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Department
for Environment
Food & Rural Affairs

Enhanced capital allowance scheme for water

Water Technology Criteria List

June 2013

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Any enquiries regarding this document/publication should be sent to us at:

Virginia Hall, Area 3D, Nobel House, 17 Smith Square, London SW1P 3JR

PB 13960

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1) Cleaning in place equipment

Cleaning in place saves water by delivering it more efficiently or in a more controlled way. The following sections set out the criteria that the individual components of a cleaning in place system must meet in order to be eligible to be included in the List.

The following cleaning in place equipment is supported:

- Monitoring and control equipment
- Spray devices

Monitoring and Control Equipment

To be eligible for inclusion on the Water Technology List the equipment must meet the following definition:

Equipment dedicated to the monitoring and control of cleaning in place systems consisting of software or a combination of hardware and software.

Manufacturers should apply to Defra with evidence that their products meet these criteria in order to appear on the Water Technology List.

Spray Devices

To be eligible for inclusion on the Water Technology List the equipment must meet the following definition:

A rotating unit (single or twin axis) producing a specific uniform and repeatable spray pattern with a defined coverage area.

Manufacturers should apply to Defra with evidence that their products meet these criteria in order to appear on the Water Technology List. This should include drawings of the spray coverage including where the jet fans are positioned.

2) Efficient Showers

Efficient showers deliver less water than ordinary showers without compromising shower performance. Through their unique design and/or particular way of delivering the water, efficient showers save not only water but also reduce energy consumption due to the amount of energy required to heat the water for a hot shower. Investment in efficient showers qualifies for an ECA provided the equipment is named in the Water Technology List.

The following sections set out the criteria that the individual components of efficient showers must meet in order to be eligible to be included in the List.

The following showerheads and shower sets are supported:

- Low flow showerheads
- Aerated showerheads
- Thermostatic controlled shower sets
- Auto shut off showers
  - Electromagnetic systems
  - Mechanical and pneumatic push systems

Low Flow Showerheads

To be eligible for inclusion on the Water Technology List the device must meet the following criteria:

Show evidence of compliance with the following sections of the Water Supply (Water Fittings) Regulations 1999:

- Part II Requirements – Paragraph 4 ‘Requirements for water fittings etc’
- Schedule 2 – Requirements for water fittings, paragraph 2 ‘Materials and substances in contact with water’

  Note: This would be demonstrated by approval through WRAS (or equivalent independent product certification body) or a declaration that all non-metallic materials in contact with the water comply with BS 6920)

- Schedule 2 – Requirements for water fittings, paragraphs 3, 4 and 5 ‘Requirements for water fittings’

  Note: This would be demonstrated by approval through WRAS (or equivalent independent product certification body) or a declaration of compliance with the following regulators’ specifications)

  6001.1 - Identification

  1112.1 – Porosity test (pressure resistance)

  1113.1 – Joint effectiveness (mechanical strength)

Compliance with the regulations may be demonstrated by approval through WRAS. Alternatively companies accredited to ISO 9001 may provide a declaration of conformity with the Regulations.

A low flow showerhead is defined as a showerhead that delivers a fully formed spray pattern, with a flow rate of no more than 8 litres/minute when operated at dynamic pressures up to 5 bar (for all spray settings). The manufacturer shall supply details of the minimum dynamic pressure at which the spray pattern is fully formed.

Low flow showerheads must also meet the following requirements:

Hydraulic Characteristics – when tested using test apparatus generally in accordance with BS 6340-4:1984 the measured flow rate shall not exceed 8 litres/minute under pressures up to the maximum operating pressure specified by the manufacturer or at pressures up to and including 5 bar where no maximum is specified. If a flow regulator is required for the low flow showerhead to limit the flow to 8 litres/minute at 5 bar dynamic pressure, the showerhead and the flow regulator must be sold as one product.

Manufacturers should apply to Defra with evidence that their products meet these criteria in order to appear on the Water Technology List.

Aerated Showerheads

To be eligible for inclusion on the Water Technology List the device must meet the following criteria:

Show evidence of compliance with the following sections of the Water Supply (Water Fittings) Regulations 1999:

- Part II Requirements – Paragraph 4 ‘Requirements for water fittings etc’
- Schedule 2 – Requirements for water fittings, paragraph 2 ‘Materials and substances in contact with water’

  Note: This would be demonstrated by approval through WRAS (or equivalent independent product certification body) or a declaration that all non-metallic materials in contact with the water comply with BS 6920
- Schedule 2 – Requirements for water fittings, paragraphs 3, 4 and 5 ‘Requirements for water fittings’

  Note: This would be demonstrated by approval through WRAS (or equivalent independent product certification body) or a declaration of compliance with the following regulators’ specifications

  6001.1 - Identification

  1112.1 – Porosity test (pressure resistance)

  1113.1 – Joint effectiveness (mechanical strength)

Compliance with the regulations may be demonstrated by approval through WRAS. Alternatively companies accredited to ISO 9001 may provide a declaration of conformity with the Regulations.

An efficient aerated showerhead is defined as a showerhead that mixes air and water and delivers a fully formed spray pattern, with a flow rate of no more than 8 litres/minute when operated at dynamic pressures up to 5 bar (for all spray settings).

Aerated showerheads must also meet the following requirements:

Hydraulic Characteristics – when tested using test apparatus generally in accordance with BS 6340-4:1984 the measured flow rate shall not exceed 8 litres/minute under pressures up to the maximum operating pressure specified by the manufacturer or at pressures up to and including 5 bar where no maximum is specified.

The manufacturer shall also supply details of either, the minimum dynamic pressure at which the showerhead starts aerating, or the minimum dynamic pressure at which the spray pattern is fully formed, whichever is the greater.

If a flow regulator is required for the low flow showerhead to limit the flow to 8 litres/minute at 5 bar dynamic pressure, the showerhead and the flow regulator must be sold as one product.

Manufacturers should apply to Defra with evidence that their products meet these criteria in order to appear on the Water Technology List.

Thermostatic Controlled Showers

To be eligible for inclusion on the Water Technology List the device must meet the following criteria:

A thermostatic mixing valve that enables the control of water flow and temperature, either via a single control device or separate control devices, and is approved by the TMV3 scheme with E designation.

The applicant must supply details of suitable shower sets to ensure safety and functionality for use with the TMV3 thermostatic mixing valve for which the application is made. Details of the range of sets will be included with the valve's description on the Water Technology List. A complete shower set (or equivalent) consists of the following parts: the showerhead, rail or holder, a flexible hose or fixed riser pipe and a shut off thermostatic mixing valve.

Manufacturers should apply to Defra with evidence that their products meet these criteria in order to appear on the Water Technology List.

Auto Shut Off Showers

To be eligible for inclusion on the Water Technology List the device must meet the following criteria:

Show evidence of compliance with the following sections of the Water Supply (Water Fittings) Regulations 1999:

- Part II Requirements – Paragraph 4 ‘Requirements for water fittings etc’
- Schedule 2 – Requirements for water fittings, paragraph 2 ‘Materials and substances in contact with water’

  Note: This would be demonstrated by approval through WRAS (or equivalent independent product certification body) or a declaration that all non-metallic materials in contact with the water comply with BS 6920
- Schedule 2 – Requirements for water fittings, paragraphs 3, 4 and 5 ‘Requirements for water fittings’

  Note: This would be demonstrated by approval through WRAS (or equivalent independent product certification body) or a declaration of compliance with the following regulators’ specifications

  6001.1- Identification

  1111.1 – Closure test (water tightness)

  1112.1 – Porosity test (pressure resistance)

  1113.1 – Joint effectiveness (mechanical strength)

  1211.14 – Endurance test (mechanical endurance of shower shut off valves)

  1211.21 – Endurance test (mechanical endurance of solenoid valves)

Compliance with the regulations may be demonstrated by approval through WRAS. Alternatively companies accredited to ISO 9001 may provide a declaration of conformity with the Regulations. All automatic shut off showers must also meet the following requirements:

Hydraulic Characteristics - when tested using test apparatus generally in accordance with BS 6340-4:1984 the measured flow rate shall not exceed 8 litres/minute under pressures up to the maximum operating pressure specified by the manufacturer or at pressures up to and including 5 bar where no maximum is specified.

If a flow regulator is required for the showerhead to limit the flow to 8 litres/minute at 5 bar dynamic pressure, the showerhead and the flow regulator must be sold as one product.

Automatic Shut off showers fall into two categories:

Electromagnetic systems

This is defined as a complete shower set (or equivalent) consisting of the following parts: the showerhead, rail or holder, a flexible hose or fixed riser pipe and a shut off valve linked to an electromagnetic sensor. There are two types of electromagnetic sensor systems:

- Presence detection systems should only operate when user presence is detected and water should stop in any instance of failure of the detection system. The flow rate must be terminated within three seconds of user departure.
- Time flow operated showers must allow the user to turn on the flow through the sensor device and the flow rate must be terminated after a maximum of 2 minutes.

Mechanical and pneumatic push systems

This is defined as a complete shower set (or equivalent) consisting of the following parts: the showerhead, rail or holder, a flexible hose or fixed riser pipe and a mechanical or pneumatically operated shut off valve. The system must allow the user to turn on the flow through the mechanical or pneumatically operated shut off valve and the flow rate must be terminated after a maximum of 2 minutes.

Manufacturers should apply to Defra with evidence that their products meet these criteria in order to appear on the Water Technology List.

3) Efficient Taps

A tap flow rate of 4 litres per minute is adequate for hand washing purposes, but many taps greatly exceed this flow, wasting water and money unnecessarily. Taps left running and dripping can result in major water loss and high cost, particularly if they are wasting heated water.

Several devices exist to overcome these problems and make fast water savings. The simple methods are often the most effective. Isolating ball valves, flow restrictors, spray taps or tap aerators could reduce flow by 10 litres per minute and would incur very small capital costs.

The Water Technology List includes the following sub-technologies for Efficient Taps:

- Automatic shut off taps
- Electronic taps
- Low flow screw-down/lever taps
- Spray taps

Automatic shut-off taps

This sub-category includes only push action operated taps with or without a spray attachment.

Applicants must show evidence of the product's compliance with the sections of the Water Supply (Water Fittings) Regulations 1999 listed in Annex 1 below. Compliance with the regulations may be demonstrated by WRAS approval (or other independent test laboratory accredited to ISO 17025). Alternatively companies accredited to ISO 9001 may provide a declaration of conformity with the regulations.

All automatic shut-off taps must also meet the following criteria:

Hydraulic Characteristics- When tested using the method and apparatus described in section 11 of BS EN 816:1997, but using dynamic pressures at the inlet to the tap at up to and including 5 bar +/- 0.2 bar pressure, the measured flow rate shall not exceed 4 litres/minute and the duration of flow shall not exceed 15 seconds.

- If a flow regulator is required to be fitted to the automatic shut off tap to limit the flow rate to 4 litres/minute at 5 bar pressure, the tap and the flow regulator must be sold as one product.
- Where the tap is supplied with a flow straightner fitting, the two components must be sold as one product.

Annex 1 - Automatic shut-off taps

Applicants must show evidence of the product's compliance with the following sections of the Water Supply (Water Fittings) Regulations 1999.

Note: Compliance with the regulations may be demonstrated by WRAS approval (or other independent test laboratory accredited to ISO 17025). Alternatively companies accredited to ISO 9001 may provide a declaration of conformity with the regulations.

- Part II Requirements – Paragraph 4 'Requirements for water fittings etc'.
- Schedule 2 – Requirements for water fittings, paragraph 2 'Materials and substances in contact with water'.

  Note: This would be demonstrated by approval through WRAS (or equivalent independent product certification body) or a declaration that all non-metallic materials in contact with the water comply with BS 6920.
- Schedule 2 – Requirements for water fittings, paragraphs 3, 4 and 5 'Requirements for water fittings'.

  Note: This would be demonstrated by approval through WRAS (or equivalent independent product certification body) or a declaration of compliance with the following regulators' specifications:
  6001.1 – Identification or Clause 5 of BS EN 816:1997
  1111.1 – Closure test (watertightness) or Clause 9 of BS EN 816:1997

1112.1 – Porosity test (pressure resistance) or Clause 10 of BS EN 816:1997
1113.1 – Joint effectiveness (mechanical strength) or Clause 12 of BS EN 816:1997
1211.2 – Endurance test (mechanical endurance) or Clause 13 of BS EN 816:1997

Manufacturers should apply to Defra with evidence that their products meet these criteria in order to appear on the Water Technology List.

Electronic taps

This sub-category includes only electronically operated taps with or without a spray attachment. Both presence detection operated taps and timer control operated taps are eligible for the ECA.

Applicants must show evidence of the product's compliance with the sections of the Water Supply (Water Fittings) Regulations 1999 listed in Annex 2 below. Compliance with the regulations may be demonstrated by WRAS approval (or other independent test laboratory accredited to ISO 17025). Alternatively companies accredited to ISO 9001 may provide a declaration of conformity with the regulations.

All electronic taps shall also meet the following criteria:

Hydraulic Characteristics - When tested using the method and apparatus described in section 10.3.2 of BS EN 200:1992 or section 10.3.2 of BS 5412:1996, but using dynamic pressures at the inlet to the tap up to and including 5 bar +/- 0.2 bar;

- For presence detection operated taps the measured flow rate shall not exceed 4 litres/minute and the flow shall be terminated automatically within 3 seconds of user intervention being removed.
- For timer control operated taps the measured flow rate shall not exceed 4 litres/minute and the duration of flow shall not exceed 15 seconds.
- If a flow regulator is required to be fitted to the electronic tap to limit the flow rate to 4 litres/minute at 5 bar, the tap and the flow regulator must be sold as one product.
- Where the tap is supplied with a flow straightner fitting, the two components must be sold as one product.
- The taps must close in any instance of failure.

Annex 2 - Electronic taps

Applicants must show evidence of the product's compliance with the following sections of the Water Supply (Water Fittings) Regulations 1999.

Note: Compliance with the regulations may be demonstrated by WRAS approval (or other independent test laboratory accredited to ISO 17025). Alternatively companies accredited to ISO 9001 may provide a declaration of conformity with the regulations.

- Part II Requirements – Paragraph 4 'Requirements for water fittings etc'.

- Schedule 2 – Requirements for water fittings, paragraph 2 ‘Materials and substances in contact with water’.

  Note: This would be demonstrated by approval through WRAS (or equivalent independent product certification body) or a declaration that all non-metallic materials in contact with the water comply with BS 6920.

- Schedule 2 – Requirements for water fittings, paragraphs 3, 4 and 5 ‘Requirements for water fittings’.

  Note: This would be demonstrated by approval through WRAS (or equivalent independent product certification body) or a declaration of compliance with the following regulators’ specifications:
  6001.1 – Identification
  1111.1 – Closure test (watertightness)
  1112.1 – Porosity test (pressure resistance)
  1113.1 – Joint effectiveness (mechanical strength)
  1211.2 – Endurance test (mechanical endurance)

Manufacturers should apply to Defra with evidence that their products meet these criteria in order to appear on the Water Technology List.

Low flow screw-down/lever taps

This sub-category includes only manually operated taps without a spray attachment.

Applicants must show evidence of the product’s compliance with the sections of the Water Supply (Water Fittings) Regulations 1999 listed in Annex 3 below. Compliance with the regulations may be demonstrated by WRAS approval (or other independent test laboratory accredited to ISO 17025). Alternatively companies accredited to ISO 9001 may provide a declaration of conformity with the regulations.

All low flow manually operated taps must also meet the following criteria:

Hydraulic Characteristics - When tested using the method and apparatus described in section 10 of BS EN 200:1992, section 10 of BS 5412:1996 or section 10 of BS EN 817:1997, but using dynamic pressures at the inlet to the tap up to and including 5 bar +/- 0.2 bar; the measured flow rate shall not exceed 4 litres/minute.

- If a flow regulator is required to be fitted to the tap to limit the flow rate to 4 litres/minute at 5 bar, the tap and the flow regulator must be sold as one product.

Annex 3 - Low flow screw-down/lever taps

Applicants must show evidence of the product’s compliance with the following sections of the Water Supply (Water Fittings) Regulations 1999.

Note: Compliance with the regulations may be demonstrated by WRAS approval (or other independent test laboratory accredited to ISO 17025). Alternatively companies accredited to ISO 9001 may provide a declaration of conformity with the regulations.

- Part II Requirements – Paragraph 4 ‘Requirements for water fittings etc’.
- Schedule 2 – Requirements for water fittings, paragraph 2 ‘Materials and substances in contact with water’.

  Note: This would be demonstrated by approval through WRAS (or equivalent independent product certification body) or a declaration that all non-metallic materials in contact with the water comply with BS 6920.
- Schedule 2 – Requirements for water fittings, paragraphs 3, 4 and 5 ‘Requirements for water fittings’.

  Note: This would be demonstrated by approval through WRAS (or equivalent independent product certification body) or a declaration of compliance with the following regulators’ specifications:
  6001.1 – Identification, section 5 of BS EN 200:1992, section 5 of BS 5412:1996 or section 6 of BS EN 816:1997
  1111.1 – Closure test (watertightness), section 8 of BS EN 200:1992, section 8 of BS 5412:1996 or section 9 of BS EN 816:1997
  1112.1 – Porosity test (pressure resistance), section 9 of BS EN 200:1992, section 9 of BS 5412:1996 or section 11 of BS EN 816:1997
  1113.1 – Joint effectiveness (mechanical strength), section 10 of BS EN 200:1992, section 10 of BS 5412:1996 or section 11 of BS EN 816:19971211.2 – Endurance test (mechanical endurance), section 12 of BS EN 200:1992, section 12 of BS 5412:1996 or section 12 of BS EN 816:1997

Manufacturers should apply to Defra with evidence that their products meet these criteria in order to appear on the Water Technology List.

Spray taps

This sub-category includes only manually operated taps with a spray attachment.

Applicants must show evidence of the product’s compliance with the sections of the Water Supply (Water Fittings) Regulations 1999 listed in Annex 4 below. Compliance with the regulations may be demonstrated by WRAS approval (or other independent test laboratory accredited to ISO 17025). Alternatively companies accredited to ISO 9001 may provide a declaration of conformity with the regulations.

All spray taps shall also meet the following criteria:

Hydraulic Characteristics - When tested using the method and apparatus described in section 12 of 5388:1976 or section 12 of BS 5779:1979 as appropriate, but using dynamic

pressures at the inlet to the tap up to and including 5 bar +/- 0.2 bar, the measured flow rate shall not exceed 4 litres/minute.

- If a flow regulator is required to be fitted to the spray tap to limit the flow rate to 4 litres/minute at 5 bar, the tap and the flow regulator must be sold as one product.

- Where the tap is supplied with a flow straightner fitting, the two components must be sold as one product.

Annex 4 - Spray taps

Applicants must show evidence of the product's compliance with the following sections of the Water Supply (Water Fittings) Regulations 1999.

Note: Compliance with the regulations may be demonstrated by WRAS approval (or other independent test laboratory accredited to ISO 17025). Alternatively companies accredited to ISO 9001 may provide a declaration of conformity with the regulations.

- Part II Requirements – Paragraph 4 'Requirements for water fittings etc'.
- Schedule 2 – Requirements for water fittings, paragraph 2 'Materials and substances in contact with water'.

  Note: This would be demonstrated by approval through WRAS (or equivalent independent product certification body) or a declaration that all non-metallic materials in contact with the water comply with BS 6920.
- Schedule 2 – Requirements for water fittings, paragraphs 3, 4 and 5 'Requirements for water fittings'.

  Note: This would be demonstrated by approval through WRAS (or equivalent independent product certification body) or a declaration of compliance with the following regulators' specifications.
  6001.1 - Identification
  1111.1 – Closure test (watertightness)
  1112.1 – Porosity test (pressure resistance)
  1113.1 – Joint effectiveness (mechanical strength)
  1211.2 – Endurance test (mechanical endurance)

Manufacturers should apply to Defra with evidence that their products meet these criteria in order to appear on the Water Technology List.

4) Efficient toilets

Investments in Efficient Toilets qualify for an ECA provided the equipment is named in the Water Technology List. This section sets out the criteria that Efficient Toilets must meet to be eligible for inclusion in the List.

The following technologies are supported:

- Low flush toilets
- Retrofit WC flushing devices
- Urinal controls

Low Flush Toilets

New water flushed appliances may be eligible for inclusion in the Water Technology List if they meet the appropriate requirements of the Water Supply (Water Fittings) Regulations 1999, Regulators' Specification for WC Suites, as set out in section 4 of the Regulators' Specification (see below)

The physical endurance and leakage requirements of the flushing device are as follows: when tested as described in Clause 9 of the Regulators' Specification, the flushing device shall not undergo any failure or permanent distortion of any components including linkages that prevents normal operation of the mechanism. In addition, no instances of leakage are permitted. A leak is defined as being visible discharge of water amounting to more than 3 separate drops.

Compliance may be demonstrated by WRAS* approval (* or other independent test laboratory accredited to ISO 1702 5). Alternatively companies accredited to ISO 9001 may provide a declaration of self-conformity with the Regulations.

Single or dual flush WCs with a maximum full flush volume of 4.5 litres are eligible.

Manufacturers should apply to Defra with evidence that their products meet these criteria in order to appear on the Water Technology List.

Section 4 of the Regulators' Specification

The items that are covered in the specification are for complete suites, not discrete pans and cisterns. The topics covered are detailed in section 4 of the Water Supply (Water Fittings) Regulations 1999 Regulators' Specification (see below).

Section 4

Inlet valve shall comply with BS1212: Parts 2, 3, or 4 subject to the amendments listed below:

- The water hardness during tests shall not exceed the range of 230 ± 20 ppm of calcium carbonate during the course of the test.
- The supply pressure for the endurance test described in Parts 3 and 4 shall be 1.5 ± 0.1 bar.
- Part 2 valves shall be subject to an endurance test as described in Parts 3 and 4 using a supply pressure of 1.5 ± 0.1 bar.

- The endurance test shall be undertaken for 200,000 cycles; and if the first inlet valve fails the test, the four valves subsequently tested must all satisfy the requirements.

Backflow prevention when tested in accordance with the backflow prevention requirements of clauses 15 or 17 of BS 1212 Parts 3 or 4 respectively there shall be no evidence of backflow.

Flushing cistern – Marking every flushing cistern, other than a pressure flushing cistern, shall be clearly marked internally with an indelible line to show the intended volume of flush, together with an indication of that volume. Discharge volume(s) shall be based on measurement from the water level in the cistern using the manufacturer's original equipment to the residual water level in the cistern on completion of a flush.

Warning Pipe and Overflow Provision when tested as described in Clause 6 of the Regulators' Specification, every flushing cistern, not being a pressure flushing cistern, shall be fitted with a warning pipe connection arranged with the discharge level between 25 to 32 mm above the marked water level, or a no less effective device shall be provided. The top edge of any internal overflow shall be not less than 10mm above the warning level.

Flush Volume – Full Flush when tested as described in Clause 7 of the Regulators' Specification, with any adjustable flushing device set to deliver the maximum flush volume, the measured discharge shall on no occasion exceed 6 litres.

Flush Volume – Reduced Flush when tested as described in Clause 7 of the Regulators' Specification, with any adjustable flushing device set to deliver a reduced flush volume, the measured discharge shall on no occasion exceed two thirds of the full flush volume.

Flushing device: chemical endurance when tested as described in Clause 10 of the Regulators' Specification, there shall be:

- no dimensional alteration of any component greater than 1mm or 5% whichever is the lesser;
- no weight loss of any component greater than 1g or 5% whichever is the lesser;
- no visible sign of physical change such that performance is impaired;
- no deterioration in performance.

The flushing device shall not leak after undergoing a 3000 cycle physical endurance test and the long term leakage test.

Solids discharge and after-flush volume for maximum flush when tested as described in Clause 11 of the Regulators' Specification, for the first six flush cycles, or for a minimum of eight out of ten flush cycles, each of the four test specimens shall be completely evacuated from the WC bowl and pan's outlet. The recorded after-flush volume in each flush cycle shall be no less than 40% of the full flush volume.

Wash of Bowl when tested as described in Clause 14 of the Regulators' Specification the arithmetic average of any unflushed area below the rim and above the surface of the trap shall be no greater than 50 cm^2 after 5 flushing operations

Water seal depth when tested twice at random as described in Clause 7 of the Regulators' Specification, the water seal depth shall be no less than 50 mm on either occasion. If any alternative trap seal device is utilised, a no less effective comparable seal shall be in operation.

Manufacturers should apply to Defra with evidence that their products meet these criteria in order to appear on the Water Technology List.

Retrofit WC Flushing Devices

Retrofit WC flushing devices are fitted to existing cisterns or WC suites to enable a reduction in the volume of water per flush. This is usually obtained through the provision of either a reduced single, dual or triple flush mechanism or the delivery of the required volume of water through an interruptible flush mechanism. Two types of retrofit WC flushing devices can qualify for the ECA:

- Flushing siphons
- Drop type flush valves

To ensure durability and effectiveness of the flush the retrofit device must comply with the appropriate requirements of the Regulators' specification for WC suites, as demonstrated by WRAS* approval (* or other independent test laboratory accredited to ISO 17025). Alternatively companies accredited to ISO 9001 may provide a declaration of self-conformity with the Regulations. See below:

For devices designed for modification of the existing siphonic flushing device must meet the requirements of:

- Section 4.7 – physical endurance and leakage
- Section 4.10 – paper discharge test for reduced volume
- Section 4.11 - dye retention test

For tests 2 & 3 the following guidelines must also apply:

- For devices designed to convert the siphon into dual flush, the test should be carried out on the reduced flush volume
- For devices designed to convert the siphon into triple, or more defined flush volumes, the test should be carried out on the larger of the reduced flush volumes
- For devices designed to convert the flush into an interruptible flush, the test must be undertaken at 2/3 the maximum flush volume (within +/- 0.25 litres)

In addition all devices must demonstrate a reduction in flush volume of at least 20% at the reduced flush setting when installed on a 9 litre WC cistern.

For devices designed to replace the existing cistern the device must meet the requirements of:

- Section 4.6 – flush rate (at full and reduced flush)
- Section 4.7 – physical endurance and leakage
- Section 4.8 – chemical endurance
- Section 4.10 – paper discharge test for reduced volume
- Section 4.11 - dye retention test

In addition, devices that provide a single reduced flush must demonstrate the ability to revert to the full flush volume and all devices must demonstrate a reduction in flush volume of at least 20% when installed on a 9 litre WC cistern.

Manufacturers should apply to Defra with evidence that their products meet these criteria in order to appear on the Water Technology List

Urinal controls

This sub-category includes urinal control units and urinals with integral control units. All urinal control equipment must demonstrate compliance with the following sections of the Water Supply (Water Fittings) Regulations 1999, for example by WRAS* approval, (* or by providing a test certificate from an independent test laboratory accredited to ISO 17025). Alternatively companies accredited to ISO 9001 may provide a declaration of self-conformity with the Regulations.

- Part II Requirements Paragraph 4 ‘Requirements for water fittings etc’
- Schedule 2 - Requirements for water fittings, Paragraph 2 ‘Materials and substances in contact with water’
- Schedule 2 - Requirements for water fittings, Paragraph 3, 4 and 5 ‘Requirements for water fittings’
- Schedule 2 - Requirements for water fittings, Paragraph 25 ‘WCs, Flushing devices and urinals’

Discrete control systems that, when activated, result in the release of water to flush a urinal qualify for inclusion on the Water Technology List. They may be retrofitted to existing urinals and may be integral to the urinal. Controls within this category include:

- Presence detector and controller - automatic device detecting occupancy or movement in an area to switch flushing ‘on’ and ‘off’ according to occupancy needs;

- Urinal flush controllers that are demand driven serving a single urinal or multiple urinals through a cistern and only flush after presence is detected or indicated through a temporary change in water pressure.

For pressure-flushing (mains-fed) systems, the maximum flush volume must be 1.5 litres per urinal bowl or position. Demand driven controllers may be pre-set or adjusted to respond to a variety of conditions as long as they deliver a maximum flush volume of 1.5 litres.

Presence detectors must only flush after use. Those that are incorporated into the appliance or mounted just above it must have a short range, less than a metre, and be designed so that only bodies stationary in front of the bowl for at least ten seconds will be registered as a use resulting in a flush.

For cistern-fed installations, presence detectors and controls that limit the operation of the cistern to flush after occupancy is detected or after a defined period following the detection of occupancy, are eligible for inclusion on the Water Technology List. The controller must also limit the operation of the cistern so that it does not flush without the detection of occupancy (apart from the hygienic flush) for example, during unoccupied periods.

Presence detectors that control a range of appliances may be ceiling or wall mounted and will have sufficient range to cover the appliances they control. These must be immune to variations in lighting intensity and air movements.

If a presence detector is not present then the control equipment must restrict the rate at which the cistern is filled with water so that it does not exceed:

- 10 litres an hour for a cistern serving a single urinal
- 7.5 litres per hour per urinal bowl or stall, or as the case may be, for each 700mm width of urinal slab, for a cistern serving two or more urinals.

Manufacturers should apply to Defra with evidence that their products meet these criteria in order to appear on the Water Technology List.

5) Efficient Washing Machines

Water efficient washing machines consume less water than normal washing machines without compromising wash performance.

Investment in efficient commercial and industrial washing machines qualifies for an ECA provided the equipment is named in the Water Technology List. This section sets out the criteria that efficient washing machines must meet to be eligible for inclusion in the List.

The following efficient washing machines are supported:

- Efficient professional washer extractors

- Efficient continuous tunnel washers

Efficient continuous tunnel washers

To be eligible for inclusion on the Water Technology List the equipment must meet the following definition:

Efficient continuous tunnel washers (CTWs) must be programmable to use a specific amount of water depending on the soiling of the material to be washed. The washer tunnel must also have an integral water recycling system and the maximum water consumption must not exceed 6 litres per kg of wash load when tested in accordance with the test method set out in BS ISO 9398-3:2003 part 3, section 6 shown in Annex 5 below.

Manufacturers should apply to Defra with evidence that their products meet these criteria in order to appear on the Water Technology List.

Evidence to support applications will include water consumption test results provided by an independent test laboratory accredited to ISO 17025. Alternatively, companies accredited to ISO 9001 may provide their own test results.

Annex 5 - Test method for continuous tunnel washers

4 General test conditions

4.1 Machine load

4.1.1 Amount of load

The test load shall correspond to the nominal capacity of the machine.

4.1.2 Nature of load

The test load shall comprise decatized white cotton sheets with a mass per unit area of (140 ± 20) g/m^2 and dimension of (240 ± 20) cm x (180 ± 20) cm.

4.1.3 Number of loads

One load is necessary for carrying out each test, in so far as the tests are not executed simultaneously.

4.2 Energy supply

Energy for the test shall be supplied by steam, gas, electricity or heat-transport fluid, as specified by the manufacturer.

4.3 Temperature of feed water

The temperature of the feed water used in the test shall be (17 ± 3) ºC.

For tropical countries, a temperature of (25 ± 5) ºC is allowed.

4.4 Ambient air

The ambient air temperature during the test shall be (24 ± 6) ^{0}C.

4.5 Condition of machine

The machine shall be clean.

6 Determination of water consumption

6.1 General

The water consumption (including the water needed for both washing and rinsing) of a washing tunnel is defined as the number of litres of water necessary to wash one test load (see 4.1) in a machine operating at its nominal capacity during one cycle, as specified by the manufacturer (see 6.3).

6.2 Test method

6.2.1 Under the general test conditions specified in Clause 4, operate the washing tunnel at nominal capacity for 30 mins to obtain thermal equilibrium.

6.2.2 Measure the water consumption (including the water needed for both washing and rinsing) during three test loads (see 4.1) using one of the standard cycles specified by the manufacturer.

6.2.3 Repeat the operation in 6.2.2 twice and consecutively.

6.2.4 Determine the mean value of water consumption for the three measurements.

6.3 Expression of results

Indicate the water consumption, in litres, needed to wash 1 kg of decatized cotton sheets as specified in 4.1

Efficient professional washer extractors

To be eligible for inclusion on the Water Technology List the equipment must meet the following definition:

Efficient professional washer extractors must be equipped with sensors that weigh each batch of work and automatically adjust the water level and dosage of detergent/chemicals for that weight. The maximum water consumption that must not be exceeded depends on the capacity of the machine as set out below:

Machine Capacity	Maximum Water Consumption*
<15 kg	9.4 litres per kg of wash load
15–40 kg	10.2 litres per kg of wash load
>40 kg	10.9 litres per kg of wash load

* Maximum water consumption when tested in accordance with the test method set out in BS ISO 9398-4:2003 part 4, section 7 shown in Annex 6 below.

Manufacturers should apply to Defra with evidence that their products meet these criteria in order to appear on the Water Technology List. Evidence to support applications will include water consumption test results provided by an independent test laboratory accredited to ISO 17025. Alternatively, companies accredited to ISO 9001 may provide their own test results.

Annex 6 - Test method for Washer Extractors

4 General test conditions

4.1 Machine load

4.1.1 Amount of load

The test load shall correspond to the nominal capacity of the machine

4.1.2 Nature of load

The test load shall comprise decatized white cotton sheets with a mass per unit area of (140 ± 20) g/m^2 and dimensions of (240 ± 20) cm x (180 ± 20) cm.

4.1.3 Number of loads

Two identical loads shall be used in carrying out the tests.

4.2 Energy supply

Energy for the test shall be supplied by steam, gas, electricity or heat-transport fluid, as specified by the manufacturer.

4.3 Temperature of the feed water

The temperature of the feed water used in the test shall be (17 ± 3) ºC. For tropical countries, a temperature of (25 ± 5) ºC for the rinse water used in the test is allowed.

4.4 Ambient air

The ambient air temperature during the test shall be (24 ± 6) ºC and the relative humidity (50 ± 10) %.

4.5 Condition of the machine

The washer-extractor shall be installed as indicated by the manufacturer and shall be clean.

4.6 Machine test cycles

At least one of the cycles A, B or C, in accordance with Tables 1, 2 and 3 respectively, shall be run.

NOTE The absence of any standard measure of the degree of soiling of the wash has led to only two test cycles being required.

Table 1 – Test cycle A for industrial washer-extractors

Operation	Duration[a] min	Temperature ºC	Product added	Bath water level[b]
Soak	5	17 ± 3[e]	Wetting agent 2g per kg of washing	high
Preliminary wash	8	40 ± 3	Washing powder[c] (8g to 15g) per kg of washing	low
Main wash	15	85 ± 3	Washing powder[c] (8g to 15g) per kg of washing	low
Drain/spin	2	-	-	-
Rinse	5	65 ± 3	-	high
Drain/spin	2		-	-
Bleaching	8	28 ± 3	48º Hypochlorite bleach[d] (10 cm^3 to 15 cm^3) per kg of washing	high
Drain/spin	2	-	-	-
Neutralization	5	17 ± 3[e]	Sodium hydrogen sulfite $c(NaHSO_3)$ = 1.32 mg/l 1 cm^3 to 2 cm^3	high
Drain/spin	2	-	-	-
Rinse	5	17 ± 3[e]	Acetic acid $c_{max}(CH_3COOH)$ = 800 g/l 2 cm^3	high
Drain/spin	2	-	-	-
Final rinse	5	17 ± 3[e]	-	high
Final spin	10	-	-	-

[a] Times measured once the desired levels and temperatures have been attained.

[b] Low level = 2.5 l of water per kilogram of washing: high level = 5 l of water per kilogram of washing.

[c] Washing powder as indicated in Annex B of IEC 60335-2-7:2000.

[d] 1º Hypochlorite corresponds to 3.17 g of active chlorine.

[e] For tropical countries, a (25 ± 5) ºC temperature of the rinse water used in the test is allowed.

Table 2 – Test cycle B for industrial washer-extractors

Operation	Duration[a] min	Temperature ºC	Product added	Bath water level[b]
Wash	8	80 ± 3	Washing powder[c] (8 g to 15 g) per kg of washing	low
Drain/spin	2	-	-	-
Rinse	5	65 ± 3	-	high
Drain/spin	2	-	-	-
Bleaching	6	28 ± 3	48º Hypochlorite bleach[d] (10 cm^3 to 15 cm^3) per kg of washing	high
Drain/spin	2	-	-	-
Neutralization	3	17 ± 3[e]	Sodium hydrogen sulfite $c(NaHSO_3)$ = 1.32 mg/l 1 cm^3 to 2 cm^3	high
Drain/spin	2	-	-	-
Final rinse	3	17 ± 3[e]	-	high
Final spin	10	-	-	-

[a] Times measured once the desired levels and temperatures have been attained.

[b] Low level = 2.5 l of water per kilogram of washing; high level = 5 l of water per kilogram of washing.

[c] Washing powder as indicated in Annex B of IEC 60335-2-7:2000.

[d] 1º Hypochlorite corresponds to 3.17 g of active chlorine.

[e] For tropical countries, a (25 ± 5) ºC temperature of the rinse water used in the test is allowed.

Table 3 – Test cycle C for industrial washer-extractors

Operation	Duration[a] min	Temperature ºC	Product added	Bath water level[b]
Wash	5	60 ± 3	Washing powder[c] (8 g to 15 g) per kg of washing	low
Drain/spin	1	-	-	-
Bleaching	4	-	48º Hypochlorite bleach[d] (10 cm^3 to 15 cm^3) per kg	high

			of washing	
Drain/spin	1	-	-	-
Rinse	2	-	-	high
Drain/spin	1	-	-	-
Neutralization	3	-	Sodium hydrogen sulfite $c(NaHSO_3)$ = 1.32 mg/l 1 cm^3 to 2 cm^3	high
Final spin	5	-	-	-

[a] Times measured once the desired levels and temperatures have been attained.

[b] Low level = 2.5 l of water per kilogram of washing; high level = 5 l of water per kilogram of washing.

[c] Washing powder as indicated in Annex B of IEC 60335-2-7:2000.

[d] 1º Hypochlorite corresponds to 3.17 g of active chlorine.

7. Determination of water consumption

7.1 General

The water consumption (including the water needed for both washing and rinsing) of a washer-extractor is defined as the number of litres of water necessary for washing one test load (see 4.1) in a machine operating at its nominal capacity in the specified test cycle (see 4.6 and 7.3).

7.2 Test method

7.2.1 Under the general test conditions as specified in Clause 4, carry out one cycle (A, B or C) with one load (see 4.1) to condition the machine.

7.2.2 Run the cycle chosen in 7.2.1 three times in succession, using the same test load as specified in 4.1.

7.2.3 Using suitable instruments, record the corresponding water consumption required for each of the three tests and take the mean value.

7.3 Expression of results

Indicate the water consumption, expressed in litres per cycle (A, B or C to be specified) and per kilogram, required for the washing and extraction of decatized cotton sheets as specified in 4.1.

6) Flow controllers

Equipment that control water use can be simple products as well as part of sophisticated monitoring and control systems. They are an intrinsic part of achieving water savings at the low cost level. Investment in flow controllers qualifies for an ECA provided it is named in the Water Technology List. This section sets out the criteria that flow controllers must meet to be eligible for inclusion in the List.

The types of flow controls that could qualify for inclusion on the Water Technology List are those that ensure that water delivery is only switched on when needed thereby minimising water consumption, or equipment that ensures the minimum necessary flow rate is achieved or is used for leakage detection for water management purposes.

The following flow control technologies are supported:

- Control devices
- Flow limiting devices

Control devices

Flow control devices may qualify for inclusion on the Water Technology List provided they ensure that water using equipment is only switched on when needed, thereby minimising water consumption.

The types of eligible equipment listed below are dedicated automatic or semi-automatic water use controls either for individual use or for use as elements of an overall water use control system:

- Time controller – automatic time switch device to switch water off after a predetermined interval
- Programmed time controller – automatic time switch device to switch water on and/or off at predetermined times
- Volume controller – automatic control device to turn off the water supply once the maximum preset volume is reached.
- Presence detector & controller - automatic device detecting occupancy or movement in an area to switch water on and turn it off when the presence is removed.
- Central control unit – dedicated control unit for an overall managed water control system utilising some or all of the types of control elements listed above (computer-based systems required to act as the central intelligent controller, to integrate all of the peripheral control modules and, crucially, to facilitate remote monitoring, interrogation and set point adjustment for the integrated system could qualify for inclusion on the Water Technology List).

NOTE: Accessories associated with water use controls installations are regarded as part of the controls installation contracting cost.

Manufacturers should apply to Defra with evidence that their products meet these criteria in order to appear on the Water Technology List.

Flow limiting devices

Flow limiting devices that regulate water flow for water management purposes are supported by the ECA scheme.

A flow limiting device is defined as an in-line or end-of-line device designed to produce a constant flow of water through a product such as a tap or tap outlet over a range of pressures, this excludes other end of line products e.g. taps, showers. All taps should be applied under the tap category, if they do not meet the criteria they are not eligible for inclusion on the list.

Flow limiting devices that limit the flow rate to a maximum of 6 litres/minute at 2 bar pressure may qualify for inclusion on the Water Technology List.

The product must demonstrate that it meets the Water Supply (Water Fittings) Regulations 1999, for example by WRAS approval (or by providing a test certificate/report from an independent test laboratory accredited to ISO 17025).

The relevant sections of the Water Supply (Water Fittings) Regulations 1999 are:

- Part II Requirements Paragraph 4 ‘Requirements for water fittings etc’
- Schedule 2 - Requirements for water fittings Paragraph 2 ‘Materials and substances in contact with water’
- Schedule 2 – Requirements for water fittings Paragraphs 3 to 7 ‘Requirements for water fittings’

Manufacturers should apply to Defra with evidence that their products meet these criteria in order to appear on the Water Technology List.

7) Greywater recovery and reuse equipment

Greywater recovery and reuse equipment is purpose-designed equipment containing one or more treatment processes with associated storage, pumping and control systems that accept and treats greywater from baths, showers, washbasins or laundry. After appropriate treatment, greywater may be used for purposes that do not require water of potable water quality, such as toilet flushing, garden watering or laundry use.

By providing an alternative source of water, greywater recovery and reuse equipment can help reduce demand for mains water supply. In addition, it reduces the volume of water discharged into the sewerage system.

Investment in greywater recovery and reuse equipment qualifies for an ECA provided the equipment is named in the Water Technology List. This section sets out the criteria that greywater recovery and reuse equipment must meet to be eligible for inclusion in the List.

The following greywater recovery and reuse equipment is supported:

- Standardised greywater recovery and reuse units

Standardised greywater recovery and reuse units

Standardised greywater recovery and reuse units are packaged and/or site-assembled domestic greywater treatment equipment, where all prefabricated components are factory or site-assembled by one manufacturer and tested as a single unit. This does not include bespoke greywater systems or individual components of systems. Applications for bespoke greywater systems should be made under the Water Reuse category of the Water Technology List.

Applicants must demonstrate that the product complies with the following sections of the British Standard for greywater systems BS 8525.

- BS 8525-1:2010, Clause 4.7 Back-up water supply and backflow prevention
- Standard BS 8525-2:2011:
    - Clause 4 Nominal designation
    - Clause 5 Acceptance flow rate and acceptance volume
    - Clause 6 Water tightness and overflow
    - Clause 7 Controls and failsafe provisions
    - Clause 8 Treated greywater quality (based on end use application)
    - Clause 9 Marking and information to be supplied by the manufacturer

Compliance with Clauses 4 to 7 should be demonstrated by a test report on hydraulic functions in accordance with Annex B4 of BS 8525-2:2011.

Compliance with Clause 8 should be demonstrated by a test report on the water quality in accordance with Annex D6 of BS 8525-2:2011

Test reports should be provided by an independent test laboratory accredited to ISO 17025. Alternatively, companies accredited to ISO 9001 may provide their own test reports.

Manufacturers should apply to Defra with evidence that their products meet these criteria in order to appear on the Water Technology List.

8) Leakage detection equipment

Leakage has been recognised as an important factor in demand management and sustainable water use. Investment in water leakage detection equipment qualifies for an ECA provided the equipment is named in the Water Technology List. This section sets out the criteria that leakage detection equipment must meet to be eligible for inclusion in the List.

The following monitoring, control and warning technologies are supported:

- Data loggers
- Pressure reducing valve controllers
- Remote meter reading and leak warning devices

Data loggers

Data loggers allow demand patterns on water systems to be monitored and evaluated over time. A significant increase in demand may indicate the presence of a leak or an increase in leakage.

To be eligible for inclusion on the Water Technology List the equipment must meet the following definition:

A device to record and store water flow rate, water volume, time and/or pressure data with the facility to communicate water consumption to a central and remote data collection unit and/or display unit such that trends can be observed.

Manufacturers should apply to Defra with evidence that their products meet these criteria in order to appear on the Water Technology List.

Pressure reducing valve controllers

Pressure reduction is a very effective means of reducing water lost through leakage particularly at night when demand on the distribution system is lower causing water pressure to rise.

To be eligible for inclusion on the Water Technology List the equipment must meet the following definition:

A device to analyse, record and control water pressure via the pressure reducing valve.

Manufacturers should apply to Defra with evidence that their products meet these criteria in order to appear on the Water Technology List

Remote meter reading and leak warning devices

Remote monitoring and leak warning devices provide a very effective means of identifying water leaks in a supply system not readily accessible or at a remote location.

To be eligible for inclusion on the Water Technology List the equipment must meet the following definition:

A programmable device, which analyses water consumption and identifies abnormal usage trends, providing an early warning of water leaks. The device may also have the facility to cut off the water supply automatically. The device is either connected to a data logger or has the facility to record and store water flow rate, water volume, time and/or pressure data. The device can be interrogated locally and via remote monitoring and consequently communicate the possibility of a leak both locally and remotely.

Manufacturers should apply to Defra with evidence that their products meet these criteria in order to appear on the Water Technology List

9) Meters

Water meters purchased by a business for the purpose of monitoring water use within that business will qualify for an ECA, provided the equipment is named in the Water Technology List. This section sets out the criteria that water meters must meet to be eligible for inclusion in the List. For example, industrial plants buying meters to monitor water use on production lines or a hotel buying meters to monitor water use by areas of its premises, such as a swimming pool, will qualify. This does not include water meters to be used for revenue charging purposes where the water supply measured is supplied to a third party.

The following technologies are supported:

- Flow Meters
- Water Management Software

Flow Meters

A water meter may be of two main types – a totaliser measuring total water consumption on a line, or a flow meter measuring the actual rate of water flow. The meter must be capable of transmitting a continuous or pulsed signal with water management information such as total water consumed or flow rate, for example to a central data logger for water management purposes*.

Meters must show they satisfy the requirements of BS EN14154 (Water meters) by providing a current Measuring Instruments Directive (MID) certificate or an OIML R49

Certificate of Conformity. Alternatively companies accredited to ISO 9001 may provide a declaration of conformity.

The product must demonstrate that it meets the Water Supply (Water Fittings) Regulations 1999, for example by WRAS approval (or by providing a test certificate/report from an independent test laboratory accredited to ISO 17025).

The relevant sections of the Water Supply (Water Fittings) Regulations 1999 are:

- Part II Requirements Paragraph 4 ‘Requirements for water fittings etc’
- Schedule 2 - Requirements for water fittings Paragraph 2 ‘Materials and substances in contact with water’
- Schedule 2 - Requirements for water fittings Paragraphs 3 to 7 ‘Requirements for water fittings’

The product list for meters may include portable monitoring equipment.

* As sold, the meter must be able to transmit the water management data. If the meter requires a separate data transmission device it must be sold with the meter.

Manufacturers should apply to Defra with evidence that their products meet these criteria in order to appear on the Water Technology List.

Water Management Software

Software for water management purposes is eligible for inclusion on the Water Technology List provided it meets the following definition:

Dedicated water use management software for analysing, reporting and communicating meaningful water management information to achieve water use savings.

Manufacturers should apply to Defra with evidence that their products meet these criteria in order to appear on the Water Technology List

10) Rainwater Harvesting Equipment

Investments in rainwater harvesting equipment intended specifically for the collection, treatment and storage of rainwater for any of the following uses:

a) non drinking water applications in the built environment such as toilet flushing and washing machines; with the exception of water used for drinking, personal washing (including brushing teeth), cooking, food and drink preparation, and food and drink production;

b) process or cooling water in industry or cleaning water;

c) irrigation, wash down or feed water in agriculture and horticulture;

can qualify for the ECA provided the equipment is named in the Water Technology List.

The following sections set out the criteria that the individual components of a rainwater harvesting system must meet in order to be eligible to be included in the product list.

The following rainwater harvesting equipment is supported:

- Monitoring and control equipment
- Rainwater filtration equipment
- Rainwater storage vessels

Monitoring and Control Equipment

Equipment to control the supply of rainwater from a rainwater storage tank and to facilitate the back up use of mains water within the system.

Water level and consumption indicators

To be eligible for inclusion on the Water Technology List the equipment must meet the following definition:

A device that monitors water level, consumption or both, within a rainwater storage vessel.

Mains back up control units

To be eligible for inclusion on the Water Technology List the equipment must meet the following definition:

A device that activates the water company mains back-up supply during periods of low rainfall when there is insufficient stored rainwater. The control unit must comply directly, or include guidance to comply, with the Water Supply (Water Fittings) Regulations' requirement for a 'Type AA or AB' air gap defined under EN1717. This is to prevent the potential contamination of the mains water supply from the water stored within the rainwater harvesting system.

Manufacturers should apply to Defra with evidence that their products meet these criteria in order to appear on the Water Technology List

Rainwater Filtration Equipment

To be eligible for inclusion on the Water Technology List the equipment must meet the following definition:

A rainwater filtration unit intended for the removal of organic matter (e.g. leaves and debris), via filtration (mesh size <1.25mm), from rainwater collected prior to storage in a rainwater harvesting system.

Manufacturers should apply to Defra with evidence that their products meet these criteria in order to appear on the Water Technology List

Rainwater Storage Vessels

To be eligible for inclusion on the Water Technology List the equipment must meet the following definition:

A storage vessel with a calmed inlet and overflow facility, that is intended for the storage of rainwater in a rainwater harvesting system, and which may include (if present) a submersible electric pump and/or an integrated filter. This must be a rainwater filter intended for the removal of organic matter (e.g. leaves and debris), via filtration (mesh size <1.25mm), from rainwater collected prior to storage in a rainwater harvesting system.

Manufacturers should apply to Defra with evidence that their products meet these criteria in order to appear on the Water Technology List

11) Small Scale Slurry and Sludge Dewatering Equipment

Mechanical slurry and sludge dewatering equipment is used to treat effluent streams and therefore improve water quality through the physical separation of the solid and liquid fractions of the effluent. On-site reuse of the liquid fraction of the effluent following separation can also lead to further reductions in water use. Investment in small scale slurry and sludge dewatering equipment qualifies for an ECA provided the equipment is named in the Water Technology List.

This section sets out the criteria that small scale slurry and sludge dewatering equipment must meet to be eligible for inclusion in the List.

The following small scale slurry and sludge dewatering equipment are supported:

- Belt press equipment
- Centrifuge equipment
- Filter press equipment

Belt Press Equipment

To be eligible for inclusion on the Water Technology List the equipment must meet the following definition:

A device that receives sludge and dewaters it between porous belts in a continuous process. The machine must use opposing belts to exert pressure on the sludge from above and below to remove water. A clear entry point for feeding sludge into the device must be present and separate exit points for the solid cake and filtrate fractions. The belt press must have a maximum throughput of 25m^3 influent sludge per hour.

Manufacturers should apply to Defra with evidence that their products meet these criteria in order to appear on the Water Technology List.

Centrifuge Equipment

To be eligible for inclusion on the Water Technology List the equipment must meet the following definition:

Solid bowl and horizontal centrifuges dedicated to the dewatering of sludge or slurry effluent to produce separate solid and liquid fractions. A clear entry point for feeding sludge into the device must be present; a chamber for separating the liquid and solid fractions by centrifugal force; and separate exit points for the solid cake and concentrate fractions. The centrifuge must have a maximum throughput of 25m^3 influent sludge per hour.

Manufacturers should apply to Defra with evidence that their products meet these criteria in order to appear on the Water Technology List.

Filter Press Equipment

To be eligible for inclusion on the Water Technology List the equipment must meet the following definition:

A machine that receives sludge and dewaters it between a series of plates in a non-continuous (batched) process. Each plate must be fitted with or covered by a filter cloth. The machine must be capable of exerting pressure by hydraulic rams or powered screws. The filter press must have a maximum capacity of 50m^3 influent sludge per batch cycle.

Manufacturers should apply to Defra with evidence that their products meet these criteria in order to appear on the Water Technology List

12) Vehicle Wash Water Reclaim Units

Commercial vehicle washing can use significant quantities of potable water. Vehicle wash water reclamation units enable the recovery and reuse of wash water following treatment and thus a reduction in the volume of potable water required.

The following Vehicle Wash Water Reclaim Units are eligible for inclusion on the Water Technology List providing they meet the criteria:

- Partial or full reclaim system

Partial or Full Reclaim System

To be eligible for inclusion on the Water Technology List the equipment must meet the following definition:

A full or partial reclaim unit which contains one or more of the following: a hydro-cyclone, a sand or activated carbon filter, a sump tank(s), three chamber interceptors, and a cartridge filter or bag filter.

Manufacturers should apply to Defra with evidence that their products meet these criteria in order to appear on the Water Technology List.

13) Water efficient industrial cleaning equipment

Industrial cleaning equipment is often used where it is most suitable to use a dedicated tool based on the scale and nature of the surface to be cleaned.

Water efficient industrial cleaning equipment is eligible for inclusion on the Water Technology List if it falls under one of the following sub-categories and meet the corresponding criteria:

- Scrubber/driers (walk-behind machines)
- Scrubber/dryers (ride-on machines)
- Steam cleaners

Scrubber/driers (walk-behind machines)

To be eligible for inclusion on the Water Technology List the equipment must meet the following definition:

Efficient walk-behind scrubber/drier floor cleaning machines that have an efficiency ≥60 m^2/l, achieved at a floor coverage speed of 1.33 m/s, when carrying out maintenance cleaning of internal or external flooring.

Manufacturers should apply to Defra with evidence that their products meet these criteria in order to appear on the Water Technology List. Evidence to support claims will take the form of test results provided by the manufacturer or an independent testing organisation.

Scrubber/dryers (ride-on machines)

To be eligible for inclusion on the Water Technology List the equipment must meet the following definition:

Efficient ride-on scrubber/drier floor cleaning machines that have an efficiency ≥ 60 m^2/l, achieved at a floor coverage speed of 1.84 m/s, when carrying out maintenance cleaning of internal or external flooring.

Manufacturers should apply to Defra with evidence that their products meet these criteria in order to appear on the Water Technology List. Evidence to support claims will take the form of test results provided by the manufacturer or an independent testing organisation.

Steam cleaners

To be eligible for inclusion on the Water Technology List the equipment must meet the following definition:

Efficient industrial steam cleaning machines that are pressurised and operate at a minimum of 4 bar, boiler pressure with a power rating of 2kW and above are eligible for the ECA.

Manufacturers should apply to Defra with evidence that their products meet these criteria in order to appear on the Water Technology List.

14) Water management equipment for mechanical seals

Sealing devices are commonly used to minimise leakage from pumps and other rotating equipment. To function correctly, seals may require the injection of clean water, and water management equipment is used to minimise the volume of water used.

Water management equipment for mechanical seals is eligible for inclusion on the Water Technology List if it falls under one of the following sub-categories and meet the corresponding criteria:

- Seal water recycling units
- Internal flow regulators
- Monitoring and control units

Seal water recycling units

To be eligible for inclusion on the Water Technology List the equipment must meet the following criteria:

Closed loop water management equipment to support a sealing device on rotating equipment. The unit must be supported by a water feed and include either: a storage vessel, non-return valve, and pressure indicator

OR

a thermostatically operated valve, deaeration valve, and safety valve.

Manufacturers should apply to Defra with evidence that their products meet these criteria in order to appear on the Water Technology List.

Internal flow regulators

To be eligible for inclusion on the Water Technology List the equipment must meet the following criteria:

Ring component for insertion inboard of a sealing device to isolate the seal chamber from the process stream. Made from non elastomeric material and designed to either channel particulates back to the product stream OR create a pressure gradient to prevent leakage.

Manufacturers should apply to Defra with evidence that their products meet these criteria in order to appear on the Water Technology List.

Monitoring and control units

To be eligible for inclusion on the Water Technology List the equipment must meet the following criteria:

A unit to monitor and control the flow of water entering a sealing device. The unit must include an indicator of flow to the sealing device and a flow control mechanism that is either: manually set OR activated by temperature OR activated by pressure.

Manufacturers should apply to Defra with evidence that their products meet these criteria in order to appear on the Water Technology List.

15) Water reuse

Large water savings are possible by utilising Water Reuse systems. This category includes:

- Efficient Wastewater Recovery and Reuse Systems

Due to the bespoke nature of the technology, which results in individual tailored designs, a certification scheme has been developed. The “Certificate of Environmental Benefit”

verifies that the particular system is or will be constructed to a particular design that meets the specified water-efficient criteria.

Efficient wastewater recovery and reuse systems

Businesses can apply for their recovery and reuse system to be certified providing it meets the following definition of eligibility:

Equipment to enable recovery and onsite reuse* of at least 40% of the wastewater (including greywater) received by the system is eligible for a Certificate of Environmental Benefit. The eligible equipment includes the necessary ancillary equipment required to ensure the functionality of the complete system.

*Recovery & reuse is defined as: The recovery of a wastewater stream(s) via physical collection and appropriate treatment(s), then the reuse in a specific function(s) with the end result of reducing the total volume of supply (mains and/or abstracted) water required onsite.

The ECA is also available on replacement membrane elements for certified systems.

Businesses must have a “Certificate of Environmental Benefit” for the system before they can claim ECAs. Business must advise Defra about any subsequent change in the application or use of the equipment.

Once Defra has received the completed application form, all supporting evidence and is satisfied that the system meets the above eligibility criteria for the scheme, the certificate will be issued to the business making the investment. The business must have the certificate before it can claim the ECA on its spending on the eligible equipment.