

10. Environment¹

Despite the persistence of critical levels, almost all indicators that showed a long-term trend of improvement before the lockdown tend to maintain this trend during the COVID-19 pandemic period. These include air quality, emissions of CO₂ and other greenhouse gases, urban green availability, landfilling of municipal waste and electricity from renewable sources. The latest available data for many indicators refer to the year 2021², with the exception of indicators on weather phenomena and subjective perceptions (satisfaction with the environmental situation, concern for climate change and biodiversity loss), which are updated to 2022 (Table 1).

Table 1. Environmental indicators: value for the latest available year and percentage changes for different periods

| Indicators | Starting year | Latest available year | Latest available year value | Percentage changes | | | |
|--|----------------------------------|-----------------------|-----------------------------|--|-------------------------|-------------------------|-------------------------|
| | | | | 2019 compared with starting year | 2021 compared with 2019 | 2022 compared with 2021 | 2022 compared with 2019 |
| Air quality - PM _{2.5} (%) | 2010 | 2021 | 71.7 | ● | ● | - | - |
| Emissions of CO ₂ and other greenhouse gases (t/inhab.) | 2008 | 2021 | 7.0 | ● | ● | - | - |
| Population exposed to landslides risk (%) (a) | 2015 | 2020 | 2.2 | ● | ● | - | - |
| Population exposed to flood risk (%) (a) | 2015 | 2020 | 11.5 | ● | ● | - | - |
| Water losses in urban supply system (%) (a) | 2005 | 2020 | 42.2 | ● | ● | - | - |
| Protected natural areas (%) | 2012 | 2021 | 21.7 | ● | ● | - | - |
| Coastal bathing waters (%) | 2013 | 2019 | 65.5 | ● | - | - | - |
| Urban green availability (m ² /inhab.) | 2011 | 2021 | 32.5 | ● | ● | - | - |
| Soil sealing from artificial cover (%) | 2012 | 2021 | 7.2 | ● | ● | - | - |
| Domestic material consumption (min of t) | 2018 | 2020 | 458.7 | ● | - | - | - |
| Municipal waste generated (kg/inhab.) | 2004 | 2021 | 501 | ● | ● | - | - |
| Landfilling of municipal waste (%) | 2004 | 2021 | 19.0 | ● | ● | - | - |
| Contaminated sites (per 1,000 inhab.) | 2018 | 2020 | 7.9 | ● | - | - | - |
| Electrical energy from renewable sources (%) | 2004 | 2021 | 35.1 | ● | ● | - | - |
| Concern about climate change (%) | 2012 | 2022 | 71.0 | ● | ● | ● | ● |
| Satisfaction with the environmental situation (%) | 2005 | 2022 | 70.6 | ● | ● | ● | ● |
| Concern for biodiversity loss (%) | 2012 | 2022 | 23.9 | ● | ● | ● | ● |
| Weather and climate indicators | Climatic reference period | | | Percentage changes | | | |
| | | | | Comparison with climatic period | | | |
| | | | | 1981-2010 | | | |
| Warm spell duration index (days) | 1981-2010 | 2022 | 40 | | ● | | |
| Extreme precipitation events (days) | 1981-2010 | 2022 | 0 | | ● | | |
| Consecutive dry days (days) | 1981-2010 | 2022 | 27 | | ● | | |

(a) 2019 and 2021 data not available, changes are calculated between 2017 and 2020.

Note: If the relative change between the two years exceeds 1% it is considered positive (green), if it is less than -1% it is considered negative (red). In the range -1 and +1% the change is considered stable (yellow). The polarity of the indicator was taken into account when calculating the changes to consider the improvement or worsening in terms of well-being. The indicator Sewage treatment is not shown in the table because no comparisons are available for the reference periods. The indicators Warm spell duration index, Extreme precipitation events and Consecutive dry days are compared with the reference climate period 1981-2010.

In 2021, compared to 2020, with the resumption of activities after the lockdown, there has been an increase in indicators of environmental pressure closely linked to the business cycle, such as emissions of CO₂ and other greenhouse gases and municipal waste generated. The effects of climate change are increasingly evident in terms of temperature and precipitation, with a very significant increase in extreme events related to warm spell duration and consecutive dry days, compared to the climate reference period. Citizens'

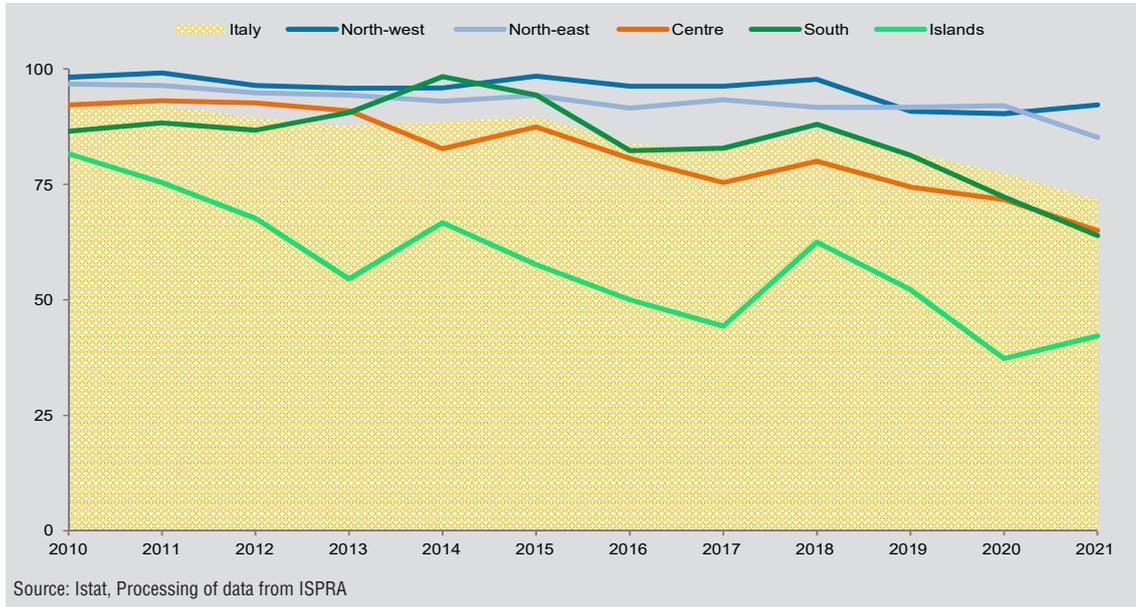
- 1 This chapter was edited by Domenico Adamo and Stefano Tersigni, with contributions from Luigi Costanzo, Elisabetta Del Bufalo, Aldo Femia, Silvana Garozzo, Antonino Laganà, Maria Rosaria Prisco, Simona Ramberti and Silvia Zannoni.
- 2 When analysing the environmental domain, it has to be taken into account that several indicators are validated and made available only two years after the event, also due to the complexity of the primary data sources (e.g. hourly air quality monitoring data). This structural limitation makes it difficult to assess the more recent situation, especially in relation to the pre-pandemic and pandemic periods.

concern about climate change has increased again in 2022, after the decline during the pandemic period, which interrupted the upward trend observed until 2019. In 2020 priorities may have shifted to pandemic-related issues, resulting in less sensitivity to environmental problems, which partially recover in 2022. The indicator of satisfaction with the environmental situation, on the other hand, shows a fluctuating trend over time, returning in 2022 to the level record in 2010. The assessment is much more complex for the indicators that showed a negative trend until 2019 (population exposed to landslides and floods, water losses in the public supply networks, coastal bathing waters, soil sealing from artificial cover and domestic material consumption) or a stable trend (natural protected areas): no significant improvement is observed even after the pandemic crisis. The resources made available by the National Recovery and Resilience Plan (NRRP) will be useful in accelerating the path of the Italian economy and society towards an ecological transition and in strengthening the resilience of production systems to changes, especially those caused by climate change. Among the six thematic areas of intervention of the NRRP, the mission most focused on this objective is “Green deal and ecological transition” (mission 2), followed by “Digitalisation, innovation, competitiveness and culture” (mission 1) and “Infrastructure for sustainable mobility” (mission 3). There are many components and measures into which these missions, and therefore the planned interventions, are divided. The components of mission 2 are “Sustainable agriculture and circular economy, renewable energy, hydrogen, network and sustainable mobility, energy efficiency and renovation of buildings, protection of soil and water resources”. For missions 1 and 3 the components are “Tourism and Culture 4.0”, “Intermodality and Integrated Logistics”. The aims of the objectives proposed in the NRRP can promote the Country’s development, particularly in terms of environmental sustainability.

Gradual improvement in air pollution, decreasing $PM_{2.5}$ air quality in the North-east, Centre and South

For air quality, there was a decrease in the percentage of $PM_{2.5}$ exceedances to 71.7% of the measurements taken in 2021. Since 2010, the indicator has been decreasing steadily with the exception of 2018 (Figure 1). This gradually positive trend is largely insufficient to significantly reduce the mortality caused by $PM_{2.5}$. This trend is less pronounced in the North, where historically the highest values of the indicator are observed with a substantial stability compared to the previous year.

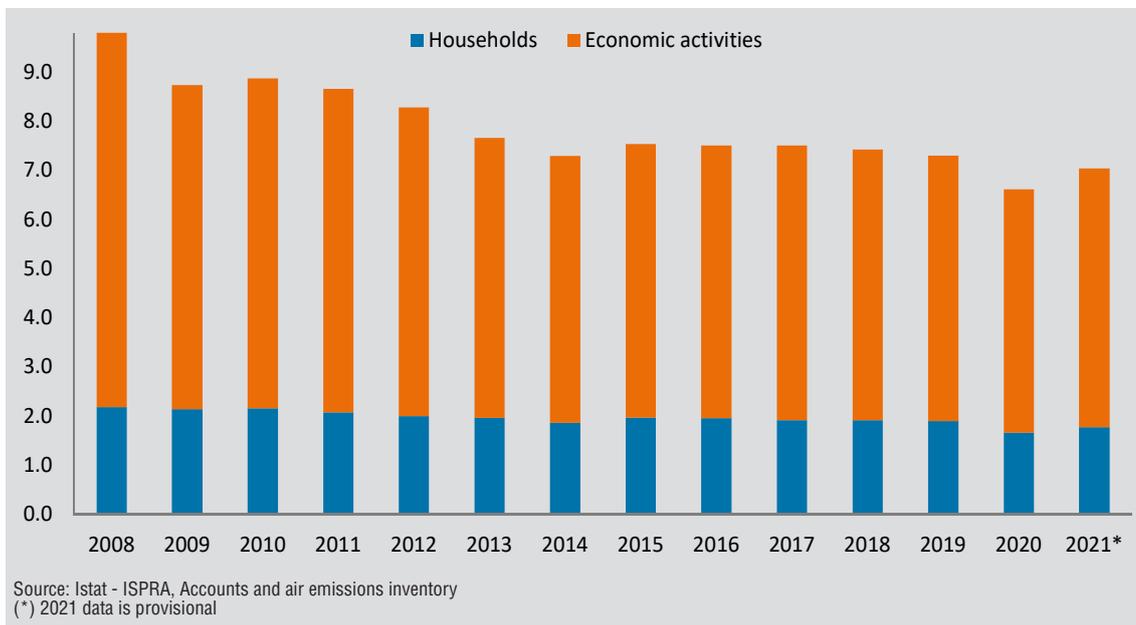
Figure 1. Exceedances above the WHO health reference value (10 µg/m³) out of the total number of valid measurements of annual average PM_{2.5} concentrations by geographic area. Years 2010-2021. Percentage values



Increase in CO₂ and greenhouse gases emissions

In 2021, emissions of CO₂ and other greenhouse gases generated by economic activities and households rose again, reaching 7.0 tonnes of CO₂ equivalent per inhabitant; the reduction recorded in 2020 due to the restrictions imposed during the lockdown period is partly recovered (Figure 2). In the long term, however, there was a decreasing trend that started in 2008 (when emissions were 9.8 tonnes per inhabitant).

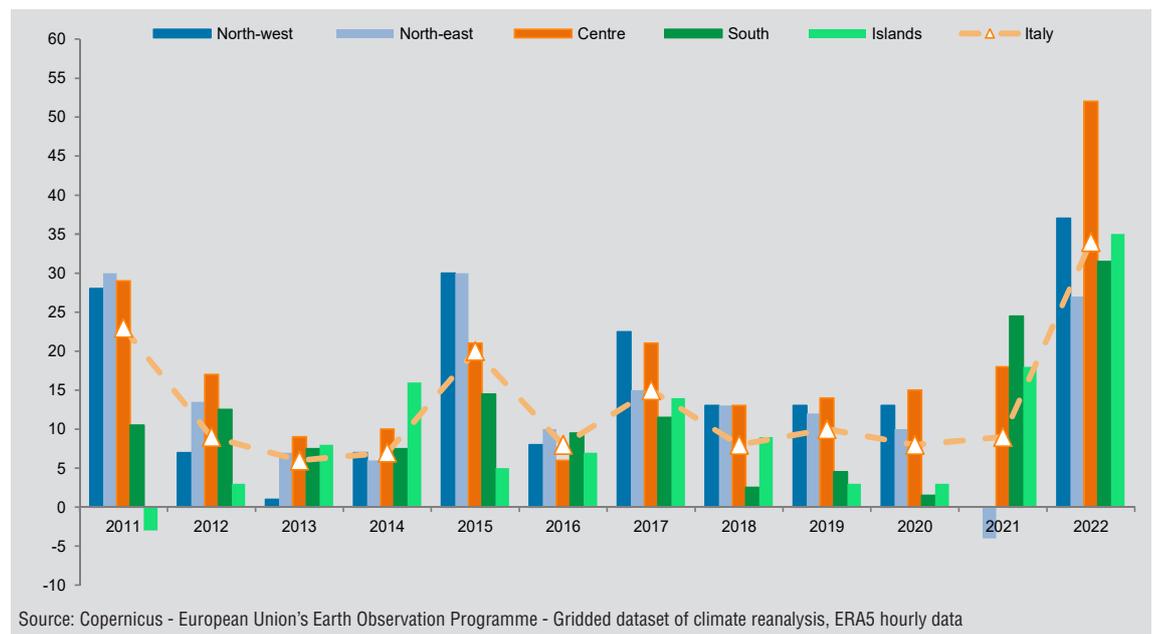
Figure 2. Total CO₂ and other greenhouse gas emissions by emission source. Years 2008-2021. Tonnes of CO₂ equivalent per inhabitant



Italy is warmer and with less precipitation

The effects of climate change in terms of temperature and precipitation are increasingly evident. In 2022, the phenomenon, already observed in 2021 is accentuated, with an average of 40 days of intense warm per year (Figure 3).

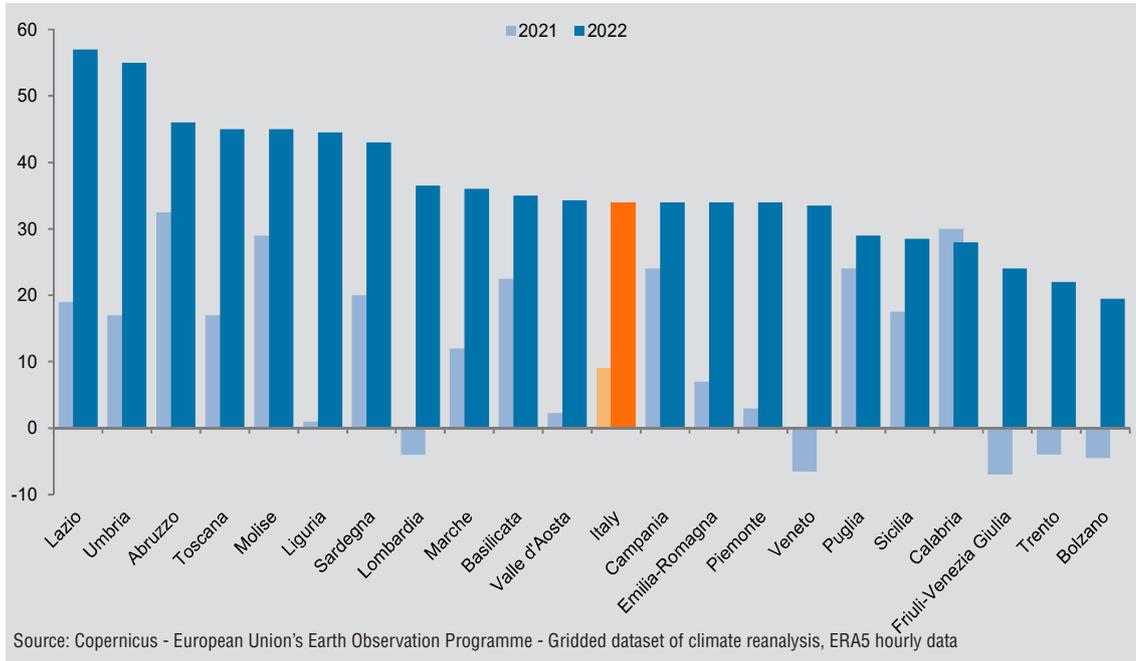
Figure 3. Warm spell duration index (WSDI): deviations from the climatic median (reference period 1981-2010) by geographic area. Years 2011-2022. Number of days



Periods of prolonged warm are increasing in all regions

In 2022, +34 prolonged warm days were observed compared to the median of the 1981-2010 climate reference period. The intensity of warm days was even more marked in the Centre, with 55 days during the year (+52 compared to the climatic reference period). The increase is spread over the whole Country (Figure 4).

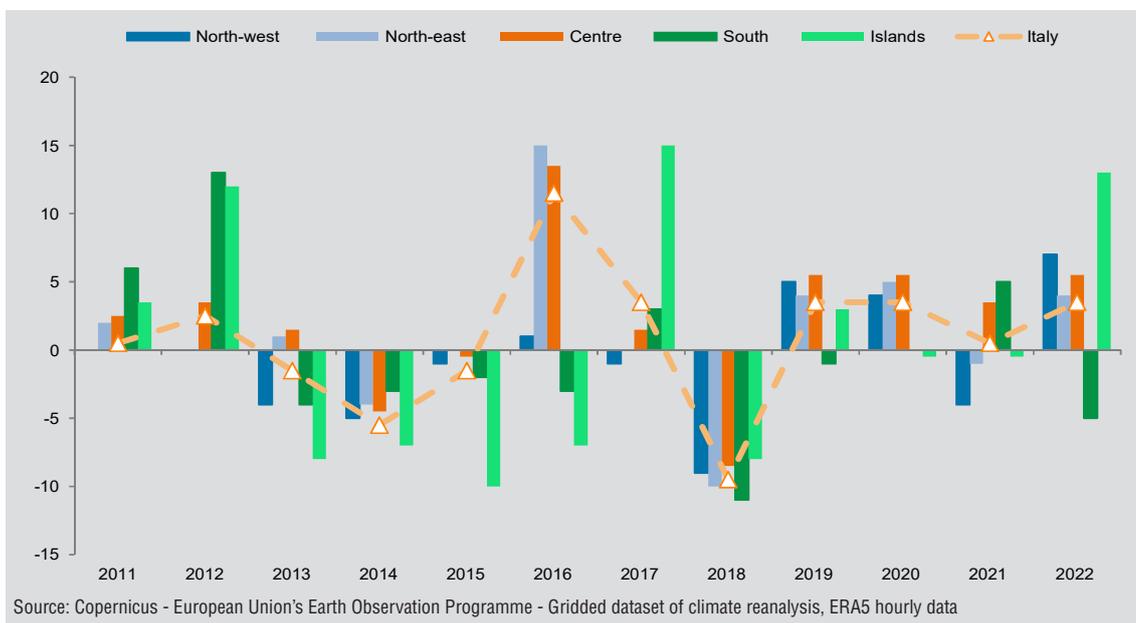
Figure 4. Warm spell duration index: deviations from the climatic median (reference period 1981-2010) by region. Years 2021-2022. Number of days



Increase in consecutive dry days, except in the South

In 2022, the number of consecutive dry days returned to increase (Figure 5), reaching a value of 27 (+4 compared to the median of the climatic period 1981-2010). The increase is more marked in the Islands (+13 compared to the median of the climatic period), in the North-east (+7) and in the Centre (+6).

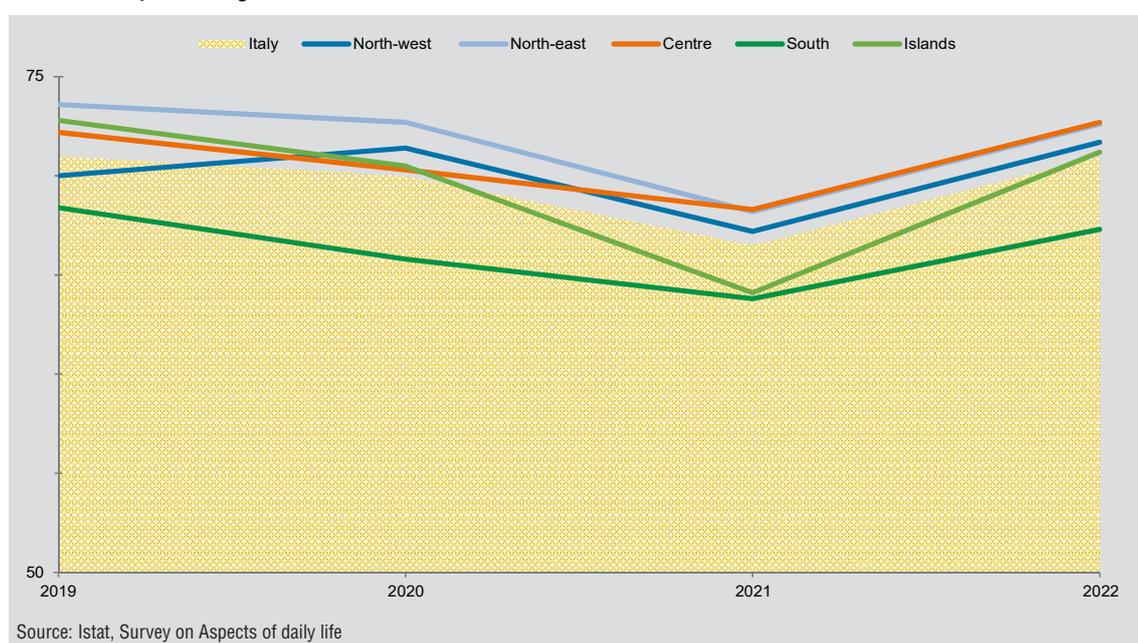
Figure 5. Index of consecutive dry days: deviations from the climatic median (reference period 1981-2010) by geographic area. Years 2011-2022. Number of days



Concern over climate change and the greenhouse effect rises back to 2019 levels

The effects of climate change and the increase in the greenhouse effect represent one of the environmental problems that people are most concerned about. In 2022, citizens' awareness of this issue is again on the rise, after the drop in attention observed during the pandemic: from 71.0% in 2019, it dropped to 70.0% in 2020 and 66.5% in 2021, while it rose back to 71.0% in 2022 (Figure 6).

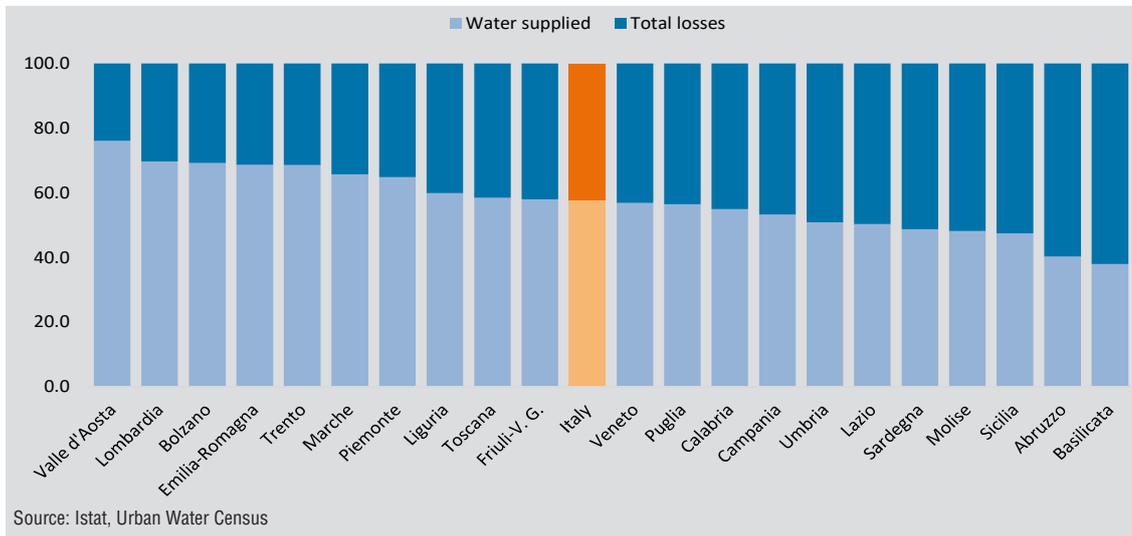
Figure 6. Concern about climate change and/or increasing greenhouse effect by geographic area. Years 2019-2022. Per 100 persons aged 14 and over



Water losses in public supply network are still high

In addition to the water crisis caused by climate change, in some areas of the Country there are also some structural criticalities in water supply infrastructures. In 2020, the percentage of total water losses in distribution stood at 42.2% of the water input into the network, with no substantial change compared to 2018 (42.0%) (Figure 7).

Figure 7. Water supplied for authorised uses and total water losses in public water supply networks by region. Year 2020. Percentage values of water input into the network



1.3 million inhabitants live in municipalities completely without urban sewage treatment service

In 2020, the public urban sewage treatment service was completely missing in 296 municipalities (1.3 million inhabitants), recording an improvement on 2018 (-13% of municipalities, -19% of residents).

Increasing artificial land cover

In 2021, the increase in impermeable artificial cover causing 'land consumption'³ is 69.1 km² more than in 2020, an average of about 19 ha per day, a worrying acceleration compared to previous years, for a total of 7.13% of land consumed nationally. The increase in artificial areas was only partly compensated by the restoration of additional agricultural, natural or semi-natural areas, amounting to 5.8 km². This is still not enough to reach the target of zero net soil consumption⁴.

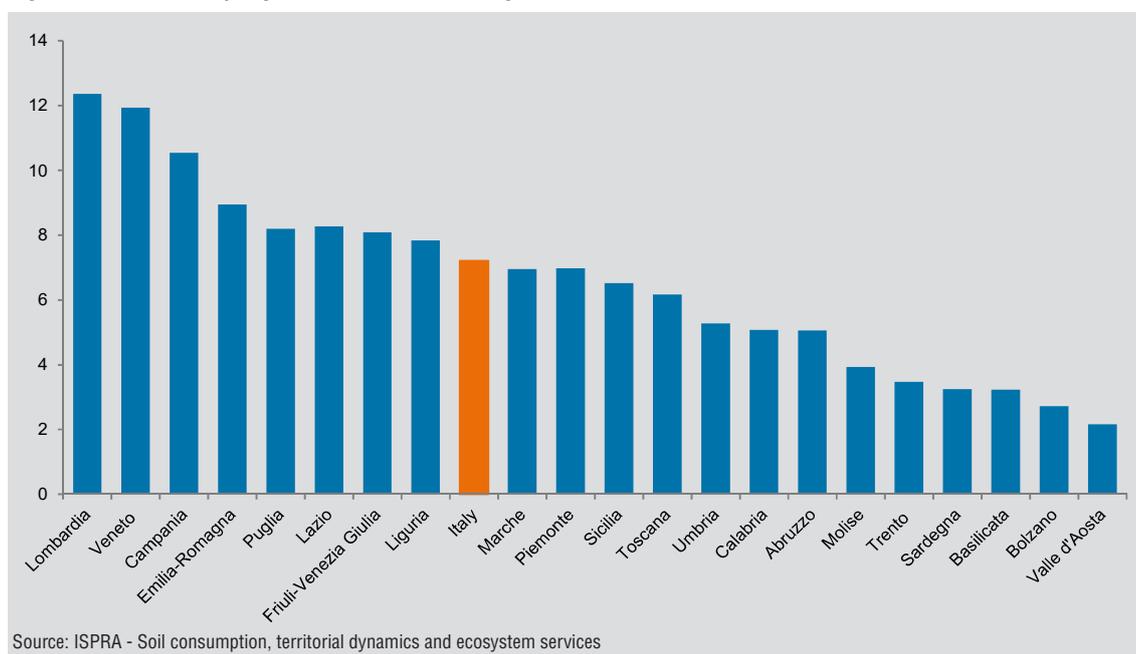
The changes observed last year are mainly concentrated in certain areas of the country: high values are found in Lombardia, Veneto and Campania (Figure 8).

The phenomenon remains very intense along the coasts of Sicilia and southern Puglia and in the metropolitan areas of Roma, Milano, Napoli, Bari and Bologna.

³ Soil consumption is defined as the change from non-artificial land cover (non-consumed soil) to artificial land cover (consumed soil).

⁴ Net soil consumption is assessed through the balance between soil consumption and the increase of agricultural, natural and semi-natural areas due to reclamation, demolition, removal of sealing, renaturation or other interventions (European Commission, 2012).

Figure 8. Soil sealed by region. Year 2021. Percentage values

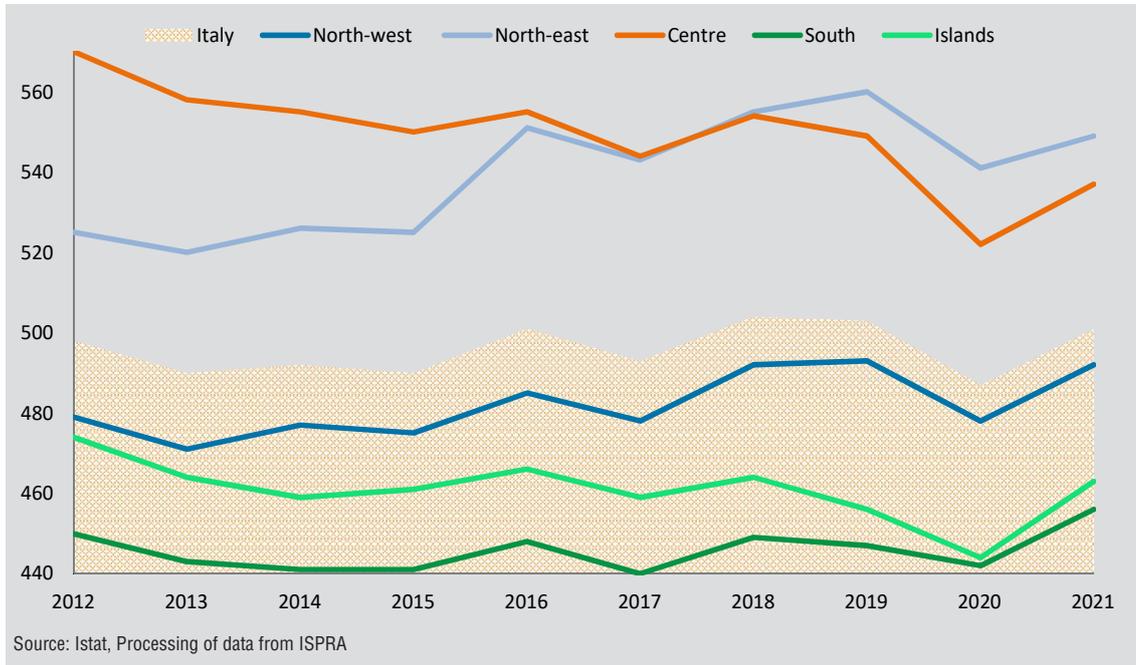


Annual municipal waste generation returns to 2019 levels

As the economy recovers in 2021, municipal waste production in Italy has returned to increase, being equal to 501 kilograms per inhabitant, recovering almost entirely the decrease recorded with the economic crisis caused by the pandemic (503 kg/inhab. in 2019 and 487 kg/inhabitant in 2020) (Figure 9).

In 2021, the percentage of landfilling of municipal waste, which has a high impact on the environment and human health, continues to decrease to 19.0% (5.6 million tonnes); however, this is still far from the EU target of landfilling a maximum of 10% of municipal waste by 2035. Particularly critical is the unequal territorial distribution of urban waste disposed of in landfills: 1.7 million tonnes in the Centre and 1.4 million tonnes in the Islands. The percentage of urban waste delivered to landfills in the same region of generation did not exceed 90%. To be highlighted is the case of Campania, which exported 100% of its waste to landfills in other regions.

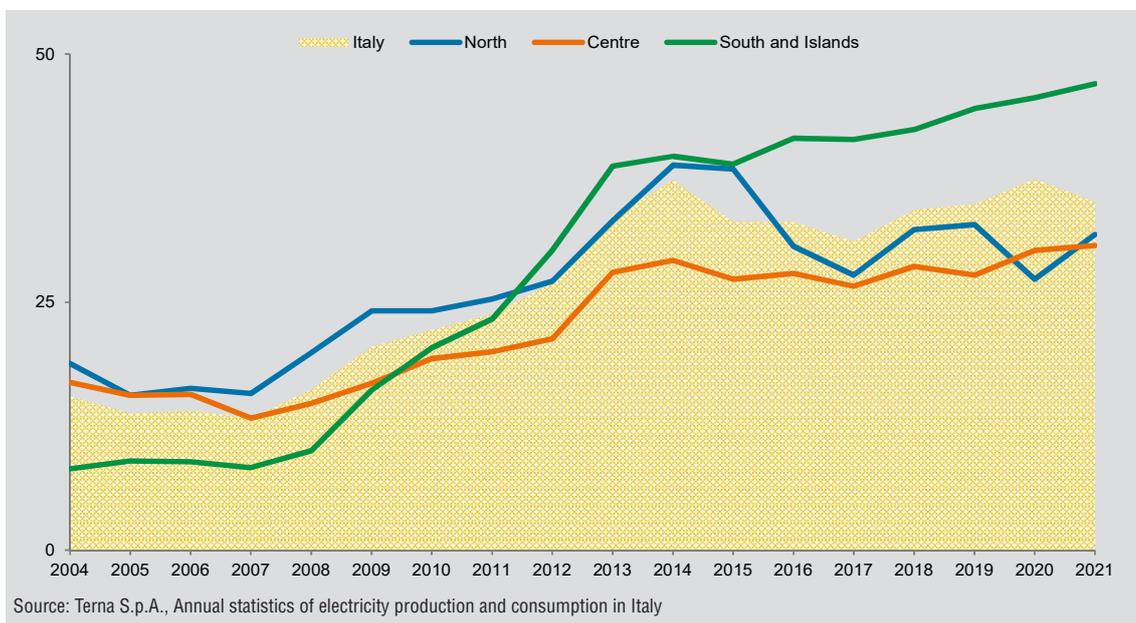
Figure 9. Municipal waste generated by geographic area. Years 2012-2021. Kilograms per inhabitant

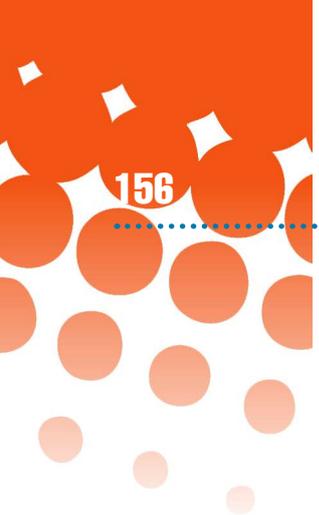


Reducing the share of renewable energy in 2021

The share of gross domestic consumption of electricity generated from renewable sources has decreased: 35.1% in 2021 (it was 37.4% in 2020). This is due to an increase in the gross domestic consumption of electricity (+6.1%) generated from thermal sources, mainly natural gas, which produce a greater impact on the environment especially in terms of greenhouse gas emissions (Figure 10).

Figure 10. Electricity consumption from renewable energy sources by geographic area. Years 2004-2021. Percentage values on gross domestic electricity consumption





Indicators

1. **Air quality - PM_{2.5}:** Percentage of valid measurements above the WHO health reference value (10 µg/m³) out of the total number of valid measurements of annual average PM_{2.5} concentrations for all station types (urban and suburban traffic, urban and suburban industrial, urban and suburban background, rural).
Source: Istat - Processing of data from Ispra
2. **Emissions of CO₂ and other greenhouse gases:** Emissions of CO₂ and other greenhouse gases of the Italian economy expressed in tons of CO₂ equivalent per capita).
Source: Istat-Ispra - Accounts and air emissions inventory
3. **Warm Spell Duration Index:** Warm spell duration index (WSDI) is defined as annual or seasonal count of days with at least 6 consecutive days when the daily maximum T exceeds the 90th percentile in the calendar 5-day window for the base period 1981-2010.
Source: Copernicus - European Union's Earth Observation Programme - Gridded dataset of climate reanalysis, ERA5 hourly data
4. **Extreme precipitation events:** Frequency of daily rainfall exceeding 50 mm/day.
Source: Copernicus - European Union's Earth Observation Programme - Gridded dataset of climate reanalysis, ERA5 hourly data
5. **Consecutive Dry Days:** Maximum number of consecutive dry days per time period with daily precipitation amount of less than 1 mm.
Source: Copernicus - European Union's Earth Observation Programme - Gridded dataset of climate reanalysis, ERA5 hourly data
6. **Population at risk of landslides:** Percentage of population resident in areas subject to high and very high landslide hazard, identified on the basis of the ISPRA National Mosaiculture of the Hydrogeological Planning Plans (PAI) and its updates. The population considered is that of the 2011 Census.
Source: Ispra - Hydrogeological instability in Italy: hazard and risk indicators
7. **Population at risk of flood:** Percentage of population resident in medium flood hazard zones (Return period 100-200 years; D. Lgs. 49/2010), identified on the basis of the ISPRA National Mosaiculture of the Hydrogeological Planning Plans (PAI) and its updates, with reference to risk scenario P2. The population considered is that of the 2011 Census.
Source: Ispra - Hydrogeological instability in Italy: hazard and risk indicators
8. **Water losses in urban supply system:** Percentage of the total volume of water losses in municipal drinking water supply networks (difference between volumes fed into the network and supplied authorised volumes) on total water input.
Source: Istat - Urban Water Census
9. **Sewage treatment:** Percentage of polluting loads collected in secondary or advanced plants, in equivalent inhabitants, compared to the total urban loads generated.
Source: Istat - Urban Water census; Survey on urban environmental data
10. **Protected natural areas:** Percentage share of terrestrial protected natural areas included in Italian Official List of Protected Areas and Natura 2000 Network.
Source: Istat - Processing of data from Ministry of the Environment and Energy Security
11. **Coastal bathing waters:** Percentage of authorised coastal bathing waters on the total of the coastal line in accordance with the regulations in force.
Source: Istat - Processing of data from Ministry of Health
12. **Urban green:** Square meters of urban parks and gardens per inhabitants in provincial capital Municipalities.
Source: Istat - Survey on urban environmental data
13. **Soil sealing from artificial land cover:** Percentage of soil sealed following a change from non-artificial to artificial coverage.
Source: Ispra - Soil consumption, territorial dynamics and ecosystem services
14. **Domestic material consumption:** Domestic material consumption measures the quantity of matter, other than water and air, used every year 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).
Source: Istat - Material flow accounts
15. **Municipal waste generated:** Municipal waste generated per capita (in Kg).
Source: Istat - Processing of data from Ispra
16. **Landfill of urban waste:** Percentage of municipal waste sent to landfill on total municipal waste collected.
Source: Ispra - Waste statistics
17. **Contaminated sites:** Size of contaminated sites.
Source: Processing of data from Ministry of the Environment and Energy Security and Ispra
18. **Electricity from renewable sources:** Percentage of energy consumption provided by renewable sources on gross electricity consumption. The indicator is calculated as the ratio between the gross electricity production from RES (actual, non-normalised) and the gross domestic consumption of electricity (e.g. the gross production of electricity, including pumping, plus trade balance).
Source: Terna S.p.A. - Annual statistics of electricity production and consumption in Italy
19. **Concern for climate change:** Percentage of people aged 14 and over who believe that climate change, greenhouse effect and ozone hole are among the five most important environmental problems.
Source: Istat - Survey on Aspects of daily life
20. **Satisfaction for the environment:** Percentage of people aged 14 and over very or quite satisfied of the environmental situation (air, water, noise) of the area where they live.
Source: Istat - Survey on Aspects of daily life
21. **Concern for biodiversity loss:** Percentage of people aged 14 and over who believe that biodiversity loss is among the five most important environmental problems.
Source: Istat - Survey on Aspects of daily life

Indicators by region and geographic area

| REGIONS GEOGRAPHIC AREAS | Air quality PM _{2.5} (a) | Emissions of CO ₂ and other greenhouse gases (b) | Warm Spell Duration Index (c) | Extreme precipitation events (c) | Consecutive Dry Days (c) | Population at risk of landslide (d) | Population at risk of flood (d) | Water losses in urban supply system (e) | Sewage treatment (f) | Protected natural areas (g) |
|----------------------------------|--|--|---|---|--------------------------------|--|--|--|----------------------------|--------------------------------------|
| | 2021 | 2021 | 2022 | 2022 | 2022 | 2020 | 2020 | 2020 | 2015 | 2021 |
| Piemonte | 87.5 | .... | 40 | 0 | 33 | 1.9 | 4.9 | 35.2 | 69.7 | 16.7 |
| Valle d'Aosta/Vallée d'Aoste | 75.0 | .... | 41 | 1 | 21 | 12.1 | 9.1 | 23.9 | 66.0 | 30.3 |
| Liguria | 56.7 | .... | 52 | 0 | 25 | 5.9 | 17.4 | 40.1 | 61.2 | 27.2 |
| Lombardia | 97.1 | .... | 43 | 0 | 32 | 0.5 | 4.4 | 30.3 | 62.9 | 16.1 |
| Trentino-Alto Adige/ Südtirol | 100.0 | .... | 27 | 0 | 25 | 2.1 | 18.0 | 31.2 | 78.9 | 26.4 |
| <i>Bolzano/Bozen</i> | <i>100.0</i> | <i>....</i> | <i>26</i> | <i>0</i> | <i>20</i> | <i>2.3</i> | <i>9.8</i> | <i>30.8</i> | <i>99.7</i> | <i>24.5</i> |
| <i>Trento</i> | <i>100.0</i> | <i>....</i> | <i>29</i> | <i>1</i> | <i>27</i> | <i>2.0</i> | <i>25.9</i> | <i>31.4</i> | <i>63.6</i> | <i>28.7</i> |
| Veneto | 100.0 | .... | 40 | 1 | 36 | 0.1 | 11.7 | 43.2 | 49.4 | 22.7 |
| Friuli-Venezia Giulia | 88.0 | .... | 31 | 1 | 30 | 0.4 | 9.9 | 42.0 | 50.7 | 20.1 |
| Emilia-Romagna | 87.2 | .... | 34 | 1 | 25 | 2.0 | 62.5 | 31.3 | 67.7 | 12.1 |
| Toscana | 73.5 | .... | 48 | 0 | 27 | 4.2 | 25.5 | 41.6 | 49.5 | 15.5 |
| Umbria | 57.1 | .... | 61 | 0 | 27 | 2.0 | 7.2 | 49.1 | 68.7 | 17.5 |
| Marche | 53.3 | .... | 42 | 0 | 22 | 2.2 | 5.2 | 34.3 | 48.5 | 18.8 |
| Lazio | 66.0 | .... | 63 | 1 | 27 | 1.6 | 3.2 | 49.7 | 67.0 | 27.9 |
| Abruzzo | 81.8 | .... | 46 | 0 | 21 | 5.6 | 7.2 | 59.8 | 63.9 | 36.6 |
| Molise | 50.0 | .... | 45 | 0 | 21 | 6.1 | 2.3 | 51.8 | 58.0 | 26.4 |
| Campania | 79.4 | .... | 40 | 2 | 21 | 5.0 | 5.1 | 46.8 | 60.5 | 35.3 |
| Puglia | 69.2 | .... | 29 | 0 | 22 | 1.4 | 3.4 | 43.6 | 68.3 | 24.5 |
| Basilicata | 8.3 | .... | 41 | 1 | 21 | 7.0 | 1.1 | 62.1 | 67.2 | 23.1 |
| Calabria | 50.0 | .... | 34 | 0 | 22 | 3.3 | 12.8 | 45.1 | 46.0 | 26.6 |
| Sicilia | 66.0 | .... | 35 | 0 | 46 | 1.8 | 2.6 | 52.5 | 43.9 | 20.3 |
| Sardegna | 6.1 | .... | 43 | 0 | 74 | 1.3 | 7.5 | 51.3 | 58.8 | 19.9 |
| North | 88.4 | .... | 37 | 1 | 27 | 1.3 | 16.6 | 32.5 | 62.4 | 18.8 |
| North-west | 92.2 | .... | 43 | 0 | 29 | 1.5 | 5.9 | 32.5 | 64.6 | 18.2 |
| North-east | 85.2 | .... | 33 | 1 | 26 | 1.0 | 31.4 | 37.8 | 59.6 | 19.4 |
| Centre | 65.0 | .... | 55 | 0 | 27 | 2.5 | 10.8 | 46.1 | 58.5 | 20.0 |
| South and Islands | 55.6 | .... | 38 | 0 | 27 | 3.2 | 5.1 | 49.6 | 56.7 | 25.2 |
| South | 63.9 | .... | 38 | 0 | 21 | 3.9 | 5.6 | 48.4 | 60.9 | 28.7 |
| Islands | 42.2 | .... | 38 | 0 | 57 | 1.7 | 3.8 | 52.2 | 47.8 | 20.1 |
| Italy | 71.7 | 7.0 | 40 | 0 | 27 | 2.2 | 11.5 | 42.2 | 59.6 | 21.7 |

(a) Percentage of valid measurements above the WHO defined reference value (10 µg/m³) of total valid measurements of annual average concentrations of PM_{2.5};

(b) Tonnes of CO₂ equivalent per capita;

(c) Number of days;

(d) Percentage on total population;

(e) Percentage of water input into the network;

(f) Percentage of the urban pollution loads generated;

(g) Percentage of land area;

(h) Percentage of authorised bathing waters on the total of the coastline;

(i) Square meters per capita;

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| Costal bathing waters (h) | Urban green (i) | Soil sealing from artificial land cover (l) | Domestic material consumption (m) | Municipal waste generated (n) | Landfill of urban waste (o) | Contaminated sites (p) | Electricity from renewable sources (q) | Concern for climate change (r) | Satisfaction for the environment (r) | Concern for biodiversity loss (r) |
|---------------------------|-----------------|---|-----------------------------------|-------------------------------|-----------------------------|------------------------|--|--------------------------------|--------------------------------------|-----------------------------------|
| 2019 | 2021 | 2021 | 2020 | 2021 | 2021 | 2020 | 2021 | 2022 | 2022 | 2022 |
| .... | 26.7 | 7.0 | .... | 500 | 12.2 | 42.7 | 36.9 | 71.9 | 71.6 | 25.4 |
| .... | 19.3 | 2.2 | .... | 600 | 38.2 | 0.7 | 255.1 | 71.4 | 83.5 | 24.7 |
| 57.4 | 18.5 | 7.8 | .... | 543 | 39.6 | 5.1 | 7.3 | 71.0 | 76.0 | 24.4 |
| .... | 28.0 | 12.4 | .... | 480 | 3.6 | 8.2 | 24.4 | 71.7 | 69.1 | 25.8 |
| .... | 319.2 | 3.1 | .... | 505 | 10.1 | 0.4 | 144.7 | 69.6 | 86.7 | 24.3 |
| .... | 225.8 | 2.7 | .... | 484 | 1.4 | 0.3 | 192.7 | 66.7 | 85.4 | 27.1 |
| .... | 403.6 | 3.5 | .... | 525 | 18.1 | 0.6 | 103.3 | 72.5 | 87.9 | 21.6 |
| 64.2 | 33.8 | 11.9 | .... | 487 | 16.1 | 1.7 | 26.5 | 75.9 | 75.6 | 24.8 |
| 42.2 | 65.4 | 8.1 | .... | 501 | 5.2 | 18.4 | 31.5 | 71.5 | 83.5 | 25.7 |
| 61.7 | 45.0 | 9.0 | .... | 641 | 7.5 | 1.7 | 20.5 | 69.8 | 74.5 | 24.3 |
| 71.3 | 24.5 | 6.2 | .... | 598 | 35.2 | 5.1 | 41.3 | 73.4 | 77.7 | 25.2 |
| .... | 100.3 | 5.3 | .... | 517 | 33.6 | 0.8 | 42.6 | 71.3 | 79.7 | 23.6 |
| 73.2 | 29.8 | 7.0 | .... | 526 | 50.1 | 0.2 | 25.8 | 72.8 | 77.2 | 24.2 |
| 69.5 | 21.9 | 8.3 | .... | 504 | 13.7 | 4.2 | 16.0 | 72.4 | 67.7 | 25.7 |
| 75.5 | 29.1 | 5.1 | .... | 459 | 27.5 | 0.6 | 45.9 | 71.8 | 74.2 | 23.8 |
| 71.9 | 317.3 | 3.9 | .... | 383 | 90.4 | 0.3 | 85.1 | 68.9 | 80.2 | 21.9 |
| 70.0 | 15.5 | 10.5 | .... | 472 | 0.0 | 5.8 | 33.0 | 68.7 | 58.6 | 21.5 |
| 74.7 | 9.7 | 8.2 | .... | 475 | 28.1 | 6.5 | 55.3 | 66.4 | 67.0 | 18.3 |
| 90.8 | 92.6 | 3.2 | .... | 356 | 44.0 | 4.0 | 111.5 | 67.9 | 73.3 | 19.5 |
| 85.3 | 33.3 | 5.1 | .... | 408 | 27.6 | 0.7 | 77.7 | 62.0 | 66.9 | 21.7 |
| 50.8 | 15.4 | 6.5 | .... | 460 | 51.5 | 3.2 | 28.0 | 71.3 | 64.6 | 20.7 |
| 64.9 | 35.8 | 3.4 | .... | 470 | 27.9 | 12.4 | 39.0 | 71.0 | 74.0 | 28.6 |
| 56.9 | 41.7 | 8.6 | .... | 516 | 10.4 | 12.7 | 31.8 | 72.1 | 73.2 | 25.2 |
| 57.4 | 25.9 | 8.7 | .... | 492 | 10.1 | 22.6 | .... | 71.7 | 70.5 | 25.5 |
| 56.5 | 63.2 | 8.4 | .... | 549 | 10.7 | 3.5 | .... | 72.6 | 77.0 | 24.7 |
| 71.1 | 27.4 | 6.8 | .... | 537 | 27.2 | 3.4 | 30.7 | 72.7 | 72.9 | 25.2 |
| 65.8 | 23.8 | 5.9 | .... | 458 | 26.7 | 5.2 | 47.0 | 68.6 | 65.5 | 21.4 |
| 77.0 | 26.5 | 6.6 | .... | 456 | 17.5 | 3.6 | .... | 67.3 | 64.7 | 20.7 |
| 58.5 | 19.3 | 5.0 | .... | 463 | 45.6 | 7.6 | .... | 71.2 | 66.9 | 22.7 |
| 65.5 | 32.5 | 7.2 | 458.7 | 501 | 19.0 | 7.9 | 35.1 | 71.0 | 70.6 | 23.9 |

(l) Percentage of land area;

(m) Millions tonnes;

(n) Kilograms per capita;

(o) Percentage of total municipal waste collected;

(p) Land area affected, values per 1,000;

(q) Percentage of total internal consumption;

(r) Per 100 persons aged 14 years and over;

