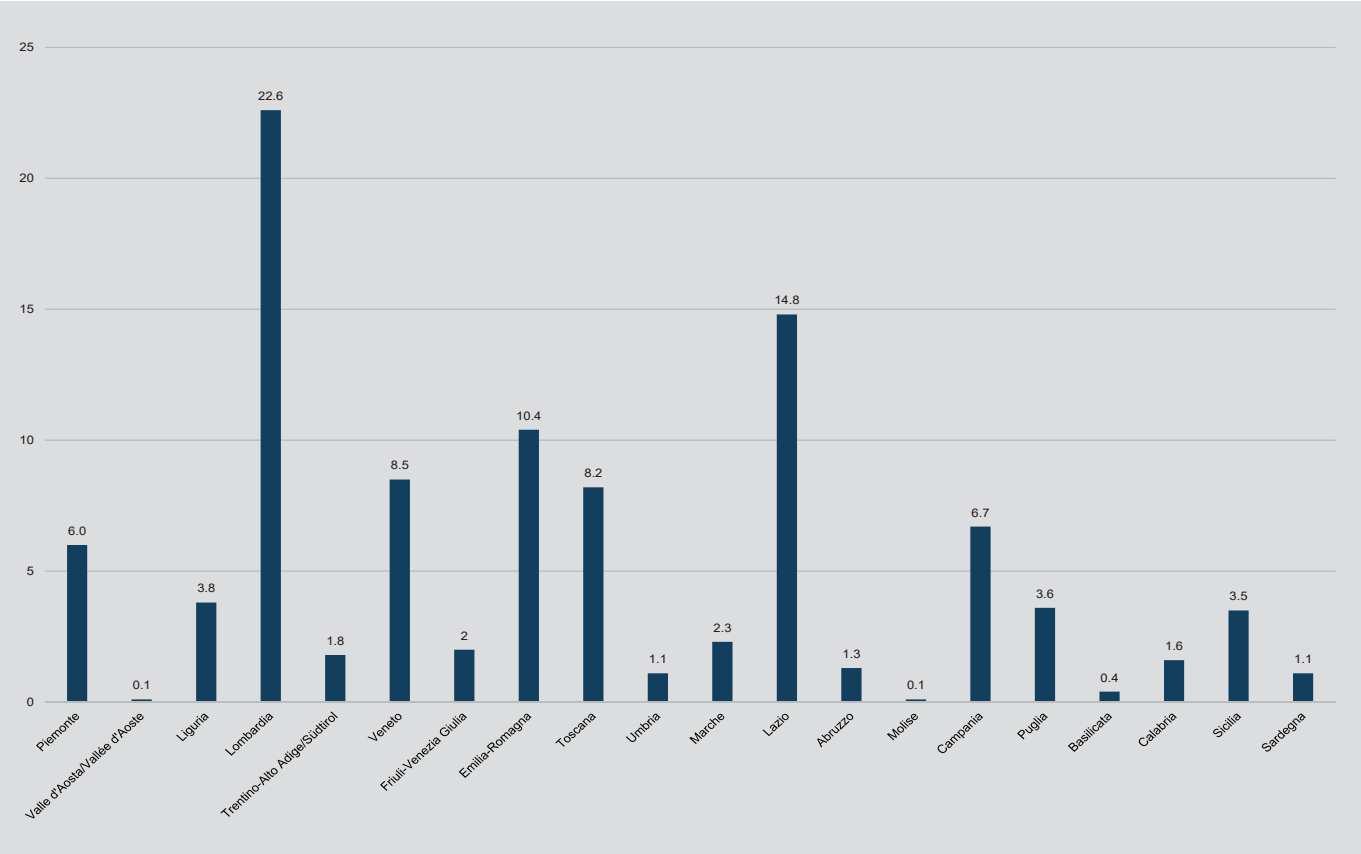
3 For the OECD list of developing and least developed countries, see https://www.oecd.org/dac/financing-sustainable-development/development-finance-standards/DAC-List-of-ODA-Recipients-for-reporting-2024-25-flows.pdf.

4 Remittances abroad are that part of income saved by foreign worker and sent to their family in the country of origin.

Although the destination of the remittances reflected the number and nationality of the foreign communities present in Italy, there was a concentration of flows towards a limited number of countries: the top three, Bangladesh, Pakistan and Philippines, received almost 30% of the flows and the top ten approximately 65%.

The top ten countries included five Asian countries (Bangladesh, 14.3%, Pakistan, 8.3%, Philippines, 7.3%, India 5.4% and Sri Lanka 3.9%), two African countries (Morocco, 6.9% and Senegal 4.1%), two from Eastern Europe (Georgia, 5.6% and Romania 5.5%) and only one country from Latin America (Peru, 4%).

Figure 17.3 - Share of foreign workers' remittances by region. Year 2023 (percentage values)



Source: Istat, Elaboration on Bank of Italy data

The number of Italians using the Internet has increased, although territorial, gender and educational gaps remained

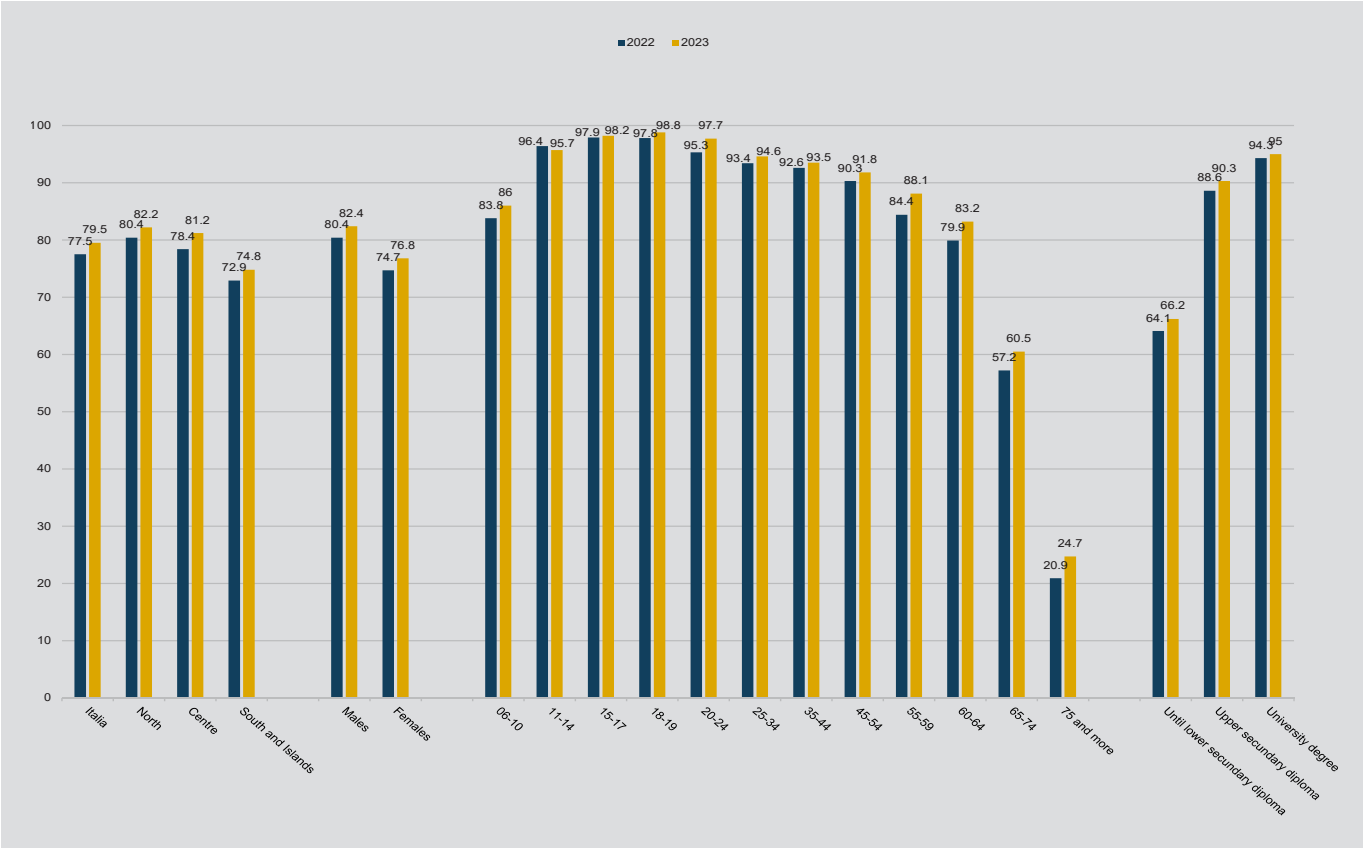
The increasing digitalisation of the economy is reflected in a growing diffusion of Internet use by households and in a greater use of online services. Over the years, this diffusion has been accompanied by the persistence of territorial, gender, educational and age-group digital divides, which are still not resolved today. The percentage of people aged 6 and over who used the Internet in Italy in the three previous months reached 79.5% in 2023, with an increase of 2 percentage points compared to 2022 (Figure 17.4). At a territorial level, the growth of the Centre area (+2.8 percentage points) contributed to bridging the

gap with the North area; instead, the South and Islands, with 74.8% of use, was below the national average.

The data broken down by age group reveal how Internet use is widespread among all ages, including between 6 and 10 year-old children (86%) and adolescents (98.2%), with the exception of elderly people. In the age class between 65 and 74 years, the percentage of users was 60.5%; among those aged over 74 it fell to 24.7%.

The gender gap in favour of male users, although still detectable, was increasingly less pronounced: from 5.7 percentage points in 2022 and 10.4 percentage points in 2013 it decreased to just 4.6 percentage points in 2023.

Figure 17.4 - Individuals aged 6 and more years who used Internet in the past 3 months, by geographical area, gender, age class and education. Years 2022 and 2023 (percentage values)



Source: Istat, Survey on Aspects of daily life

Household e-commerce resumed its popularity in 2023. E-banking has also become increasingly widespread

In 2023, 39.4% of people reported having ordered or purchased goods or services for private use on the Internet in the three previous months, an increase of 2.1 percentage points compared to the previous year. E-commerce reached a user share of between 42% and 46% of residents in all geographical areas, with the exception of the South and Islands which stood at 28.3%.

The breakdown by age group shows a notable gap against older people. E-commerce is less widespread among people over 54 years of age (33.3% between 55 and 59 years and 27.7% between 60 and 64 years) with values that are much lower than the national average and with even lower percentages for the older age groups (15.9% between 64 and 74 years).

In 2023, more than half of Internet users (51.8%) reported having banked online in the three previous months, an increase of 3.4 percentage points compared to the previous year. Even for E-Banking, geographical area, educational attainment and age group evidence profound differences.

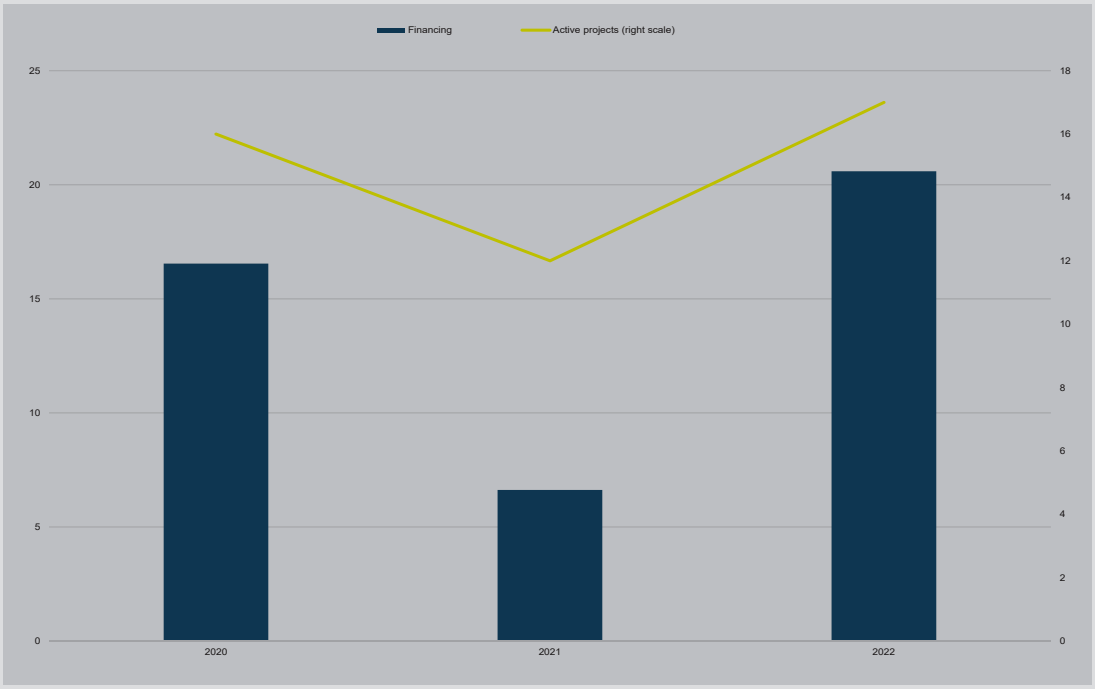
Italy's contribution to the partnership for statistical capacity building[1]

In development cooperation, statistical information has a strategic role as an essential infrastructure for defining policies, as well as for supporting the solid and democratic governance of each country. Access to quality statistics is essential for the definition of national development plans, for the functionality of institutions and for the democratisation process: think of the preparation of electoral lists, impossible without a population register.

Goal 17 - focused on promoting global partnership for sustainable development - includes, among others, a number of targets aimed at developing global technological partnership. Among these, targets 17.18 and 17.19 focus on strengthening the measurement systems of the 2030 Agenda and the creation of statistical measures complementary to GDP, through national statistical systems.

This effort to strengthen the responsibility of individual countries and to increase the capacity to monitor development processes includes the interventions financed by the Italian Cooperation (MAECI - Ministry of Foreign Affairs and International Cooperation and AICS - Italian Agency for Development Cooperation) for the benefit of the national statistical offices and national statistical systems of the partner countries. Furthermore, many of these interventions recognise Istat as the implementing body.

Figure 1 - Italian ODA projects and financing aimed to statistical capacity building (a)**. Years 2020-2022**
(values millions of Euro)



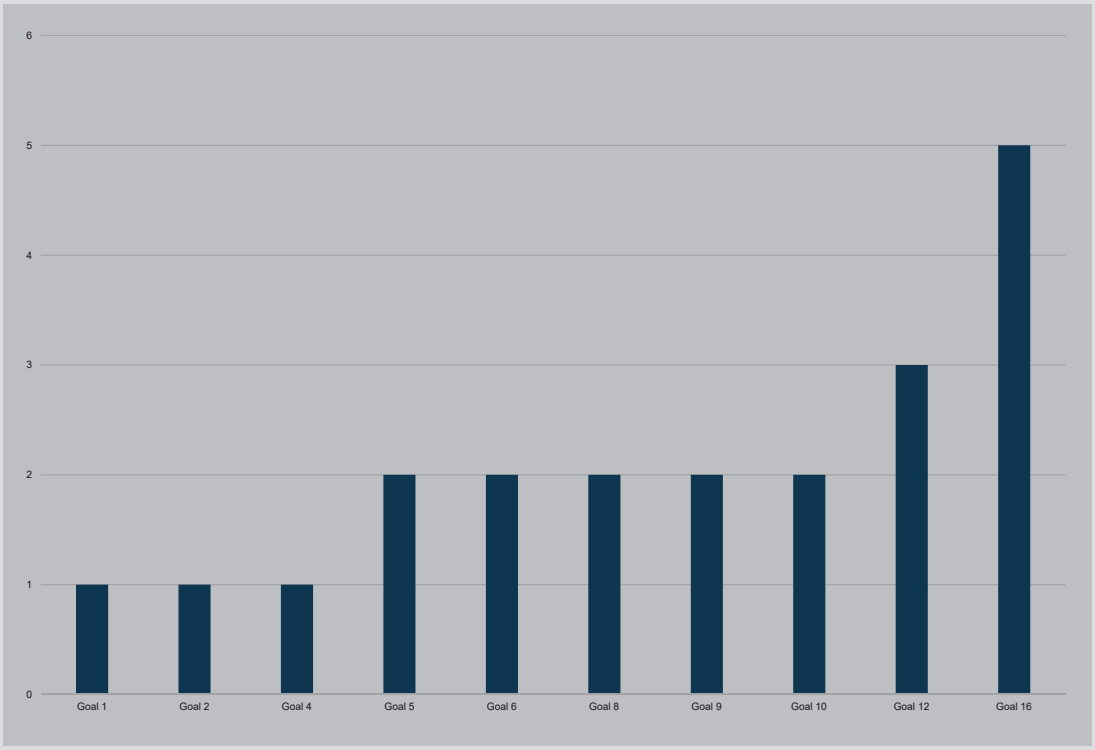
Source: Associazione Italiana per la Cooperazione e lo Sviluppo
(a) The sum of the number of active projects is greater than the overall number of projects because several projects have a multi-year duration.

1 This section was edited by Erica Enne (MAECI) with contributions by Simonetta Di Cori (AICS), Diana Di Gioia (MAECI), Elisabetta Di Pietrantonio (AICS), Filomena Grassia (Istat), Felicia Lomurno (MAECI), Leopoldo Nascia (Istat) and Tiziana Pellicciotti (AICS).

In the three-year period 2020-2022, Italian Official Development Assistance[2] to achieve targets 17.18 and 17.19 financed 29 projects, for approximately 43.7 million euro. These initiatives were mainly performed in collaboration with international organisations and United Nations agencies and with Italian non-governmental organisations[3]. In 2022, both the active projects and the volume of financing increased (Figure 1).

The projects additionally concerned the strengthening of statistical capacity also in the context of interventions concerning Goals other than 17 (Figure 2): food security (Goal 2), local social and economic development (Goals 8 and 16), gender policies (Goal 5), education (Goal 4), social inclusion (Goal 10), sustainable consumption and production (Goal 12), infrastructure (Goal 9) and poverty (Goal 1)[4].

Figure 2 - Italian ODA projects and financing aimed to statistical capacity building by Goal. Years 2020-2022



Source: Associazione Italiana per la Cooperazione e lo Sviluppo

Among the good practices, the Improvement of the Statistical System in Vietnam for the strengthening of the national statistical system of the General Statistics Office (GSO) is highlighted. With a budget of 648,714 euro over three years, the initiative mapped statistical production, provided assistance in defining the National Statistical Programme and strengthened the capabilities of the GSO for compiling of the country's energy balance.

2 Public Development Assistance consists of resources coming from public institutions aimed at promoting the economic development and well-being of developing countries. It includes contributions from all Public Administrations, as well as religious denominations and civil society organisations receiving part of the IRPEF (8 per thousand and 5 per thousand).

3 Overall, 19 countries were involved, of which 9 in Africa, 4 in Latin America, 3 in Asia and 2 in Europe.

4 Overall, out of 29 projects, 20 were aimed at capacity building and the other 9 concerned 25 targets of 11 Goals in the three-year period 2020-2022.

Table 17.1 - Statistical measures released by Istat, taxonomy compared to SDGs indicators, variations compared to the previous year and to 10 years before and convergence among regions

Ref. SDG	INDICATOR	Compared to SDG indicator	Value	VARIATIONS			CONVERGENCE AMONG REGIONS compared to 10 years before
				Compared to the previous year	Compared to 10 years before		
17.1.2	Total government revenue as a proportion of GDP, by source						
Total government revenue as a proportion of GDP, by source (Istat, 2023, percentage values)		Proxy	42.5				--
17.2.1	Net official development assistance, total and to least developed countries, as a proportion of the Organization for Economic Cooperation and Development (OECD) Development Assistance Committee donors' gross national income (GNI)						
Official Development Assistance as a proportion of gross national income (Ministry of Foreign Affairs and International Cooperation, 2023, percentage values)		Identical	0.27				--
Official Development Assistance to Least Developed Countries as a proportion of gross national income (Ministry of Foreign Affairs and International Cooperation, 2022, percentage values)		Identical	0.05			(a)	--
17.3.2	Volume of remittances (in United States dollars) as a proportion of Total GDP						
Foreign workers' remittances (Istat processing on Bank of Italy data, 2023, Millions euro (current prices).		Proxy	8,177.8				
Foreign workers' remittances (Istat processing on Bank of Italy data, 2023, percentage values)		Proxy	(*)	--	--		--
17.6.2	Fixed Internet broadband subscriptions per 100 inhabitants, by speed						
Overall Fixed Very High Capacity Network (VHCN) coverage (Agcom, 2023, %)		Proxy	59.6		--		
Households with Internet access (Istat, 2023, percentage values)		National context	91.7				
17.8.1	Proportion of individuals using the Internet						
Individuals aged 6 years and over who used the Internet in the last 3 months (Istat, 2023, percentage values)		Identical	79.5				
People who have ordered/purchased goods or services for private use on the internet in the last 3 months (Istat, 2023, percentage values)		National context	39.4				
People who have carried out online banking transactions (internet banking) in the last 3 months (Istat, 2023, percentage values)		National context	51.8				

Legend

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Notes

(a) Variation compared to 2013
(*) Refer to the table on www.istat.it

ISTAT-SDGS STATISTICAL MEASURES BY TARGET AND TYPOLOGY

Goal 1

	TARGET	STATISTICAL MEASURES		
		Identical	Proxy /Partial	Nationalcontext
1.1	By 2030, eradicate extreme poverty for all people everywhere, currently measured as people living on less than $1.25 a day.			
1.2	By 2030, reduce at least by half the proportion of men, women and children of all ages living in poverty in all its dimensions according to national definitions.			
1.3	Implement nationally appropriate social protection systems and measures for all, including floors, and by 2030 achieve substantial coverage of the poor and the vulnerable.			
1.4	By 2030, ensure that all men and women, in particular the poor and the vulnerable, have equal rights to economic resources, as well as access to basic services, ownership and control over land and other forms of property, inheritance, natural resources, appropriate new technology and financial services, including microfinance.			
1.5	By 2030, build the resilience of the poor and those in vulnerable situations and reduce their exposure and vulnerability to climate-related extreme events and other economic, social and environmental shocks and disasters.			
1.a	Ensure significant mobilization of resources from a variety of sources, including through enhanced development cooperation, in order to provide adequate and predictable means for developing countries, in particular least developed countries, to implement programmes and policies to end poverty in all its dimensions.			
1.b	Create sound policy frameworks at the national, regional and international levels, based on pro-poor and gender-sensitive development strategies, to support accelerated investment in poverty eradication actions.			

Goal 2

	TARGET	STATISTICAL MEASURES		
		Identical	Proxy / Partial	National context
2.1	By 2030, end hunger and ensure access by all people, in particular the poor and people in vulnerable situations, including infants, to safe, nutritious and sufficient food all year round.			
2.2	By 2030, end all forms of malnutrition, including achieving, by 2025, the internationally agreed targets on stunting and wasting in children under 5 years of age, and address the nutritional needs of adolescent girls, pregnant and lactating women and older persons.			
2.3	By 2030, double the agricultural productivity and incomes of small-scale food producers, in particular women, indigenous peoples, family farmers, pastoralists and fishers, including through secure and equal access to land, other productive resources and inputs, knowledge, financial services, markets and opportunities for value addition and non-farm employment.			
2.4	By 2030, ensure sustainable food production systems and implement resilient agricultural practices that increase productivity and production, that help maintain ecosystems, that strengthen capacity for adaptation to climate change, extreme weather, drought, flooding and other disasters and that progressively improve land and soil quality.			
2.5	By 2020, maintain the genetic diversity of seeds, cultivated plants and farmed and domesticated animals and their related wild species, including through soundly managed and diversified seed and plant banks at the national, regional and international levels, and promote access to and fair and equitable sharing of benefits arising from the utilization of genetic resources and associated traditional knowledge, as internationally agreed.			
2.a	Increase investment, including through enhanced international cooperation, in rural infrastructure, agricultural research and extension services, technology development and plant and livestock gene banks in order to enhance agricultural productive capacity in developing countries, in particular least developed countries.			
2.b	Correct and prevent trade restrictions and distortions in world agricultural markets, including through the parallel elimination of all forms of agricultural export subsidies and all export measures with equivalent effect, in accordance with the mandate of the Doha Development Round.			
2.c	Adopt measures to ensure the proper functioning of food commodity markets and their derivatives and facilitate timely access to market information, including on food reserves, in order to help limit extreme food price volatility.			

Goal 3

	TARGET	STATISTICAL MEASURES		
		Identical	Proxy / Partial	National context
3.1	By 2030, reduce the global maternal mortality ratio to less than 70 per 100,000 live births.			
3.2	By 2030, end preventable deaths of newborns and children under 5 years of age, with all countries aiming to reduce neonatal mortality to at least as low as 12 per 1,000 live births and under-5 mortality to at least as low as 25 per 1,000 live births.			
3.3	By 2030, end the epidemics of AIDS, tuberculosis, malaria and neglected tropical diseases and combat hepatitis, water-borne diseases and other communicable diseases.			
3.4	By 2030, reduce by one third premature mortality from non-communicable diseases through prevention and treatment and promote mental health and well-being.			
3.5	Strengthen the prevention and treatment of substance abuse, including narcotic drug abuse and harmful use of alcohol.			
3.6	By 2020, halve the number of global deaths and injuries from road traffic accidents.			
3.7	By 2030, ensure universal access to sexual and reproductive health-care services, including for family planning, information and education, and the integration of reproductive health into national strategies and programmes.			
3.8	Achieve universal health coverage, including financial risk protection, access to quality essential health-care services and access to safe, effective, quality and affordable essential medicines and vaccines for all.			
3.9	By 2030, substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination.			
3.a	Strengthen the implementation of the World Health Organization Framework Convention on Tobacco Control in all countries, as appropriate.			
3.b	Support the research and development of vaccines and medicines for the communicable and non-communicable diseases that primarily affect developing countries, provide access to affordable essential medicines and vaccines, in accordance with the Doha Declaration on the TRIPS Agreement and Public Health, which affirms the right of developing countries to use to the full the provisions in the Agreement on Trade-Related Aspects of Intellectual Property Rights regarding flexibilities to protect public health, and, in particular, provide access to medicines for all.			
3.c	Substantially increase health financing and the recruitment, development, training and retention of the health workforce in developing countries, especially in least developed countries and small island developing States.			
3.d	Strengthen the capacity of all countries, in particular developing countries, for early warning, risk reduction and management of national and global health risks.			

Goal 4

	TARGET	STATISTICAL MEASURES		
		Identical	Proxy / Partial	National context
4.1	By 2030, ensure that all girls and boys complete free, equitable and quality primary and secondary education leading to relevant and effective learning outcomes.	17	1	2
4.2	By 2030, ensure that all girls and boys have access to quality early childhood development, care and pre-primary education so that they are ready for primary education.	1	1	
4.3	By 2030, ensure equal access for all women and men to affordable and quality technical, vocational and tertiary education, including university.	1	1	4
4.4	By 2030, substantially increase the number of youth and adults who have relevant skills, including technical and vocational skills, for employment, decent jobs and entrepreneurship.	1		1
4.5	By 2030, eliminate gender disparities in education and ensure equal access to all levels of education and vocational training for the vulnerable, including persons with disabilities, indigenous peoples and children in vulnerable situations.	1 (a)		
4.6	By 2030, ensure that all youth and a substantial proportion of adults, both men and women, achieve literacy and numeracy.			2
4.7	By 2030, ensure that all learners acquire the knowledge and skills needed to promote sustainable development, including, among others, through education for sustainable development and sustainable lifestyles, human rights, gender equality, promotion of a culture of peace and non-violence, global citizenship and appreciation of cultural diversity and of culturès contribution to sustainable development.			
4.a	Build and upgrade education facilities that are child, disability and gender sensitive and provide safe, non-violent, inclusive and effective learning environments for all.	3	1	
4.b	By 2020, substantially expand globally the number of scholarships available to developing countries, in particular least developed countries, small island developing States and African countries, for enrolment in higher education, including vocational training and information and communications technology, technical, engineering and scientific programmes, in developed countries and other developing countries.	1		
4.c	By 2030, substantially increase the supply of qualified teachers, including through international cooperation for teacher training in developing countries, especially least developed countries and small island developing States.			

(a) The parity indices are 21 and refer to 15 statistical measures of Goal 4.

Goal 5

	TARGET	STATISTICAL MEASURES		
		Identical	Proxy / Partial	National context
5.1	End all forms of discrimination against all women and girls everywhere.			
5.2	Eliminate all forms of violence against all women and girls in the public and private spheres, including trafficking and sexual and other types of exploitation.	⚥ ⚥	⚥ ⚥ ⚥	⚥ ⚥ ⚥ ⚥ ⚥
5.3	Eliminate all harmful practices, such as child, early and forced marriage and female genital mutilation.			
5.4	Recognize and value unpaid care and domestic work through the provision of public services, infrastructure and social protection policies and the promotion of shared responsibility within the household and the family as nationally appropriate.	⚥		⚥ ⚥
5.5	Ensure women's full and effective participation and equal opportunities for leadership at all levels of decision-making in political, economic and public life.		⚥ ⚥ ⚥ ⚥	
5.6	Ensure universal access to sexual and reproductive health and reproductive rights as agreed in accordance with the Programme of Action of the International Conference on Population and Development and the Beijing Platform for Action and the outcome documents of their review conferences.			⚥ ⚥
5.a	Undertake reforms to give women equal rights to economic resources, as well as access to ownership and control over land and other forms of property, financial services, inheritance and natural resources, in accordance with national laws.			
5.b	Enhance the use of enabling technology, in particular information and communications technology, to promote the empowerment of women.		⚥	⚥
5.c	Adopt and strengthen sound policies and enforceable legislation for the promotion of gender equality and the empowerment of all women and girls at all levels.			

Goal 6

	TARGET	STATISTICAL MEASURES		
		Identical	Proxy / Partial	National nazionale
6.1	By 2030, achieve universal and equitable access to safe and affordable drinking water for all.			●●●●
6.2	By 2030, achieve access to adequate and equitable sanitation and hygiene for all and end open defecation, paying special attention to the needs of women and girls and those in vulnerable situations.			
6.3	By 2030, improve water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials, halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse globally.		●●●●●●●	●●
6.4	By 2030, substantially increase water-use efficiency across all sectors and ensure sustainable withdrawals and supply of freshwater to address water scarcity and substantially reduce the number of people suffering from water scarcity.	●	●	●
6.5	By 2030, implement integrated water resources management at all levels, including through transboundary cooperation as appropriate.	●●		
6.6	By 2020, protect and restore water-related ecosystems, including mountains, forests, wetlands, rivers, aquifers and lakes.	●		
6.a	By 2030, expand international cooperation and capacity-building support to developing countries in water-and sanitation-related activities and programmes, including water harvesting, desalination, water efficiency, wastewater treatment, recycling and reuse technologies.	●		
6.b	Proportion of local administrative units with established and operational policies and procedures for participation of local communities in water and sanitation management.			

Goal 7

	TARGET	STATISTICAL MEASURES		
		Identical	Proxy / Partial	National context
7.1	By 2030, ensure universal access to affordable, accessible, reliable and modern energy services.		☉	☉☉☉
7.2	By 2030, increase substantially the share of renewable energy in the global energy mix.		☉☉☉☉	☉
7.3	By 2030, double the global rate of improvement in energy efficiency.	☉	☉☉	☉
7.a	By 2030, enhance international cooperation to facilitate access to clean energy research and technology, including renewable energy, energy efficiency and advanced and cleaner fossil-fuel technology, and promote investment in energy infrastructure and clean energy technology.			
7.b	By 2030, expand infrastructure and upgrade technology for supplying modern and sustainable energy services for all in developing countries, in particular least developed countries, small island developing States and landlocked developing countries, in accordance with their respective programmes of support.	☉		

Goal 8

	TARGET	STATISTICAL MEASURES		
		Identical	Proxy / Partial	National context
8.1	Sustain per capita economic growth in accordance with national circumstances and, in particular, at least 7 per cent gross domestic product growth per annum in the least developed countries.			
8.2	Achieve higher levels of economic productivity through diversification, technological upgrading and innovation, including through a focus on high-value added and labour-intensive sectors.			
8.3	Promote development-oriented policies that support productive activities, decent job creation, entrepreneurship, creativity and innovation, and encourage the formalization and growth of micro-, small- and medium-sized enterprises, including through access to financial services.			
8.4	Improve progressively, through 2030, global resource efficiency in consumption and production and endeavour to decouple economic growth from environmental degradation, in accordance with the 10-year Framework of Programmes on Sustainable Consumption and Production, with developed countries taking the lead.			
8.5	By 2030, achieve full and productive employment and decent work for all women and men, including for young people and persons with disabilities, and equal pay for work of equal value.			
8.6	By 2020, substantially reduce the proportion of youth not in employment, education or training.			
8.7	Take immediate and effective measures to eradicate forced labour, end modern slavery and human trafficking and secure the prohibition and elimination of the worst forms of child labour, including recruitment and use of child soldiers, and by 2025 end child labour in all its forms.			
8.8	Protect labour rights and promote safe and secure working environments for all workers, including migrant workers, in particular women migrants, and those in precarious employment.			
8.9	By 2030, devise and implement policies to promote sustainable tourism that creates jobs and promotes local culture and products.			
8.10	Strengthen the capacity of domestic financial institutions to encourage and expand access to banking, insurance and financial services for all.			
8.a	Increase Aid for Trade support for developing countries, in particular least developed countries, including through the “Enhanced Integrated Framework for Trade-related Technical Assistance to Least Developed Countries”.			
8.b	By 2020, develop and operationalize a global strategy for youth employment and implement the “Global Jobs Pact of the International Labour Organization”.			

Goal 9

	TARGET	STATISTICAL MEASURES		
		Identical	Proxy / Partial	National context
9.1	Develop quality, reliable, sustainable and resilient infrastructure, including regional and transborder infrastructure, to support economic development and human well-being, with a focus on affordable and equitable access for all.			
9.2	Promote inclusive and sustainable industrialization and, by 2030, significantly raise industry's share of employment and gross domestic product, in line with national circumstances, and double its share in least developed countries.			
9.3	Increase the access of small-scale industrial and other enterprises, in particular in developing countries, to financial services, including affordable credit, and their integration into value chains and markets.			
9.4	By 2030, upgrade infrastructure and retrofit industries to make them sustainable, with increased resource-use efficiency and greater adoption of clean and environmentally sound technologies and industrial processes, with all countries taking action in accordance with their respective capabilities.			
9.5	Enhance scientific research, upgrade the technological capabilities of industrial sectors in all countries, in particular developing countries, including, by 2030, encouraging innovation and substantially increasing the number of research and development workers per 1 million people and public and private research and development spending.			
9.a	Facilitate sustainable and resilient infrastructure development in developing countries through enhanced financial, technological and technical support to African countries, least developed countries, landlocked developing countries and small island developing States.			
9.b	Support domestic technology development, research and innovation in developing countries, including by ensuring a conducive policy environment for, inter alia, industrial diversification and value addition to commodities.			
9.c	Significantly increase access to information and communications technology and strive to provide universal and affordable access to the Internet in least developed countries by 2020.			

Goal 10

	TARGET	STATISTICAL MEASURES		
		Identical	Proxy / Partial	National context
10.1	By 2030, progressively achieve and sustain income growth of the bottom 40 per cent of the population at a rate higher than the national average.	●●	●	●●●
10.2	By 2030, empower and promote the social, economic and political inclusion of all, irrespective of age, sex, disability, race, ethnicity, origin, religion or economic or other status.	●●		
10.3	Ensure equal opportunity and reduce inequalities of outcome, including by eliminating discriminatory laws, policies and practices and promoting appropriate legislation, policies and action in this regard.			
10.4	Adopt policies, especially fiscal, wage and social protection policies, and progressively achieve greater equality.	●		
10.5	Improve the regulation and monitoring of global financial markets and institutions and strengthen the implementation of such regulations.			
10.6	Ensure enhanced representation and voice for developing countries in decision-making in global international economic and financial institutions in order to deliver more effective, credible, accountable and legitimate institutions.			
10.7	Facilitate orderly, safe, regular and responsible migration and mobility of people, including through the implementation of planned and well-managed migration policies.		●	●●● ●●
10.a	Implement the principle of special and differential treatment for developing countries, in particular least developed countries, in accordance with World Trade Organization agreements.			
10.b	Encourage official development assistance and financial flows, including foreign direct investment, to States where the need is greatest, in particular least developed countries, African countries, small island developing States and landlocked developing countries, in accordance with their national plans and programmes.		●	
10.c	By 2030, reduce to less than 3 per cent the transaction costs of migrant remittances and eliminate remittance corridors with costs higher than 5 per cent.			

Goal 11

	TARGET	STATISTICAL MEASURES		
		Identical	Proxy / Partial	National context
11.1	By 2030, ensure access for all to adequate, safe and affordable housing and basic services and upgrade slums.			
11.2	By 2030, provide access to safe, affordable, accessible and sustainable transport systems for all, improving road safety, notably by expanding public transport, with special attention to the needs of those in vulnerable situations, women, children, persons with disabilities and older persons.			
11.3	By 2030, enhance inclusive and sustainable urbanization and capacity for participatory, integrated and sustainable human settlement planning and management in all countries.			
11.4	Strengthen efforts to protect and safeguard the world's cultural and natural heritage.			
11.5	By 2030, significantly reduce the number of deaths and the number of people affected and substantially decrease the direct economic losses relative to global gross domestic product caused by disasters, including water-related disasters, with a focus on protecting the poor and people in vulnerable situations.			
11.6	By 2030, reduce the adverse per capita environmental impact of cities, including by paying special attention to air quality and municipal and other waste management.			
11.7	By 2030, provide universal access to safe, inclusive and accessible, green and public spaces, in particular for women and children, older persons and persons with disabilities.			
11.a	Support positive economic, social and environmental links between urban, peri-urban and rural areas by strengthening national and regional development planning.			
11.b	By 2020, substantially increase the number of cities and human settlements adopting and implementing integrated policies and plans towards inclusion, resource efficiency, mitigation and adaptation to climate change, resilience to disasters, and develop and implement, in line with the Sendai Framework for Disaster Risk Reduction 2015-2030, holistic disaster risk management at all levels.			
11.c	Support least developed countries, including through financial and technical assistance, in building sustainable and resilient buildings utilizing local materials.			

Goal 12

	TARGET	STATISTICAL MEASURES		
		Identical	Proxy / Partial	National context
12.1	Implement the 10-Year Framework of Programmes on Sustainable Consumption and Production Patterns, all countries taking action, with developed countries taking the lead, taking into account the development and capabilities of developing countries			
12.2	By 2030, achieve the sustainable management and efficient use of natural resources.	∞∞∞		
12.3	By 2030, halve per capita global food waste at the retail and consumer levels and reduce food losses along production and supply chains, including post-harvest losses.			
12.4	By 2020, achieve the environmentally sound management of chemicals and all wastes throughout their life cycle, in accordance with agreed international frameworks, and significantly reduce their release to air, water and soil in order to minimize their adverse impacts on human health and the environment.		∞∞∞	
12.5	By 2030, substantially reduce waste generation through prevention, reduction, recycling and reuse.		∞∞∞	∞∞
12.6	Encourage companies, especially large and transnational companies, to adopt sustainable practices and to integrate sustainability information into their reporting cycle.		∞∞	∞∞∞ ∞∞
12.7	Promote public procurement practices that are sustainable, in accordance with national policies and priorities.			∞
12.8	By 2030, ensure that people everywhere have the relevant information and awareness for sustainable development and lifestyles in harmony with nature.			
12.a	Support developing countries to strengthen their scientific and technological capacity to move towards more sustainable patterns of consumption and production.	∞		∞
12.b	Develop and implement tools to monitor sustainable development impacts for sustainable tourism that creates jobs and promotes local culture and products.	∞		∞∞∞ ∞
12.c	Rationalize inefficient fossil-fuel subsidies that encourage wasteful consumption by removing market distortions, in accordance with national circumstances, including by restructuring taxation and phasing out those harmful subsidies, where they exist, to reflect their environmental impacts, taking fully into account the specific needs and conditions of developing countries and minimizing the possible adverse impacts on their development in a manner that protects the poor and the affected communities.	∞		

Goal 13

	TARGET	STATISTICAL MEASURES		
		Identical	Proxy / Partial	National context
13.1	Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries.			
13.2	Integrate climate change measures into national policies, strategies and planning.			
13.3	Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning.			
13.a	Implement the commitment undertaken by developed-country parties to the United Nations Framework Convention on Climate Change to a goal of mobilizing jointly $100 billion annually by 2020 from all sources to address the needs of developing countries in the context of meaningful mitigation actions and transparency on implementation and fully operationalize the Green Climate Fund through its capitalization as soon as possible.			
13.b	Promote mechanisms for raising capacity for effective climate change-related planning and management in least developed countries and small island developing States, including focusing on women, youth and local and marginalized communities.			

Goal 14

	TARGET	STATISTICAL MEASURES		
		Identical	Proxy / Partial	National context
14.1	By 2025, prevent and significantly reduce marine pollution, in particular from land-based activities, including marine debris and nutrient pollution.			
14.2	By 2020, sustainably manage and protect marine and coastal ecosystems to avoid significant adverse impacts, including by strengthening their resilience, and take action for their restoration in order to achieve healthy and productive oceans.			
14.3	Minimize and address the impacts of ocean acidification, including through enhanced scientific cooperation at all levels.			
14.4	By 2020, effectively regulate harvesting and end overfishing, illegal, unreported and unregulated fishing and destructive fishing practices and implement science-based management plans, in order to restore fish stocks in the shortest time feasible, at least to levels that can produce maximum sustainable yield as determined by their biological characteristics.			
14.5	By 2020, conserve at least 10 per cent of coastal and marine areas, consistent with national and international law and based on the best available scientific information.			
14.6	By 2020, prohibit certain forms of fisheries subsidies which contribute to overcapacity and overfishing, eliminate subsidies that contribute to illegal, unreported and unregulated fishing and refrain from introducing new such subsidies, recognizing that appropriate and effective special and differential treatment for developing and least developed countries should be an integral part of the World Trade Organization fisheries subsidies negotiation.			
14.7	By 2030, increase the economic benefits to small island developing States and least developed countries from the sustainable use of marine resources, including through sustainable management of fisheries, aquaculture and tourism.			
14.a	Increase scientific knowledge, develop research capacity and transfer marine technology, taking into account the Intergovernmental Oceanographic Commission Criteria and Guidelines on the Transfer of Marine Technology, in order to improve ocean health and to enhance the contribution of marine biodiversity to the development of developing countries, in particular small island developing States and least developed countries.			
14.b	Provide access for small-scale artisanal fishers to marine resources and markets.			
14.c	Enhance the conservation and sustainable use of oceans and their resources by implementing international law as reflected in the United Nations Convention on the Law of the Sea, which provides the legal framework for the conservation and sustainable use of oceans and their resources, as recalled in paragraph 158 of “The future we want”.			

Goal 15

	TARGET	STATISTICAL MEASURES		
		Identical	Proxy / Partial	National context
15.1	By 2020, ensure the conservation, restoration and sustainable use of terrestrial and inland freshwater ecosystems and their services, in particular forests, wetlands, mountains and drylands, in line with obligations under international agreements.			
15.2	By 2020, promote the implementation of sustainable management of all types of forests, halt deforestation, restore degraded forests and substantially increase afforestation and reforestation globally.			
15.3	By 2030, combat desertification, restore degraded land and soil, including land affected by desertification, drought and floods, and strive to achieve a land degradation-neutral world.			
15.4	By 2030, ensure the conservation of mountain ecosystems, including their biodiversity, in order to enhance their capacity to provide benefits that are essential for sustainable development.			
15.5	Take urgent and significant action to reduce the degradation of natural habitats, halt the loss of biodiversity and, by 2020, protect and prevent the extinction of threatened species.			
15.6	Promote fair and equitable sharing of the benefits arising from the utilization of genetic resources and promote appropriate access to such resources, as internationally agreed.			
15.7	Take urgent action to end poaching and trafficking of protected species of flora and fauna and address both demand and supply of illegal wildlife products.		 (b)	
15.8	By 2020, introduce measures to prevent the introduction and significantly reduce the impact of invasive alien species on land and water ecosystems and control or eradicate the priority species.			
15.9	By 2020, integrate ecosystem and biodiversity values into national and local planning, development processes, poverty reduction strategies and accounts.			
15.a	Mobilize and significantly increase financial resources from all sources to conserve and sustainably use biodiversity and ecosystems.			
15.b	Mobilize significant resources from all sources and at all levels to finance sustainable forest management and provide adequate incentives to developing countries to advance such management, including for conservation and reforestation.			
15.c	Enhance global support for efforts to combat poaching and trafficking of protected species, including by increasing the capacity of local communities to pursue sustainable livelihood opportunities.		 (b)	

(b) The measures referred to target 15.7 and those referred to target 15.c are the same.

Goal 16

	TARGET	STATISTICAL MEASURES		
		Identical	Proxy / Partial	National context
16.1	Significantly reduce all forms of violence and related death rates everywhere.	●●	●●	
16.2	End abuse, exploitation, trafficking and all forms of violence against and torture of children.		●	
16.3	Promote the rule of law at the national and international levels and ensure equal access to justice for all.	●●	●	●
16.4	By 2030, significantly reduce illicit financial and arms flows, strengthen the recovery and return of stolen assets and combat all forms of organized crime.			
16.5	Substantially reduce corruption and bribery in all their forms.		●●●	
16.6	Develop effective, accountable and transparent institutions at all levels.		●●●	●
16.7	Ensure responsive, inclusive, participatory and representative decision-making at all levels.	●●		
16.8	Broaden and strengthen the participation of developing countries in the institutions of global governance.			
16.9	By 2030, provide legal identity for all, including birth registration.			
16.10	Ensure public access to information and protect fundamental freedoms, in accordance with national legislation and international agreements.			
16.a	Strengthen relevant national institutions, including through international cooperation, for building capacity at all levels, in particular in developing countries, to prevent violence and combat terrorism and crime.			
16.b	Promote and enforce non-discriminatory laws and policies for sustainable development.			

Goal 17

	TARGET	STATISTICAL MEASURES		
		Identical	Proxy / Partial	National context
17.1	Strengthen domestic resource mobilization, including through international support to developing countries, to improve domestic capacity for tax and other revenue collection.		●	
17.2	Developed countries to implement fully their official development assistance commitments, including the commitment by many developed countries to achieve the target of 0.7 per cent of gross national income for official development assistance (ODA/GNI) to developing countries and 0.15 to 0.20 per cent of ODA/GNI to least developed countries; ODA providers are encouraged to consider setting a target to provide at least 0.20 per cent of ODA/GNI to least developed countries.	●		
17.3	Mobilize additional financial resources for developing countries from multiple sources.		●	
17.4	Assist developing countries in attaining long-term debt sustainability through coordinated policies aimed at fostering debt financing, debt relief and debt restructuring, as appropriate, and address the external debt of highly indebted poor countries to reduce debt distress.			
17.5	Adopt and implement investment promotion regimes for least developed countries.			
17.6	Enhance North-South, South-South and triangular regional and international cooperation on and access to science, technology and innovation and enhance knowledge-sharing on mutually agreed terms, including through improved coordination among existing mechanisms, in particular at the United Nations level, and through a global technology facilitation mechanism.		●	●
17.7	Promote the development, transfer, dissemination and diffusion of environmentally sound technologies to developing countries on favourable terms, including on concessional and preferential terms, as mutually agreed.			
17.8	Fully operationalize the technology bank and science, technology and innovation capacity-building mechanism for least developed countries by 2017 and enhance the use of enabling technology, in particular information and communications technology.	●		●
17.9	Enhance international support for implementing effective and targeted capacity-building in developing countries to support national plans to implement all the Sustainable Development Goals, including through North-South, South-South and triangular cooperation.			
17.10	Promote a universal, rules-based, open, non-discriminatory and equitable multilateral trading system under the World Trade Organization, including through the conclusion of negotiations under its Doha Development Agenda.			
17.11	Significantly increase the exports of developing countries, in particular with a view to doubling the least developed countries' share of global exports by 2020.			
17.12	Realize timely implementation of duty-free and quota-free market access on a lasting basis for all least developed countries, consistent with World Trade Organization decisions, including by ensuring that preferential rules of origin applicable to imports from least developed countries are transparent and simple, and contribute to facilitating market access.			
17.13	Enhance global macroeconomic stability, including through policy coordination and policy coherence.			
17.14	Enhance policy coherence for sustainable development.			
17.15	Respect each country's policy space and leadership to establish and implement policies for poverty eradication and sustainable development.			

Goal 17 follow

	TARGET	STATISTICAL MEASURES		
		Identical	Proxy / Partial	National context
17.16	Enhance the Global Partnership for Sustainable Development, complemented by multi-stakeholder partnerships that mobilize and share knowledge, expertise, technology and financial resources, to support the achievement of the Sustainable Development Goals in all countries, in particular developing countries.			
17.17	Encourage and promote effective public, public-private and civil society partnerships, building on the experience and resourcing strategies of partnerships.			
17.18	By 2020, enhance capacity-building support to developing countries, including for least developed countries and small island developing States, to increase significantly the availability of high-quality, timely and reliable data disaggregated by income, gender, age, race, ethnicity, migratory status, disability, geographic location and other characteristics relevant in national contexts.			
17.19	By 2030, build on existing initiatives to develop measurements of progress on sustainable development that complement gross domestic product, and support statistical capacity-building in developing countries.			

3. NATIONAL AND INTERNATIONAL PROCESSES FOR SDGs STATISTICAL INFORMATION SYSTEMS[1]

3.1 The global process of implementing the 2030 Agenda

The plan designed by the United Nations on the Sustainable Development Goals[2] represents the tool chosen by the global community in 2015 to improve the quality of life and protect the planet. The 2030 Agenda for Sustainable Development considers a holistic vision of all 17 SDGs to be essential: human and economic well-being cannot exist without attention to sustainability and climate transition.

According to the UN Global Sustainable Development Report[3], only 12% of the 169 targets currently are on track to be achieved. At the 2023 Summit on the 2030 Agenda in autumn 2023, the "Action Plan" was signed by countries[4] to achieve the Goals, which Italy has undertaken to define. The 2024 Future Summit, in September, intended to solicit contributions from each country in outlining concrete actions to address the current global crises and accelerate the implementation of the 2030 Agenda, in the recognition of mutual interdependencies and aiming to establish a more shared and democratic international community governance.

In the 2023 conclusions of the 78th session of the United Nations General Assembly[5], the European States expressed their support for strengthening global governance, recognising that the current multilateral system requires adaptation to meet both current and future challenges, including reducing SDGs implementation times and promoting peace. They committed to playing a leading role in achieving an ambitious and action-oriented "Pact for the Future" at the 2024 Future Summit.

The High Level Group for Partnership, Coordination and Capacity Building for Statistics for the 2030 Agenda (UN-HLG-PCCB-2030) aims to focus on the need to increase investments to fill the gap in statistical information necessary to monitor of the SDGs[6], especially regarding the energy and climate transition, increased food insecurity, and the ongoing social and political crises. Statistical knowledge is essential to guide necessary actions: for this purpose, it is essential to work on a "global data ecosystem", to enhance innovations and partnerships to expand the quality of inclusive

1 This Chapter was edited by Angela Ferruzza; paragraph 3.4 was edited by Luigi Costanzo.
2 See https://unstats.un.org/sdgs/iaeg-sdgs/.
3 See https://sdgs.un.org/gsdr/gsdr2023.
4 See https://hlpf.un.org/sdg-summit#:~:text=18%2D19%20September%202023%2C%20NEW%20YORK&text=The%20High%2DLevel%20Political%20Forum,implementation%20of%20the%202030%20Agenda.
5 See https://unric.org/it/78a-assemblea-generale-nazioni-unite/.
6 See https://unstats.un.org/sdgs/files/HLG-PCCB-TOR-UNSC53.pdf.

data[7], to address the ethics and non-neutrality of data and maximise data use[8]. The July 2023 meeting highlighted the importance of full implementation of actions aimed at achieving the SDGs[9].

3.2 The indicators defined by the United Nations in the Inter Agency and Expert Group on SDGs

In 2015, the Statistical Commission established the Inter Agency and Expert Group on SDGs (UN-IAEG-SDGs), with Istat participating as a representative expert country for Western and Southern Europe[10]. A shared framework of statistical information, as a measurement element for monitoring and analysis of sustainability, is the essential tool to build the common language desired at an international level.

The framework of the indicators built from 2015 provides for continuous development, in order to improve the quality of metadata and methods. The latest version of this reference framework, proposed by the UN-IAEG-SDGs[11] in March 2024, includes 231 indicators. Some of them occur in multiple targets totalling 248 indicators[12]. The indicators are classified into two levels: Tier I[13], with over half (157) indicators, and Tier II, with 66 indicators; 8 indicators are based on multiple components of different levels.

Following the 2020 review, a methodological and institutional process has initiated, for a further review of the statistical framework scheduled for 2025[14], to be implemented without increasing the statistical burden on countries. Replacements, adjustments or expansions of indicators will only be considered if the existing ones do not cover what is required by the targets in an exhaustive manner (for example, when a crucial aspect of the target is not monitored by the current indicator or if the target has limited Tier 1 indicators).

The ongoing review must not, in fact, significantly alter the current framework's composition, as it has already been implemented within many National statistical systems. However, it is essential to recognize that ambitious goals for constructing statistical information have been set, particularly for topics not traditionally within the scope of National statistical systems. Consequently, in many cases, data construction processes have been initiated that require medium-term development and should remain stable.

Proposals, submitted by April 2024, are currently undergoing analysis and approval process, including an open consultation (July-August), with final decision due by year end.

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7 The production of statistical data could also be performed considering the active participation of citizens according to the hypotheses considered within the principles of Citizen's data. See https://unstats.un.org/UNSDWebsite/statcom/session_55/documents/BG-4c-CGD_Framework-E.pdf.

8 See https://unstats.un.org/sdgs/hlg/Hangzhou_declaration.pdf.

9 See https://hlpf.un.org/2023.

10 See https://unstats.un.org/sdgs/iaeg-sdgs/.

11 See Istat. 2023. *2023 SDGs Report*. Rome: Istat (https://www.istat.it/wp-content/uploads/2024/05/SDGs-2023-English-version-Ebook.pdf), Chapter 4, and decisions of the 55th United Nations Statistical Commission (E/CN.3/2024/4).

12 See https://unstats.un.org/sdgs/indicators/Global-Indicator-Framework-after-2024-refinement-English.pdf.

13 The first level (Tier I) includes all the indicators with an internationally established methodology and standards available, and data regularly produced by countries; the second level (Tier II) contains indicators which, an internationally established methodology and standards available, are not regularly produced. The remaining indicators belong to multiple levels, given the heterogeneity of their components.

14 See https://unstats.un.org/sdgs/iaeg-sdgs/2025-comprehensive-review.

New proposals must adopt an agreed methodology and refer to data available for at least 40% of countries. In March 2025 the Statistical Commission will evaluate the final proposal.

UN-IAEG-SDGs work plans for current activities on indicators construction include paying particular attention to enhance administrative data use, to improve data quality in terms of additional indicator disaggregation[15], especially with reference to the territory, in compliance with the "No one left behind principle", to include innovative elements, such as non-traditional data sources, reiterating the need for citizen-generated data as complementary information sources, to fill some of information gaps. The National statistical systems remain central as guarantors of the quality of statistical information.

In June 2024, a report based on available United Nations data was released, documenting global dynamics[16]. It supplements the Global SDG Indicators Database[17], which collects statistical information and is updated every six months.

The United Nations "Our Common Agenda"[18] requires collective actions for the future to address the challenge of complementing GDP with other measures of inclusive and sustainable growth (Beyond GDP). For this purpose, a process is underway to focus on a set of statistical metrics covering the social, economic and environmental dimensions, that address sustainability, well-being, and inclusion in an integrated manner. These activities aim to develop methodological advancements that produce dedicated indicators, build dashboards and, possibly, summary indicators, based on a core of statistical measures dedicated to well-being, respect for life and planet, reduction of inequalities and greater solidarity, participatory governance, stronger institutions, innovative, ethically sustainable and resilient economies. Future dashboard indicators must be based on existing global or national statistics - SDG indicators, demographic and social statistics, national accounts, environmental accounts – incorporating innovative elements like multidimensional vulnerability indices, new data sources (geospatial data and citizen generated data) and new technologies.

3.3 European initiatives for the implementation of the 2030 Agenda

Within the European Union, the reference remains the European Green Deal (EGD) and the development of the resulting National Recovery and Resilience Plans: the ecological transition towards a clean, circular, climate-neutral economy, which must leave no-one behind, is necessary to achieve, by 2050, the objectives of climate neutrality and the reduction, by 2030, of 55% (compared to 1990) of greenhouse gas emissions.

In 2023 and early 2024 the European Union launched a programme of legislative initiatives (strategies, directives and regulations), which refer to the implementation of the 2030 Agenda[19] and align with strategic frameworks of the European Green

15 See https://www.adb.org/publications/guidebook-data-disaggregation-sdgs.
16 See https://unstats.un.org/sdgs/report/2023/.
17 See https://unstats.un.org/sdgs/dataportal.
18 See https://www.un.org/en/common-agenda.
19 See https://asvis.it/public/asvis2/files/Pubblicazioni/Quaderno_ASviS_Europa_240311.pdf.

Deal, the European Pillar of Social Rights, the Digital Decade, and consistent with the response to the health, economic and political crises of the last four years (see the paragraph 3.4).

In 2023, the European Parliament also examined reforms to guarantee multilateralism, requesting a review of the global financial architecture that respects the 2030 Agenda and the Paris agreement.

The European Commission indicates the need to ensure a new European social contract for a sustainable future. In concrete terms, this translates into the need to address competitive sustainability and, therefore, to understand the interconnections between environmental sustainability, productivity, equity and macroeconomic stability.

Reports from international and European organisations continue to highlight the need to accelerate into the energy transition as much as possible and to address the growing damage caused by the climate crisis. The latest documents from the Organisation for Economic Co-operation and Development, the International Monetary Fund, the European Environment Agency and the European Commission present a dramatic picture of the current and future impacts of climate change: the "costs of inaction" outweigh the "costs of action", and this also applies to the European economic system too.

Eurostat publish annually the report "Sustainable development in the European Union - Monitoring report on progress towards the SDGs in an EU context". The report updates the description describes the situation in EU[20] with respect to the objectives of the 2030 Agenda, through 102 indicators[21] tailored to comply with the needs of qualified statistical information for the ecological transition, though they do not coincide always with the UN-IAEG-SDGs indicators, despite the same UN metadata and targets. The assessment of Member States performances with respect to the achievement of the SDGs[22], based on the monitoring of such indicators, allow a set of recommendations for each country[23].

At a European level, it is relevant to improve impact assessments in the future (Better regulation: guidelines[24] and toolbox[25]) and to pursue the adoption and implementation of action plans for policy coherence.

20 See https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Sustainable_development_in_the_European_Union.
21 See https://ec.europa.eu/eurostat/documents/15234730/19397895/KS-05-24-071-EN-N.pdf/730c983a-fa93-6ce2-7905-2379de04f3e9?version=1.0&t=1718611411114.
22 See Report for Italy: https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52023SC0612.
23 See https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32023H0901(12).
24 See: https://commission.europa.eu/document/download/d0bbd77f-bee5-4ee5-b5c4-6110c7605476_en?filename=swd2021_305_en.pdf.
25 See: https://commission.europa.eu/document/download/9c8d2189-8abd-4f29-84e9-abc843cc68e0_en?filename=BR%20toolbox%20-%20Jul%202023%20-%20FINAL.pdf.

3.4 The European Green Deal and the statistical measures for sustainable development[26]

The European Green Deal (EGD), presented and approved in 2019, is a package of strategic initiatives that pursues the transformation of EU into a more competitive, innovative and resource-efficient economy, in compliance with three fundamental sustainability conditions:

- Achieve zero net greenhouse gas emissions by 2050, meeting the commitments of 2015 Paris agreement[27];
- Decouple economic growth from the consumption of natural resources;
- Do not harm any territory or social group during the transition necessary to achieve these objectives.

The EGD includes:

- The "Fit for 55" package for the revision of EU legislation on climate, energy and transport, in order to reduce greenhouse gas emissions by 55% by 2030, compared to the baseline of 1990;
- The EU Climate Change Adaptation Strategy, to improve knowledge on climate impacts, promote nature-based solutions to create resilience and protect ecosystems, integrate climate change adaptation into fiscal policies;
- The EU Biodiversity Strategy for 2030, for the extension of protected areas, the restoration of degraded ecosystems (by at least 20% by 2030), the increase in public spending for the protection of biodiversity;
- The "Farm 2 Fork" Strategy, to guarantee food security, promote sustainability of agri-food production, a conscious food consumption and healthier and more sustainable diets;
- The Industrial Strategy for Europe, to support industry as an accelerator and driver of change, innovation and growth, guiding the recovery from the *COVID-19* pandemic towards the principles of sustainability, circularity and environmental protection;
- The Action Plan for the Circular Economy, to promote the transition to circular production and consumption models (recover, reuse, recycle), fundamental for decoupling economic growth and resource consumption;
- The Just Transition Mechanism, to provide financial support and technical assistance to regions economically disadvantaged by the transition to a low-emissions economy, and incentives to firms investing in the ecological transition;
- The EU Sustainable Chemicals Strategy, to improve the protection of human health, strengthen the competitiveness of industry, support a toxic-free environment, reduce the use and harmfulness of pesticides;
- The EU Forest Strategy for 2030, to promote sustainable forest management, increase the size and biodiversity of forest areas, reduce the EU's impact on global deforestation.

26 This paragraph updates and develops an analysis presented in the 2022 edition of the SDGs Report (paragraph 4.3), taking into account the evolution of the reference legislation and the larger number of statistical measures now available or comparable in the two systems, Istat-SDGs and Eurostat-EGD (see Istat. 2023. *2022 SDGs Report*. Rome: https://www.istat.it/wp-content/uploads/2023/05/2022-SDGS-Report_Inglese.pdf).

27 The agreement reached at the 21st meeting of the Conference of the Parties to the Convention on Climate Change (Cop 21), which commits to keeping the rise in global temperature below 2°C and – if possible – below 1.5°C compared to pre-industrial levels. https://unfccc.int/process-and-meetings/the-paris-agreement.

Eurostat has proposed a set of 25 indicators[28], to monitor the implementation of the EGD, associated with three macro-objectives:

- Enabling an ecological and just transition possible (8 indicators),
- Protecting our planet and health (8 indicators),
- Reducing our impact on the climate (9 indicators).

The Istat-SDGS system includes most of the measures identified for monitoring the EGD (Table 3.1). This makes the Istat-SDGS system suitable, with some adaptations, to compare the national values and trends with those of other EU countries and with the EU27 averages, referring both to the individual EGD indicators and to the three macro-objectives of the European strategy.

Table 3.1 - EGD indicators and corresponding Istat-SDGs statistical measures

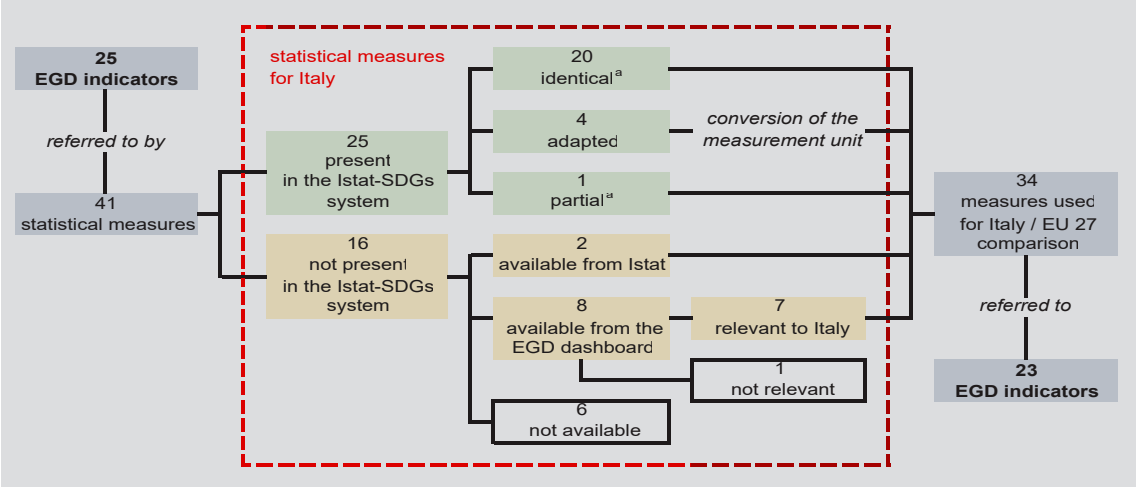
Macro-objectives	Eurostat EGD indicators		Corresponding statistical measures for Italy in the Istat-SDGs system	
ENABLING A GREEN AND JUST TRANSITION	*Circular material use rate*		12.5.1 - Circular material use rate (SDG-450)	
	Domestic material consumption		12.2.2 - Domestic material consumption per capita (SDG-40)	
	Environmental protection expenditure		-	
	Environmental tax revenues		-	
	R&D expenditure		9.5.1 - R&D intensity (11RIC001)	
	GHG emission intensity of employment		-	
	High-speed Internet		1.4.1 / 9.c.1 / 17.6.1 - Overall fixed VHCN coverage (12SER020)	
	Population unable to keep home warm		1.4.1 / 7.1.1 - Inability to keep home adequately warm (SDG-264)	
PROTECTING OUR PLANET AND HEALTH	*Common bird index*		-	
	Consumption of hazardous chemicals		-	
	Forest and other wooded land		15.1.1 - Forest area index (SDG-106)	
	Generation of waste by hazardousness	*/ Hazardous*	12.4.2 - Hazardous waste generation (SDG-115)	
		/ Total [a]	11.6.1 - Municipal waste generated (10AMB024)	
	Nitrate in groundwater		-	
	Organic farming area		2.4.1 - Share of utilized agricultural land under organic farming (SDG-13)	
	Premature deaths due to exposure to fine particulate matter ($PM_{2.5}$)		-	
	Protected areas	*/ Land*	15.1.2 - Protected natural areas (10AMB014)	
		/ Marine	14.5.1 - Marine protected areas (SDG-503)	
REDUCING OUR CLIMATE IMPACT	*Climate related economic losses*		-	
	Freight transport [b]	*/ Rail*	9.1.2 - Freight volumes, by mode of transport (SDG-290)	/ Rail transport
		/ Road		/ Road transport
		/ Inland waterways		-
	Greenhouse gas emissions		13.2.2 - GHG inventory totals (UNFCCC) (SDG-73)	
	Greenhouse gas emissions by sector	*/ Total*	13.2.2 - Gas serra totali secondo i conti nazionali delle emissioni atmosferiche generati dalle attività produttive (SDG-76A)	/ Total industries
		/ Agriculture		/ Agriculture, forestry and fishing
		/ Industrial processes		/ Mining and quarrying / Manufacturing
		/ Energy		/ Electricity, gas, steam and air conditioning supply
		/ Waste management		/ Water supply; sewerage, waste management and remediation activities
	Households energy consumption		7.3.1 - Final energy consumption in households per capita (SDG-370)	
	Passenger transport [b]	*/ Rail and Busses*	-	
		/ Passenger cars	-	
	Primary energy consumption		-	
	Renewable energy	*/ Total*	7.2.1 - Renewable energy share in the gross final energy consumption (SDG-58)	
		/ Transport	7.2.1 - Renewable energy share in transport sector (SDG-377)	
		/ Electricity	7.2.1 - Electricity from renewable sources (10AMB016)	
		/ Heating and cooling	7.2.1 - Renewable energy share in thermal sector (SDG-376)	
	Zero-emission vehicles	*/ Passenger cars*	7.1.2 - Market share of BEV or PHEV passenger cars (SDG-491)	/ Battery electric passenger cars
		/ Other vehicles (4 items)		-

(a) Comparison available only for the component of municipal waste.
(b) Excluding air and maritime transport.

28 Eurostat, Statistics for the European Green Deal (https://ec.europa.eu/eurostat/cache/egd-statistics/).

The comparison between Italy and other countries has been based, where possible, on the Italian data disseminated by Istat in the SDGs system, and the EU27 data disseminated by Eurostat in the EGD dashboard. For some statistical measures, common to both systems and under different units of measurement, Istat-SDGs data were converted to allow comparison. In other cases, data from other Istat sources or Eurostat sources were used to broaden the basis of comparison[29]. Therefore, the comparison is based on 34 statistical measures, which refer to 23 of the 25 EGD indicators (Figure 3.1).

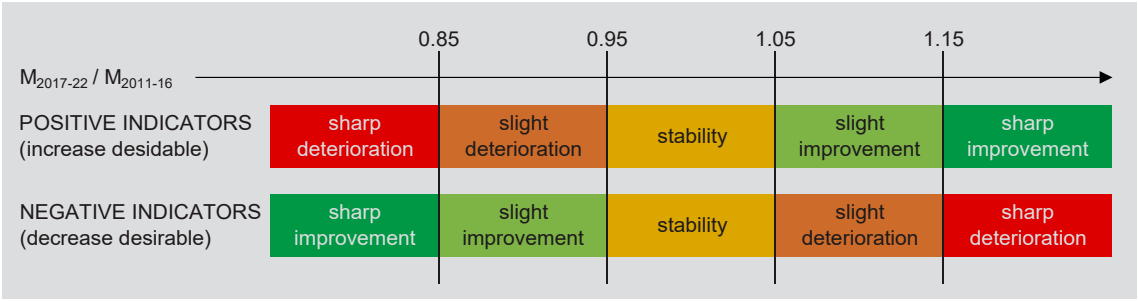
Figure 3.1 - Mapping of the statistical measures available for Italy for monitoring the EGD



(a) Compared to the corresponding statistical measures in the EGD dashboard.

To compare the trends of Italy and EU27 for 2011-2022, for each measure the ratio between the arithmetic means of the available values in the two intervals (2011-2016 and 2017-2022) was calculated. Based on this ratio, and in accordance with the direction of the indicators, the trends were considered stable, improving or deteriorating, according to the scheme in Figure 3.2.

Figure 3.2 - Diagram for assessment of EGD indicators trends



29 In particular, for the environmental protection expenditure and environmental tax revenues indicators, national expenditure on environmental protection and environmental tax revenues were used, respectively (Istat, Environmental Accounts). For the GHG emission intensity of employment, nitrate in groundwater, premature deaths due to exposure to fine particulate matter (PM2.5), climate-related economic losses, passenger transport and primary energy consumption indicators, Eurostat data disseminated in the EGD dashboard were used.

The comparisons were performed using the measures available for each of the three macro-objectives (Tables 3.2, 3.3, and 3.4). In the tables, the trend evaluations for both Italy and the EU27 are represented on a five-class scale (Figure 3.2). Italy's relative position compared to EU27 average is shown in the last column, which reports Italy/EU27 ratios for 2017-2022: green figures indicate an advantageous position for Italy, red figures denote a disadvantage, and grey figures represent areas of substantial alignment (the values do not differ by more than 5%).

Similarly, Italy's positioning compared to EU27 average was assessed based on the ratio of the average values of indicators from the most recent period (2017-2022), always considering their polarity. Indicators for which the deviation between Italy and the EU27 is within ±5% are considered close to the European values, while all the others are assessed as either below or above EU27 average, depending on polarity.

Table 3.2 - Statistical measures for monitoring the EGD objective "Enabling a green and just transition"

Statistical measure (polarity)		Unit of measure	2011-2022 trend (avg. 2011-16 / avg. 2017-22)		Italy / EU27 (avg. 2017-22)
			Italy	EU27	
8.4.2	Domestic material consumption per capita (-)	Tonne per inhabitant	slight improvement	stability	0.562
12.5.1	Circular material use rate (+)	Percentage values	sharp improvement	stability	1.659
9.5.1	R&D intensity (+)	Percentage of GDP	slight improvement	slight improvement	0.646
1.4.1, 7.1.1	Inability to keep home adequately warm (-)	Percentage values	sharp improvement	sharp improvement	1.417
-	GHG emission intensity of employment [a] (-)	Tonne per employee	slight improvement	slight improvement	0.874
1.4.1, 9.c.1, 17.6.1	Overall fixed VHCN coverage (+)	Percentage values	sharp improvement	sharp improvement	0.657
-	Environmental tax revenues [b] (-)	Percentage of total revenues	slight improvement	slight improvement	1.252
-	Environmental protection expenditure [b] (+)	Percentage of GDP	stability	not available	1.111

Source: Processing on Eurostat and Istat data
(a) Measure not available from the Istat-SDGs system, Eurostat data were used for the comparison.
(b) Measure not available from the Istat-SDGs system, Istat data were used for the comparison.

Table 3.3 - Statistical measures for monitoring the EGD objective "Protecting our planet and health"

Statistical measure (polarity)		Unit of measure	2011-2022 trend (avg. 2011-16 / avg. 2017-22)		Italy / EU27 (avg. 2017-22)
			Italy	EU27	
15.1.1	Forest area index (+)	Percentage values	stability	stability	0.911
15.1.2	Protected natural areas [terrestrial] (+)	Percentage values	stability	stability	0.837
14.5.1	Marine protected areas (+)	Percentage values	slight improvement	sharp improvement	0.974
2.4.1	Share of utilized agricultural land under organic farming (+)	Percentage values	sharp improvement	sharp improvement	2.000
-	Nitrate in groundwater [a] (-)	mg per litre	slight improvement	stability	0.900
-	Premature deaths due to exposure to fine particulate matter ($PM_{2.5}$) [a] (-)	Per 100,000 inhabitants	slight improvement	sharp improvement	1.376
12.4.2	Hazardous waste generation [b] (-)	Kg per inhabitant	slight deterioration	slight deterioration	0.761
11.6.1	Municipal waste generated	Kg per inhabitant	stability	slight deterioration	0.972

Source: Processing on Eurostat and Istat data
(a) Measure not available from the Istat-SDGs system, Eurostat data were used for the comparison.
(b) Measure expressed in tonne in the Istat-SDGs system.

Table 3.4 - Statistical measures for monitoring the EGD objective "Reducing our climate impact"

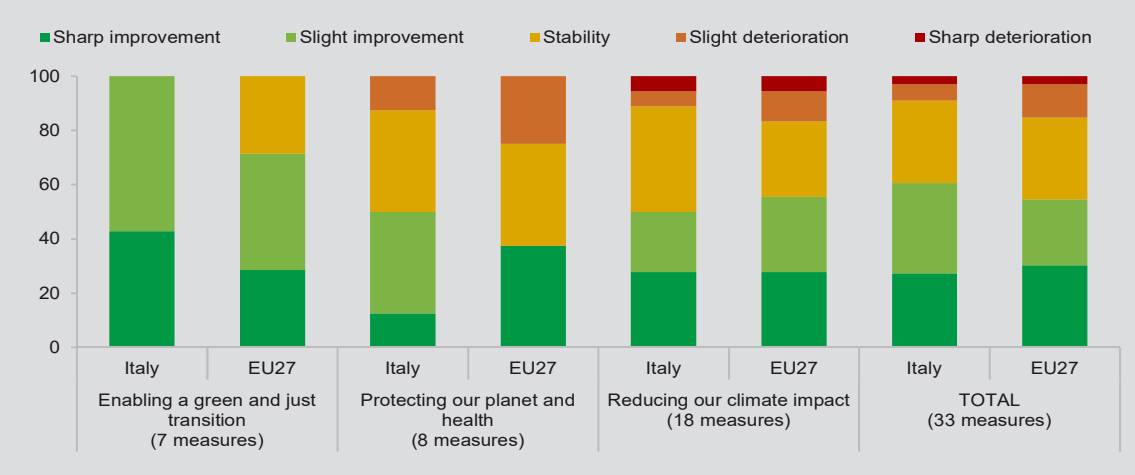
Statistical measure (polarity)			Unit of measure	2011-2022 trend (avg. 2011-16 / avg. 2017-22)		Italy / EU27 (avg. 2017-22)
				Italy	EU27	
13.2.2	GHG inventory totals (UNFCCC) (-)		Tonne per inhabitant [a]	slight improvement	slight improvement	0.922
	Greenhouse gas emissions accounts totals generated by production activities (-)	Total industries	Tonne CO_2 equivalent	slight improvement	slight improvement	--
		(A) Agriculture, forestry and fishing	Tonne CO_2 equivalent	stability	stability	--
		(B+C) Mining and quarrying; Manufacturing	Tonne CO_2 equivalent	sharp improvement	slight improvement	--
		(D) Electricity, gas, steam and air conditioning supply	Tonne CO_2 equivalent	sharp improvement	slight improvement	--
		(E) Water supply; sewerage, waste management and remediation activities	Tonne CO_2 equivalent	stability	slight improvement	--
-	Climate related economic losses [b] (-)		Euro per capita	sharp deterioration	sharp deterioration	1.564
7.2.1	Renewable energy share in the gross final energy consumption (+)		Percentage values	sharp improvement	sharp improvement	0.906
	Renewable energy share in transport sector (+)		Percentage values	sharp improvement	sharp improvement	1.008
	Electricity from renewable sources (+)		Percentage values	slight improvement	sharp improvement	0.952
	Renewable energy share in thermal sector (+)		Percentage values	slight improvement	sharp improvement	0.877
-	Primary energy consumption [b] (-)		TOE per capita	stability	stability	0.812
7.3.1	Final energy consumption in households per capita (-)		KGOE per inhabitant	stability	stability	0.944
7.1.2	Battery electric passenger cars (+)		Per 100 new passenger cars	sharp improvement	sharp improvement	0.387
9.1.2	Freight volumes, by mode of transport [c]	Rail transport (+)	Percentage of tonne-km	stability	slight deterioration	0.813
		Road transport (-)	Percentage of tonne-km	stability	stability	1.118
-	Passenger transport [b]	Rail and busses (+)	Percentage of passengers-km	slight deterioration	slight deterioration	1.075
		Passenger cars (-)	Percentage of passengers-km	stability	stability	0.986

Source: Processing on Eurostat and Istat data
(a) Measure expressed in tonne CO_2 equivalent in the Istat-SDGs system.
(b) Measure not available from the Istat-SDGs system, Eurostat data were used for the comparison.
(c) Measure expressed in thousand tonne-km in the Istat-SDGs system. For comparisons, percentages of passengers-km are calculated net of air transport..

In comparing trends from 2011-2022 across all of three macro-objectives, improving measures prevail[30], both for Italy (20 out of 33) and the EU27 (18 out of 33). The most favourable situation is observed with respect to the objective of the green and just transition, where all the measures available for Italy (and five out of seven for the EU27) indicate progress over the two periods considered. For the other two objectives, Italy shows 50% of improving measures and just under 40% of stable measures, while the EU27 presents 56% of improving measures and 28% of stable measures for the objective of reducing the climate impact, and 38% of improving measures and the same share stable for the objective of protecting the planet and health (Figure 3.3).

30 The trend comparison can be performed on 33 of the 34 measures. Environmental protection expenditure, for which the time series for EU27 average are available from 2018, remains excluded.

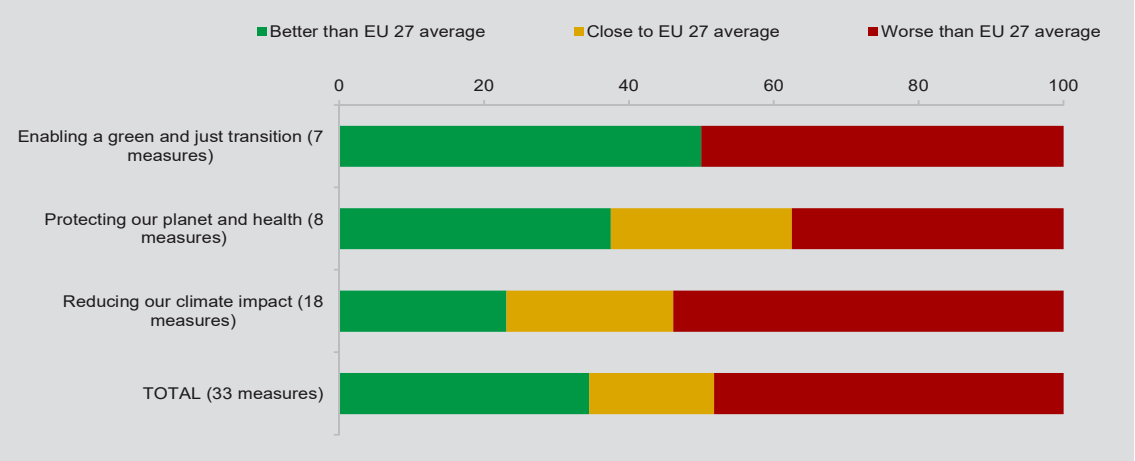
Figure 3.3 - Trends of indicators for monitoring the EGD in Italy and EU27, by macro-objectives (a)**. Years 2011-2022**
(Comparison of average values between 2011-2016 and 2017-2022, percentage values)



Source: Processing on Eurostat and Istat data
(a) Only measures allowing comparison between Italy and EU27 are considered.

Italy's positioning within the Union can be appreciated by comparing country's average levels to those of the EU27 for 2017-2022. The comparison highlights for Italy an overall situation of delay[31]. For all three objectives, Italy's position is below the EU27 average in almost half of the comparable measures (48%), while it is above in 35% of measures. The most favourable situation is observed for the objective of protecting the planet and health (as only 38% of the comparable measures indicate a disadvantage for Italy). Conversely, 50% of measures show a disadvantage for Italy for the objective of the green and just transition, and 54% for the objective of reducing the climate impact (Figure 3.4).

Figure 3.4 - Italy's positioning compared to EU27 average values on indicators for monitoring the EGD (a)**, by macro-objectives. Years 2017-2022** (Comparison of average values, percentage values)

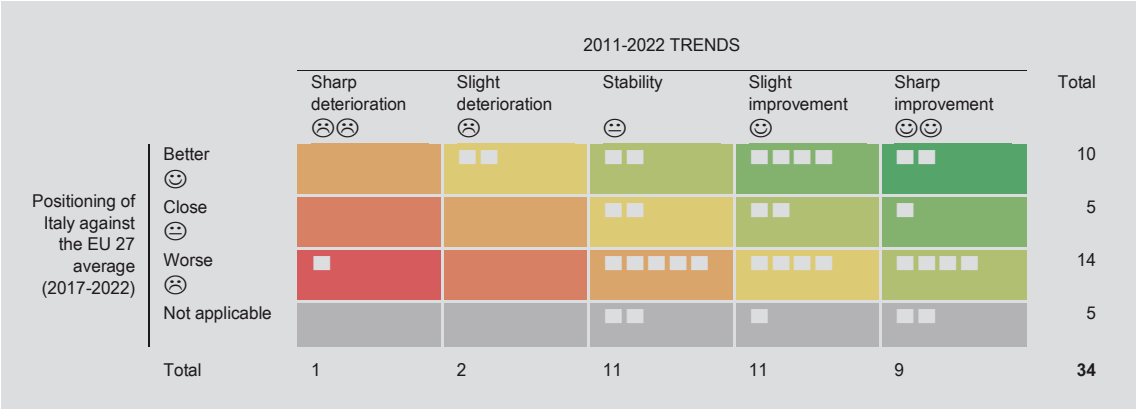


Source: Processing on Eurostat and Istat data
(a) Only measures allowing comparison between Italy and EU27 are considered.

31 The level comparison can be performed on 29 of the 34 measures identified. The 5 measures relating to total GHG generated by production activities according to the national emission accounts, expressed in absolute values, remain excluded.

A combined assessment shows that Italy performs at or above EU27 average in 15 out of 29 comparable measures, 9 of which improving, 4 stable, and 2 worsening. Of the 14 measures showing a disadvantage for Italy compared to the EU27 average, only 8 are improving, 5 are stable, and 1 is worsening (Figure 3.5).

Figure 3.5 - Statistical measures for monitoring the EGD in Italy (a)**: assessments of 2011-2022 trends and positioning against EU27 averages over the period 2017-2022** (N.)



Source: Processing on Istat and Eurostat data
(a) All identified measures are considered. Each measure is represented by the symbol □.

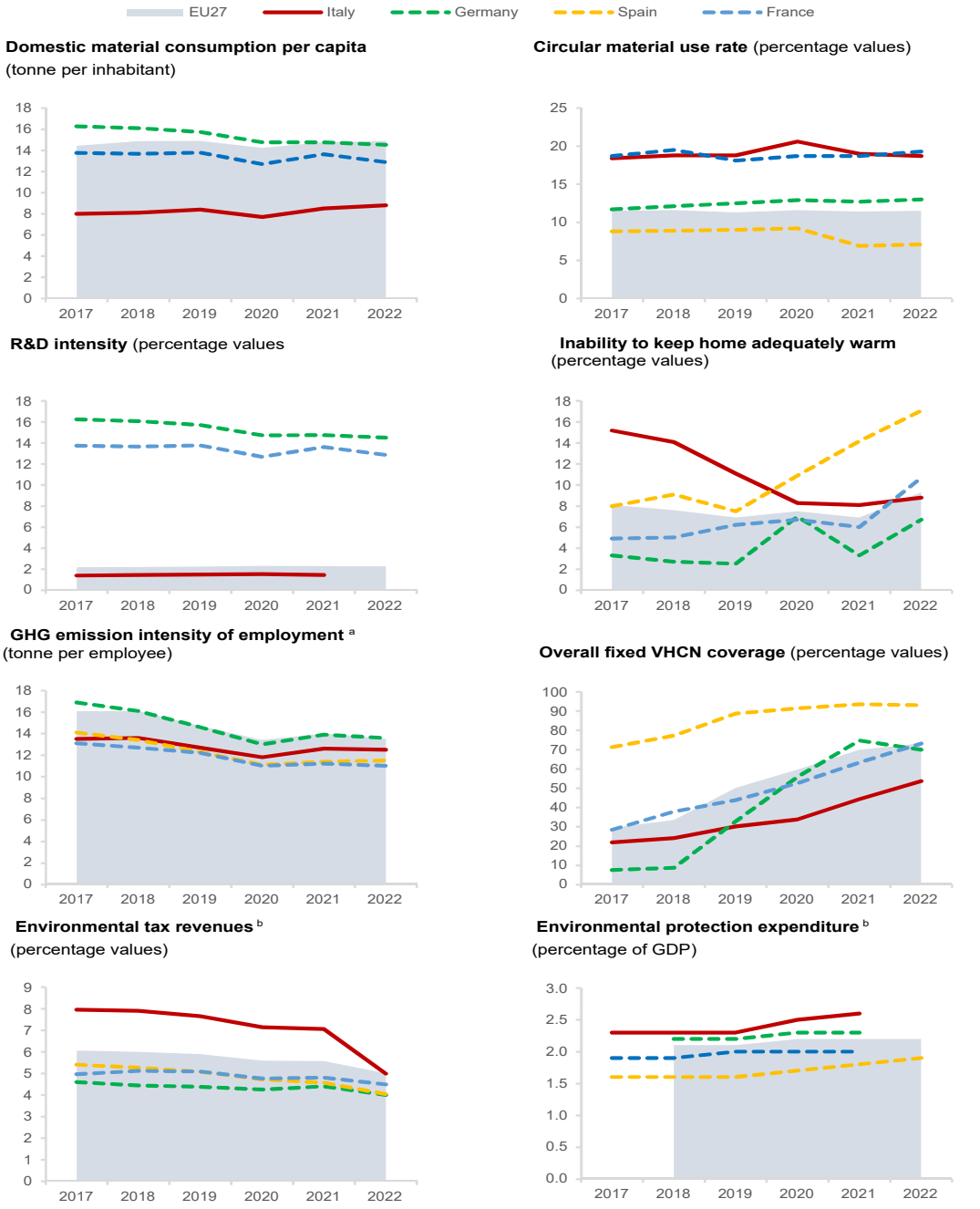
The results of Italy's position regarding the Green Deal objectives should be interpreted cautiously, as the two indicator systems show significant overlap, but also significant differences, which need to be reconciled, with a view to the integration the official statistics. Considering the limitations posed by these differences, this evidence suggests a number of elements that can be confirmed by more complete and in-depth analyses[32].

Firstly, convergence between Italy and the Union on Green Deal objectives appears weak, with over 40% of measures, for both Italy and the EU27, showing a retreat or, more often, no significant progress (even the improving measures, however, do not necessarily attest to the ability to achieve the objectives of the EGD within the due times). This lack of progress is particularly evident in the objectives that involve transforming the production systems and reducing their pressures on environment (Reducing our climate impact and, above all, Protecting our planet and health). However, the situation is more favourable on the objective of just transition, which is no less important, but focuses on the compensation of the potential adverse effects of the other two objectives on the social and territorial ground.

Secondly, Italy's position relative to EU27 average values and recent trends in other major EU economies highlight for Italy - together with some advantageous situations - several critical issues on important topics, such as research intensity and household access to broadband (Fig.3.6), or economic losses related to the climate (Fig.3.8). Additional worrying setbacks are observed in electricity production from renewable sources and diffusion of electric vehicles, and in the reduction of premature deaths due to air pollution (Figure 3.7).

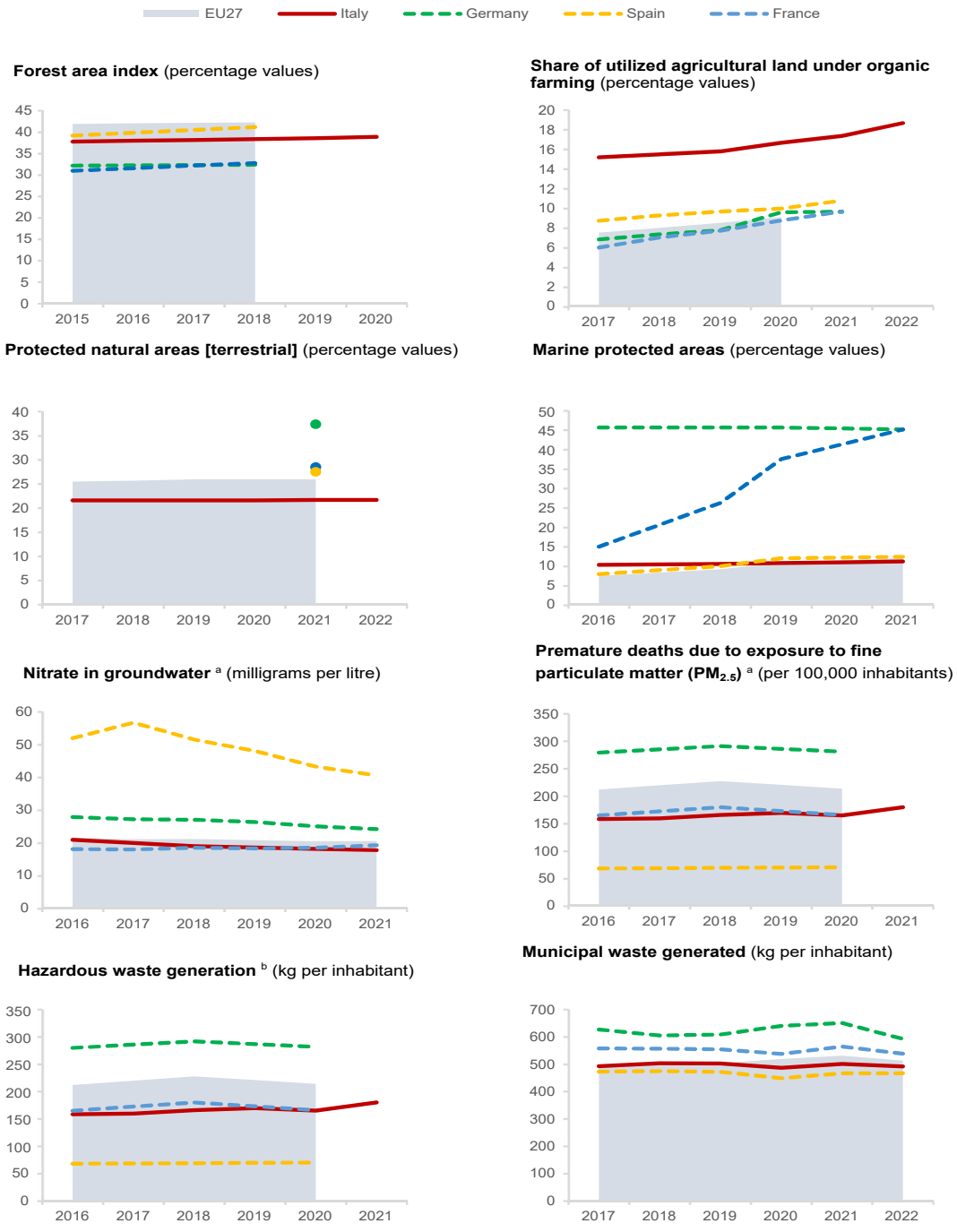
32 In any case, please refer to Chapter 2 for the analysis of individual indicators.

Figure 3.6 - Statistical measures for monitoring the EGD objective "Enabling a green and just transition", by Country. Years 2017-2022



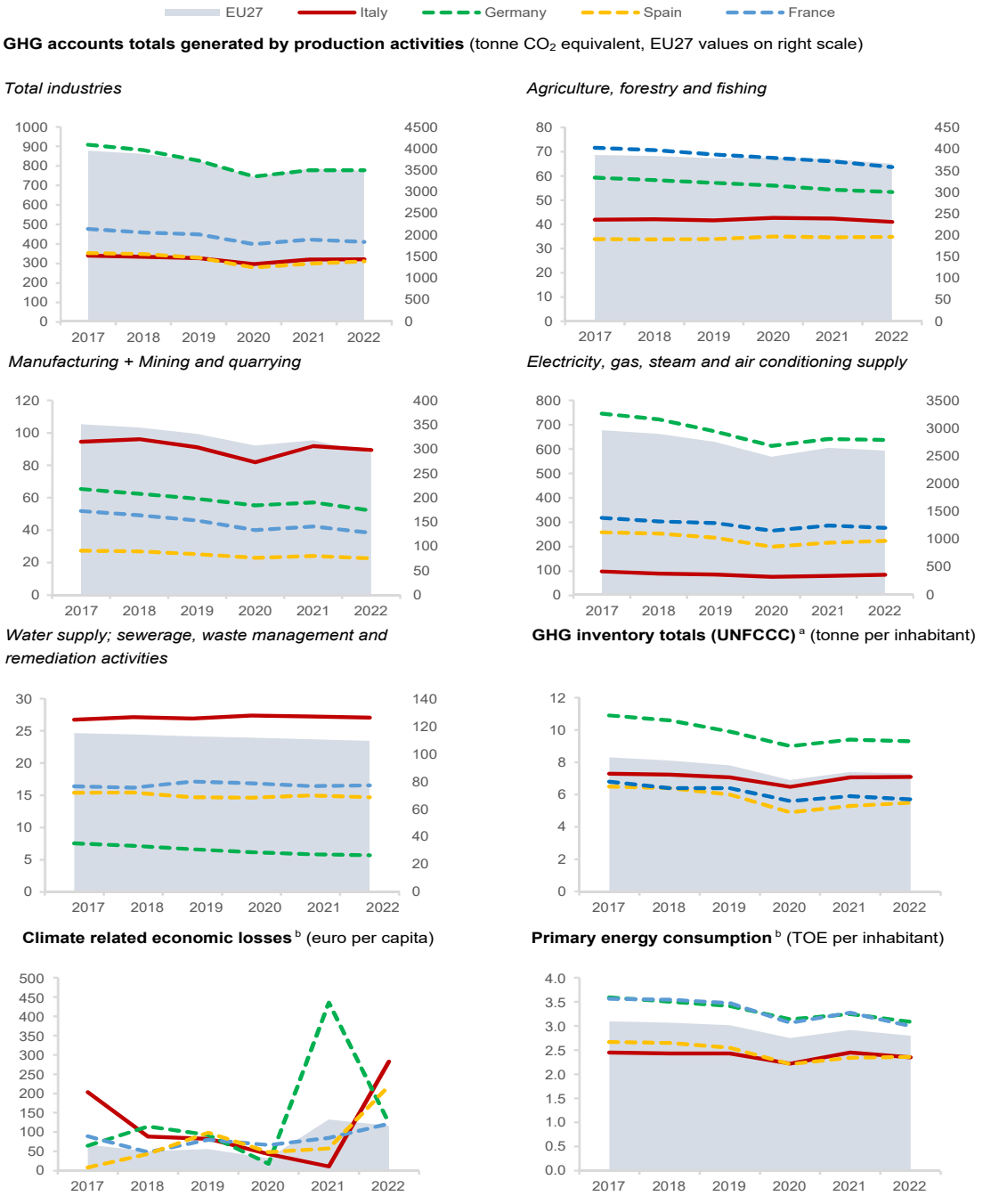
Source: Processing on Istat and Eurostat data
(a) Measure not available from the Istat-SDGs system, Eurostat data were used for the comparison.
(b) Measure not available from the Istat-SDGs system, Istat data were used for the comparison.

Figure 3.7 - Statistical measures for monitoring the EGD objective "Protecting our planet and health", by Country. Years 2017-2022



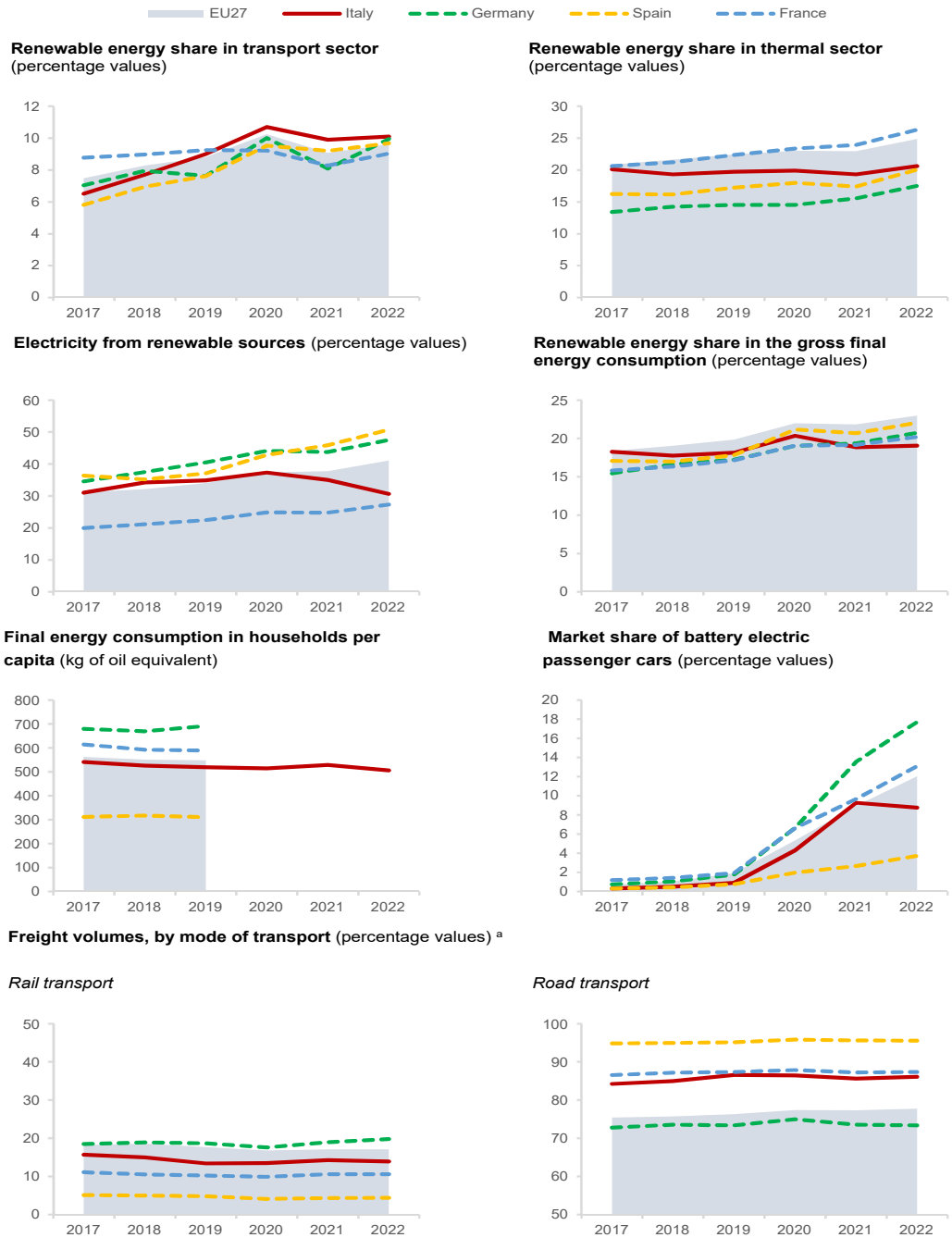
Source: Processing on Istat and Eurostat data
(a) Measure not available from the Istat-SDGs system, Eurostat data were used for the comparison.
(b) Measure expressed in tonne in the Istat-SDGs system.

Figure 3.8 - Statistical measures for monitoring the EGD objective "Reducing our climate impact", by Country. Years 2017-2022



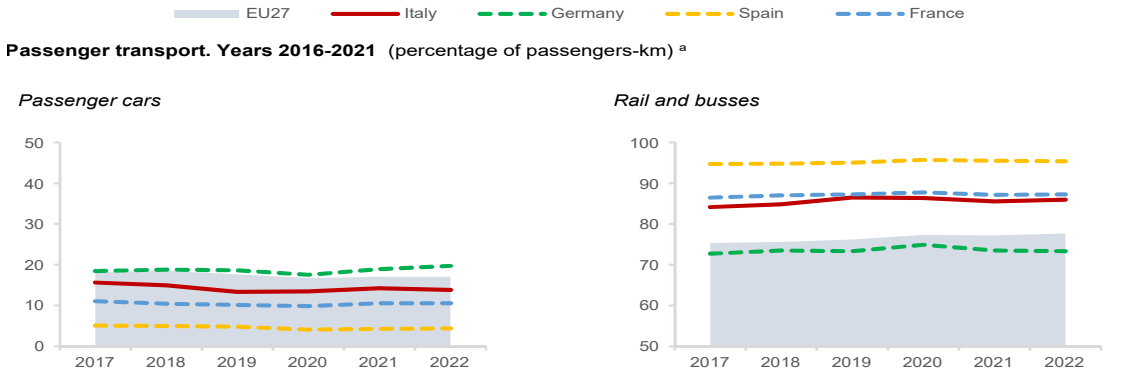
Source: Processing on Istat and Eurostat data
(a) Measure expressed in tonne CO_2 equivalent in the Istat-SDGs system.
(b) Measure not available from the Istat-SDGs system, Eurostat data were used for the comparison.

Figure 3.8 continued - **Statistical measures for monitoring the EGD objective "Reducing our climate impact", by Country. Years 2017-2022**



Source: Processing on Istat and Eurostat data
(a) Measure expressed in thousand tonne-km in the Istat-SDGs system. For comparisons, percentages of passengers-km are calculated net of air transport.
(b)

Figure 3.8 continued - **Statistical measures for monitoring the EGD objective "Reducing our climate impact", by Country. Years 2017-2022**



Source: Processing on Istat and Eurostat data
(a) Measure not available from the Istat-SDGs system, Eurostat data were used for the comparison.

3.5 Statistical measures for monitoring of the National Sustainable Development Strategy

The Ministry of the Environment and Energy Security (MASE) jointly with the Ministry of Foreign Affairs and International Cooperation (MAECI), under the coordination of Presidency of the Council of Ministers, implement the National Strategy for Sustainable Development (SNSvS). The first version was created and presented at the Voluntary National Review in 2017[33]. The second version[34] of SNSvS was prepared through to the involvement of businesses, institutions, citizens and associations and was presented, in 2022, at the Voluntary National Review[35], the national voluntary assessment that each country presents periodically, as part of the UN-High Level Political Forum, to share the experiences undertaken to accelerate the implementation of the 2030 Agenda. This version was approved, later in the same year, at the State-Regions Conference and adopted by the Italian Ecological Transition Committee in 2023[36].

Other programmatic documents, potentially essential and connected to the Strategy, have also recently been approved, such as the draft of the National Integrated Energy and Climate Plan, the National Plan for Adaptation to Climate Change, the National Strategy for the Circular Economy and the National Strategy for Biodiversity.

The latest SNSvS includes a relevant political-institutional innovation, namely the definition, for the first time in Italy (but also at European level) of a national action plan for the coherence of policies for sustainable development (National Action Plan for Policy Coherence for Sustainable Development of the MASE)[37].

33 See https://www.mite.gov.it/pagina/sviluppo-sostenibile-e-rapporti-internazionali. The Voluntary National Review (VNR) is a voluntary review that each country presents periodically at the UN High-level Political Forum to share experiences undertaken to accelerate the implementation of the 2030 Agenda.
34 See https://www.mase.gov.it/sites/default/files/archivio/allegati/sviluppo_sostenibile/ALL1_SNSvS_2023_Strategia_e_allegati.pdf.
35 See https://hlpf.un.org/countries/italy.
36 See https://www.mase.gov.it/pagina/la-snsvs.
37 See https://www.mase.gov.it/pagina/programma-dazione-nazionale-pcsd.

This action plan set up its guidelines into a growing awareness by the public and institutional actors of the profound interconnection of the different areas of policy, and of the need for closer integration of the various sectoral policies: phenomena are connected to each other and for their management it is necessary to understand the complexity of the transformations. In this perspective, it is necessary to consider more the so-called effects of spillover.

The SNSvS monitoring can only rely on statistical measures from the Istat-SDGs system: during the first version of the strategy a limited and representative core of indicators was selected[38] for monitoring[39]. The same methodological approach defined during the first selection[40] was adopted to update and enlarge the subset of statistical measures in order to take into account the revised SNSvS and the larger plenty of information available in Istat-SDGs Statistical Platform (Table 3.5).

As widely acknowledged by international organisations, sustainable development must have a strong territorial dimension. For the monitoring of SNSvS, statistical measures must be available with disaggregation, not only at the regional level, but also at the municipal and sub-municipal levels, in order to enable analysis and monitoring for both regional and urban strategies.

Istat already provides territorially disaggregated statistical measures, increasing their availability over time (Figure 3.9). By leveraging statistical registers, particularly the Statistical Register of Places, the dissemination of high-detail territorial and geographical statistical information will be further expanded. This approach aims to create a progressively richer statistical and informational mosaic that considers the interconnection between sustainability and climate change, fully aligned with international recommendations and aspirations.

The shared language fostered by these statistical measures ensures a common culture, driving Sistan's commitment to producing high-quality statistical information. A strong investment in education is desirable, equipping individuals with the ability to comprehend the complexities of our world, identify risks and opportunities, and change entrenched behaviours unsuited to manage the current and future significant transformations. The statistical information built within the Istat-SDGs system and the SDG Reports is an indispensable tool to promote the use of a shared language for sustainability, essential for building the necessary statistical awareness.

38 In 2018, on the initiative of the Ministry of Ecological Transition, the Working Table on Indicators for the implementation of the National Sustainable Development Strategy was established. Representatives of MASE, Ministry of Economy and Finance, MAECI, Presidency of the Council, ISPRA and Istat participated in the table activities. The Table defined and agreed on the criteria for selection of the indicators and the methodological approach necessary to identify a set of indicators relevant for monitoring of the SNSvS.

39 See Istat. 2022. *2021 SDGs Report*. Rome: https://www.istat.it/wp-content/uploads/2022/02/2021-SDGS-Report_Inglese.pdf.

40 It was decided to use statistical measures from the Istat-Sistan Platform, preferably identical to the UN-IAEG-SDGs indicators and consistent with Equitable and sustainable well-being (Bes) indicators, also in order to ensure that the measures comply with the statistical admissibility. Furthermore, the criteria of parsimony, feasibility, timeliness, extension and frequency of the time series, sensitivity to public policies and territorial dimension were used, focusing on statistical measures that had the best possible territorial disaggregation.

Table 3.5 - Istat-SDGs information system for the National Sustainable Development Strategy: statistical measures by Goal. Latest available year

Goal 1 – No poverty		
BES DEF	Absolute poverty (incidence), 2023	**9.8%**
BES	Severe material deprivation rate, 2023	**4.7%**
Goal 2 – Zero hunger		
BES DEF	Overweight or obesity among minors from 3 to 17 years of age, 2022	**27.2%**
	Share of utilized agricultural land under organic farming, 2022	**18.7%**
Goal 3 – Good health and well-being		
BES DEF	Healthy life expectancy at birth, 2023	**59.2** years
Goal 4 – Quality education		
BES DEF	Early leavers from education and training, 2023	**10.5%**
BES	People having completed tertiary education (25-34 years old), 2023	**30.6%**
BES	Inadequate level of literacy (students in grade 8), 2023	**38.5%**
BES	Inadequate level of numeracy (students in grade 8), 2023	**44.2%**
	Physically accessible schools, 2023	**40.3%**
Goal 5 – Gender equality		
BES DEF	Ratio of employment rate for women aged 25-49 with at least one child aged 0-5 to the employment rate of women 25-49 years without children, 2023	**73.0%**
BES	Women and political representation at regional level (share of women elected in Regional councils), 2024	**24.1%**
	Proportion of women aged 16-70 subjected to physical or sexual violence by a man other than intimate partner in the previous 5 years, 2014	**7.7%**
Goal 6 – Clean water and sanitation		
BES	Sewage treatment, 2015	**59.6%**
	Urban water supply network efficiency, 2022	**57.6%**
Goal 7 – Affordable and clean energy		
	Renewable energy share in the gross final energy consumption, 2022	**19.1%**
BES	Electricity from renewable sources (share of gross domestic consumption), 2022	**30.7%**
	Energy intensity, 2022	**84.93%**
	Market share of battery electric or plug-in hybrid passenger cars, 2023	**8.6%**
Goal 8 – Decent work and economic growth		
	Annual growth rate of real GDP per capita, 2023	**1.0%**
BES DEF	Non-participation rate, 2023	**14.8%**
BES	Employment rate (20-64 years old), 2023	**66.3%**
BES	People not in education, employment, or training (NEET, aged 15-24), 2023	**16.1%**
BES	Employed persons not in regular occupation, 2022	**10.8%**
Goal 9 – Industry, innovation and infrastructure		
	CO_2 emission per unit of value added, 2022	**154.90** tonne per million euro
BES	R&D intensity (investments in R&D as a percentage of GDP), 2021	**1.43%**
BES	R&D intensity (investments in R&D as a percentage of GDP), 2021	**1.43%**
	Researchers (in full time equivalent), 2021	**26.8** per 10,000 inhabitants
	Freight volumes, by mode of transport, 2022	**1,630,969** thousand tonne-km
	Passenger volumes, by mode of transport, 2022	(a)
Goal 10 – Reduced inequalities		
BES DEF	Disposable income inequality (s80/s20), 2022	**5.3**
BES DEF	Adjusted gross disposable income per capita, 2023	**26,576** euro
BES	People at risk of poverty, 2023	**18.9%**
Goal 11 – Sustainable cities and communities		
	Public expenditure per capita spent on the preservation of the cultural and natural heritage, 2022	**43.5** euro
BES	Landfill of waste, 2022	**17.8%**
BES DEF	Illegal building rate (unauthorised housing units built per 100 authorised), 2022	**15.1**
	Incidence of urban green areas on urbanised area of the cities, 2022	**8.7%**
	Population at risk of flood, 2020	**11.5%**
	Population at risk of landslides, 2020	**2.2%**
Goal 12 – Responsible consumption and production		
BES	Domestic material consumption per capita, 2022	**8.7** tonne
BES	Domestic material consumption per GDP, 2022	**0.29** tonne per 1,000 euro
	Separate collection of municipal waste, 2022	**65.2%**
	Circular material use rate, 2022	**18.7%**
Goal 13 – Climate action		
BES DEF	Emissions of CO_2 and other greenhouse gases, 2022	**7.3** tonne per inhabitant
Goal 14 – Life below water		
	Marine protected areas EUAP, 2019	**3,076.2** km^2
Goal 15 – Life on land		
BES	Protected natural areas, 2022	**21.7%**
BES	Soil sealing from artificial land cover, 2022	**7.14%**
	Fragmentation of natural and agricultural land, 2022	**40.8%**
Goal 16 – Peace, justice and strong institutions		
BES	Intentional homicide rate (victims per 100,000 inhabitants, by sex), 2022	Male **0.7** Female **0.4**
	Unsentenced detainees as a proportion of overall prison population, 2023	**15.4%**
BES DEF	Length of civil proceedings (average duration), 2023	**460** days
BES	Prison density, 2023	**117.6%**
Goal 17 - Partnership for the Goals		
	Official Development Assistance as a proportion of gross national income, 2023	**0.27%**

(a) Total not available due to lack of data on road transport.

Figure 3.9 - Istat-SDGs System for the National Sustainable Development Strategy: statistical measures by Goal