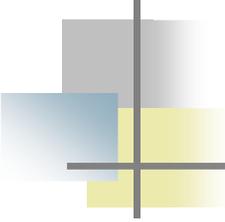


Indicator Review: Reuse and Recycling of Fresh Waters

Joint Task Force Meeting on
Environmental Indicators

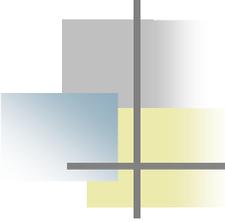
Geneva, 1-2 Sep 2010

United Nations Statistics Division, DESA



Definition

- Brief definition: “The share of reused or recycled water in the total volume of water used to cover production needs...”
 1. Include reuse and recycling? What’s the difference?
 2. Only production (of goods and services)?
 3. Includes only internal (within establishment) reuse/recycling?

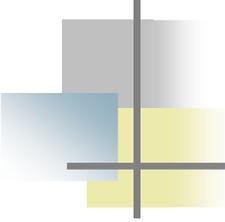


Question 1: reuse and recycling

- What is the difference between reuse and recycling *within* the establishment?

Could we limit the indicator to recycling (and drop reuse) as the definition of reuse (reused water) refers to the use of treated or non-treated wastewater by other establishments (according to the IRWS)?

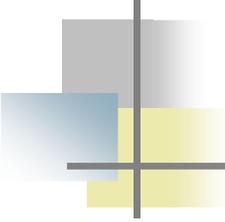
(The same issue came up during the discussion of the indicator on reuse and recycling of solid waste, where we agreed to drop reuse)



Question 2: only production?

- Does the indicator refer only to production (of goods and services)?

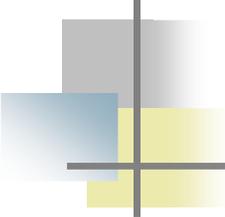
There is reuse of water (reclaimed wastewater) by households. Is this excluded?



Question 3: only internal?

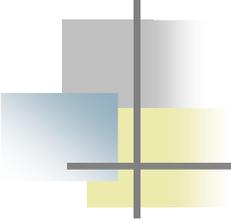
- Does the indicator refer to reuse or recycling within an establishment?

There is also reuse of water (use of reclaimed wastewater) between establishments. Is this excluded?



Definition of reuse and recycling

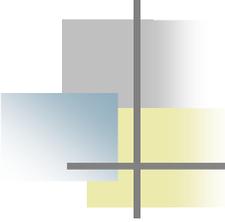
- The term “Reuse” is defined in the UNSD/UNEP Questionnaire as reuse between, but not within establishments:
 - **Reuse:** *Water that has undergone wastewater treatment and is delivered to a user as reclaimed wastewater. This means the direct supply of treated effluent to the user. Excluded is wastewater discharged into a watercourse and used again downstream. (UNSD/UNEP Questionnaire on Environment Statistics)*
- The term “Recycled water”, is used (in the International Recommendations for Water Statistics, IRWS), for within establishment (re) use:
 - **Recycled water:** *The volume of water that is used more than once by an economic unit, within the territory of reference, per year. This water does not leave the site of the establishment or household between uses. (IRWS)*



- **Recommendation:**

The indicator should cover *recycling* of water *within* establishments. It will thus reflect technological savings of water in the production of goods and services. Its name should be “Recycling of freshwater”.

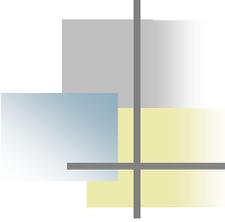
Reuse of reclaimed wastewater by establishments and households should be excluded from this indicator (may become another indicator)



Formula:

- The ratio relates the volume of recycled water to the total volume of water used in the production process. Total volume of water used is the sum of the volume of freshwater available for use (by own abstraction or delivered by the water supply industry or other source) plus the volume of recycled water.

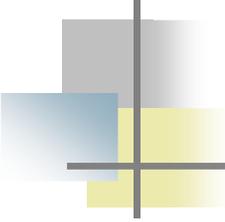
$$\frac{Q_{\text{recycled}} \times 100}{Q_{\text{abstractions for own use}} + Q_{\text{deliveries by Water Supply Industry}} + Q_{\text{recycled}}}$$



International agreed methodologies and Standards

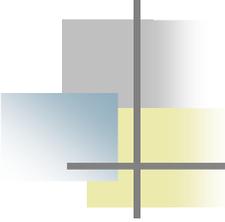
- Add:
- International Recommendations for Water Statistics
- OECD/Eurostat Questionnaire on the State of the Environment

Note: this item should be bullet “b)” not “c)”



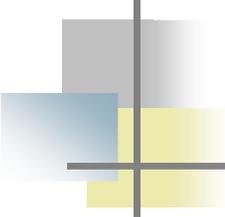
Data sources and reporting

- UNSD collects data on Reuse (def. in prev. slide), but not “recycling” of freshwater.
- Data source at the national level is the records of enterprises
 - reports of businesses on water use and recycling.



Intl' data availability

- Eurostat, UNSD, and FAO/Aquastat all compile data on “reuse” only, following a consistent methodology:
 - Eurostat: Reused water only
 - UNSD database: Reused water only
 - FAO/Aquastat: “Treated wastewater reused”
 - FAO/Aquastat def.: *Quantity of treated wastewater which is reused in a given year.*



Conclusions

- Correct inconsistencies and clarify the **scope** of reused and recycled water (and total water use)
 - UNSD recommends a focus on recycling (within establishment) as a proportion of all use for production, because:
 - This is the simplest method and appears to be the original intention for this indicator.
 - This indicator would represent a measure of available technology and policies for efficient use of freshwater resources within production activities.
(If accepted, change name of indicator to “Recycling of freshwater”.)
- Add IRWS and OECD/Eurostat Questionnaire to international references.
- Update information on data sources and reporting.
- Data available on “reuse” in international databases but “recycling” not collected
- We might think of another (new) indicator reflecting savings by the reuse of reclaimed wastewater.