1. Indicator name			
Territorial effort index in domestic water expenditure			
Update date:	09/28/2021 _	**Version:**	1.1

2. Scope	
Main Area	Environment and surroundings
Sub-Area	Drinking water

3. Definition

Index that relates water expenditure to average household income

4. Calculation formula

$$\text{Índex esforç} = \left(\frac{\left(\frac{\text{Import anual del subministrament d'aigua per un consum domèstic } \frac{12m3}{mes} \text{ d'un municipi}}{\text{Renda mitjana anual per llar d'un municipi}} \right)}{\left(\frac{\text{Import mitjà anual del subministrament d'aigua per un consum domèstic } \frac{12m3}{mes} \text{ dels municipis de la demarcació Girona}}{\text{Mitjana de la Renda anual per llar dels municipis de la demarcació de Girona}} \right)} \right) X100$$

Where:

Numerator: Annual municipal cost [1] for domestic water consumption of 12m [3] per month, divided by the average annual income of households in the municipality.

Denominator: Annual municipal cost of water consumption for domestic use of 12 m [3] of all municipalities in the demarcation of Girona, divided by the average annual income of households in the demarcation.

[1] The annual municipal cost includes the concepts associated with the water cycle: low water supply, water fee, sewerage fee and VAT for a hypothetical water consumption of 12 m [3] /month.

5. Reading

This indicator makes it possible to know whether the proportion of income (average values) allocated by the households of a municipality to meet the expenditure of water consumption for domestic use, is above or below the proportion of average income of all households in the demarcation of Girona intended to meet the average expenditure of water consumption for domestic use in the demarcation of Girona.
The indicator is given as a percentage. A value of 100 indicates that there are no differences in the payment effort compared to the average of households in the demarcation. A value above 100 indicates the proportion that is above the average of households in the demarcation, while a value below 100 indicates the proportion that is below the average of households in the demarcation

6. Periodicity

yearly

Amb el suport de:
Diputació de Girona
Generalitat de Catalunya
Unió Europea
Fons Europeu de Desenvolupament Regional

7. Source

Catalan Water Agency (ACA)
National Institute of Statistics (INE)

8. Constraints

Geographical ☐	temporary ☐	Statistical secrecy ☒

Description of limitations
There are municipalities for which we do not have income data as they are restricted by statistical secrecy. There are municipalities for which, for some time series, the data source does not have data relating to the cost of supply. This indicator is constructed from the amount of water supply in low for domestic use **corresponding to a hypothetical family unit of 3 members with a monthly consumption of 12 m ^{3}**; as well as, based on the average income per household as a measure of the families' ability to meet the expenditure for the consumption of the water service for domestic use. It must be taken into account that it is a measure calculated with average values; therefore, depending on the particular conditions of each family and the possibility of discounts or exemptions on the rates, this effort will not be the same in all cases.

9. SDGs

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
☐	☐	☐	☐	☐	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

Indicator the SUB-SDGs that this indicator can relate to.

6.1

10. Comments and observations

The source of data corresponding to the variables that allow the calculation of the amount of water supply for domestic consumption corresponds to a register that the Catalan Water Agency (ACA) has drawn up in its own way, based on inquiries from the tax ordinances published in the official bulletins, edicts of the Price Commission of Catalonia (body with powers to authorize maximum prices), information published on the municipal websites, by the service manager or provided by the town council.

Other considerations that must be taken into account in relation to the data records from the ACA are:

- In the event that more than one supply company provides service in the same municipality, only the company that supplies the urban core will be taken into account and with more subscribers.
- The prices taken from edicts of the Price Commission of Catalonia may not coincide with the price finally passed on to the subscriber, since these are maximum authorized prices.
- Effective date of rates: all concepts are updated according to rates in effect on January 1 of each year. - The price of the supply, the sewerage and the water fee are included, regardless of whether they are charged together or not in the water receipt (We have not considered the fees for sewerage and purification of municipalities that do not have as a basis for calculation water consumption, such as the cadastral value of the property, as it is unavailable data).- The supply price includes the maintenance of meters and other surcharges or fees linked to the service. Other concepts collected in the water bill but not linked to the water cycle, such as the treatment of urban waste, are not included.- For the calculation of the price, a home of 3 registered people, residents of the urban core, has been considered of the population and that has a type C metering meter and property (Not all municipalities have metering meters).- The unit price is the result of dividing the amount resulting from applying the current rates (in the time of update) by the cubic meters consumed in the period considered (consumption of 12 m3/month).

net income concept used is the one published by the INE in the Atlas of the distribution of income by households. This statistical operation carried out by the INE corresponds to that defined in Regulation 1980/2003 of the EP and of the Council relating to community statistics on income and living conditions (EU-SILC).

The incomes published by the Atlas are obtained solely from tax sources, therefore the results are not entirely comparable with the incomes obtained through the Living Conditions Survey (ECV), which are collected through 'a mixed method in which households are interviewed, which makes it possible to collect income not captured in the AEAT, such as those from the informal economy, or the pensions of foreigners.

Measuring the affordability of water is complex and there is no standardized indicator for this issue.

The United Nations General Assembly in July 2010 recognized the human right to water and sanitation .

Water is an essential universal human right and a common good, which must be regulated with efficiency and solidarity on the basis of the principles of equity and respect for the environment

The Assembly recognized the right of all human beings to have access to a sufficient amount of water for domestic and personal use (between 50 and 100 liters of water per person per day), safe, acceptable and affordable (the cost of water should not exceed 3% of household income), and physically accessible (the source must be less than 1,000 meters from the home and its collection should not exceed 30 minutes) .

https://www.un.org/es/sections/issues-depth/water/index.html