# UNECE- Regional Training on the production and use of waste and circular economy statistics and indicators

## Reporting and use of waste indicators in Italy

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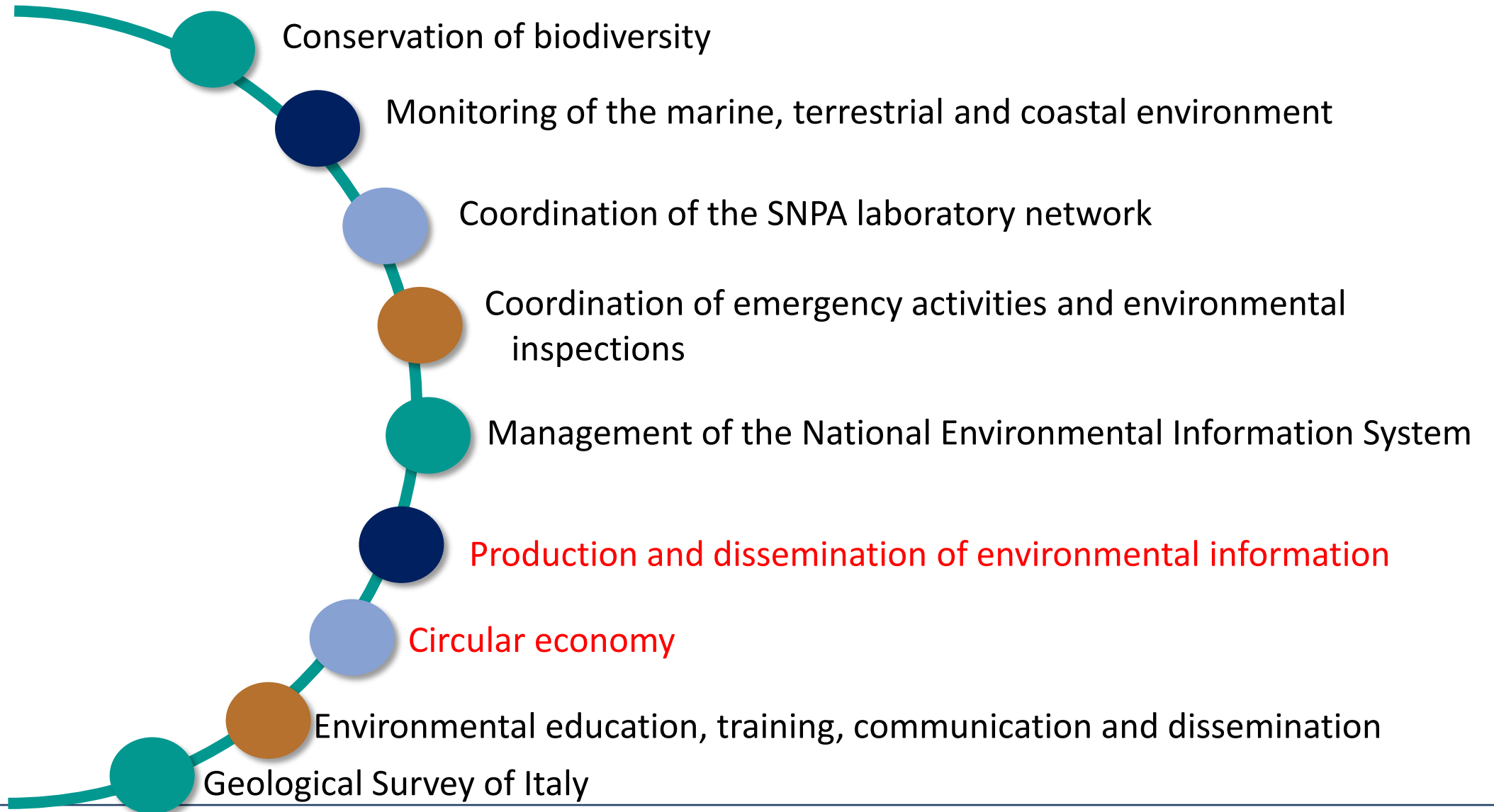Italian National Statistics Institute - Directorate for territorial and enviromental statistics

Vienna, 20-21 June 2024

# Italian Institute for Environmental Protection and Research



Public research body enjoying technical-scientific and regulatory independence

Its mission is to protect the environment through institutional tasks

Receives general guidance from the Ministry of the Environment and Energy Security (MASE)

Italian reference institution for technical-scientific and monitoring and control activities for environmental protection and sustainability

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# The tasks of the Institute

Conservation of biodiversity

Monitoring of the marine, terrestrial and coastal environment

Coordination of the SNPA laboratory network

Coordination of emergency activities and environmental inspections

Management of the National Environmental Information System

Production and dissemination of environmental information

Circular economy

Environmental education, training, communication and dissemination

Geological Survey of Italy

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# MDIAR Model

**MDIAR model**: Monitoring, collection and organization of environmental data and information (also through the development of indicators), environmental analysis and reporting or the structured publication of environmental data, information and assessments.
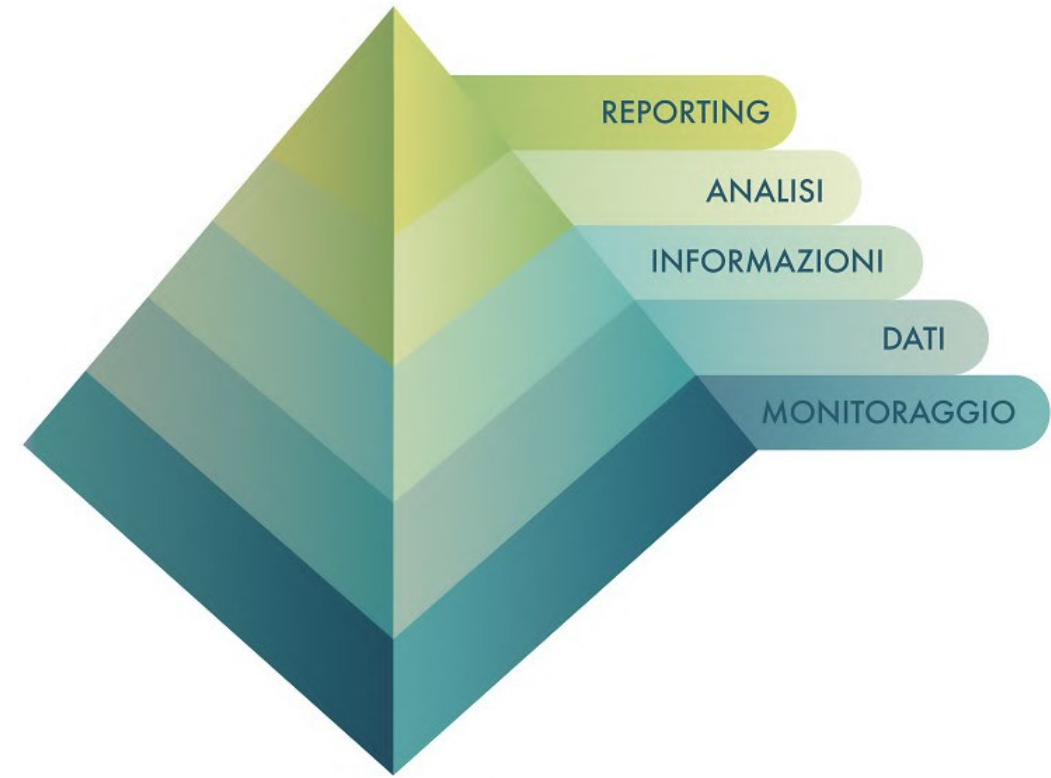
# Monitoring: Data Sources

The data information base is the ISPRA elaborations made on data provided by:

- ARPA/APPA (Regional/Provincial Agency for Environmental Protection);
- Regions;
- Provinces;
- Provincial Observers on waste;
- Annual databases of the Environmental Declaration Single Model (Modello Unico di Dichiarazione Ambientale, MUD).

The collected data on waste generation and on waste management are published on the waste register (Catasto Rifiuti)

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# Waste register - Catasto rifiuti

https://www.catasto-rifiuti.isprambiente.it/index.php?pg=

# Monitoring tools



**Indicators, indices, models, forecasts, scenarios**

# Environmental Indicators Platform https://indicatoriambientali.isprambiente.it/it



The platform, with more than 300 environmental indicators, is the most complete collection of statistical data and information on the state of the environment in Italy.

The indicators are structured in sheets containing descriptive information (metadata) such as, for example, the objectives to be achieved, the assessment of the status, the trend and data represented with graphs, tables and maps.

# Environmental Themes https://indicatoriambientali.isprambiente.it/it/temi



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Environmental issues    Environmental Data Yearbook ▾    PON-Gov Project    UN – SDGs ▾    Core-set ▾    Framework ▾    Aggregation Catalog    Dashboard    Banns ▾

## Environmental issues

The indicators, classified into 38 environmental themes, are structured in sheets containing both descriptive information (metadata) such as, for example, the objectives to be achieved, the assessment of the status, the trend, and analytical (data) represented with graphs, tables and maps.

| | | | |
|---|---|---|---|
| Aquaculture 3 | Inland waters 19 | Coastal marine waters and transition 24 | Agriculture 14 |
| Protected areas 9 | Environmental Authorizations 3 | Biodiversity - status and threats 12 | Electromagnetic Fields (EMF) 6 |
| Environmental Certification 3 | Climate 10 | Coasts 6 | Economy and environment 9 |
| Emissions 10 | Energy 20 | Environmental Training 1 | Georesources 7 |
| Industry 18 | Environmental information 2 | Venice Lagoon 7 | Forest heritage 3 |
| Flood hazard 3 | Landslide hazard 6 | Subsidence hazard and sinkholes 3 | Seismic hazard 8 |
| Volcanic hazard 2 | Peach 3 | Air quality 12 | Waste 19 |
| Water Resources and Budget 12 | Noise 6 | Forestry 2 | Contaminated sites 2 |
| Chemical substances or agents 8 | Soil 3 | Transport 15 | Tourism 13 |
| Land use and consumption 4 | Environmental Assessments 7 | | |

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# Waste indicators - ISPRA

- Export of waste from economic activities
- Import of waste from economic activities
- Percentage of preparation for re-use and recycling
- Municipal waste generation
- Generation of waste from economic activities
- Generation of total waste excluding major mineral waste
- Composting and anaerobic digestion of municipal waste
- Mechanical Biological Treatment of Municipal Waste
- Waste from economic activities incinerated
- Waste from economic activities recovered
- Waste from economic activities disposed in landfill
- Quantities of special waste used as a source of energy in production plants
- Municipal waste incinerated
- Municipal waste collected separately
- Municipal waste  disposed in landfills
- Recycling/recovery of construction and demolition waste
- Recycling rate of packaging waste
- Recycling rate of waste excluding major mineral waste

# Waste data trasmission

- DIRECTIVE 2008/98/EC (Art. 11.2) on achieving the objectives of the preparing for re-use and the recycling of waste materials;
- DIRECTIVE 1999/31/EC: Eurostat and OECD questionnaire;
- DIRECTIVE 2006/66/EC on batteries and accumulators and waste batteries and accumulators;
- DIRECTIVE 2000/53/EC on end-of life vehicles;
- DIRECTIVE 2012/19/EC on waste electrical and electronic equipment (WEEE);
- DIRECTIVE 94/62/EC on packaging and packaging waste;
- DIRECTIVE 2015/720/EC of 29 April 2015 amending Directive 94/62/EC as regards reducing the consumption of lightweight plastic carrier bags;
- DIRECTIVE 2008/98/EC (Art 11.2.b) on achieving the objectives of recovery and recycling of construction and demolition waste;
- DIRECTIVE 2008/98/EC on food waste;
- DIRECTIVE 2019/904/EC on the reduction of the impact of certain plastic products on the environment.

# Waste Statistics

REGULATION (EC) No 2150/2002 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL

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# Waste and Environmental reports

ISPRA produces different kinds of environmental reports to provide information on the implementation of environmental measures (based on specific legislative or cooperative instruments) and to disseminate data and information on the waste, and on the state of the Environment such as:

"Municipal waste report", "Report on Waste from Economic Activities", "Environment in Italy", the "SNPA Environment Report", etc.

**Waste Reports**

**Environmental Reports**
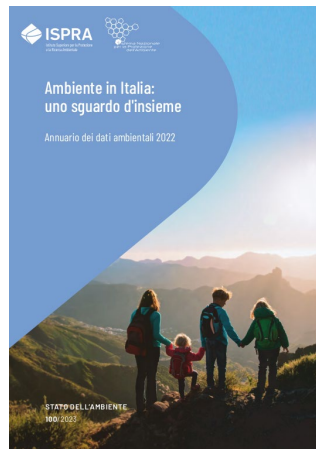
# ISTAT – Italian National Institute of Statistics

The National Institute of Statistics is a public research institution and it is the main producer of official statistics to support citizens and public decision-makers

MISSION:
- The mission of the National Institute of Statistics is to serve the community through the production and communication of high-quality statistical information, analyses and forecasts in the economic, social and environmental fields;

- The data produced are disseminated through the istat.it website, where press releases and databases are available. The main access to the data is IstatData, the Institute's data warehouse, within which the information is organized by theme, presented in multidimensional tables and accompanied by metadata. Access to the data warehouse is free and open (https://esploradati.istat.it/databrowser).

# SDGs - SUSTAINABLE DEVELOPMENT GOALS

The United Nations Statistics Division entrusted Istat, like other NSOs, with the task of coordinating the production of indicators for measuring sustainable development and monitoring its objectives.

Periodically, Istat presents an update and an extension of breakdowns of the set of statistical measures for monitoring Sustainable Development Goals of 2030 Agenda. Istat publishes yearly the Report on SDGs.

# SDGs Waste indicators - Goal 11 - Make cities inclusive, safe, resilient and sustainable
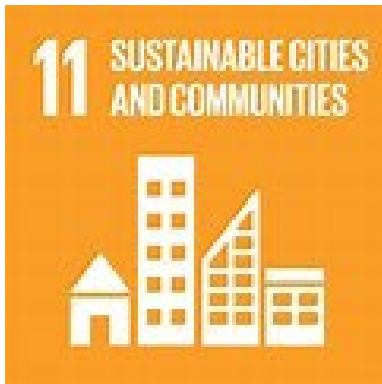
11.6.1 - Proportion of municipal solid waste collected and managed in controlled facilities out of total municipal waste generated, by cities:

- Percentage of municipal waste sent to landfill on total municipal waste collected by regions
- Municipal waste generated by region and provincial capitals (Kg per capita)

*Data source: Ispra*

# SDGs Waste indicators - Goal 12: Ensure sustainable consumption and production patterns

12.4.2 - (a) Hazardous waste generated per capita; and (b) proportion of hazardous waste treated, by type of treatment:
- Hazardous waste generated by regions (tonne)
- Hazardous waste sent to the recovery operations by regions (tonne)
- Hazardous waste disposed of by regions (tonne)

12.5.1 - National recycling rate, tons of material recycled
- Recycling rate (national level)
- Municipal waste object of separate collection by regions and provinces (tonne)
- Separate collection of municipal waste by regions and provinces (percentage on total municipal waste)
- Municipal waste generated by region and provincial capitals (Kg per capita)
- Circular material use rate (national level – percentage - Eurostat)

*Data source: Ispra*

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# Istat - Urban environmental data survey

Since 2000 Istat carries out a survey on urban environment, concerning eight themes: Water, Air, Eco-management, Energy, Urban mobility, Municipal waste, Noise, Urban green areas
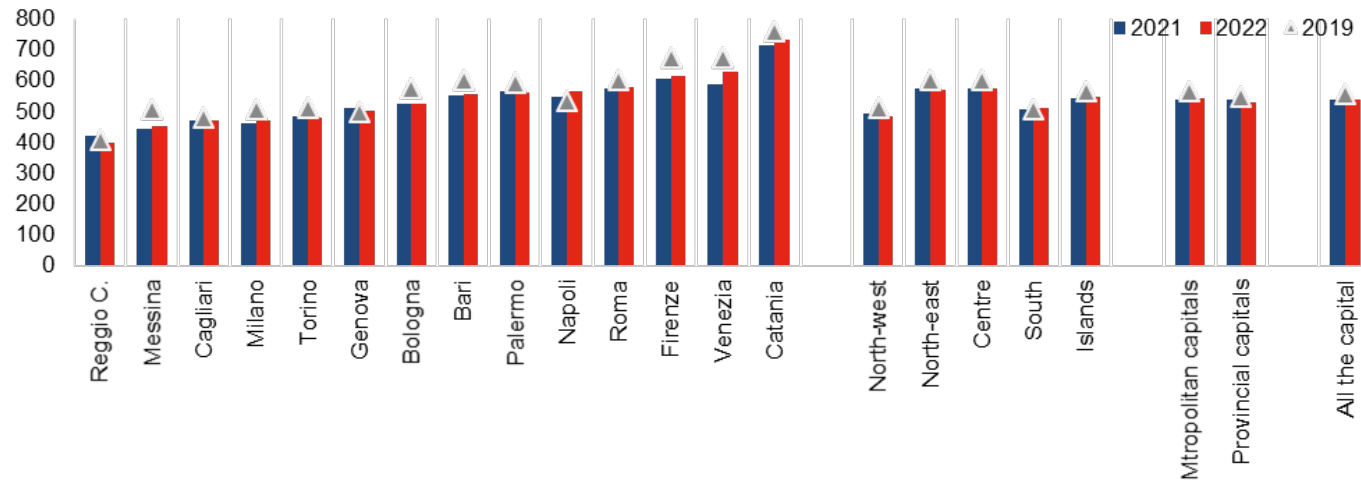Frequency: annual
Units: Italian provincial capitals (109 Municipalities)
Dissemination of data: annual report, specific focus, e-book

Waste indicators:
- Municipal waste generated (tonne, kg per capita)
- Separate collection of municipal waste  (tonne, percentage, kg per capita)
- Separate collection of municipal waste by type of material (tonne, kg per capita e percentage composition)

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# Istat - Urban environmental data survey – report 2024



Municipal waste generated in metropolitan and provincial capitals. Years 2019, 2021 e 2022, kg per capita

Separate collection of municipal waste in metropolitan capitals. Years 2021-2022, percentage
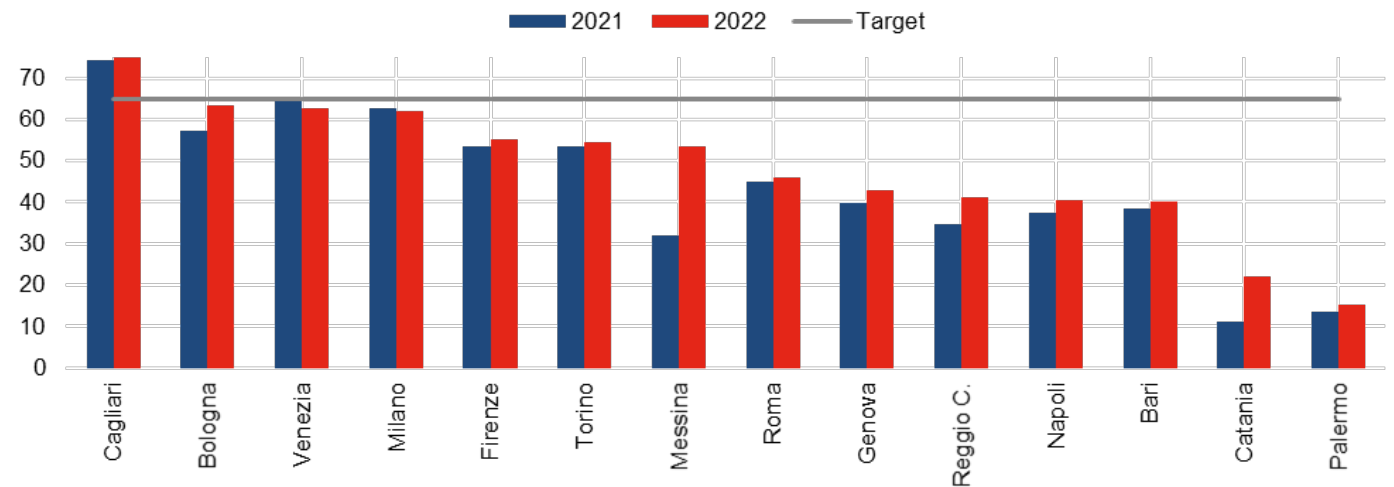


*Data source: Istat processing on Ispra data*

# Thank you for your attention!

indicatoriambientali.isprambiente.it/it

www.catasto-rifiuti.isprambiente.it/index.php?pg=

www.isprambiente.gov.it/it

https://www.istat.it/it/