



METHODOLOGICAL EXPLANATION

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WATER ACCOUNTS

This methodological explanation relates to the data releases:

Water accounts, Slovenia, annually (First Release)



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Content	
1	PURPOSE..... 3
2	LEGAL FRAMEWORK..... 3
3	UNIT DESCRIBED BY THE PUBLISHED DATA..... 3
4	SELECTION OF OBSERVATION UNIT..... 3
5	SOURCES AND METHODS OF DATA COLLECTION..... 4
6	DEFINITIONS..... 4
7	EXPLANATIONS..... 8
8	PUBLISHING..... 9
9	REVISION OF THE DATA..... 10
10	OTHER METHODOLOGICAL MATERIALS..... 10

1 PURPOSE

The purpose of publishing the data on water accounts is to present data on water flows between the environment and the economy, within the economy by NACE economic activities, divided into water supply and water use, and the availability of water sources - the change in their stocks.

Key statistics in the survey on Water accounts are:

- amount of abstracted water intended for use by source,
- amount of the use of abstracted water,
- amount of the use of wastewater and reused water,
- amount of the return flows of water,
- amount of evaporation of abstracted water,
- amount of water transpiration,
- amount of water incorporated into products.

2 LEGAL FRAMEWORK

- [Annual Programme of Statistical Surveys](#) (LPSR) (only in Slovene)
- [National Statistics Act](#) (OJ RS, No. 45/95 and 9/01)

3 UNIT DESCRIBED BY THE PUBLISHED DATA

Unit described by published data is the amount of water, abstracted from the environment and used by economic activities based on NACE classification or on households, and the amount of water reused within different economic activities, returned back to the environment, evaporated or incorporated in products. The published data also describe the availability of water resources, ie. the change between the increase and the decrease of water stocks.

Data on amounts are expressed in thousand m³ (000 m³) or billion m³.

4 SELECTION OF OBSERVATION UNIT

Observation units are business units (divided by NACE Rev. 2 classification), households and other relevant flows to the environment or from the environment.

The coverage is complete; this means that all water flows, which enter the economy for further use and are returned back to the environment, are connected to all business units (divided by NACE Rev. 2 classification) and households. All water flows included in the water balance are also covered.

5 SOURCES AND METHODS OF DATA COLLECTION

Data are collected annually.

Data are collected from March to November of the current year (t) for the previous year (t-1).

Water accounts (VOD-RAČ) are carried out on the basis of numerous statistical surveys for water and other statistics:

- statistical survey Public water supply (VOD-V),
- statistical survey Public sewage system (VOD-K),
- statistical survey Irrigation (VOD-N),
- statistical survey Exploitation of water in industry (VOD-UVI),
- statistical survey Labour force survey (ANP).

Water accounts are carried out on the basis of additional data of administrative evidences:

- estimated amount of actual evapotranspiration (ARSO),
- amount of abstracted sea water (DRSV).

6 DEFINITIONS

Water accounting is an accounting approach that records the physical and monetary stocks and flows of water within and between the economy and the environment. It supports analyses of the role of water within the economy and of the relationship between the environment and water-related economic activities.

The Physical Supply and Use Tables (PSUT) measure, in physical (volume) terms:

- the flows of water entering the economy, which are either abstracted from the environment or imported,
- the flows of water and wastewater between different economic units within the economy, and
- the return flows of water from the economy to the environment (directly or via sewerage treatment plants).

Basic PSUT tables for water contains information on the supply and the use of water and provide an overview of water flows.

The supply table records the supply of abstracted water by the industries undertaking the abstraction, differentiating between water abstracted for distribution and water abstracted for own use. The supply table also records imports of water from the rest of the world⁸, which is usually negligible. The total of water abstracted for own use, water abstracted for distribution, and

imported water represents the total water available for use in the economy.

The use table records how this water is used, either as intermediate use by industries, final use by households, or exports to economic units in the rest of the world. Use of distributed water is the amount of water that is delivered to an industry, household or the rest of the world by another economic unit. This water is usually delivered through systems of pipes, but other means of transportation are also possible (such as artificial open channels and trucks).

The physical asset for water resources account describes the inland water resources system in terms of stocks and flows, providing information on the stocks of water resources at the beginning of the accounting period, the corresponding changes in those stocks due to economic activity (e.g. abstractions and returns) and natural processes (e.g. outflows to other territories), and the closing stocks of water at the end of the accounting period. This can be thought of as a hydrological water balance.

Additional physical water flows are often referred to as "water consumption" or "final water use" and are:

- evaporation of abstracted water,
- transpiration, and
- water incorporated into products.

Evaporation of water is recorded when water is distributed between economic units after abstraction, for instance, during distribution via open channels or while in water storage tanks and similar structures.

Transpiration of water occurs when soil water is absorbed by cultivated plants as they grow and is subsequently released to the atmosphere.

Water incorporated into products (e.g., water used in the manufacture of beverages) is shown as supplied by the relevant industry, commonly a manufacturing industry or agriculture.

Water supply system consists of devices for abstracting, treating and distributing water from a public water resource. The system is of public importance, because all users can be connected to it and thus supplied with water.

Public water supply system is a system of structures under the unified supervision and unified management that provides water to the settlements from the central water resource. There are three groups:

- local water supply system - water supplied to only one settlement or several settlements,
- common water supply system - water supplied to two settlements or several settlements in one municipality,
- inter-municipal water supply system - water from powerful resources supplied to wider areas (several municipalities or parts thereof) and built to supply all consumers connected to the system.

Water resource is a source of water from which water is abstracted for the supply of the population or for the technological process and cooling in

enterprises. Water resources are:

- groundwater (artificial recharge, all groundwater),
- springs (of which springs of groundwater, water in which surface water flows),
- surface water (running water, natural lakes, artificial lakes, rainwater).

The amount of water lost in the network is an indicator of water losses due to poorly maintained networks.

Irrigation is artificial adding of water during the vegetation period when there is not enough water in the soil with the purpose to provide the optimum growth and development of cultivated plants. By irrigating land agricultural production is intensified, a more varied selection of plant varieties is achieved and output is better and more abundant. Irrigation comprises measures and equipment for providing, distributing and using water with the intent to provide plants with the optimum humidity in the ground.

Irrigation system is a system of man-made channels for supplying water to land to allow plants to grow. Irrigation systems are divided into:

- large irrigation systems, which are intended for a large number of users for shared use according to an irrigation schedule,
- small irrigation systems, which are intended for one user or for several users who use the irrigation system independently one from the other. They are usually built on an area smaller than 10 hectares and pump less than 100 litres of water per second.

Public sewage is sewage infrastructure facilities designed for municipal public service of draining and treatment of urban waste water and drainage waste water. Building connections to public sewage, septic tanks and small treatment plants with treatment capacity smaller than 50 PE are not objects of public sewage.

Sewage consists of a network of feeders, channels, gutters and other equipment for draining waste water which are connected with the sewage network and from which drainage of waste water from buildings and drainage water from roofs and from hardened, paving or other covered area is assured.

Sewage system is a system for common collection and draining of urban or/and industrial waste water with drainage waste water. Waste (polluted) water is water which is after use or as atmospheric precipitation discharged into public sewage or waters.

Waste water is a mixture of domestic, industrial/process or drainage wastewater.

Domestic waste water is waste water from residential settlements and services which originates predominantly from the human metabolism and from household activities.

Urban waste water is domestic waste water or the mixture of domestic waste water with industrial waste water and/or run-off rain water. Urban waste water originates from household activities for water use in sanitary places, cooking,

washing and other housework. Urban waste water is also water which is generated in public buildings or in other activities and is by origin and by ingredients similar to domestic water. Urban waste water is also industrial waste water the daily flow of which does not exceed 15 m³ and the annual volume of which does not exceed 4,000 m³, and at the same time annual environmental load does not exceed 50 PE (population equivalent).

Industrial (process) waste water is water discharged after being used in, or generated by, industrial production processes and which is of no further immediate value to these processes. This waste water originates after industry, trade, economic or agriculture use and is not similar to urban waste water. Industrial waste water is also a mixture with technological and urban or/and rain water if mixed waters are discharged by common outflow into public sewage or directly into waters. Industrial waste waters are also cooling waters and liquids which are collected and run off from facilities for processing, storing or disposal of waste. Where process water recycling systems are installed, process waste water is the final discharge from these systems. To meet quality standards for eventual discharge into public sewers, this process waste water is subjected to exprocess in-plant treatment.

Drainage waste water is water which as a result of atmospheric precipitation runs off as polluted water from hardened, paved or with other materials covered area into waters or drains off into public sewage (or into soil).

Wastewater treatment is a process to render waste water fit to meet applicable environmental standards or other quality norms for recycling or reuse. Three broad types of treatment are distinguished in the questionnaire: primary, secondary and tertiary.

Water from own water intake is that amount of water that is pumped by the enterprise from its own water intake. This means that the enterprise has its own water intake for pumping water that it needs for sanitary purposes, for the technological process and for other uses. The amount of water supplied by the business entity to other business entities is subtracted and the amount of water obtained by the business entity from other business entities is added.

Water from hydroelectric power plants is that amount of water that power plants use for driving their turbines.

Used water is water used in the technological process with or without recirculation or reused water which after the use can be released into the sewage system, ground or watercourse but can also be reused as recirculation water or as reused water. In this case it is used in a number of production processes (cooling, steam and hot water production, etc.).

Water used for production and cooling is that amount of water which is consumed during the technological process and is thus eliminated from circulation: e.g. water lost through evaporation or water that becomes part of the product (food preservation, production of alcoholic and non-alcoholic beverages, etc.). Such water is thus raw material that comes in direct contact with the final product and is no longer available.

Water for sanitary purposes is water used for drinking, for personal hygiene of workers, for cleaning production facilities and worker canteens.

Water for other purposes is water used for washing vehicles, cleaning yards and watering green areas as well as water discharged as overflow.

Fresh water is water drawn from water resources in its natural state or water processed by the usual methods of coagulation, filtration, disinfection, etc. It is used as technological water or as drinking water.

Technological water is used for production and other purposes and does not have to meet the agreed standards for cleanliness of drinking water. The enterprise obtains this water from its own water intake, from the public water supply network or from others.

Water in recirculation is the annual quantity of water turned over in the recirculation system.

Added fresh water is water with which the enterprise substitutes water loss due to system operation.

Reused water is water that has already been used in the technological process and without which it would be necessary to use additional quantities of fresh water.

Run-off rain water is rainwater and other run-off rain water.

Wastewater can be:

- untreated or treated in industrial water treatment plants (mechanical, chemical, biological, mechanical and chemical, mechanical and biological, chemical, biological or mechanical-chemical-biological).

Place of discharge: wastewater originating in industrial enterprises can be discharged into:

- the ground (underground facilities for collecting wastewater, own fields for deposit, natural basins), the public sewage system, surface waters such as watercourses, artificial reservoirs, lakes and the sea.

7 EXPLANATIONS

7.1 CLASSIFICATIONS

Standard Classification of Activities (NACE 2008):

It is published on SURS website (Methods and classifications - Classifications and codes - Economic Classifications):

<http://www.stat.si/StatWeb/en/mainnavigation/methods-andclassifications/classifications>.

Classification is applied at the aggregated level of activity.

7.2 DATA PROCESSING

DATA EDITING

Data were edited by using appropriate systematic and individual corrections.

For more, see the general methodological explanations [Statistical data editing](#).

WEIGHTING

Data are not weighted.

SEASONAL ADJUSTMENT

Seasonal adjustment is not used.

DATA PROCESSING OTHER

Is not used.

7.3 INDICES

Indices are not published.

7.4 PRECISION

Statistical estimates are not used.

7.5 OTHER EXPLANATIONS

8 PUBLISHING

- SiStat Database: Environment - Environmental accounts; [Water accounts](#). Absolute data are published at the NUTS-1 level.
- First Release (Environmental accounts, Water accounts): »Water accounts, Slovenia, annually«.
- EUROSTAT (Statistical Office of the European Union)

9 REVISION OF THE DATA

9.1 PUBLISHING OF PRELIMINARY AND FINAL DATA

Provisional data are not prepared.

In case of upgrading of the input data or change of methodology, data are revised.

9.2 FACTORS INFLUENCING COMPARABILITY OVER TIME

There were no breaks in time series, so all time points are comparable.

10 OTHER METHODOLOGICAL MATERIALS

Methodological materials on SURS's website are available at <https://www.stat.si/statweb/en/Methods/QuestionnairesMethodologicalExplanationsQualityReports>.

For the compilation of the Water accounts specific questionnaires (except for the statistical input data sources with their own questionnaires) are not used.