

Wat 02 Water monitoring

(All buildings)

Aim

To encourage the installation of water sub-meters and leak detection to ensure water consumption can be monitored and managed in use.

Overview

Assessment type	Available credits	Applicable assessment criteria
Fully fitted	1	All
Shell and core	1	All (see ref. 1.0)
Shell only	1	1 only
Residential: Fully fitted	1	All (see ref. 2.0)
Residential: Partially fitted	1	All (see ref. 2.0)
EU Taxonomy	-	None

Minimum standards

Rating level	Criteria
Good	Criterion 1 is achieved

Assessment type specific notes

Reference	Assessment type specific note
1.0	Shell and core Criteria 2 to 4 only apply to water-consuming plant or building areas that are included within the scope of the development.

Building type specific notes

Reference	Building type specific note
2.0	Residential – Single dwellings Only criterion 1 is applicable.

Issue specific notes

Reference	Issue specific note
3.0	No water supply to the building or unit If there is no installed water supply to the assessed building (because there will be no water-consuming fittings in the building in use), this issue will be filtered out.

Assessment criteria

Water monitoring – One credit

- 1 A water meter with a pulsed or other open protocol output is installed on all potable water supplies entering the building.
- 2 Water-consuming plant or building areas with significant water demand must be fitted with easily accessible sub-meters or have water monitoring equipment that is integral to the plant or area.
- 3 There is a water monitoring system that is appropriate for the size of the building.
 - 3.a For buildings with a gross internal area ≥ 1000 m², the water meters are connected to a monitoring and management system.
 - 3.b For buildings with a gross internal area < 1000 m², the water meters are either:
 - 3.b.i Connected to an appropriate water monitoring and management system.
 - 3.b.ii Accessible meters with pulsed outputs or other open protocol communication outputs.
- 4 Those responsible for monitoring the building's water consumption must be able to clearly identify the water uses and areas covered by each meter.

Checklists and tables

None

Methodology

M1: Scope

The following potable water sources must be metered:

- Water supplied by network suppliers.
- Water supplied from private suppliers (including water supplied from a nearby building).
- Water supplies from boreholes.

Wastewater from blackwater, greywater, or rainwater collection systems are not metered for this issue.

M2: Significant water demand

The following water uses are deemed to be significant:

- 1 Swimming pools.
- 2 On sites with multiple units or buildings, e.g. shopping centres, apartment blocks, industrial units, retail parks etc. separate sub-meters are fitted on the water supply to the following areas (where present):
 - 2.a For Residential buildings with multiple dwellings and Residential Institutions with multiple self-contained dwellings, each dwelling counts as a significant water use.
 - 2.b Common areas (e.g., covering the supply to toilet blocks).
 - 2.c Service areas (covering the supply to outlets within storage, delivery, waste disposal areas etc.).
 - 2.d Ancillary or separate buildings to the main development with a water supply.
- 3 Laboratory: in any building with a laboratory (or containing laboratories), a separate water meter is fitted on the water supply to any process or cooling loop for plumbed-in laboratory process equipment.

All water consuming systems or building areas that are expected to account for more than 10% of the buildings total water demand must be considered when determining significant water uses.

Devise a water metering strategy that ensures that significant water uses in the building are separately monitored where it is technically feasible and cost effective to do so.

For this issue, metering is considered cost effective where the cost of installing a sub-meter is predicted to be fully recovered through the water cost savings arising from improved water management. This is over the expected lifetime of the building or system, whichever is shorter.

Examples where installing water metering may not be cost effective include:

- 1 Where a building has only one or two small sources of water demand (e.g. an office with sanitary fittings and a small kitchen).
- 2 Where the building has two sources of water demand, one significantly larger than the other, and the water consumption for the larger demand is likely to mask the smaller demand.

Compliance notes

Reference	Terms	Description
CN1	Extensions to existing buildings	For criteria 1, where a new extension does not have a separate water supply but connects to the water supply for the existing building, the water supply to the building must be metered at the whole building level or a sub-meter must be installed where the water enters the new part of the building. Any significant water uses in the new part of the building must be sub-metered in accordance with assessment criteria 2–4. The meters provided must have a pulsed output or a connection to the existing water monitoring and management system in accordance with the assessment criteria.
CN2	Existing water monitoring and management system on the same site	If the site on which the building is located has an existing water monitoring and management system that is managed by the same occupier or owner (as the new building), the pulsed or digital water meters for the new building may be connected to the existing water monitoring and management system.
CN3	Remote monitoring systems	Remote monitoring and reporting services which report water consumption to the building user are acceptable in place of a separate water monitoring and management system.
CN4	Sub-metering by calculation / monitoring by difference	Direct meters may be used to estimate an unknown quantity by difference. For example, in a swimming pool with changing rooms: total water consumption is metered, and the swimming pool is metered. The difference between the two can be used to calculate water consumption for the changing rooms. Where a water monitoring and management system is used, the software should be capable of calculating and displaying all required end-uses in line with the criteria.
CN5	Shell and core buildings with capped services	Where a tenanted area within the building will have its own individual water supply and utility meter, this supply is excluded from assessment. All shared water supplies and common areas under the responsibility of building management must still be assessed.

Evidence

Criteria	Interim design stage	Post construction stage
All	<p>Calculations and justification relating to the identification of significant water demands.</p> <p>The relevant sections or clauses of the building specification or contract.</p> <p>Design drawings or metering schematics.</p>	<p>Calculations and justification relating to the identification of significant water demands.</p> <p>Assessor’s site inspection report and photographic evidence.</p> <p>OR</p> <p>Final construction drawings or equivalent.</p> <p>Where applicable, manufacturer’s product details to confirm pulsed output.</p>

Definitions

Accessible meters

Water meters located for easy access to allow regular monitoring and readings by building occupants or facilities managers. Typically, this will be a plant room, main distribution room, or control room where a water monitoring and management system is installed.

Common areas

Shared facilities, spaces, and access that are not owned or controlled by a tenant or occupier. These are typically managed and maintained by the development's owner or managing organisation. Examples include atria, stairwells, entrance foyers and external areas.

Pulse outputs or other open protocol communication outputs

A pulsed output meter generates an output signal when a specified amount of electricity, water, or gas passes through it.

Acceptable alternatives must meet or exceed the capabilities of a pulsed output meter.

The following metering standards or technologies are currently recognised as alternative to pulsed output meters:

- M-bus (i.e. systems that comply with the EN 13757 series of standards). Also includes systems complying with OMS (Open Metering System) standards.

Water meters

Devices that measure the amount of water used on a circuit while water is flowing.

Primary meters measure main incoming water and are used for billing by the utility supplier. They include the principal smart and advanced utility meters to a site for electricity and gas.

Sub-meters are installed to measure consumption by specific items of plant or equipment, or to discrete physical areas, e.g. individual buildings, floors, tenanted areas or function areas.

Water monitoring and management systems

A water monitoring and management system provides users with data about water consumption patterns in a building to facilitate informed water management decisions.

In addition to providing real time data on water consumption they may also flag faults in equipment and in some cases remotely activate or deactivate equipment. They may have the ability to provide performance indicators that can be used to measure performance against targets and provide real time alerts in instances where water use is unexpected such as equipment left on after hours.

Additional information

None