



Quantification of Attributes of Elements of General Purpose Water Accounting Reports

Statement of Water Accounting Concept SWAC 6

CITATION

1. This Statement may be cited as Statement of Water Accounting Concepts 6 *Quantification of Attributes of Elements of General Purpose Water Accounting Reports* (SWAC 6).

APPLICATION

2. The concepts in this Water Accounting Conceptual Framework (WACF) underpin general purpose water reporting. Unless regulation requires the adoption of the WACF, the concepts are not mandatory requirements for the preparation of General Purpose Water Accounting Reports (GPWAR).
3. The WACF applies to GPWAR issued after 11 May 2009.

INTRODUCTION

4. The purpose of this Statement is to describe the quantification of the attributes of elements of GPWAR that make the information contained therein useful for making and evaluating decisions about the allocation of resources.

WATER ACCOUNTING CONCEPTS

5. The following concepts shall be interpreted in the context of all paragraphs included in this Statement.
6. Definitions, as outlined in the WACF, shall be read as forming part of the accounting concepts set out in this statement

Concepts of the Quantification of Attributes of Elements of General Purpose Water Accounting Reports

7. **An element that is recognised in a General Purpose Water Accounting Report shall be quantified within that General Purpose Water Accounting Report.**
8. **Quantification is the process of determining the amount at which an attribute of an element of a General Purpose Water Accounting Report is recognised in a particular statement within the report.**
9. **Quantification of an attribute of an element shall involve:**
 - a) **Selecting the appropriate attribute of an element; and**
 - b) **Selecting the appropriate unit of account; and**
 - c) **Selecting the appropriate quantification approach; and**
 - d) **Using the unit of account and quantification approach to determine the amount of the attribute of the element.**
10. **The quantification of an attribute of an element recognised in a General Purpose Water Accounting Reports shall apply the combination of attribute, unit of account and quantification approach that best enables the report to faithfully represent information that is useful for making and evaluating resource allocation decisions.**

DISCUSSION

Attributes

11. An element of a GPWAR will possess an attribute that can be quantified and often it will possess more than one attribute. For example, quantifiable attributes of water assets, water liabilities, net water assets and changes in balances of water assets and water liabilities include volume, salinity or monetary value.
12. The appropriateness of the attribute to be quantified shall depend on users' information needs. For example, water volume may be an appropriate attribute for water assets of a physical water reporting entity supplying water to a township if users are interested in water supply continuity. The appropriate attribute for water assets of a desalination plant may be water salinity so that users can assess the effectiveness of the desalination process. The appropriate attribute for tradeable water rights (water assets or water liabilities) may be monetary value if users are interested in assessing the financial viability of irrigation enterprises dependant on such rights attributable to the water reporting entity.

Unit of Account

13. An attribute of an element may be quantified using different units of account. For example, the volume (attribute) of water stocks (water assets element) may be quantified in units such as litres, cubic metres or gallons. Salinity (attribute) of water assets may be expressed in units of account such as milligrams of dissolved solid per litre or microSiemens per centimetre ($\mu\text{S}/\text{cm}$) at 25°C . The unit of account for assigning a monetary value to water assets, water liabilities, net water assets and changes in balances of water assets and water liabilities can be a currency or a currency adjusted for changes in purchasing power.
14. The unit of account selected shall be the unit that maximises, to the extent possible, the usefulness of the information for users' resource allocations decisions. For example:
 - a) Australian users of general purpose water accounting reports are likely to find metric volume measure more useful than imperial measures of water volume;
 - b) The precision of water salinity quantification may be more important to irrigators who are users of the GPWAR of a desalination plant relative to irrigators who are users of the GPWAR of a water reporting entity that supplies water from non saline sources. Thus, applying a cost benefit trade-off, the nature of the water reporting entity and its user groups may determine the use of milligrams of dissolved solid per litre or microSiemens per centimetre ($\mu\text{S}/\text{cm}$) at 25°C ;
 - c) In order for users to assess the financial viability of the water reporting entity during periods of hyper inflation, the monetary value (attribute) of the elements of GPWAR will be more appropriately quantified using units of currency adjusted for changes in purchasing power than unadjusted currency.

Quantification Approaches

15. An attribute of an element may often be quantified using different quantification approaches. For example, water reservoir volume losses due to sedimentation can be quantified using bathymetric surveys or multi-frequency acoustic profiling systems. Approaches to quantifying salinity include total dissolved salts (or solids) and electrical conductivity. Approaches to quantifying the monetary value of water include cost, market value and net present value.
16. All elements of a particular type (water assets, water liabilities, net water assets or changes in water assets and water liabilities) reported in a particular statement in a GPWAR should be quantified using the same attribute if those elements are to be aggregated.

For example, it is not meaningful to report aggregate water assets if some water assets have volumetric quantification and others in the same statement are quantified using a monetary value. Further, it is not meaningful to report aggregate water assets or water liabilities quantities if the attribute unit of account differs. For example, it is not meaningful to report aggregate water assets quantified in volume if some water assets are recognised in litres and others in cubic metres. However, aggregation of elements of GPWAR may be meaningful where approaches to quantification of an attribute to be recognised differ. For example, a water reporting entity recognising its water storages in litres can report the aggregate water storages even if the approach to determining the volume of individual water storages varies.