European Commission

European Committee of the Regions

Zero Pollution Stakeholder Workshop: **Towards an urban and regional scoring methodology for zero pollution**

25 April 2023

Agenda

9:30-10:00	Registration and welcome coffee
10:00-10:20	Welcome and introduction (Plenary session)
10:20-11:15	**Setting the scene**
11:15-12:15	Session 1: Detailed presentation of the concept note
12:15-12:30	**Session 2: Presentation of the breakout groups**
12:30-13:30	Lunch break
13:30-15:00	**Session 3: Thematic breakout sessions**
15:00-15:15	Coffee break
15:15-16:15	**Conclusions and wrap-up**
17:00	**End of meeting**

Welcome and introduction

By DG ENV, CoR and DG REGIO

European Commission

European Committee of the Regions

Promoting zero pollution across regions

Towards a Scoreboard of EU regions' green performance

3rd Zero Pollution Stakeholder Platform

Flagship 2 - *Supporting urban ZP action*

- Identify key urban greening and innovation needs to prevent pollution
- By **2024**,reward cities reporting the most progress in reducing air, water and soil pollution
- To help people benefit from **actions against pollution** that are **tailored to** their immediate **local** surroundings.

Flagship 3 - *Promoting ZP across Regions*

Towards a **Scoreboard of EU regions' Green Performance** :

- **First Pilot** by **2024**, jointly with **Committee of the Regions**
- To assess **efforts of EU regions towards ZP targets, and**
- To award for the **Green Region of the Year,** *in synergy with* **REGIOSTARS,** in view of
  - **raise awareness of civil society** on time progress of ZP performance of regions
  - contribute to a **ZP race for administrations, business** including **tourism**

EU Frameworks

- 8th EU Cohesion Report;
- 2022 Regional Yearbook, SGD Report (ESTAT)
- *Quality of life in European Cities* - Survey
- Knowledge Centre for Territorial Policies
- Link Monitoring Indicators in *Green City Accord*
- 8th Environmental Action Programme
- EEA's model 'pressure, state and impact'
- Zero Pollution Monitoring & Outlook

Key actors and Process

EU

Member States

Regions

Cities and municipalities

Zero Pollution Monitoring and Outlook

Scoreboard of EU regions' green performance

Green City Accord monitoring

Challenges and Opportunities

- Purpose, added value and use
- Aggregation and Weighing
- Distance to target vs. efforts
- Data availability and digestion

Timelines

2022

- State of the art on region's work
- Scoping Study

2023

- Stakeholder Workshop (Q1)
- Scoreboard Conceptual Framework
- Data collection

2024

- Assessment
- Publication of first pilot scoreboard

A regional zero-pollution scoreboard to support cohesion reporting

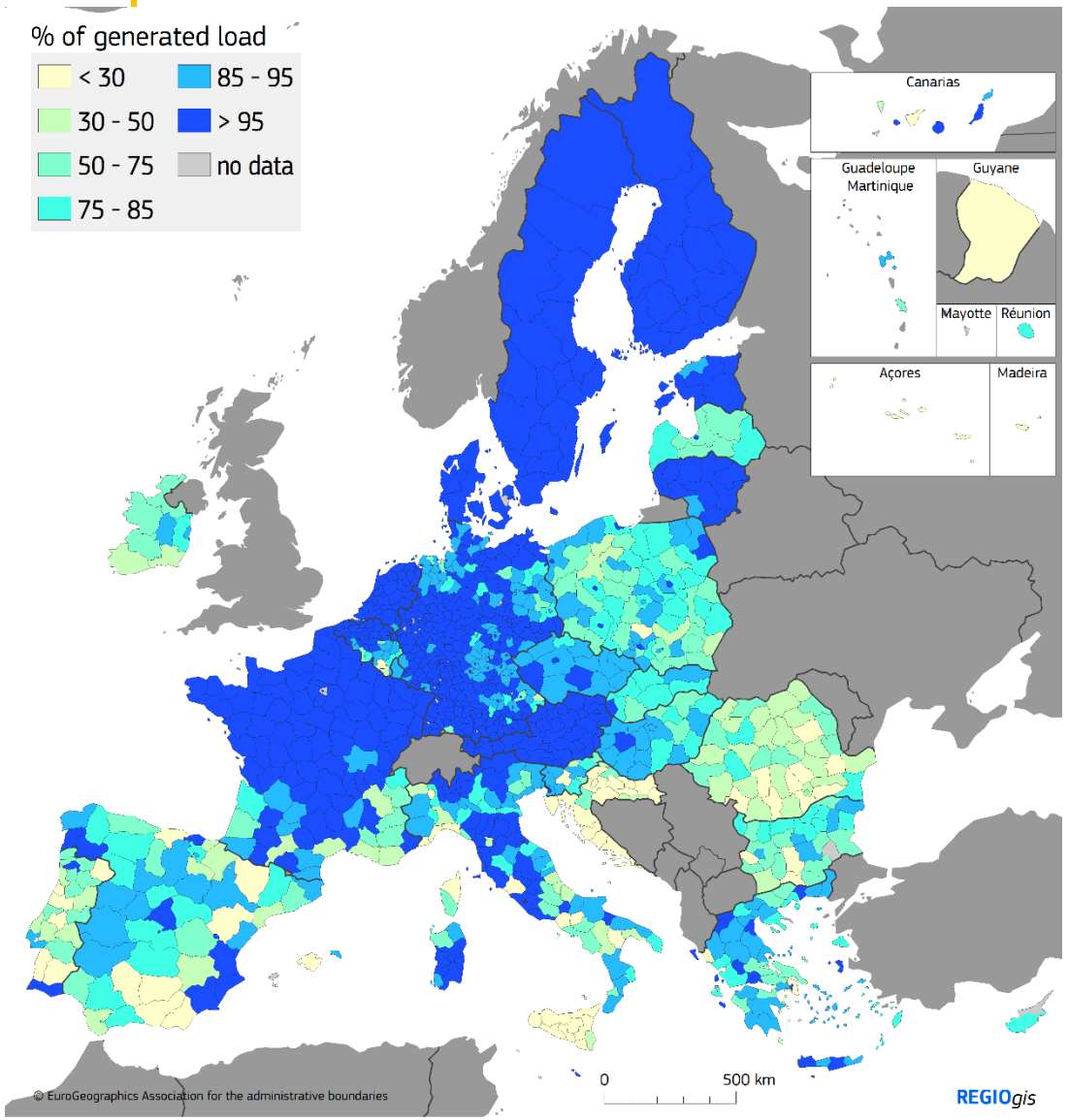
Directorate-General for Regional and Urban Policy - REGIO.B.1 - Policy Development and Economic Analysis Unit

Zero Pollution Stakeholder Workshop: Towards an urban and regional scoring methodology for zero pollution Brussels, 25/04/2023

Cohesion report

- Cohesion Report is a Treaty obligation – published every 3 years
- Required to set out the progress made towards achieving economic, social and territorial cohesion
- Proposals for policy development and implementation
- Chapter on climate, biodiversity and environment
- **Trends** in regional air, water, soil pollution

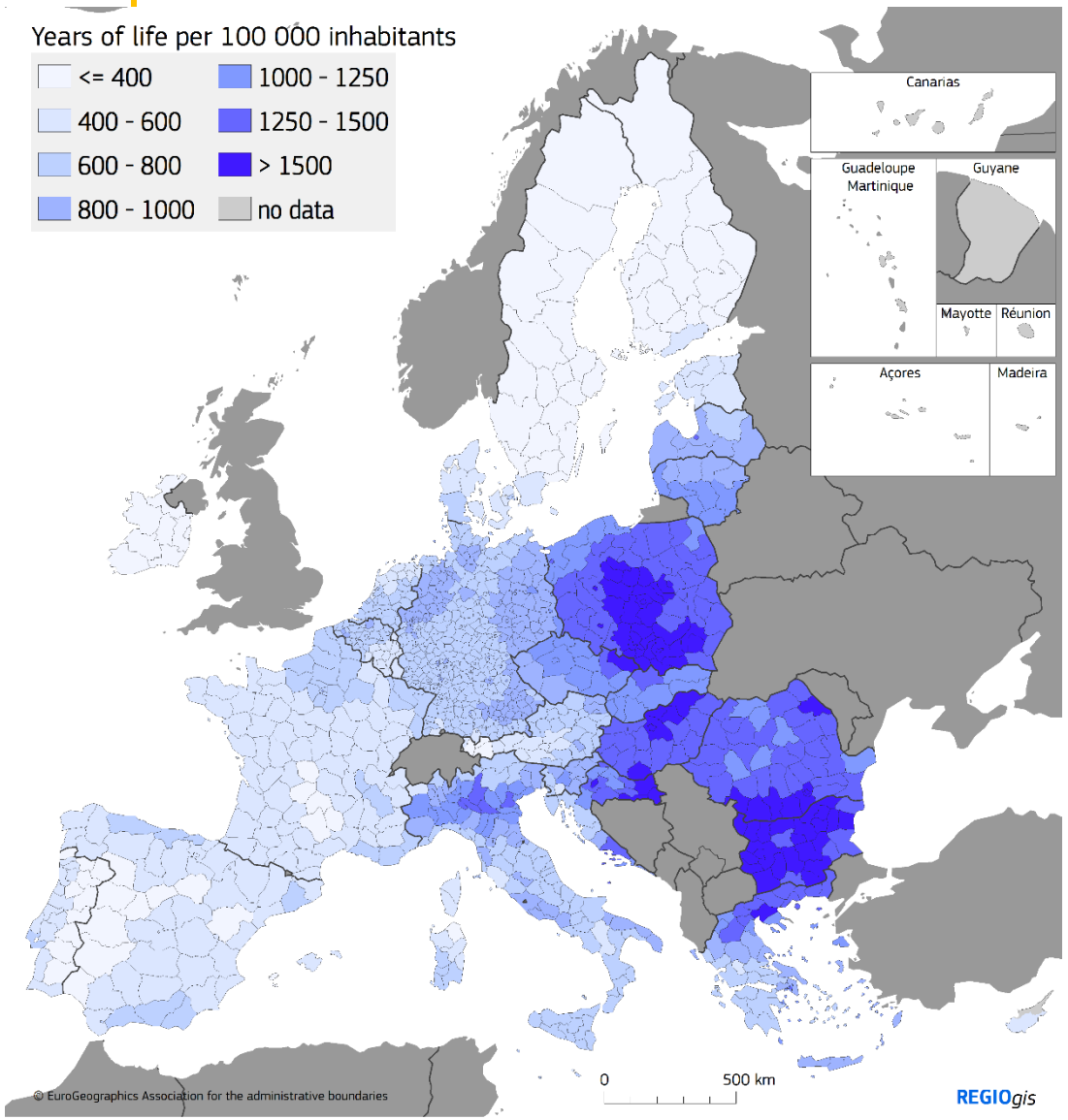
Water pollution and quality



Urban wastewater with more stringent treatment, 2018

- Waste water treatment
- Regional data on water quality (Water Framework Directive)
- Access to clean water

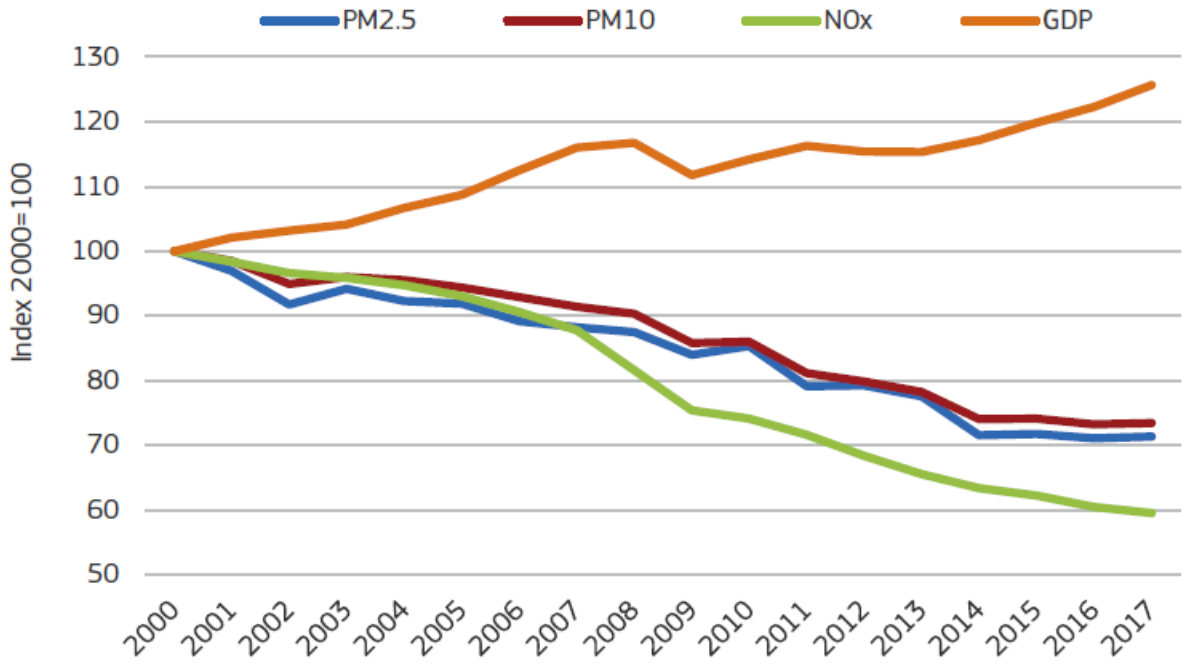
Air pollution and quality



Years of life lost attributed to exposure to PM 2.5, 2018

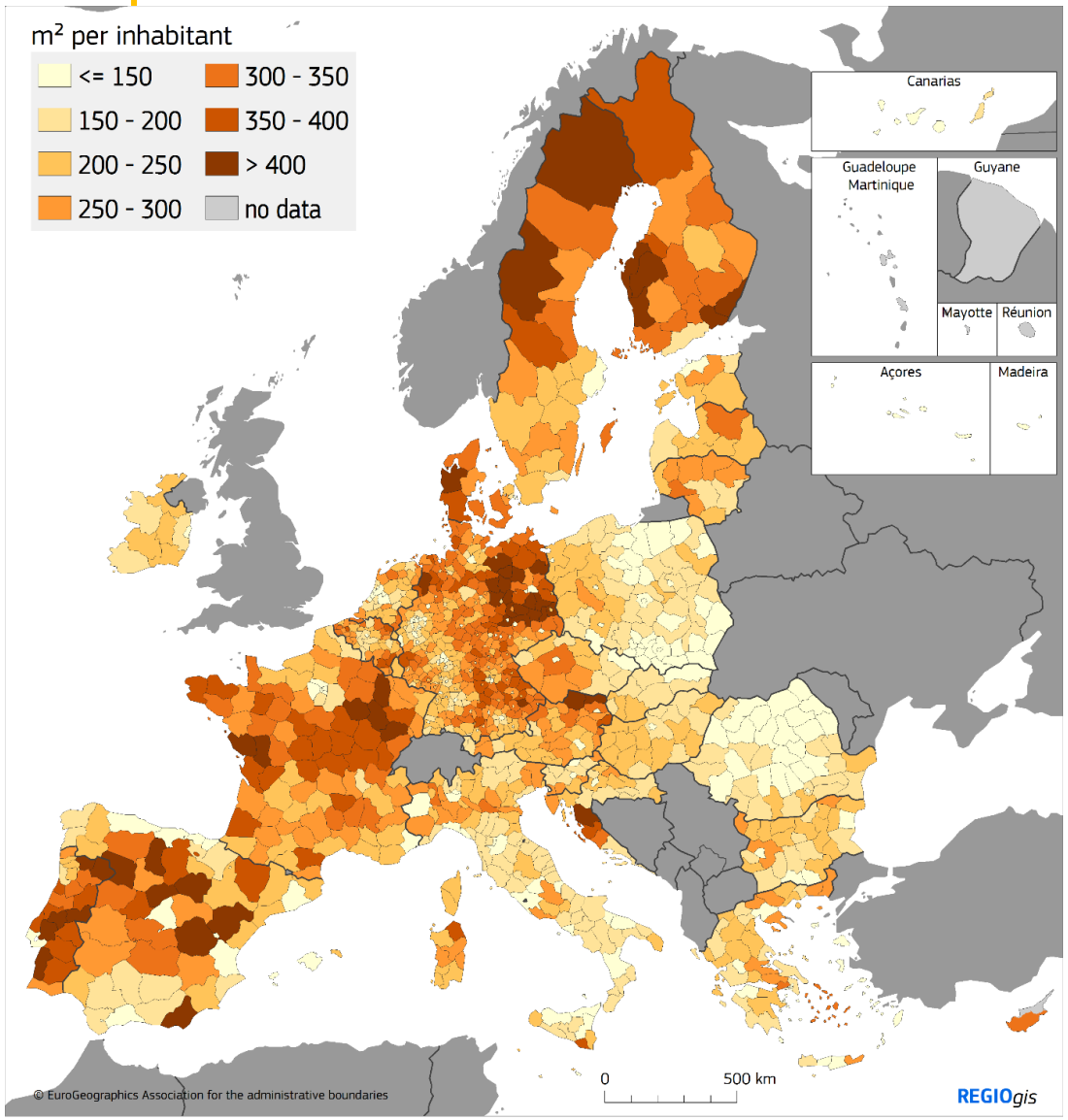
- Data on emissions, concentrations, exposure, health of people and ecosystems

Figure 3.11 Emissions of selected air pollutants and GDP (constant price), EU-27, 2000-2017



Source: Eurostat.

Soil pollution and quality



Imperviousness per inhabitant, 2018

- Increasing imperviousness (artificial area per person), often in rural areas
- Soil pollution: no complete coverage

Benefits of a regional zero-pollution scoreboard

- Filling existing data gaps
- More integrated approach to regional environmental analysis
- Helping regions with investments in environmental measures

Thank you

Towards an urban and regional scoring methodology for zero pollution

COWI

Agenda

Setting the scene:

- Overall objective of the scoreboard
- Overall objective of the scoping study
- Selected themes and indicators

Session 1:

- Selection of indicators and themes
- Classification of regions and cities
- Geographical grouping
- Aggregation and weighting
- Visualisation

Overall objective of the Scoreboard

1

Boosting the objective of Zero Pollution Action Plan flagship 2 and 3

2

Helping cities and regions to report progress on reducing air, water and soil pollution

3

Making the data and scoring available to the wider public

4

Communicating good performance and highlighting good performers

Timeline

- **October 2024** — Presentation of the first IT pilot of the scorboard
- **February-September 2024** — Implementation of the methodology and data gathering through online IT tool
- **September 2023-February 2024** — Development of the methodology for the scoreboard
- **By May/June 2023** — Scoping Study

Relevant initiatives

Zero-pollution monitoring assessment

The framework sets out a baseline and assesses the distance to reach the targets set out in the ZPAP, according to available data.

It provides strong indication of data already available for air, water, soil and noise pollution.

8th Cohesion report

The report provides data on the level of pollution for water, waste, air quality and waste.

The report provides available data aggregated at regional level at NUTS2 or NUTS3 level.

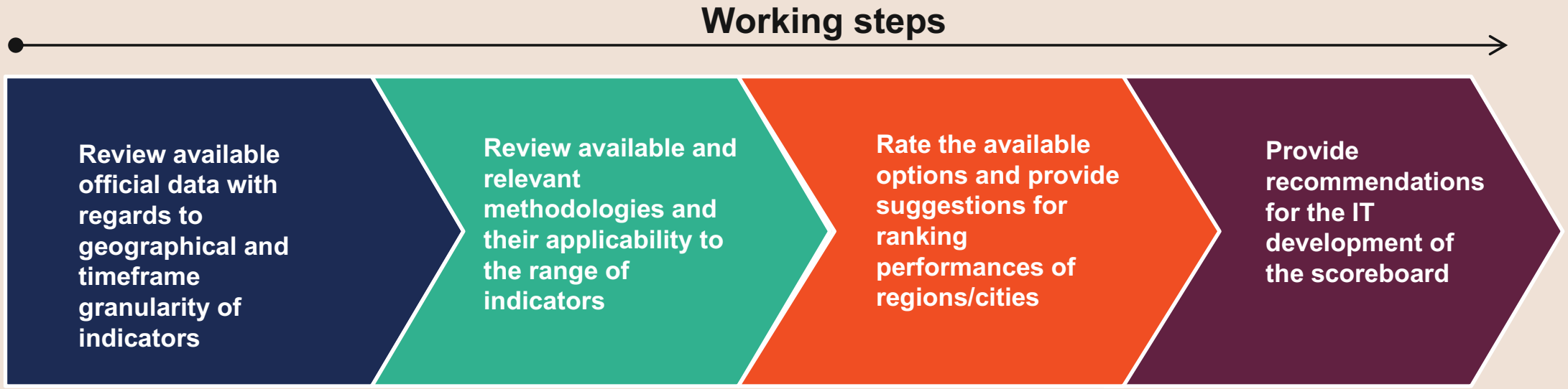
Green City Accord

The signatory cities must report and improve five areas of environmental management relevant for the scoreboard : air, water, waste and noise.

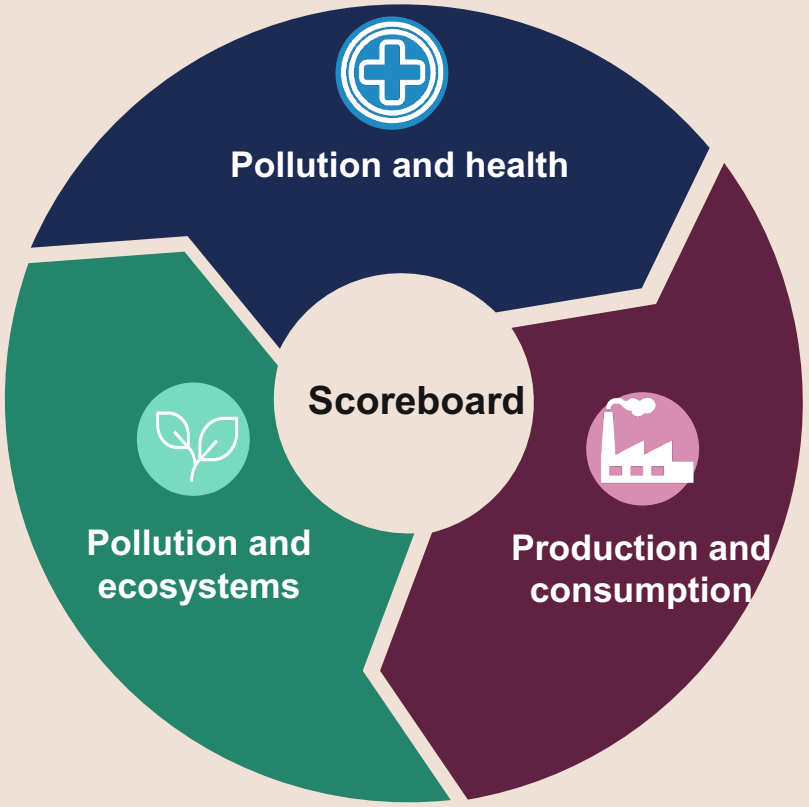
Eurostat regional yearbook

Eurostat Regional Yearbook provides statistics at a regional level for 13 subjects, including the environment on the topics of water, soil and air pollution.

Overall objective of the scoping study



Scoreboard: selected themes



Following the structure of the Action plan, the scoreboard is divided into three themes:

- **Pollution and health:** pollution causes 1 in 8 deaths in the EU. The impact of pollution mostly seen on vulnerable groups. The scoreboard will assess the progress made in improving health and well-being.
- **Pollution and ecosystems:** pollution has significant impact on biodiversity.
- **Consumption and production:** to ensure that indicators on pressures are considered.

Zero Pollution monitoring Assessment: Themes and Indicators

Pollution and Health

- Air pollution and health
- Noise pollution and health
- Water pollution and health
- Chemicals and health
- Soil pollution and health

Pollution and Ecosystems

- Freshwater pollution and ecosystems
- Marine pollution and ecosystems
- Air pollution and ecosystems
- Soil pollution and ecosystems

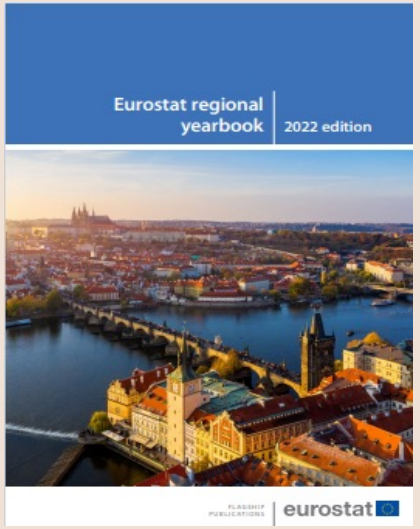
Production and consumption

- Resource extraction
- Production
- Consumption
- Waste management

Other relevant indicator sets

- Water quality
- Waste
- Air quality
- Land use/ cover

- Air
- Water
- Nature and biodiversity
- Waste and circular economy
- Noise



- Water
- Forests
- Soil
- Air Pollution
- Agriculture

- Protected natural areas/habitats/species
- Green infrastructure and green urban areas

Questions?
Comments?

Session 1:

Detailed presentation of the concept note

COWI

Selection of indicators

Besides the availability of data to take into account, the choice of indicators is also guided by the two dimensions by which an indicator can be defined:

- **Driver, Pressure, State, Impact and Response** (**DPSIR**) framework which defines how pollution can be understood on the casual links.
  - For example, the choice of mode of transportation (**Driver**) can have an impact on air emissions (**Pressure**). The concentration of PM 2.5 (**State**) has an impact on mortality rate (**Impact**). The **response** would then be the actions taken to mitigate the impact.
- Descriptive, performance, efficiency and total welfare framework :
  - Description indicators
  - Performance indicators
  - Efficiency indicators
  - Total welfare indicators

→ In the context of the scoreboard, the driver indicators are not relevant, while the response and total welfare indicators could be integrated at a later stage.

Selection of indicators – relevant combinations of dimensions

	Descriptive	Performance	Efficiency
Driver	X	X	
Pressure	X	X	X
State	X	X	
Impact	X	X	
Response	X		X

The DPSIR and the process dimensions can be combined. Not all combinations are relevant to consider for this scoreboard.

Impact of pollution on health

- **Air pollution**
  - ZPAP target of improving air quality to reduce the number of premature deaths caused by air pollution by 55%;
  - Air pollution and its impact on health is a theme where regions and cities through actions and measures can impact the situation.
  - Air pollution is also a theme with high data and indicator availability
  - There are indicators of pressures (emissions), state (concentration of air pollutants), and impacts (number of premature deaths)
- **Noise pollution**
  - ZPAP target of 30% reduction (share of people chronically disturbed by transport noise).
  - data is more difficult to assess progress from, as the reports are published every five years, with the latest version being from 2017.
  - The Green City Accords include noise indicators, but it might not be ready for a 2024 scoreboard. It will also not include regions.

Pollution and Health

- **Air Pollution**
- **Noise Pollution**
- **Water Pollution**
- **Soil**

Impact of pollution on health

- **Water pollution**
  - the ZPAP only calls for the protection of human health without any detailed target.
  - the Bathing Water Directive and the Urban Wastewater Directive provide relevant data on the progress made each year.
  - From January 2023, the Drinking Water Directive will allow the monitoring of more concerning pollutants.
  - under the Nitrates Directive, data has been collected on the quality of groundwater stations. This indicator could be used in the meantime.
- **Soil**
  - ZPAP identifies the need to improve the management of contaminated sites
  - EEA identifies the risks caused by antimicrobials and pesticides for our health. However, the EEA reports that the collection of such data is sparse across Member States.

Pollution and Health

- **Air Pollution**
- **Noise Pollution**
- **Water Pollution**
- **Soil**

Proposed indicators: pollution and health

Proposed air pollution indicators		Proposed water pollution indicators	
Indicator	Availability	Indicator	Availability
Emissions of PM2.5 and or NO2	NUTS2 and cities	Quality of bathing water	Per water body
Concentrations of PM2.5	NUTS2, NUTS3 and cities	Drinking water quality	Data not yet available.
Number of premature death due to PM2.5	NUTS2 and cities	Percentage of groundwater stations exceeding the drinking water standards	At MS level
		Percentage of population connected at secondary wastewater treatment	NUTS2
Proposed soil pollution indicator		**Proposed noise pollution indicators**	
Progress in management of contaminated sites	MS level	Percentage of population exposed to average day-evening night noise levels	EEA City level

Impact of pollution on Ecosystems

- **Air pollution**
  - reduce air pollution-related eutrophication threatening biodiversity by 25%
  - 4 important pollutants for reaching the targets: concentration of atmospheric nitrogen, exposition to ozone, emission of heavy metals from industries (which include lead, mercury and cadmium)
- **Water pollution**
  - including both freshwater and marine pollution
  - two main objectives to be achieved by 2030: achieve a good ecological status for both freshwater and marine water bodies and reduce nutrient in losses by 50% (nitrate, phosphorus, pesticies, biochemical oxygen demand)
- **Soil**
  - reaching a level of 75% of EU soil in healthy conditions
  - reduction of pollution of agricultural land with zinc and cooper
  - available indicators, from the LUCAS soil module 2018 only analyses soil data in a single sampling period. Reports are only available for the years 2009, 2015 and 2018.

Pollution and Ecosystems

- **Freshwater pollution and ecosystems**
- **Marine pollution and ecosystems**
- **Air pollution and ecosystems**
- **Soil pollution and ecosystems**

Proposed indicators: pollution and ecosystem

Possible air indicators		Possible water indicators	
Indicator	Availability	Indicator	Availability
Deposition of airborne nitrogen	NUTS2	Chemical status of coastal waters, transitional waters, lakes and rivers	Per water body
Concentration of air-level ozone	NUTS 0,1,2	Concentration of P in lakes and rivers	Per water body
Concentration of NO_2	NUTS 0,1,2	Oxygen consuming substances in rivers	Per water body
		Percentage of population connected at secondary wastewater treatment	NUTS2
Possible soil pollution indicator			
Progress in management of contaminated sites	MS level		

Production and consumption

- **Waste generation**
  - The ZPAP targets include: significantly reducing waste generation and reducing by 50% residual municipal waste.
  - The Green City Accord include indicators for generation of municipal waste, recycling and landfilling.
  - Currently, the indicators are not available at regional and city level. It will therefore require additional data collection such as envisaged by the Green City Accord

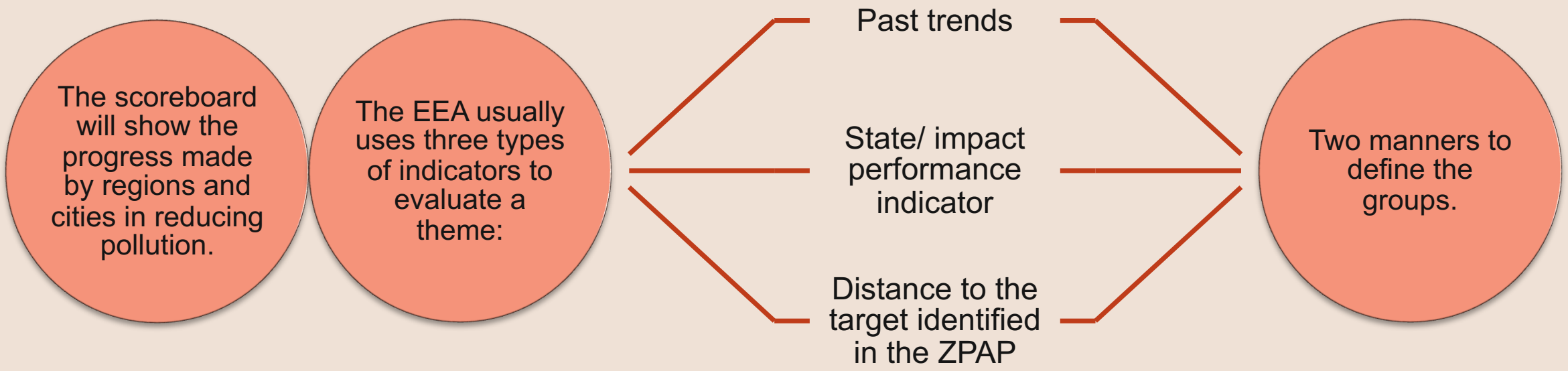
Production and consumption

- **Resource extraction**
- **Production**
- **Consumption**
- **Waste management**

Proposed indicators: production and consumption

Possible air pollution indicators		Possible water polluion indicators	
Indicator	Availability	Indicator	Availability
Emissions of heavy metals (Hg, Cd, Pb)	NUTS2	Percentage of population connected to secondary wastewater treatment	NUTS2
Possible waste indicator			
Waste generation per capita	MS level – Green accord signatories		
Share of waste recovered	MS level and Green accord signatories		

Grouping of performance



Classification – Option 1

- In this option, the groups are defined by their position to the target and how they are improving.
- “Below target” will regroup a variety of regions/cities depending on their distance to target.
- The grouping may also factor the future action plans or investments foreseen by the region/city, which could improve its position accordingly.

	Distance to target	Trend
Group 1	Regions/cities above target	Trend is not worsening
Group 2	Regions/cities just below the target	Trend is improving or constant
Group 3	Regions/cities below target (less than xx%)	Trend is improving
Group 4	Regions/cities further below target (less than yy%)	Trend is significantly improving
Group 5	Regions/cities further below target (more than yy%)	Trend is less than significantly improving

Classification Option 2

- In this second option, the grouping considers distance to target and trends. For distance to target it distinguishes between not meeting the target and combined with the trend being either downward, stable or upward.
- This grouping is similar to how the EEA often define groups with regards to environmental performance.
- Currently, this is the preferred option.

	Distance to target/ Pollution level	Trend
Group 1	Pollution level meets the target.	Trend is downward
Group 2	Pollution level meets the target.	Trend is stable.
Group 3	Pollution level meets the target.	Trend is upward
Group 4	Pollution level exceeds the target.	Trend is downward
Group 5	Pollution level exceeds the target.	Trend is stable
Group 6	Pollution level exceeds the target.	Trend is upward

Geographical grouping

- The geographical grouping of the regions and cities is key to ensure the comparability of the regions and cities. It will also have an impact on the specific pollution challenges faced by a region, therefore on impact on the scoring.
- The different granularity of indicators is also a challenge in the conception of the scoreboard. For example, concerning water quality, data is only available at water bodies level. Aggregation at NUTS-level is then necessary.
- At regional level, the choice is between NUTS2 and NUTS3 level. However certain relevant indicators are only relevant at NUTS2 level.
- The Cohesion's report and Eurostate manual provides different definitions of urban and rural typologies.

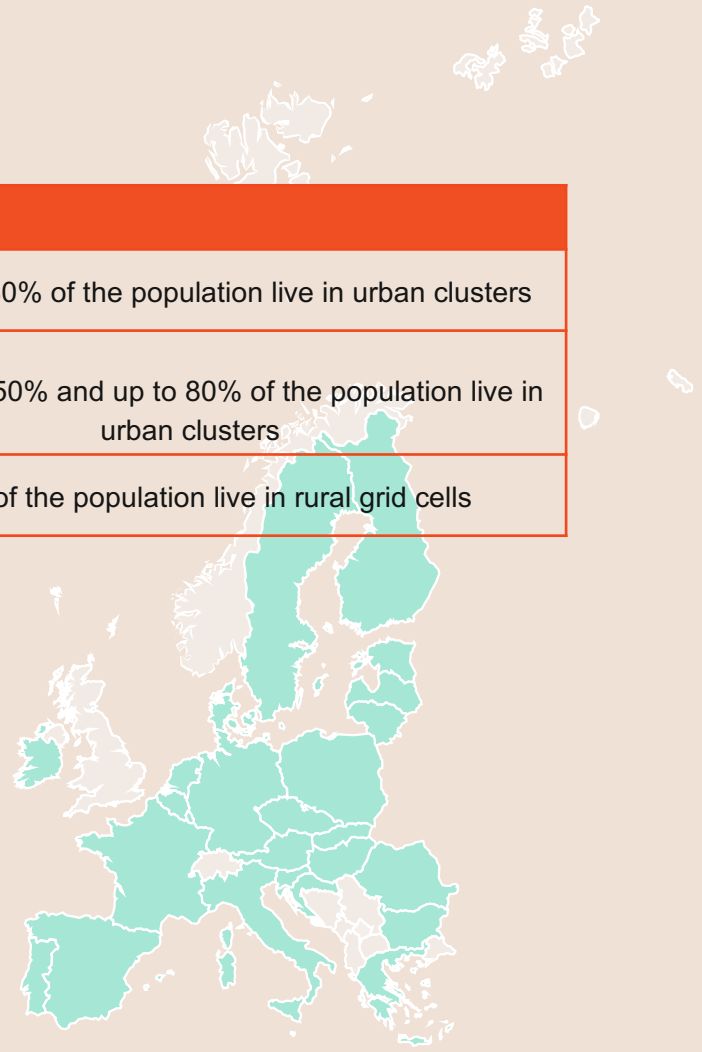
Definition of urban areas

Typology by urbanisation	
Cities	More than 50% of the population in an urban centre
Towns and suburbs	More than 50% of the population in urban clusters but less than 50% living in urban centre
Rural areas	More than 50% of the population in rural grid cells

Source: Eurostat manual

Typology by rural areas	
Predominantly urban regions	More than 80% of the population live in urban clusters
Intermediate regions	More than 50% and up to 80% of the population live in urban clusters
Predominantly rural regions	at least 50% of the population live in rural grid cells

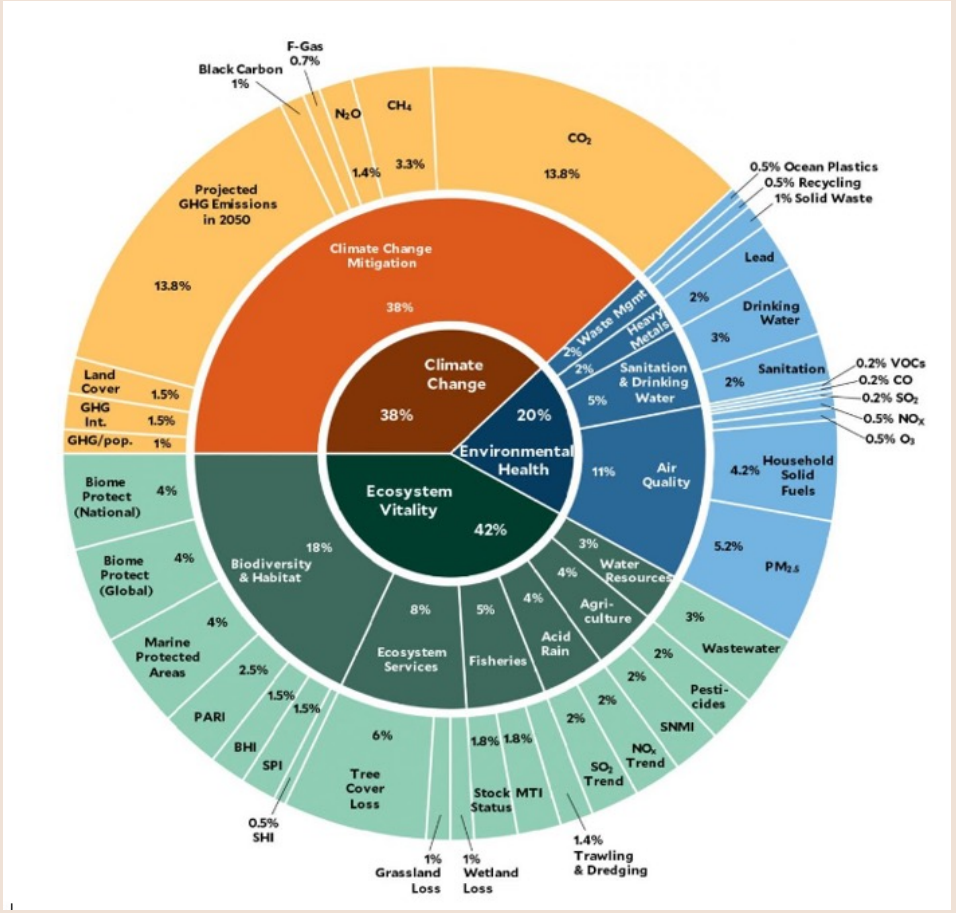
Source: Eurostat manual



COWI

Aggregation of indicators

- Example of the **Environmental Performance Index (EPI)** developed by Yale University.
- 40 indicators, grouped around 11 issues leading to 3 main themes:
  - Climate Change
  - Ecosystem Vitality
  - Environmental Health
- Different factors are considered in the **weighting of the indicators :**
  - importance of the issues ; data quality; timeliness of data; statistical analysis for spreading the balancing of scores.



Welcome | Environmental Performance Index (yale.edu)

Considerations for scoring and weighting

Impact of the pollution

- Occurrence of the pollution
- Severity of the pollution (toxicity, health impact, impact on ecosystems, organisms…)
- Population impacted by the pollution (population density of area, vulnerability of the population)
- Ecosystems impacted by the population
- Political priorities

Time

- Majority of indicators are available on a yearly basis; some are collected on a multi-year basis : soil contamination indicators for example.
- Delay in the availability of data needs to be solved to ensure an up-to-date scoreboard and display progress overtime.
- The measurement of performance encompasses three dimensions (past, present and future) that needs to be weighted.

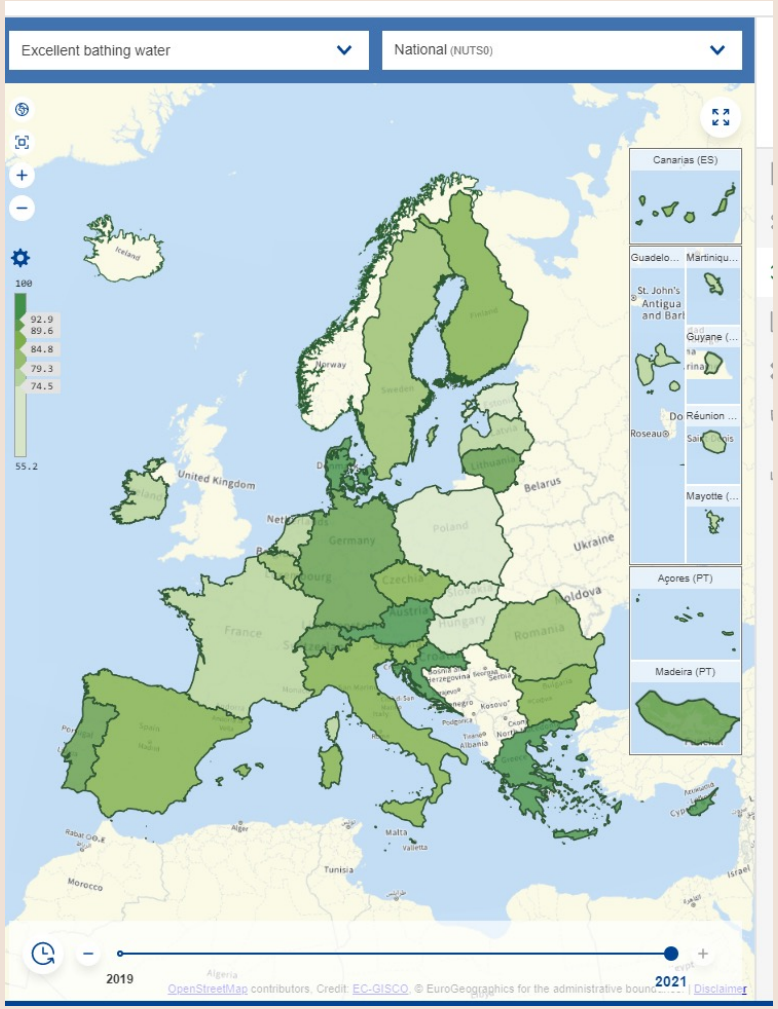
Infringement procedures

- The scoring should consider whether infringement procedures have been initiated by the Commission on relevant legislation.

Visualisation of the scoreboard

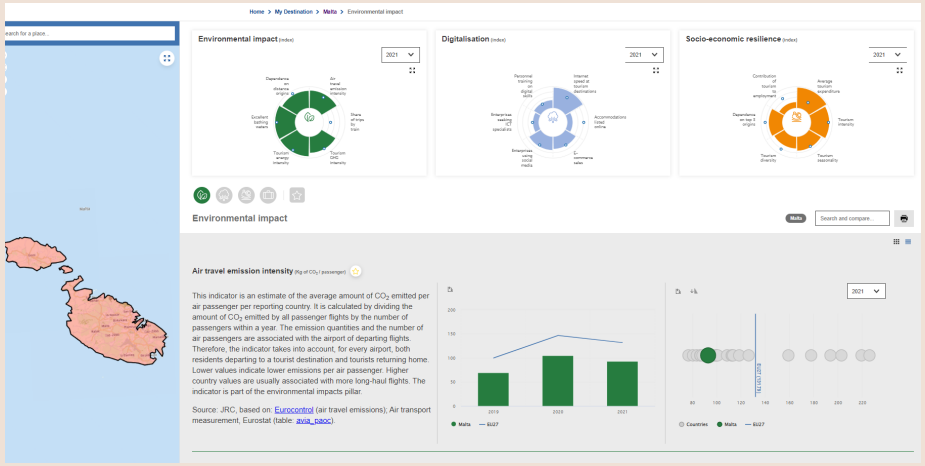
Here is an example of how the scoreboard could be displayed. The **EU Tourism dashboard** with a **Map interface** allowing to zoom in at NUTS1, NUTS2 and NUTS3 levels.

As a default visualization, the scoreboard could present the overall score of the region or city. A dropdown menu, as present in the left corner, could present the different indicators and the sub-scores.



EU Tourism Dashboard (europa.eu)

Visualisation of the scoreboard



Source: EU Tourism Dashboard

General presentation of the region / city with the different scores for each theme. General information can also be provided on previous trends or Member State average.

A zoom-in on each theme with the indicators, the sub-scores and the distance to target.

A dashboard interface is a second option. The user would be able to look for a region or city to obtain the most accurate scoring for each theme and sub-indicators..

EU Tourism Dashboard (europa.eu)

Q&A

Session 3: Breakout Rooms

Two breakout groups that discuss the following three topics.

Breakout topic 1: Environmental themes, impacts, data availability and proposed indicators

Breakout topic 2: Aggregation of indicators, grouping and scoring

Breakout topic 3: Visualisations of scoreboards

Presentation of results and recommendations for each breakout session

Conclusion and wrap-up

Thank you for joining us!

Hope to see you at the next workshop on 14-15 June 2023.

Contact us

ENV-ZERO-POLLUTION@ec.europa.eu
zero.pollution.stakeholders@technopolis-group.com

https://ec.europa.eu/environment/zero-pollution-stakeholder-platform_en