

## 36 Change in water use efficiency over time

Indicator type **Core indicator**

*Published*

### Versioning

First publication 1/26/2017 Latest update 9/26/2020

### Area and sub-area

Area and sub-area Adaptation Water resources

### Presentation

Tier 1

Indicator definition and description Change in the ratio of the value added to the volume of water use, over time.

Unit of measure Value/Volume, commonly USD/m3

Coverage Agriculture, forestry, fishing (ISIC A), mining and quarrying; manufacturing; electricity, gas, steam and air conditioning supply; constructions (ISIC B, C, D and F); all the service sectors (ISIC E and ISIC G-T)

Spatial aggregation National territory

Reference period Calendar year

Update frequency Annual

Base period

Disaggregation (operational indicators)

Disaggregation (operational indicators)	Comments
Economic sector (ISIC) and households	
Spatial	e.g. administrative area or river basin
Temporal (by month, by season)	

Other related -indicators (e.g.contextual, proxy, other core indicators)

ID	Subindicator	Type
18	Level of water stress: freshwater withdrawal as a proportion of available freshwater resources	Core indicator
41	Household water use per capita	Contextual indicator
42	Water losses in distribution network	Contextual indicator

### Relevance

Policy context and rationale The rationale behind this indicator consists in providing information on the efficiency of the economic and social usage of water resources. Climate change may cause water shortages, thus increasing water use efficiency is an important adaptation measure.

Related SDG indicator (SDG I.) 6.4.1 Change in water-use efficiency over time

Relation w SDG-I. Identical with SDG indicator

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Related Sendai Framework I.

Not applicable

Policy references

Document title	Link
Transforming our world: the 2030 Agenda for Sustainable Development (General Assembly of the United Nations, 2015)	<a href="https://sustainabledevelopment.un.org/post2015/transformingourworld">https://sustainabledevelopment.un.org/post2015/transformingourworld</a>
Integrated Water Resources Management (Global Water Partnership, )	<a href="http://www.gwp.org/the-challenge/what-is-iwrm/">http://www.gwp.org/the-challenge/what-is-iwrm/</a>

### Methodology

Methodology for indicator calculation

The indicator measures change in water use efficiency (WUE) over time. WUE is defined as the value added of a given major sector divided by the volume of water used.  
WUE is computed as the sum of the main sectors (see coverage), weighted according to the proportion of water used by each sector over the total use. In formula:  $WUE = Awe \times Pa + Mwe \times Pm + Swe \times Ps$

Where:

WUE = Water use efficiency

Awe = Irrigated agriculture water use efficiency [USD/m<sup>3</sup>]

Mwe = MIMEC water use efficiency [USD/m<sup>3</sup>]

Swe Services water use efficiency [USD/m<sup>3</sup>]

Pa = Proportion of water used by the agricultural sector over the total use

Pm = Proportion of water used by the MIMEC sector over the total use

Ps = Proportion of water used by the service sector over the total use

A detailed description of the computation methodology can be found in the related SDG metadata sheet and the step-by-step monitoring methodology.

Methodology references

Document title	Link
Integrated Monitoring Guide for SDG 6 (UN WATER, 2017)	<a href="https://www.unwater.org/publications/integrated-monitoring-guide-sdg-6-2/">https://www.unwater.org/publications/integrated-monitoring-guide-sdg-6-2/</a>
Step-by-step monitoring methodology for indicator 6.4.1 (Food and Agriculture Organization of the United Nations (FAO), 2017)	<a href="http://www.fao.org/fileadmin/user_upload/sustainable_development_goals/docs/Indicator_6.4.1_FAO_2017_full_methodology_CHANGE_IN_WATER_USE EFFICIENCY_OVER_TIME.pdf">http://www.fao.org/fileadmin/user_upload/sustainable_development_goals/docs/Indicator_6.4.1_FAO_2017_full_methodology_CHANGE_IN_WATER_USE EFFICIENCY_OVER_TIME.pdf</a>
Metadata of SDG indicator 6.4.1: Change in water-use efficiency over time (Food and Agriculture Organization of the United Nations (FAO), 2019)	<a href="https://unstats.un.org/sdgs/metadata/files/Metadata-06-04-01.pdf">https://unstats.un.org/sdgs/metadata/files/Metadata-06-04-01.pdf</a>

Classification syst.

ISIC

### Data sources

Main source

Official statistics: SEEA and/or SNA

Explanation

Best option: SEEA water accounts

Other option(s): water statistics, FAOSTAT

SEEA Accounts that can serve as data sources

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SEEA Account	Comments
Physical flow accounts for water	

UN-FDES	2.6.2: Abstraction, use and returns of water
	2.6.1: Water resources

International databases containing this indicator

SDG indicators database	<a href="https://unstats.un.org/sdgs/indicators/database/">https://unstats.un.org/sdgs/indicators/database/</a>
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Comments

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