European Environment Agency

Indicator Fact Sheet

(WQ02) Sectoral water use

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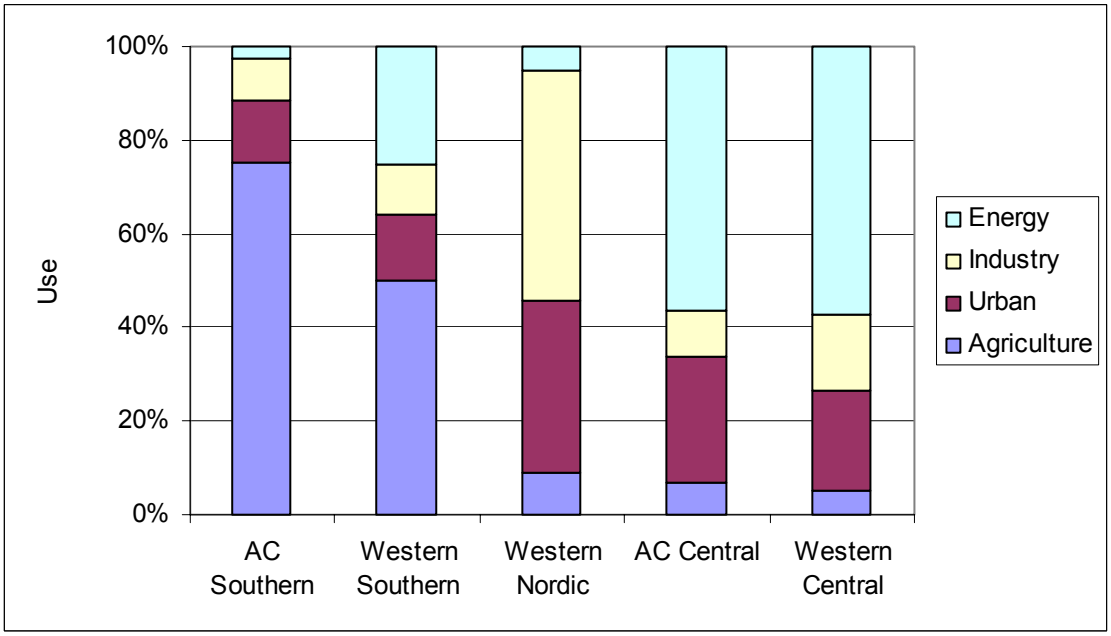
☺ During the 1990s, there were decreases in water abstracted for agriculture, industry and urban use in central accession and central western countries, and in water used for energy production in southern western and central western countries

Sectoral use of water in regions of Europe



Notes:
Southern accession countries (AC): Malta, Cyprus, Turkey.
Western southern: France, Greece, Italy, Portugal, Spain.
Nordic: Iceland, Finland, Norway, Sweden.
Central accession countries (AC): Bulgaria, Czech Rep., Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Slovak Rep., Slovenia.
Western Central: Austria, Belgium, Denmark, Germany, Netherlands, UK.

Source: Eurostat, New Cronos database

Results and assessment

Policy relevance:

Although no legal targets are defined specifically for this indicator, the implementation of the Water Framework Directive will have an important impact.

Policy context:

In Europe, the EC Water Framework Directive (2000/60/EC) and the Sixth Environment Action Programme for the EU (2001-2010) aim to encourage resource efficiency through more sustainable consumption patterns, which means sustainability in the use of water in all

economic sectors. The Common Agricultural Policy aims at encouraging the protection of the environment as one of its proposed measures.

Environmental context:

The most important uses of water, in terms of total water abstractions, have been identified as urban use (households and industry connected to the public water supply system), industry, agriculture and energy production (hydropower and cooling of power plants). Sectoral use of water does not always reflect the same relative importance of the sectors in the economy of one country. It is rather an indicator of on which sectors the environmental measures need to focus in order to enhance the protection of the environment.

Assessment:

Southern accession countries and western southern countries use the largest percentages of abstracted water for agriculture (75 % and 50 %, respectively). Irrigation is the most significant use of water in agriculture in southern countries, being almost 100 %. Western central and western accession countries are the largest users of water for energy production (including cooling water) (57 %), followed by urban use. In particular, Belgium, Germany and Estonia, use more than half of the abstracted water for energy production.

Uses such as mining and quarrying and fish breeding have minor importance in total water abstraction for most European countries. However there are countries for which these uses are more important. Fish breeding is a significant use in Croatia, where a total of 16 warm-water fishponds need a total of 387 Mm^3/year, which is the 41% of the total uses, this is excluding abstractions for energy production (MZOPU, 2002). All countries reported a percentage less than 2% for drainage of mines, except the Czech Republic (6%), Germany (7%) and Estonia (17%).

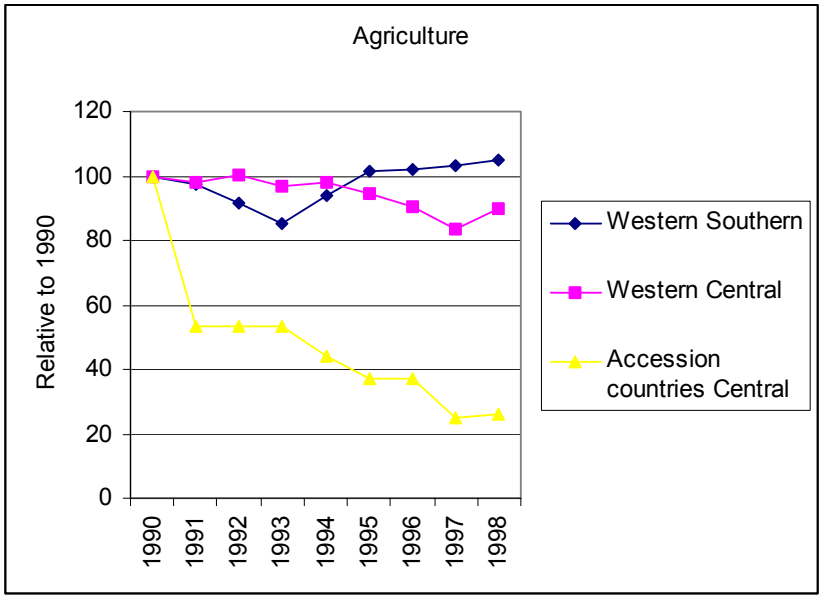
Sub-indicator

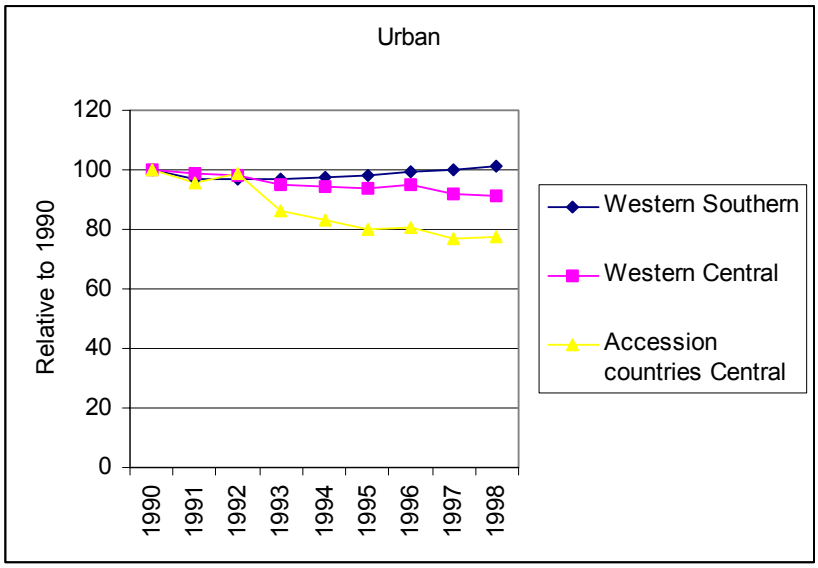
Changes in sectoral water use

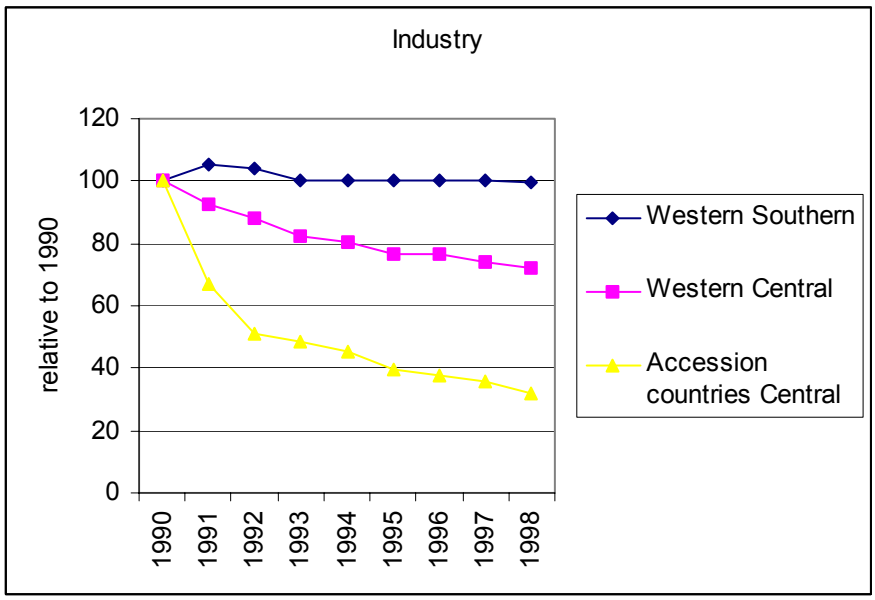
😐 Water abstracted for urban use and industry remained relatively constant in southern western countries.

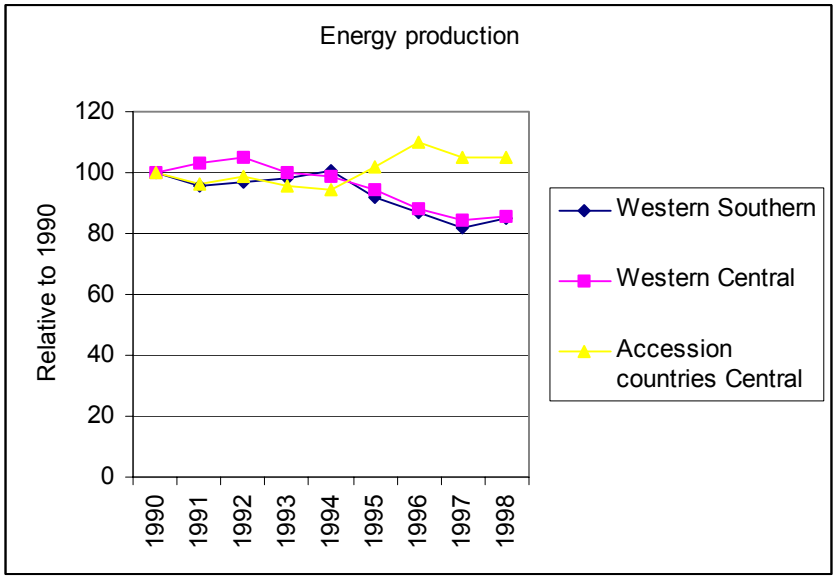
☹ There was a slight increasing trend in agricultural water use in southern western countries and in water abstracted for energy.

Trends in the sectoral use of water in three regions of Europe









Notes:
Western Southern: France, Greece, Italy, Portugal, Spain.
Western Central: Austria, Belgium, Denmark, France, Germany, The Netherlands, UK,
Central accession countries: Bulgaria, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Slovak Republic, Slovenia.

Source: Eurostat, New Cronos database

.**Assessment for the sub-indicator**

The decrease of agricultural and industrial activities in central accession countries during the transition process led to decreases of about 70 % in water abstracted for agricultural and industrial uses in most of the countries. Agricultural activities reached their minima around the mid-1990s but more recently countries are increasing crop and livestock production (EC, 2002).

Data show a 30 % decrease in abstractions for public water supply (urban use) in central accession countries. In most of these countries the new economic conditions led to water

supply companies increasing the price of water and installing water meters in houses. This resulted in people using less water. Industries connected to the public systems also reduced their industrial production and hence water use. Nevertheless in most countries the supply network is obsolete and losses in distribution systems require high abstraction volumes to maintain supply.

References

EEIC, 2001. State of Environment in Estonia. Estonian Environment Information Centre, 2001.

FAO/AQUASTAT, 2002. "World Review of water resources by country", ed. AQUASTAT. In preparation

MZOPU, 2002. National Environmental Strategy. Croatian Ministry for Environmental Protection and Physical Planning.

Data

Spreadsheet:

SectoralUse_RevJune03.xls

Meta data

Technical information

1. Data source: Eurostat, New Cronos database
2. Description of data: Total abstractions data and abstractions by sectors in Mm^3/ year
3. Geographical coverage: EEA
4. Temporal coverage: From 1990 onwards
5. Methodology and frequency of data collection: Yearly data requested.
6. Methodology of data manipulation, including making 'early estimates': Data estimation has been done by linear interpolation. If the graphic is for on year only, it can be filled with the nearest value. For the indicator, the value for the last available year up to 1999 has been accounted for the sectoral use of water. Total water abstractions follows the same criterion.

Quality information

7. Strength and weakness (at data level): The data need to be considered with reservations due to the lack of a common European definitions and procedure to estimate water demands. In addition, data from 1997, 1998 and 1999 are not available for all the countries considered and data series from 1980 are not completed. Data at national level could not reflect water stress situations at local level. Current work is being carried out between EUROSTAT and EEA to standardise definitions and methodologies for data estimation. Some data from New Cronos database had to be checked/substituted by national data.
8. Reliability, accuracy, robustness, uncertainty (at data level): Some cautions should be taken when comparing countries due to different definitions and procedures to estimate water demand (e.g. some including cooling water other do not) and freshwater resources,.
9. Overall scoring (give 1 to 3 points: 1=no major problems, 3=major reservations):

Relevancy: 1

Accuracy: 2 (Some sectoral abstractions do not correspond to the specified uses, such as cooling water for hydropower included in the industrial abstraction data)

Comparability over time: 3

Comparability over space: 2

Further work required

At data level: There are gaps in some years and for some countries in water uses, particularly in the Nordic and AC Southern countries. Where enough data are available, there are still some gaps, thus some interpolation is required in order to fill them in and show consistent trends.