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# **Development of European Ecolabel Criteria for Sanitary Tapware - Taps and Showerheads**

**2<sup>nd</sup> TECHNICAL BACKGROUND REPORT**

**Working Document**

**for**

**2<sup>nd</sup> AHWG-MEETING FOR THE DEVELOPMENT OF ECOLABEL  
CRITERIA FOR SANITARY TAPWARE  
– TAPS AND SHOWERHEADS**

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**2<sup>nd</sup> Technical Background Report**

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**for the 2<sup>nd</sup> AHWG Meeting**

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## Abbreviations

ACS	– Attestation de Conformité Sanitaire
AHWG	– ad-hoc Working Group
ANQIP	– Portuguese National Association for Quality in Building Installations
ATA	– Attestation of Toxicological aspects
BAT	– Best Available Techniques
BMA	– Bathroom Manufacturers Association in the United Kingdom
BREF	– Reference Document on Best Available Techniques
CEN TC	– European Committee for Standardization Technical Committee
CO <sub>2</sub>	– Carbon dioxide
DVGW	– German Technical and Scientific Association for Gas and Water
DWD	– Drinking Water Directive
EPA	– United States Environmental Protection Agency
EU	– European Union
GPP	– Green Public Procurement
ISO	– International Standardisation Organisation
kWh	– Kilowatt hour
l/min	– Litres per minute
LDPE	– Low-density polyethylene
MS	– Member State
psi	– Pounds per square inch
s	– Second
UBA	– German Federal Environment Agency
WELL	– Water Efficiency Label

## Introduction

The European Ecolabel<sup>1</sup> is an element of the European Commission's action plan on Sustainable Consumption and Production and Sustainable Industrial Policy<sup>2</sup> adopted on 16 July 2008. This is a voluntary scheme established to encourage manufacturers to produce goods and services that are environmentally friendly. The EU Ecolabel flower logo should also facilitate consumers and organizations (i.e. public and private purchasers) recognizing the best performing in this respect products and making environmentally sound choices more easily. The EU Ecolabel covers already a wide range of products and services, and its scope is constantly being widened. The process of establishing the criteria proceeds at the European level following consultation with experts and all interested parties. A product or a service awarded with this label must meet high environmental and performance standards.

Green Public Procurement (GPP), defined in the Commission Communication "Public procurement for a better environment"<sup>3</sup> as "a process whereby public authorities seek to procure goods, services and works with a reduced environmental impact throughout their life cycle when compared to goods, services and works with the same primary function that would otherwise be procured." This is also a voluntary instrument, in which public authorities can use to provide industry with incentives for developing and marketing more environmentally sound products<sup>4</sup>.

The primary goal of establishing the criteria for sanitary tapware is the increase of water-efficiency of taps and showerheads, as the use phase has been identified to contribute most to the environmental impacts caused by this product group. Further, also other aspects related to the improvement of the environmental performance along the product life cycle are considered together with product quality aspects (fitness for use, hygiene) which are considered relevant for the EU Ecolabel policy.

Establishing the ecological criteria for water-using products and appropriate promotion of the products awarded with the flower symbol (EU Ecolabel mark), if accepted by a wider range of producers and users, will contribute to more environmentally friendly products. This will in consequence reduce the consumption of water and energy (mainly for water heating, but

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<sup>1</sup> EU Ecolabel website [http://ec.europa.eu/environment/ecolabel/about\\_ecolabel/what\\_is\\_ecolabel\\_en.htm](http://ec.europa.eu/environment/ecolabel/about_ecolabel/what_is_ecolabel_en.htm).

<sup>2</sup> Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions – on the Sustainable Consumption and Production and Sustainable Industrial Policy Action Plan, COM (2008) 397, available online: <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2008:0397:FIN:en:PDF>.

<sup>3</sup> Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions – Public procurement for a better environment, COM (2008) 400, available at: <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2008:0400:FIN:EN:PDF>.

<sup>4</sup> GPP website [http://ec.europa.eu/environment/gpp/what\\_en.htm](http://ec.europa.eu/environment/gpp/what_en.htm).

also for pumping and wastewater treatment). Further, this will also result in other environmental benefits, as lower air emissions related to energy production and consumption, lower resource consumption, potentially higher resource efficiency (in respect to the issue of recycling and recyclability), etc. Finally, the ecolabelled products should also bring private and public customers direct cost savings (expressed as lower expenses for water and related energy bills).

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# 1. PROJECT BACKGROUND

The European Commission's Directorate General for the Environment has initiated a project directed towards developing a joint evidence base for the EU policy making in the area of water using products. This study is being carried out by the Joint Research Centre's Institute for Prospective Technological Studies (JRC-IPTS) and the AEA consultancy, in cooperation with all interested parties.

The purpose of this project is to develop the EU Ecolabel and Green Public Procurement criteria for sanitary tapware – taps and showerheads. In addition, the evidence base will gather information and data to assist the potential future development of other environmental policy instruments such as Implementing Measures under the Ecodesign Directive. However, Implementing Measures for taps and showerheads will not be developed as part of this project now but might be introduced in the future. The results of the study are available at the project's website (<http://susproc.jrc.ec.europa.eu/ecotapware/>).

This document has been prepared as a basis for discussing the draft criteria during the 2<sup>nd</sup> ad-hoc Working Group meeting for the development of EU Ecolabel criteria. The purpose of this meeting is the presentation of the results of studies conducted in the frame of this project and a following discussion on them with all interested parties. The following tasks have been concluded: Product definition, Economic and market analysis, User behaviour, Base case assessment and BAT analysis. All reports for the abovementioned tasks can be downloaded from the project's website. The main goal of this meeting is the discussion of the draft Ecolabel criteria for the product group of “Sanitary Tapware” presented in the document ‘Draft criteria proposal’, which can also be downloaded from the abovementioned website.

One of the main outcomes of the environmental assessment of this product group is that the main environmental impact along the product life cycle is related to the consumption of water and related energy for water heating. Establishing Ecolabel criteria to award the most water efficient products is expected to result particularly in reduction of water and related energy consumption, and consequently – the environmental impact caused particularly by energy production and consumption, wastewater treatment, etc.

It should be emphasized that the environmental impacts in the use phase strongly depend on user behaviour, which differs significantly between countries and regions due to a wide variety of factors. With regard to it the fact that in the frame of the project assumptions had to be made should be kept in mind while analysing the project's results. Further, it should be remembered that taps and showerheads constitute only a final element of the whole water



distribution system and their influence on the overall consumption of water and in particular energy for water heating is limited. Finally, while developing the criteria not only the environmental aspects shall be considered; ensuring the appropriate drinking water quality and safety issues (e.g. prevention against scalding), as well as ensuring end-user comfort are also of relevance.

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## 2. PRODUCT DEFINITION AND SCOPE

The definition of the product group of "Sanitary Tapware" has been conducted based on the available national and international classifications, standards and legal acts. The preliminary definition and proposed scope of the product group has been discussed further with the stakeholders using the Questionnaire 1 and at the 1<sup>st</sup> AHWG Meeting in March 2011 in Seville. The preliminary definitions have been revised in the light of the feedback received and the current version is presented below.

### **Proposed group definition and scope**

The product group "Sanitary Tapware" shall comprise: taps and showerheads typically used in domestic settings; however, not restricted to them if the use purpose is similar; used to derive water mainly for personal hygiene, cleaning, cooking and drinking.

The products covered by the scope of this product group can be defined as follows:

Tap - a small diameter directly or indirectly manually operated valve from which water is drawn.

Showerhead - either a fixed overhead or side shower outlet (or body jet or similar device), which may be adjustable, and which directs water onto the user or a moveable hand held shower outlet which is connected to the sanitary tapware via a shower hose and can be hung directly on the tapware or on the wall with the aid of an appropriate support (also known as a shower handset).

Included in the product group is sanitary tapware used typically for domestic functions. Nevertheless, the scope is not restricted to the use of products for domestic use only. It covers also products for similar non-domestic uses e.g. in schools, sport centres etc.

Excluded from the scope of this product group are bathtub taps and non-domestic special purpose taps and showerheads which need unrestricted water flow to fulfil the intended function (e.g. laboratory safety taps and showers).

There was some disparity in stakeholders' opinion whether to cover all types of products or whether to exclude double-lever tapware. It was finally decided that all types of valves shall to be covered by the Ecolabel scheme.

### 3. ASSESSMENT AND VERIFICATION

The specific assessment and verification requirements are indicated within each criterion; nevertheless several general issues regarding this process are indicated below:

- Where the applicant is required to provide declarations, documentation, analyses test reports, or other evidence to show compliance with the criteria, it is understood that these may originate from the applicant and/or his supplier(s) and/or their supplier(s), etc., as appropriate.
- Where possible, the testing shall be performed by laboratories that meet the general requirements of EN ISO 17025<sup>5</sup> or equivalent.
- Where appropriate, test methods other than those indicated for each criterion may be used if the competent body assessing the application accepts their equivalence.
- Where appropriate, competent bodies may require supporting documentation and may carry out independent verifications.

#### Laboratory test

The laboratories conducting tests must meet the general requirements pursuant to standard EN ISO 17025 or be an officially GLP-approved analysis laboratory.

The applicant's analysis laboratory/measurement may be approved to conduct analyses and measurements if:

- The authorities monitor the sampling and analysis process, or
- The manufacturer has a quality system incorporating testing and analyses and which is certified in accordance with ISO 9001<sup>6</sup>, or

The manufacturer's test laboratory can be approved to conduct testing to document effectiveness if the following additional requirements are met:

- It must be possible for ecolabelling organisations to monitor the performance of testing.
- The ecolabelling organisation must have access to all data on the product.

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<sup>5</sup> ISO/IEC 17025:2005 General requirements for the competence of testing and calibration laboratories.

<sup>6</sup> ISO 9001:2000 - Quality management systems - Requirements.

## 4. PROPOSED ECOLABEL CRITERIA

The following section presents the proposed draft criteria for the product group under study. Their selection is based on IPTS preliminary work conducted in the frame of Ecotapware project<sup>7</sup>, stakeholders' feedback to the IPTS first working document for the criteria development<sup>8</sup> and their input received at the 1<sup>st</sup> AHWG Meeting in Seville, as well as in the form of written comments received afterwards. Further, taking into account the recommendation of the EU Ecolabel Regulation<sup>9</sup> to seek for harmonisation of the EU Ecolabel scheme and national ecolabelling schemes in Member States (MS), existing national and also industrial criteria schemes were considered.

Criteria are proposed for the following aspects:

- Water and related energy consumption,
- Manufacturing processes and material composition,
- Product quality and longevity,
- Packaging,
- User information and information appearing on the EU Ecolabel.

Single criteria and the rationale for their definition are presented in the following sections.

### 4.1 Criteria related to water efficiency

The environmental impact assessment along the product group life cycle, conducted in the frame of the Ecotapware project, showed that the highest environmental benefit which can be achieved in reference to sanitary tapware is related to water saving and consequently also to the reduction of energy consumption for water heating. This reduction results in resource saving, but also in decrease of environmental impacts related to water supply and wastewater treatment (e.g. energy consumption related with abstraction, treatment, pumping, distribution in public water supply systems and later drained and treated in public waste water treatment systems<sup>10</sup>). Further, reducing primary resource depletion due to energy

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<sup>7</sup> For details please see the project's website: <http://susproc.jrc.ec.europa.eu/ecotapware/>.

<sup>8</sup> 1st technical background report available at the project's website: <http://susproc.jrc.ec.europa.eu/ecotapware/stakeholders.html>.

<sup>9</sup> Regulation (EC) No 66/2010 of the European Parliament and of the Council of 25 November 2009 on the EU Ecolabel, available online at: <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2010:027:0001:0019:EN:PDF>.

<sup>10</sup> For example, according to stakeholder's feedback water supply and treatment in Portugal consumes 1.7 kWh/m<sup>3</sup>.

production and the reduction of emissions related to energy generation and consumption is of importance. More water and energy efficient products will also bring economic benefits for end-users reducing their expenses on water and energy bills.

The criteria proposed in the frame of the area of water efficiency aim at reducing water and related energy consumption through application of both already known and innovative technologies which are related to the water flow rates, temperature setting or limiting the time of water use (with regard to non-domestic use). Nevertheless, it must be kept in mind that though water-saving products shall allow reducing environmental impacts from water and energy consumption in domestic and non-domestic premises, at the same time shall ensure end-user comfort, prevent hygienic problems in drinking water supply and distribution and ensure safety of use (i.e. prevention against scalding).

#### 4.1.1 Criterion 1 – Maximum water flow rate

##### Proposed criterion

Due to the variability of use purposes and related different water flow needs products covered by the scope of group of "Sanitary Tapware" have been divided into three sub-groups: a) kitchen taps, b) basin taps and c) showerheads (including shower handsets).

The maximum water flow rates to the basin, independently on water pressure, shall not exceed the values presented in Table 1.

**Table 1 Maximum water flow rates for "Sanitary Tapware"**

Product sub-group		Water flow rate [l/min]
Kitchen taps	without flow limiting device	6.0
	with flow limiting device *	8.0
Basin taps		6.0
Showerheads **		9.0

\*The device shall allow for setting the default water flow rate (i.e. water-saving mode) at the value of max of 6 l/min. Active user intervention shall be required to activate higher water flow for a short period of time. At the end of such period the kitchen taps shall revert back to the default water flow rate of max 6 l/min.

\*\*Showerheads with more than one spray pattern shall fulfil this requirement for a setting with the highest water flow.

##### Rationale

The outcomes of this study and the review of existing research confirm that the issue of increasing water efficiency is the most important in the life cycle of this product group. This is related to the long life-time of products. The proposed criterion is set in order to contribute to

reducing water consumption in domestic and non-domestic premises. Further, it is expected to contribute to decreasing consumption of energy for water heating and cutting related CO<sub>2</sub> emissions due to decreased consumption of hot water, as well as energy required for supply and wastewater treatment.

Due to variability of uses of the products and the related needed flow rates, it was decided in the 1<sup>st</sup> AHWG meeting to divide the group into three sub-groups:

- (a) kitchen taps,
- (b) basin taps
- (c) showerheads (including shower handsets)

and to define the maximum water flow rates separately for each of them.

The proposed maximum flow rate values are the outcomes of the technical analysis made, the stakeholders' consultation and the review of existing national and industrial labelling schemes for this product group. The stakeholder pointed also out the limits to the reduction of flow like end-user comfort and satisfaction, as well as health and safety aspects (i.e. sanitation, protection against scalding etc.) shall also be taken into account.

It was indicated that the most appropriate flow rate for basin taps, ensuring end-user comfort and allowing at the same time for rational water consumption, is the value of 6 l/min.

In reference to kitchen taps the same water flow value was proposed. Nevertheless, it has also been recognised that in kitchens end-users may need differentiated flow rates depending on the performed activity (e.g. washing hands, where lower flow rates are sufficient, vs. need to fill in quickly a pot). Thus applying an option of activating a higher flow rate (of maximum 8 l/min) was conceived as a suitable solution. Therefore in reference to kitchen taps two maximum water flow rates are proposed:

- 6 l/min for products without a possibility of reducing the maximum flow rate to a water-saving mode;
- 8 l/min for products which allow increasing the flow rate to maximum of 8 l/min. These solutions shall nevertheless allow for setting the default water-saving mode to a maximum value of 6 l/min. If a higher water flow is required (e.g. to fill a vessel) active user intervention shall be performed, while this setting shall always afterwards return to the water-saving position (i.e. water-saving mode shall be a default setting).

One of the stakeholders proposed to differentiate criteria for domestic and for non-domestic sanitary tapware (e.g. taps in schools or hospitals), nevertheless no values were proposed and this option can potentially be discussed during the 2<sup>nd</sup> AHWG meeting in October (e.g. establishing higher maximum water flow values for non-domestic kitchen taps).

## Assessment and verification

Test methods for measuring water flow rates for various types of products are described in the below EN-standards:

**Table 2 EN standards regarding product group of "Sanitary Tapware"**

Number	Title
EN 200:2008	Sanitary tapware. Single taps and combination of taps for water supply systems of type 1 and type 2 – General technical specification
EN 816:1997	Sanitary tapware. Automatic shut-off valves (PN10)
EN 817:2008	Sanitary tapware. Mechanical mixing valves (PN10) – General technical specifications
EN 1111:1998	Sanitary tapware. Thermostatic mixing valves (PN10) – General technical specification
EN 1112:2008	Sanitary tapware. Shower outlets for sanitary tapware for water supply systems type 1 and type 2 – General technical specification
EN 1286:1999	Sanitary tapware. Low pressure mechanical mixing valves. General technical specification
EN 1287:1999	Sanitary tapware. Low pressure thermostatic mixing valves. General technical specifications
EN 15091:2006	Sanitary tapware. Electronic opening and closing sanitary tapware

The following assessment and verification is proposed for this criterion:

The applicant shall declare the product's compliance with the requirement and specify the maximum water flow rate (in l/min) of the product submitted for labelling procedure together with results of tests conducted in accordance with testing procedure indicated in respective EN standards for the given kind of product (see Table 2). The testing shall be conducted at pressure of  $3.0 \pm 0.2$  bar. A mean value of three measurements shall not exceed the respective maximum flow rate values indicated in Table 1. The testing shall be performed by laboratories that meet the general requirements of EN ISO 17025 or equivalent (see chapter 3).

Additionally, for kitchen taps with an option of water-saving mode, a description of the solution/device applied (i.e. its main technical parameters and setting and/or use instructions) shall be submitted.

For showerheads with more than one spray pattern maximum flow rate shall be specified at least for the mode with the highest water flow.

**Summarised questions to the stakeholders:**

Do you agree with the presented maximum water flow rate values?

Shall other flow rates be proposed in reference to some non-domestic products? If yes, which values do you consider appropriate?

Do you agree with the verification and assessment procedure proposed?

**4.1.2 Criterion 2 – Minimum water flow rate****Proposed criterion**

The minimum water flow rates to the basin/sink, independent on the water pressure, shall not be lower than the values given in Table 3:

**Table 3 Minimum water flow rates for "Sanitary Tapware"**

Product sub-group	Water flow rate [l/min]
Kitchen taps	4.0
Basin taps	4.0
Showerheads	6.0

**Rationale**

This criterion, having the consensus among various stakeholders, is related to the product safety and performance. Minimum flow rate shall ensure that performance of an ecolabelled product is adequate under various household conditions and the flow is consistent across different pressure systems. So far, the development of performance criteria for this product group has been conducted for showerheads, but not for taps. The requirements set in the US WaterSense scheme<sup>11, 12</sup> (i.e. spray force and spray coverage) and proposed by a study conducted by the Liverpool John Moores University for United Utilities<sup>13</sup> (i.e. spray pattern (spray distribution), water temperature gradient and skin pressure – velocity of spray) have been presented briefly in the working document for the 1<sup>st</sup> AHWG meeting. Nevertheless, no further stakeholders' feedback was received in this respect and it was proposed to set the required minimum flow rate values.

<sup>11</sup> WaterSense – Specification for Showerheads, available online:

[http://www.epa.gov/WaterSense/docs/showerheads\\_finalspec508.pdf](http://www.epa.gov/WaterSense/docs/showerheads_finalspec508.pdf).

<sup>12</sup> WaterSense – Specification for Showerheads – Supporting Statement, available online:

[http://www.epa.gov/WaterSense/docs/showerheads\\_finalsupstat508.pdf](http://www.epa.gov/WaterSense/docs/showerheads_finalsupstat508.pdf).

<sup>13</sup> Critchley R., Phipps D., Water and Energy Efficient Showers: Project Report, United Utilities 2007, available online:

<http://www.unitedutilities.com/Documents/UULJMUwaterenergyefficientshowerFinalreport23rdMay2007.pdf>



This criterion shall ensure that ecolabelled products do not have features which can impede users' satisfaction due to too low water flow and to ensure safety (protection against scalding). The most commonly proposed values are 4 l/min for taps and 6 l/min for showerheads.

If in the future performance criteria are further developed and/or established/standardised, inclusion of these criteria shall be considered in the criteria revision process.

### **Assessment and verification**

The following assessment and verification is proposed for this criterion:

The applicant shall declare the product's compliance with the requirement and specify the minimum flow rate of the product submitted for labelling procedure together with results of tests conducted in accordance with testing procedure indicated in respective EN standards for the given kind of product (see Table 2 above). The testing shall be conducted at pressure of  $3.0 \pm 0.2$  bar. A mean value of three measurements shall not be lower than the minimum flow rate values given in Table 3. The testing shall be performed by laboratories that meet the general requirements of EN ISO 17025 or equivalent.

#### **Summarised questions to the stakeholders:**

Do you agree with the presented minimum water flow rate values?

Do you agree with the verification and assessment procedure proposed?

### **4.1.3 Criterion 3 – Temperature management**

#### **Proposed criterion**

Products shall be equipped with a device/technical solution which allows temperature/hot water management, e.g. through limiting water temperature/hot water supply.

Some possible solutions are for example hot water barrier, cold water supply in middle position, thermostat valves.

#### **Rationale**

This criterion aims at decreasing consumption of hot water, i.e. reducing energy consumption for water heating, and subsequent reduction of related environmental impacts connected with energy generation and consumption.

According to information of SwissEnergy<sup>14</sup> around 1.5 l of hot water is lost unused for every hand washing activity (i.e. very short time activity) due to the delay in supply of hot water. Also, for some applications, e.g. basin taps in public bathrooms, given temperature for hot water temperature, sufficient for the purpose of the activities, but still not impeding end-user comfort, could be preset, allowing to consume only as much energy for water heating as necessary.

This criterion aims at driving technological development of the product group of sanitary tapware and supporting wider use of already existing solutions contributing to reducing the amount of energy which is consumed for heating water, and which in some cases is lost unused.

One of the possibilities to reduce the abovementioned energy loss, pointed by some stakeholders and recommended e.g. in the Austrian Ecolabel<sup>15</sup> and in the Swiss Energy-Label for sanitary Tapware (EnergieEtikette)<sup>16</sup>, is the application of middle-position for cold water. It was however mentioned by other stakeholders that such a solution might not be suitable for every climatic conditions. Another solution to reduce the use of energy for water heating can be achieved by equipping the sanitary tapware with device which limits the temperature of hot water. If higher temperature is needed, active user intervention is necessary to override this barrier (used e.g. in thermostat valves).

It is considered of special importance to ensure flexibility to manufacturers and foster development of new technologies; therefore we suggest this criterion shall not prescribe any particular technology. The decision how to fulfil this requirement shall be left to the manufacturer. In any case, it shall be demonstrated that for the product for which EU Ecolabel shall be awarded the temperature management aspect has been considered.

A voluntary labelling system to indicate the energy efficiency of sanitary tapware based on standardised test methods have been developed in 2010 under the leadership of the Swedish Standards Institute<sup>17, 18</sup>. The standards for measuring energy efficiency have been presented and discussed during the 1<sup>st</sup> AHWG meeting. Due to the fact that these standards refer only to the single-lever tapware mixing valves and thermostatic mixing valves with showers, they could not be used for the evaluation of all products covered in the scope of the product group of "Sanitary tapware" considered for the EU Ecolabel. Nevertheless, it might be worth observing the application and potential developments of these test methods and

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<sup>14</sup> SwissEnergy, 2011, Energy Label Regulation for Sanitary Fittings, available online: <http://www.bfe.admin.ch/>.

<sup>15</sup> The website of the Austrian Ecolabel is: <http://www.umweltzeichen.at/>.

<sup>16</sup> Meile O., Swiss Federal Office of Energy, Presentation sent by a stakeholder: Die neue EnergieEtikette: Kennzeichnung für Duschbrausen, Armaturen und Wassersparer.

<sup>17</sup> Svensk Standard SS 82 00 00:Sanitary tapware – Method for determination of energy efficiency of mechanical basin and sink mixing valves.

<sup>18</sup> Svensk Standard SS 82 00 01:Sanitary tapware – Method for determining of energy efficiency of thermostatic mixing valves with showers.

considering this issue in the process of revision of EU Ecolabel criteria for this product group in the future.

### **Assessment and verification**

The following assessment and verification is proposed for this criterion:

The applicant shall declare compliance with the requirement and provide a documentation describing the technology/device applied in the product to the awarding competent body as part of the application.

#### **4.1.4 Criterion 4 – Time limit/Volume limit for non-domestic basin taps and showerheads**

##### **Proposed criterion**

Basin taps and showerheads installed in non-domestic premises for multiple users and high frequency use (e.g. in schools, hospitals, swimming-pools, etc., but not e.g. in bathrooms of hotel rooms or dormitories) shall allow for limiting time of a single water use (i.e. water volume consumed). This can be done by equipping the products with devices which stop water flow after certain time if they are not used (e.g. sensors stop water flow when a user leaves the sensor range) or after set time of use (e.g. time limiters, which stop water flow when the maximum flow time is exceeded).

##### **Rationale**

This criterion is set only for non-domestic basin taps and showerheads for multiple users and high frequency use. End-users' needs in non-domestic premises are easier to be determined (e.g. time needed to wash hands in a public bathroom or for taking a shower in a swimming-pool), as the typical applications/functions the sanitary tapware have to fulfil are more "homogenous" than in the domestic sector.

Annual non-domestic water consumption in the EU-27 through using sanitary tapware is estimated to be approximately 3 615 Mio. m<sup>3</sup> for taps and 362 Mio. m<sup>3</sup> for showerheads<sup>19</sup>. Regulating water use and eliminating situations where a tap or a showerhead is left opened though its further use is not intended, as it sometimes happens in public premises, shall contribute to water and related energy savings in the non-domestic sector. Extent of water and related energy loss in this way is very difficult to estimate, even roughly, as it is mainly

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<sup>19</sup> More details available in Discussion paper: The application of the Ecodesign Directive 2009/125/E to water-using products (WuP) – Identification of a suitable product group; available at: <http://susproc.jrc.ec.europa.eu/ecotapware/stakeholders.html>

influenced by user behaviour. Nevertheless, in this way the user behaviour may be influenced.

Further, stakeholders' consultation indicated hygienic reasons for applying sensor solutions, which may be of importance in public premises.

The question which appears in this respect is – whether this criterion shall further specify maximum values for time limiters or whether it shall be left the decision of the user/owner, depending on the intended function/application of the sanitary tapware. For example the recently developed WELL water-efficiency labelling scheme<sup>20</sup> sets the following values for self-closing valves: maximum of 10 seconds for basin taps and maximum of 20 seconds for showerheads. In public procurement criteria document published by WRAP in 2010<sup>21</sup> the proposed values are 20 seconds for taps and 2 minutes for showerhead. Thus, it can be seen that these values vary significantly.

It is proposed that this criterion does not indicate the maximum flow times; nevertheless it can be further discussed during the 2<sup>nd</sup> AHWG meeting.

### **Assessment and verification**

The following assessment and verification is proposed for this criterion:

The applicant shall declare the product's compliance with the requirement and specify the type of solution used and its technical parameters, as appropriate (e.g. setting maximum water flow time for time limiters), to the awarding competent body as part of the application.

#### **Summarised questions to the stakeholders:**

Shall this proposed EU Ecolabel criterion include indications for maximum flow times, respectively maximum sensor response time? Or is the requirement of applying the device (leaving the freedom to end-user/owner to define the values – adjusting them best to the intended use purpose) sufficient, as proposed above?

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<sup>20</sup> WELL - Water Efficiency Labelling Classification scheme for sanitary valves, 2010, available online at: [http://www.well-online.eu/config/media/files/171\\_WELL%20Klassifizierungsscheme.pdf](http://www.well-online.eu/config/media/files/171_WELL%20Klassifizierungsscheme.pdf)

<sup>21</sup> In December 2010, WRAP in the UK published 'Procurement requirements for water efficiency' Available from: [http://www.wrap.org.uk/downloads/2011\\_01\\_19\\_WRAP\\_water\\_eff\\_model\\_proc\\_reqs\\_v6\\_FINAL.fad042fd.10378.pdf](http://www.wrap.org.uk/downloads/2011_01_19_WRAP_water_eff_model_proc_reqs_v6_FINAL.fad042fd.10378.pdf)

## **4.2 Criterion 5 – Manufacturing processes – surface treatment**

### **Proposed criterion**

Manufacturing processes, independently of their location, shall be conducted complying with the current respective EU legislation. The applicant shall specify which manufacturing plants make the surface treatment and also shall demonstrate that the treatment is made following good environmental practices, as indicated in the last available version of the Reference Document on Best Available Techniques for the Surface Treatment of Metals and Plastics (BREF)<sup>22</sup>.

To evaluate good environmental practices the competent body can check particularly aspects like reuse of the Chromium VI or use of Chromium III, zinc processing without cyanide, water recirculation systems, not using chlorinated solvents when alternative less toxic is available, etc.

### **Rationale**

The environmental assessment indicated that relevant impacts, apart from the use phase, are related to the manufacturing phase. Despite relatively small contribution of this phase to the overall impacts, during the 1<sup>st</sup> AHWG meeting the experts emphasized the importance of ensuring that ecolabelled products are manufactured compliant with high environmental standards. Formulation of this criterion harmonised with existing national standards, like the Catalan and Austrian Ecolabels, was decided.

This criterion aims at promoting manufacturers who choose along their production chain the best (from environmental viewpoint) available technologies (BAT).

Some stakeholders indicated that in the surface treatment processes are of highest importance and shall be considered in this respect. The manufacturers shall demonstrate that they do comply with the general environmental legislation. Further, taking into account the environmental impacts of surface treatment manufacturers (and/or their suppliers, in applicable) shall demonstrate that they conduct their processes in accordance with the most environmentally friendly technologies. Among the processes of special concern are: reuse of the Chromium VI or use of Chromium III, zinc processing without cyanide, water recirculation systems, preventing/not using chlorinated solvents, and other. The latest available version of the Reference Document on Best Available Techniques for the Surface Treatment of Metals and Plastics (BREF)<sup>22</sup> shall be used as a reference document indicating best practices. Manufacturer shall also present the respective waste management concepts.

## Assessment and verification

The following assessment and verification is proposed for this criterion:

The applicant shall declare compliance with the requirement and provide a documentation describing the production technologies used and their reference to the technologies described in the abovementioned BREF document and/or, when appropriate, attach respective declaration(s) and documentation from their supplier(s).

### Summarised questions to the stakeholders:

The Catalan Ecolabel adds additionally in their verification procedure that "Manufacturers (and/or their suppliers, if applicable) being certified/registered under EMAS or certified under ISO 14001 are considered to comply with the requirements of this criterion". Shall a similar verification and assessment proposal be accepted under the EU Ecolabel scheme?

## 4.3 Criterion 6 – Materials

### 4.3.1 Criterion 6a – Chemical and hygienic characteristics of materials

#### Proposed criterion

Substances and materials used in products in contact with drinking water shall comply with the requirements of the Article 10 of the Drinking Water Directive<sup>23</sup>. These substances or materials or impurities associated with them shall not release to water intended for human consumption compounds in concentrations higher than necessary for the purpose of their use and do not, either directly or indirectly, reduce the protection of human health.

All materials in contact with water intended for human consumption shall present no health risk up to the temperature of 90°C. They shall not cause any deterioration in water intended for human consumption with regard to its quality, appearance, odour or taste. Within the recommended limits for correct operation (i.e. conditions of use as given in respective EN standards) the materials shall not undergo any change which would impair the performance of the product. Materials without adequate resistance to corrosion shall be protected<sup>24</sup>.

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<sup>22</sup> Integrated Pollution Prevention and Control Reference Document on Best Available Techniques for the Surface Treatment of Metals and Plastics, European Commission, August 2006, available online at: [http://www.ineris.fr/ippc/sites/default/files/files/stm\\_bref\\_0806.pdf](http://www.ineris.fr/ippc/sites/default/files/files/stm_bref_0806.pdf).

<sup>23</sup> Council Directive 98/83/EC of 3 November 1998 on the quality of water intended for human consumption, OJ L 330, 5.12.1998, p. 32–54.

## Rationale

Quality of drinking water can be affected by a set of different factors. Among them there are: the source of raw water, water treatment processes, materials, stagnation times of the distribution network, pipe materials used, and microbiological activity in water supply and distribution systems. Quality of drinking water can be affected by dissolving of substances from materials due to interaction of the water and the materials. For example some metals used in the networks can dissolve to certain extent in acidic and soft, aggressive carbon dioxide containing water of low alkalinity (solution of substances depends e.g. on the water aggressiveness). Substances can also dissolve from organic materials present in networks. It concerns in particular additives from polymeric materials. These organic compounds act then as nutrients for microbes, which can result in faulty taste and odour or induce hygienic problems in the drinking water<sup>25</sup>.

The EU Drinking Water Directive (DWD)<sup>26</sup> sets requirements concerning the quality of water intended for human consumption. It sets limits of heavy metal (e.g. lead, copper, nickel) contents in drinking water. Sanitary tapware can constitute a source of low emissions of metal substances to drinking water, though their contribution is considered less relevant than of some other elements of water supply and distribution system, as e.g. of piping system.

DWD obliges Member States to take "all measures necessary to ensure that no substances or materials for new installations used in the preparation or distribution of water intended for human consumption or impurities associated with such substances or materials for new installations remain in water intended for human consumption in concentrations higher than is necessary for the purpose of their use and do not, either directly or indirectly, reduce the protection of human health provided for in this Directive". Further, these materials shall also not contribute to water quality unacceptable to consumers regarding organoleptic parameters, i.e. taste, smell, appearance.

At present there is a lack of harmonised European standards and methods for testing and authorising use of materials in contact with water intended for human consumption. Further, some stakeholders emphasized that there lacks mutual recognition of laboratory test results between most MS and the national differences are sometimes substantial. Works on harmonising these test methods have been conducted for many years in several frameworks. Efforts are made by the so called MS4 group. Germany, France, the Netherlands and the UK work at establishing a scheme for mutual acceptance of certificates between these four

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<sup>24</sup> Criterion set in accordance with the requirements on materials given in respective EN standards on sanitary tapware and national Ecolabel schemes.

<sup>25</sup> Rikka M. (Ed.): Drinking Water Quality and Network Materials in Finland. Summary Report. Finnish Institute of Drinking Water, Prizztech Ltd. 2008.

countries. The scope of this work shall cover specification of tests to be applied for materials in contact with water intended for human consumption and preparation of lists of approved substances and materials that can be used with limited further testing. This work is intended to constitute a basis for draft regulatory guidance to CEN and for a discussion in the Expert Working group.

Work on several harmonised standards on testing methods for different materials in contact with drinking water is in advanced state of development in the CEN/TC 164. Among them there are e.g.:

- *prEN 16056 – Influence of metallic materials on water intended for human consumption – Method to evaluate the passive behaviour of stainless steel*
- *prEN 16057 – Influence of metallic materials on water intended for human consumption - Determination of residual surface lead (Pb) - Extraction method*
- *prEN 16058 – Influence of metallic materials on water intended for human consumption - Dynamic rig test for assessment of surface coatings with nickel layers - Long-term test method*

Nevertheless, they are still under approval and do not have the formal CEN vote. After this vote National Standardisation Bodies will vote on their conversion to EN standards. It is expected that this process will be completed till the end of 2011 – for prEN 16058 and in the second half of 2012 – for prEN 16056 and prEN 16057.

Works are also under development on hygiene standards in drinking water distribution, including hygienic assessment of plastic materials and other non-metallic materials, which shall be in the future harmonised within the EU-27. One of the currently drafted standards regards “Prediction of migration from organic materials using mathematical models”. Nevertheless, it should be noted that it will not be available before the beginning of 2014.

So far, most Member States have their own requirements and testing procedures and differences between these various systems exist. Some MS require mandatory certification, while in other countries it is voluntary. Several examples illustrating the variability of systems functioning in the EU-27 are given below<sup>27</sup>.

For example in the UK<sup>28</sup> testing of non-metallic materials and components (e.g. plastics and elastomeric materials) to ensure conformity to the current requirements for odour, flavour,

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<sup>26</sup> Council Directive 98/83/EC of 3 November 1998 on the quality of water intended for human consumption, available online: <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:1998:330:0032:0054:EN:PDF>

<sup>27</sup> For details please see: Regulations and standards – Water Treatment Equipment, European Water Treatment Association, available online: <http://www.ewta.eu/assets/Uploads/EU-Directory-of-Regulations-and-Standards.pdf>.

<sup>28</sup> Drinking Water Inspectorate's website: <http://dwi.defra.gov.uk/drinking-water-products/approved-products/index.htm>.



and growth of aquatic microorganisms tests are conducted in accordance with BS 6920:2000<sup>29</sup>. The tests shall be undertaken in a laboratory accredited under ISO 17025. The UK does currently not have an equivalent test standard for metallic products. Previously, BS 7766<sup>30</sup> was used to determine the release of metals into water; nevertheless, it has now been withdrawn due to lacking reproducibility of the results. At present there are no regulatory test requirements for metallic materials of sanitary tapware and the approval in this respect is not required. The new developed in CEN EN 15664<sup>31</sup> series of standards are awaited, however it is not clear how their results will be used then and the requirements set. On the other hand there are requirements set for all stainless steel products used in contact with drinking water. They must be approved under the relevant regulations, unless considered to be a low-risk product/application. Approval for a range of stainless steel materials with specific grades (tested in accordance with BS 7766<sup>30</sup>) is given.

In France on the other hand product registration is mandatory and both metallic and non-metallic materials are controlled and must be certified in accordance with ACS standard<sup>32</sup>: organic materials shall be included in a Positive List while metals are assessed depending on their composition.

In Germany, though formally certification is not required, in praxis it is conducted. Products must comply with several requirements. Plastic products/materials have to conform to the KTW guidelines<sup>33</sup>, recommendations issued by the Federal Environment Agency (UBA)<sup>34</sup>, and all non-metallic materials must be listed in the Positive List. Organoleptic properties, migration, TOC, chlorine demand and microbial growth are tested. Metallic materials appropriate for contact with drinking water shall be listed in special recommendation. At present a draft list exists of these materials suitable for contact with drinking water exists in Germany. The Federal Environment Agency does not license or certify products. It develops the basis for setting standards for the hygienic assessment of materials. Certification of products in contact with drinking water in Germany is conducted by the German Technical and Scientific Association for Gas and Water (DVGW).

In Austria the materials must be registered in the Austrian Positive List and comply with the KTW recommendation. The procedure of testing is similar as in Germany with the exception

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<sup>29</sup> British Standard 6920:2000 - Suitability of non-metallic products for use in contact with water intended for human consumption with regard to their effect on the quality of water.

<sup>30</sup> British Standard 7766:1994 – Specification for assessment of the potential for metallic materials to affect adversely the quality of water intended for human consumption.

<sup>31</sup> CEN EN 15664: Influence of metallic materials on water intended for human consumption - Dynamic rig test for assessment of metal release.

<sup>32</sup> ACS standard – Attestation de Conformité Sanitaire, <http://www.sante.gouv.fr/attestation-de-conformite-sanitaire-ac.html>.

<sup>33</sup> Testing Guideline for Organic Materials (KTW), available online: <http://www.umweltbundesamt.de/wasser-e/themen/trinkwasser/verteilung.htm>.

of the microbiological test, which is not required. It is also interesting to add that there is a mutual recognition of test results agreed between Austria, Germany, Switzerland and the Netherlands.

In Netherlands products in contact with drinking water must be certified with Attestation of Toxicological aspects (ATA). Organoleptic, microbiological and migration tests are conducted and there exist also a Positive List.

Voluntary certification is set in Belgium, where plastic materials are checked against a Positive List and tested according to the national standard for general hygiene, migration and microbial growth. Positive lists of materials exist also in other countries like the Czech Republic, Denmark or Spain.

Different approaches are applied in this respect in the national Ecolabel schemes. For example in the Catalan Ecolabel<sup>35</sup> the criterion concerning chemical and hygienic behaviour of materials is defined as given in the above proposed criterion formulation. The verification and assessment of this criterion is done in the form of manufacturer's (and/or suppliers') declaration of conformity and approval of respective documentation attached. The same formulation is contained in the Austrian Ecolabel<sup>36</sup> and in the newly developed Blue Angel<sup>37</sup>. Additionally, as already mentioned before, the German Environmental Agency issues guidelines on hygienic assessment of materials in contact with water intended for human consumption<sup>38</sup>. Compliance verification and assessment in the Blue Angel is conducted by evaluating laboratory tests, indicated in these guidelines, submitted by manufacturer and conducted in laboratories that meet the general requirements of EN ISO 17025 or certificates of a respective certified institution.

### **Assessment and verification**

With regard to lack of harmonised EU testing methods and unified requirements concerning which substances and materials shall be tested a question appears: how shall the assessment and verification procedure for a common criterion for hygienic materials quality be formulated. Work under the current criteria development process has neither the mandate

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<sup>34</sup> For details see the Federal Environmental Agency website: <http://www.umweltbundesamt.de/wasser-e/themen/trinkwasser/verteilung.htm>.

<sup>35</sup> Resolució MAH/2407/2009, de 29 de abril, por la que se establecen los criterios ambientales para el otorgamiento del distintivo de garantía de calidad ambiental a los productos y a los sistemas que favorecen el ahorro de agua. Diari Oficial de la Generalitat de Catalunya 5460 (2009) 66627-66632. Available at: [http://www.mediambient.gencat.cat/cat/empreses/ecoproductes\\_i\\_ecoserveis/pdf/criteris\\_ambientals/cast/040.pdf](http://www.mediambient.gencat.cat/cat/empreses/ecoproductes_i_ecoserveis/pdf/criteris_ambientals/cast/040.pdf).

<sup>36</sup> The website of the Austrian Ecolabel is: <http://www.umweltzeichen.at/>.

<sup>37</sup> The website of the Blue Angel is: <http://www.blauer-engel.de/>.

<sup>38</sup> Recommendations of the German Federal Environmental Agency are available online at: <http://www.umweltbundesamt.de/wasser-e/themen/trinkwasser/verteilung.htm>.

nor the resources to develop EU wide harmonised standards. Such an approach could be even counterproductive if conflicting with the MS4 activities.

Three potential options are proposed below:

Option 1 – The applicant shall declare the product's compliance with the respective legal requirements in those countries where it is put on the market to the awarding competent body as part of the application.

Option 2 – The applicant shall declare the product's compliance with the requirement and provide a copy of certificate stating that the product is suited for contact with drinking water (with regard to hygienic requirements) from one respective national accredited laboratory issuing such certificates (e.g. DVGW, KIWA) to the awarding competent body as part of the application.

Option 3 – It could be considered to postpone inclusion of these criterion to the next revision process, when the harmonised testing methods shall already be available.

**Summarised questions to the stakeholders:**

Stakeholders input is awaited whether the criterion on materials in contact with drinking water shall be included in the first criteria set for sanitary tapware or whether it shall be considered for the revision process in four years. Until then several harmonised EN standards shall be available making verification of this criterion feasible. Existence of harmonised standards will reduce costs and efforts producers have to bear at present willing to sell their products in countries where very different requirements or testing methods are used.

**4.3.2 Criterion 6b – Exposed surface condition and quality of Ni-Cr coating**

**Proposed criterion**

Sanitary product which has a metallic Ni-Cr coating (whatever the nature of the substrate material is) has to comply with the requirements of the standard EN 248<sup>39</sup>.

**Rationale**

Most surfaces of sanitary tapware are covered with Ni-Cr coatings. The purpose of this criterion is to ensure adequate condition of the exposed surfaces of sanitary tapware. Two characteristics are tested: resistance to corrosion and adherence in order to ensure the quality of the coating. A harmonised test standard (EN 248:2003 Sanitary tapware. General

<sup>39</sup> EN 248:2003 Sanitary tapware. General specification for electrodeposited coatings of Ni-Cr.

specification for electrodeposited coatings of Ni-Cr) exists in the EU and is used to assess the condition of the exposed surfaces of sanitary tapware.

### **Assessment and verification**

The following assessment and verification is proposed for this criterion:

The applicant shall declare the product's compliance with the requirement and provide results of test conducted in accordance with testing procedure indicated in respective EN standard. The testing shall be performed by laboratories that meet the general requirements of EN ISO 17025 or equivalent.

## **4.4 Criterion 7 – Product quality and lifetime extension**

### **4.4.1 Criterion 7a – General requirements**

#### **Proposed criterion**

Product shall comply with the general requirements of the respective EN standards (listed in Table 2). Where applicable, cleaning of the product elements, which might be necessary under normal use conditions, shall be possible with use of simple tools/agents.

### **4.4.2 Criterion 7b – Reparability and availability of spare parts**

#### **Proposed criterion**

Product shall be designed in the way that its exchangeable components can be replaced easily by the end-user and information which elements can be replaced should be clearly indicated in the information sheet attached to the product. The applicant shall provide also clear instructions to the end-user to enable basic repairs to be undertaken.

The applicant shall further ensure that spare parts are available for at least ten years from the end of production.

### **4.4.3 Criterion 7c – Warranty**

#### **Proposed criterion**

The applicant shall ensure warranty for repair or replacement of minimum five years.

#### **Rationale**

Product shall fulfil the general quality requirements which contribute to its proper functioning over its lifetime. The EN standards mentioned in 4.4.1 include (where appropriate, i.e. depending on the product type) requirements and test methods for evaluating the following

aspects: leaktightness, mechanical characteristics, hydraulic characteristics, acoustic characteristics and maintenance.

With regard to showerheads with spray device for jet, the last mentioned aspect refers e.g. to the possibility of removing the device by use of simple tools in order to enable cleaning of the product (when necessary) and its long-term appropriate functioning.

Moreover, from the point of view of saving raw materials needed for manufacturing sanitary tapware and to reduce emissions and other environmental impacts related to the production phase, the issue of lifetime extension is of importance. In order to ensure longevity of the products, they shall be designed in a way which allows end-user/installer to replace the elements which may have a shorter lifetime (e.g. seals) and repair them easily with use of simple tools. This aspect shall be taken into account in the design phase.

With this regard, it is further required that spare parts are available to purchase for end-users, even several years after production of a given product model is stopped. Based on the stakeholders' feedback the period of ten years was chosen.

Additionally, stakeholders indicated that producers shall ensure warranty conditions valid at least five years, as all products of this product group have relatively long lifetime.

#### **Assessment and verification**

The following assessment and verification is proposed for this criterion:

The applicant shall declare the product's compliance with these requirements and provide samples of the product information sheet and warranty terms to the awarding competent body as part of the application. With regard to criterion a) the applicant shall provide additionally test results conducted according the respective EN standards to the awarding competent body as part of the application. The testing should be performed by laboratories that meet the general requirements of EN ISO 17025 or equivalent.

### **4.5 Criterion 8 – Packaging**

#### **Proposed criterion**

Packaging shall meet the following requirements:

- (a) all packaging components shall be easily separable by hand into individual materials to facilitate recycling,
- (b) where used, cardboard packaging shall consist of at least 80 % recycled material,
- (c) be made out of one of the following:
  - easily recyclable materials,
  - materials from renewable resources.

## **Rationale**

Based on the information received from the retail stores in the framework of the project sanitary tapware is predominately supplied in cardboard packaging. Additionally some smaller amounts of plastic e.g. LDPE bag are used<sup>40</sup>. Due to the long lifetime of this product group (16 years for taps and 10 years for showerheads in the domestic sector, 10 and 7 years, respectively, in the non-domestic sector<sup>41</sup>), packaging does not play important role in these products life cycle.

General regulations concerning the management of packaging and packaging waste to are covered by the Directive 94/62/EC<sup>42</sup>. Nevertheless, as also mentioned during the stakeholders meeting packaging is a horizontal issue, and even if not very relevant for a certain product group, the total mass of packaging used in EU-27 is very significant and EU Ecolabel criteria shall also cover requirements on packaging and packaging waste and signal to consumers its importance. Further, it was emphasized that packaging is the first element which a consumer see, and ecolabelled products, as environmentally preferable products, shall also be distributed in appropriate environmentally friendly packaging, which facilitates also its sound waste management (e.g. easy collection, separation and recycling).

It was agreed that the generally applicable criteria set in EU Ecolabel decisions for other product groups, in particular for long-life products, shall be proposed for the Ecolabel criteria for sanitary tapware.

## **Assessment and verification**

The following assessment and verification is proposed for this criterion:

The applicant shall declare the product's compliance with the requirement and provide a sample(s) of the packaging to the awarding competent body as part of the application.

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<sup>40</sup> Please see the Base-case assessment report, available at:

<http://susproc.jrc.ec.europa.eu/ecotapware/stakeholders.html>

<sup>41</sup> Please see the Market and economic analysis & Consumer behavior report, available at:

<http://susproc.jrc.ec.europa.eu/ecotapware/>

<sup>42</sup> European Parliament and Council Directive 94/62/EC of 20 December 1994 on packaging and packaging waste, available online at:

[http://europa.eu/legislation\\_summaries/environment/waste\\_management/121207\\_en.htm](http://europa.eu/legislation_summaries/environment/waste_management/121207_en.htm)

## **4.6 Criterion 9 – User information**

### **Proposed criterion**

The product shall be supplied with relevant user information which provides advice on the product's proper and environmentally friendly use, as well as its maintenance. It shall bear the following information on the packaging and/or on documentation accompanying the product:

- (a) Information that the main environmental impacts are related to the use phase of the product, i.e. to consumption of water and energy for water heating,
- (b) Information that the product has been awarded the EU Ecolabel, together with a brief yet specific explanation as to what this means in addition to the general information provided at the EU Ecolabel logo,
- (c) Information on proper product's use to minimise water consumption and related energy consumption for water heating,
- (d) Information on maximum flow rate in l/min (tested as indicated in criterion 1).
- (e) Recommendations on the proper use and maintenance (including cleaning and decalcification) of the product.

This information shall highlight all relevant instructions, particularly referring to the maintenance and use of products, e.g. information which spare part can be replaced, instruction concerning replacement of washers if taps drip water, advice on cleaning taps and showerheads with appropriate materials in order to prevent damaging its surface, etc.

- (f) Installation instruction, including information on recommended, minimum and maximum pressure the product is intended for.

### **Rationale**

Due to the fact that the key factor in the area of sustainable water consumption with regard to use of sanitary tapware is end-user behaviour, appropriate consumer information is of high importance. Thus, beside installation and maintenance instructions (as described above), information concerning rational water use and recommendations concerning potential saving in general and with regard to the given product use shall be attached to the product. This information shall also contain reference to the potential of saving energy for water heating and the explanation about other environmental impacts which can be reduced due to rational water and in particular hot water use.

Further, importance of exchanging used parts and preventing dripping water from sanitary tapware shall be emphasized as this contributes to high losses of completely unused water, which can however easily be avoided.

Information concerning the suitability of product for a given pressure system shall also be highlighted (if appropriate) and consequences of installing improper appliances to the existing system shall be pointed out.

### **Assessment and verification**

The following assessment and verification is proposed for this criterion:

The applicant shall declare the product's compliance with the requirement and provide a sample(s) of the user information to the awarding competent body as part of the application.

#### **Summarised questions to the stakeholders:**

Do you consider necessary/useful to add any additional information in this point?

## **4.7 Criterion 10 – Information appearing on the EU Ecolabel**

### **Proposed criterion**

The logo should be visible and readable. The use of the EU Ecolabel logo is protected in primary EU law. The EU Ecolabel registration/license number must appear on the product, it must be readable and clearly visible.

The optional label with text box shall contain the following text:

- *Improved water efficiency,*
- *Improved hot water management,*
- ... *(To be discussed further during the meeting, if additional information shall be placed on the label)*

The guidelines for the use of the optional label with text box can be found in the "Guidelines for use of the Ecolabel logo" on the website:

[http://ec.europa.eu/environment/ecolabel/promo/logos\\_en.htm](http://ec.europa.eu/environment/ecolabel/promo/logos_en.htm).

### **Rationale**

The Ecolabel placed on the packaging shall contain clear message indicating the advantages related to purchase and use of ecolabelled products. It shall constitute an incentive to choose the product due to its preferable environmental performance in comparison with other products. The information which appears on the Ecolabel shall refer to improved water efficiency and lower energy consumption due to considering in the product design the issue of hot water management. Further, high quality and longevity might be mentioned. Depending on the final stakeholders' decision concerning the inclusion of criteria on



materials and manufacturing processes, respective information about material safety and environmentally preferable processes might be added.

**Assessment and verification**

The following assessment and verification is proposed for this criterion:

The applicant shall declare the product's compliance with the requirement and provide a copy of the label as it will appear on the packaging and/or product to the awarding competent body as part of the application.

**Summarised questions to the stakeholders:**

Do you find any additional statement which shall be added at the Ecolabel placed on the product and/or packaging?

DRAFT - WORK IN PROGRESS

## 5. SUMMARY

This working document has been prepared for the 2<sup>nd</sup> AHWG meeting on the development of Ecolabel criteria for sanitary tapware – taps and showerheads. The proposed criteria aim, in particular, at promoting water-efficient products, which in consequence have also reduced impact on consumption of energy needed for water heating. The criteria furthermore aim at supporting products manufactured with use of more environmental friendly technologies, e.g. BAT, and prove to be safe for consumers.

The criteria are proposed for each of the following aspects:

1. Water- and related energy efficiency
2. Manufacturing processes, in particular surface treatment
3. Materials
4. Product quality and longevity
5. Packaging
6. User information
7. Information appearing on the EU Ecolabel

Based on the study conducted, increase of water-efficiency of taps and showerheads has been identified as the main reason for establishing the ecological criteria for sanitary tapware, since the use phase contributes most to the environmental impacts caused by this product group. Nevertheless, also other aspects related to the life cycle of this product, which improvement can bring environmental benefits, are considered.

The following document is intended as a working paper for a discussion during the AHWG meeting; therefore we invite the stakeholders to comment on the issues presented in this report and to share with us their comments<sup>43</sup>.

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<sup>43</sup> By sending them to IPTS to the following e-mail to Renata Kaps: <mailto:renata.kaps@ec.europa.eu>.