

C-14: Population connected to wastewater treatment

| | |
|--|---|
| 1) General description | 2 |
| 1.1) Brief definition | 2 |
| 1.2) Units of measurement | 2 |
| 1.3) Context | 2 |
| 2) Relevance for environmental policy | 2 |
| 2.1) Purpose | 2 |
| 2.2) Issue | 2 |
| 2.3) International agreements and targets | 3 |
| a) <i>Regional level</i> | 3 |
| b) <i>Subregional level</i> | 3 |
| 3) Methodology and guidelines | 3 |
| 3.1) Data collection and calculations | 3 |
| 3.2) Internationally agreed methodologies and standards | 4 |
| 4) Data sources and reporting | 4 |
| 5) References at the international level | 4 |

1) General description

1.1) *Brief definition*

This indicator specifies the number and the percentage of the total population connected to a wastewater collecting system, and connected to wastewater treatment facilities (in total and broken down by the level of treatment: mechanical (primary) treatment, biological (secondary) treatment, and advanced (tertiary) treatment). Based on this the number and percentage of residents connected to a wastewater collecting system without subsequent treatment can be calculated.

1.2) *Units of measurement*

The number of population connected to a wastewater collecting system and wastewater treatment is expressed in millions of people; the share of the population connected to wastewater collecting systems and treatment in the total population is expressed as a percentage.

1.3) *Context*

Relation to other indicators from the Guidelines - This indicator relates to indicators “C-15: Wastewater treatment facilities”, and “C-16: Polluted (non-treated) wastewaters”.

2) Relevance for environmental policy

2.1) *Purpose*

The indicator measures response, and as such, measures the impact on human health and, in a broader sense, quality of life.

2.2) *Issue*

A wastewater collecting system (sewage network) may deliver wastewater to treatment plants or may discharge it without treatment to the environment. Wastewater treatment is a basic prerequisite for minimizing pressure on both surface and groundwaters in terms of water pollution. As both groundwaters and surface waters are abstracted for the production

of drinking water, or even for direct use (self-supply), the reduction of water pollution represents one of the basic preconditions for human health and the prevention of water related diseases. Wastewater treatment should follow the water quality standards laid down by national legislation.

2.3) International agreements and targets

a) Regional level

The ECE Convention on the Protection and Use of Transboundary Watercourses and International Lakes obliges the Parties to prevent, control and reduce transboundary impact, use transboundary waters in a reasonable and equitable way and ensure their sustainable and ecologically sound management. Its Protocol on Water and Health requires that the Parties take all appropriate measures to ensure adequate sanitation.

b) Subregional level

The Environmental Strategy of countries of South-Eastern and Eastern Europe, Caucasus and Central Asia, adopted by the 2003 Ministerial Conference “Environment for Europe”, requires the preparation and implementation of programmes for integrated water management. In the European Union, the Water Framework Directive (Directive 2000/60/EC) obliges the Member States to promote sustainable use based on long-term protection of available water resources and to ensure a balance between abstraction and recharge of water with the aim of achieving a “good water status” by 2015. Directive 91/271/EEC concerning urban wastewater treatment obliges the Member States to ensure that all agglomerations above 2000 population equivalents (p.e.) are provided with collecting systems for urban wastewater and that discharge is subject to secondary treatment or an equivalent treatment.

3) Methodology and guidelines

3.1) Data collection and calculations

The indicator is calculated as the share of the population connected to a wastewater collecting system, and the share of population connected to wastewater treatment facilities. A simplified method of calculation of the share of population connected to wastewater treatment (PCWWT) is given as follows:

Share of population connected to wastewater treatment (PCWWT) (%) =
(number of PCWWT / total number of population).

Data should be provided both in total and, in the case that relevant data is available, broken down by the levels of treatment (mechanical/primary treatment, biological/secondary treatment, and advanced/tertiary treatment). To avoid double-counting, water subjected to more than one treatment should be reported under the most advanced level of treatment. In addition, from the provided data the number and share of the population connected to a wastewater collecting system, but not to wastewater treatment facilities, can be calculated.

3.2) Internationally agreed methodologies and standards

The UNSD/UNEP Questionnaire on Environmental Statistics (2013, Table W5); The Joint OECD/Eurostat Questionnaire on the State of the Environment (Inland Waters, Table 4); The UNCSD Methodology Sheets for Indicators of Sustainable Development (Proportion of Population using improved sanitation facilities); The ECE/WHO Guidelines on the Setting of Targets, Evaluation of Progress and Reporting under the Protocol on Water and Health; International Recommendations for Water Statistics (IRWS), UNSD 2010.

4) Data sources and reporting

Data are collected based on statistical reporting by countries. In many countries databases and fairly exhaustive time series exist at the level of water cadastres and by the water and sewage supply industry. Countries provide data to the UNSD Environment Statistics Database.

5) References at the international level

- Council Directive 91/271/EEC of 21 May 1991 concerning urban waste-water treatment
- Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000 establishing a framework for Community action in the field of water policy (Water Framework Directive): http://ec.europa.eu/environment/water/water-framework/index_en.html
- ECE Convention on the Protection and Use of Transboundary Watercourses and International Lakes (1992): <http://www.unece.org/fileadmin/DAM/env/water/pdf/watercon.pdf>;

amendment 2003:
<http://www.unece.org/fileadmin/DAM/env/documents/2004/wat/ece.mp.wat.14.e.pdf>

- European Environment Agency (EEA): <http://www.eea.europa.eu/themes/water>
- Eurostat: <http://epp.eurostat.ec.europa.eu/portal/page/portal/sdi/indicators>
- Food and Agriculture Organization (FAO): <http://www.fao.org>
- Global water information system of the Food and Agriculture Organization (AQUASTAT): http://www.fao.org/ag/agl/aglw/aquastat/water_res/waterres_tab.htm
- Indicators of Sustainable Development: Guidelines and Methodologies, third edition, United Nations 2007: http://www.un.org/esa/sustdev/natlinfo/indicators/methodology_sheets.pdf
- International Recommendations for Water Statistics (IRWS): <http://unstats.un.org/unsd/envaccounting/irws/irwswebversion.pdf>
- Protocol on Water and Health to the ECE Convention on the Protection and Use of Transboundary Watercourses and International Lakes: <http://www.unece.org/fileadmin/DAM/env/documents/2000/wat/mp.wat.2000.1.e.pdf>
- The Protocol on Water and Health: Guidelines on the Setting of Targets, Evaluation of Progress and Reporting, ECE/WHO 2010: http://www.unece.org/env/water/publications/documents/guidelines_target_setting.pdf
- United Nations Statistics Division (UNSD): <http://unstats.un.org/unsd/environment/>
- United Nations Statistics Division (UNSD)/United Nations Environment Programme (UNEP) Questionnaire on Environment Statistics (2013): <http://unstats.un.org/unsd/environment/questionnaire2013.html>
- World Health Organization (WHO): <http://www.euro.who.int/en/home>