

ISO Central Secretariat

1, ch. de la Voie-Creuse
Case postale 56
CH - 1211 Genève 20
Switzerland

Telephone + 41 22 749 01 11
Fax + 41 22 733 34 30
E-mail central@iso.org
Web www.iso.org

Organisation internationale de normalisation
International Organization for Standardization
Международная Организация по Стандартизации



Our ref. TS/P 236

TO THE ISO MEMBER BODIES

Date 2013-03-01

ISO/TS/P 236 – *Water re-use*

Dear Sir or Madam,

Please find attached a proposal for a new field of technical activity on *Water re-use* submitted by JISC (Japan), SAC (China) and SII (Israel).

IMPORTANT:

This TS/P cancels and replaces ISO/TS/P 232 *Treated wastewater re-use in urban areas* (currently under ballot), further to TMB Resolution 19/2013 (see Annex 1).

This means that votes already sent for TS/P 232 will not be counted. Please send us your vote for TS/P 236 instead, and accept our apologies for the inconvenience caused.

According to subclause 1.5.6 of Part 1 of the ISO/IEC Directives, you are kindly invited to complete the ballot form ([Form 02](#)) which can be downloaded at www.iso.org/forms and send it (preferably in Word format) to the Secretariat of the ISO Technical Management Board at tmb@iso.org before **1 June 2013**.

Yours faithfully,

A handwritten signature in black ink, appearing to read 'S. Clivio', written over a circular stamp or seal.

Sophie Clivio,
Secretary of the Technical Management Board

Encl.: TS/P 236

ANNEX 1 TMB Resolution 19/2013

ANNEX 2 Final Report of the ITFWA



TECHNICAL MANAGEMENT BOARD RESOLUTION 19/2013

Final report of the Implementation Task Force on Water (ITFWA) – Idea 2

The Technical Management Board,

Noting "**Idea 2: Re-use for all kinds of uses: develop a coherent approach**" in the ITFWA final report recommending that:

- ISO/PC 253 *Treated wastewater re-use for irrigation* be transformed into a technical committee entitled "Water re-use" with an enlarged scope to include other kinds of re-use of treated wastewater,
- this new technical committee could have several subcommittees dealing with specific kinds of re-use of treated wastewater, which could include the proposal from SAC (China) TS/P 232 on *Treated wastewater re-use in urban areas* and noting the JISC proposal (Risk and performance evaluation of water re-use system).

Approves, in principle, the creation of a new TC to address water re-use which would also be responsible for: 1) the ISO 16075 series currently under development, and 2) the contents of TS/P 232,

Requests SII (Israel), SAC (China) and JISC (Japan) to work with ISO/CS (by end of February 2013) to prepare a draft TS/P to address water re-use, and

Instructs ISO/CS to circulate the above TS/P to ISO members with a communication explaining that it cancels and replaces TS/P 232 currently under ballot, further to the recommendations of the ITFWA.



PROPOSAL FOR A NEW FIELD OF TECHNICAL ACTIVITY	
Circulation date:	Reference number (to be given by Central Secretariat)
Closing date for voting:	
Proposer JISC, SAC, SII	ISO/TS/P

A proposal for a new field of technical activity shall be submitted to the Central Secretariat, which will assign it a reference number and process the proposal in accordance with the ISO/IEC Directives (part 1, subclause 1.5). The proposer may be a member body of ISO, a technical committee or subcommittee, the Technical Management Board or a General Assembly committee, the Secretary-General, a body responsible for managing a certification system operating under the auspices of ISO, or another international organization with national body membership. Guidelines for proposing and justifying a new field of technical activity are given in the ISO/IEC Directives (part 1, Annex C).

The proposal (to be completed by the proposer)

<p>Title of the proposed new committee (The title shall indicate clearly yet concisely the new field of technical activity which the proposal is intended to cover.)</p> <p>Water re-use</p>
<p>Scope statement of the proposed new committee (The scope shall precisely define the limits of the field of activity. Scopes shall not repeat general aims and principles governing the work of the organization but shall indicate the specific area concerned.)</p> <p>Standardisation of water re-use of any kind and for any purpose. It covers both centralised and decentralised or on-site water re-uses, direct and indirect ones as well as intentional and unintentional ones. It includes technical, economic, environmental and societal aspects of water re-use. Water re-use comprises a sequence of the stages and operations involved in uptaking, conveyance, processing, storage, distribution, consumption, drainage and other handling of wastewater, including the water re-use in repeated, cascaded and recycled ways. The scope of ISO/PC 253 (Treated wastewater re-use for irrigation) is merged into the proposed new committee.</p> <p>Excluded:</p> <ul style="list-style-type: none">• the limit of allowable water quality in water re-use, which should be determined by the governments, WHO and other relevant competent organizations.• any aspects which are not specific to water re-use, such as:<ul style="list-style-type: none">○ management of drinking water and wastewater utilities, which is covered by TC 224,○ methods for the measurement of water quality, which are covered by TC 147,

Proposed initial programme of work (The proposed programme of work shall correspond to and clearly reflect the aims of the standardization activities and shall, therefore, show the relationship between the subject proposed. Each item on the programme of work shall be defined by both the subject aspect(s) to be standardized (for products, for example, the items would be the types of products, characteristics, other requirements, data to be supplied, test methods, etc.). Supplementary justification may be combined with particular items in the programme of work. The proposed programme of work shall also suggest priorities and target dates.

Initial programme of work is supposed to be the standardisation on the subjects as follows:

(1) Treated wastewater use for irrigation

The development of ISO 16075 series "Guidelines for Treated Wastewater Use for Irrigation Projects" is now underway in PC 253.

Additional standardization subjects as follow:

- a) Parameters and monitoring procedures for the determination of the suitability of an irrigation system, including all its components, for treated wastewater use: transport and distribution pipes, filtration needs and equipment, control and operating valves, air valves, distribution and irrigation accessories, etc.
- b) Field instrumentation for treated wastewater quality control and quality control of the treated wastewater at the reuse site.
- c) treated wastewater reservoir construction including prevention of environment pollution by the treated wastewater in the reservoir.
- d) Means and gauges for monitoring the quality of the treated wastewater in its flow to the underground.
- e) Guidelines to determine the adequate environmental monitoring facilities in areas to be irrigated with treated wastewater.

(2) Treated wastewater use in urban area

The work which is proposed by SAC (China) TS/P 232 includes

- a) Terms and definitions of treated wastewater re-use in urban area
- b) The classification of treated wastewater use in urban area
- c) Economic analysis and indicators of treated wastewater use in urban area
- d) Technological selection of the urban sewage treatment engineering
- e) Technological evaluation of the urban sewage treatment engineering
- f) Code for design of wastewater treatment reuse in urban
- g) Guidelines for the selection, evaluation and optimization of the wastewater treatment reuse in urban

(3) Risk and performance evaluation of water re-use system

- a) Terms and definition of risk and performance evaluation of water re-use system
- b) Methods and indicators for risk evaluation of water re-use system
- c) Methods and indicators for performance evaluation of water re-use system

This work should be conducted prior to or in parallel with the other works.

Since the performance of water re-use is often evaluated from the viewpoint of risk management, item b) is closely linked to item c).

The standardisation works of "Guidelines for Health Risk Assessment and Treatment for Reclaimed Water Use" and "Code for Reclaimed Water Quality" are now underway in cooperation among China, Korea and Japan and will be prepared soon for the proposal to ISO.

In the program of work, standardisation of integrated work of a), b) and c) for specific types of wastewater treatment and supply system for popular water re-use may be prioritised, when it is preferred by the international communities.

Ex) standardisation of the methods to evaluate human health related risk reduction of XXX process for water re-use

Subcommittee or working group should be set up for each of above subjects in the TC. The proposed structure would be: a WG under the TC for ISO 16075 series and three Subcommittees for (1), (2) and (3) respectively.

Future work may include work items as suggested by the ITFWA in their report to the TMB (Annex 1 to TMB 08/2013 (REV 1), attached to this TS/P). This includes for example "water re-use for industry" but can be extended to any type of re-use of water (including grey water, black water and stormwater).

Indication(s) of the preferred type or types of deliverable(s) to be produced under the proposal (This may be combined with the "Proposed initial programme of work" if more convenient.)

For (1), ISO 16075 series are being prepared as International Standards. Subsequent standardization work may take the form of Technical Specifications, Publicly Available Specifications or Technical Report depending on the consensus conditions in the international communities.

For (2) and (3), International Standards, Technical Specifications, Publicly Available Specifications or Technical Report should be produced, depending on the consensus conditions in the international communities.

It might be recommended to hold an ISO workshop to develop an International Workshop Agreement to achieve a consensus for rather new field of standardisation.

A listing of relevant existing documents at the international, regional and national levels. (Any known relevant document (such as standards and regulations) shall be listed, regardless of their source and should be accompanied by an indication of their significance.)

ISO/IWA 6:2008, Guidelines for the management of drinking water utilities under crisis conditions

WHO: Guidelines for the Safe Use of Wastewater, Excreta and Greywater (2006)

AQUAREC: Guideline for quality standards for water reuse in Europe, EVK1-CT-2002-00130, Work package , Deliverable D15 (2006)

USEPA: Guidelines for Water Reuse (2012)

WERF: Pathogen Risk Indicators for Wastewater and Biodolids (2009)

Australian Guidelines for Water Recycling : Managing Health and Environmental Risks (2006)

National Institute for Land and Infrastructure Management, Government of Japan: Report of the Microbial Water Quality Project on Treated Sewage and Reclaimed Wastewater (2008)

Harold L. Leverenz, Takashi Asano: WATER REUSE- Issues, Technologies, and Applications, Metcalf & Eddy (2006)

A statement from the proposer as to how the proposed work may relate to or impact on existing work, especially existing ISO and IEC deliverables. (The proposer should explain how the work differs from apparently similar work, or explain how duplication and conflict will be minimized. If seemingly similar or related work is already in the scope of other committees of the organization or in other organizations, the proposed scope shall distinguish between the proposed work and the other work. The proposer shall indicate whether his or her proposal could be dealt with by widening the scope of an existing committee or by establishing a new committee.)

Final ITFWA report to the ISO/TMB recommended that ISO/PC 253 Treated wastewater re-use for irrigation be transformed into a technical committee "Water re-use" with an enlarged scope to include other kinds of re-use of treated wastewater. ISO/TMB in its resolution 19/2013 (quoted below), noting this recommendation, approved, in principle, the creation of a new TC to address water re-use, which would also be responsible for : 1) the ISO 16075 series currently under development, and 2) the contents of TS/P 232. This proposal addresses the resolutions of ISO/TMB.

TECHNICAL MANAGEMENT BOARD RESOLUTION 19/2013

Final report of the Implementation Task Force on Water (ITFWA) – Idea 2

The Technical Management Board,

Noting "Idea 2: Re-use for all kinds of uses: develop a coherent approach" in the ITFWA final report recommending that:

- ISO/PC 253 Treated wastewater re-use for irrigation be transformed into a technical committee entitled "Water re-use" with an enlarged scope to include other kinds of re-use of treated wastewater,

- this new technical committee could have several subcommittees dealing with specific kinds of re-use of treated wastewater, which could include the proposal from SAC (China) TS/P 232 on Treated wastewater re-use in urban areas and noting the JISC proposal (Risk and performance evaluation of water re-use system).

Approves, in principle, the creation of a new TC to address water re-use which would also be responsible for: 1) the ISO 16075 series currently under development, and 2) the contents of TS/P 232,

Requests SII (Israel), SAC (China) and JISC (Japan) to work with ISO/CS (by end of February 2013) to prepare a draft TS/P to address water re-use, and

Instructs ISO/CS to circulate the above TS/P to ISO members with a communication explaining that it cancels and replaces TS/P 232 currently under ballot, further to the recommendations of the ITFWA.

In the ISO International Workshop on Water held on 25/26 July 2012 in Kobe, "Standard for the re-use of water" was ranked as the second priority.

There are a lot of ISO deliverable applicable to water re-use, including ISO 9000, ISO 14000 and ISO 31000 series. But water re-use, to which most people have not been accustomed, involves many specific aspects to consider. The international standardisation of water re-use is needed also to facilitate the application of existing ISO deliverables as appropriate to the field of water re-use.

A listing of relevant countries where the subject of the proposal is important to their national commercial interests.

Taking into consideration the current activities of PC 253, the proposal from SAC (China) and the members of the management committee of International Water Association on water re-use, following countries are assumed to be relevant to the proposal.

Australia(SA), Austria (ON), Canada (SCC), China(SAC), France (AFNOR), Germany(DIN), Ghana(GSB), India (BIS), Israel(SII), Italy(UNI), Japan(JISC), Korea(KATS), Mexico (DGN), Netherlands (NEN), Portugal (IPQ), South Africa (SABS), Spain (AENOR), Switzerland(SNV), United Kingdom (BSI), United States (ANSI)

A listing of relevant external international organizations or internal parties (other ISO and/or IEC committees) to be engaged as liaisons in the development of the deliverable(s). (In order to avoid conflict with, or duplication of efforts of, other bodies, it is important to indicate all points of possible conflict or overlap. The result of any communication with other interested bodies shall also be included.)

WHO: World Health Organization
UNEP: United Nations Environmental Programme
FAO: Food and Agriculture Organization
UN-Habitat: United Nations Human Settlements Programme
World Bank Group
IWA: International Water Association
IOW International Office for Water
WEPA Water Environment Partnership in Asia
AFWA African Water Association

ISO/TC 147 Water quality
ISO/TC 224 Services for drinking water supply systems and wastewater systems
ISO/PC 253 Treated wastewater re-use for irrigation (PC 253 is supposed to be involved in this TC)

A simple and concise statement identifying and describing relevant affected stakeholder categories (including small and medium sized enterprises) and how they will each benefit from or be impacted by the proposed deliverable(s).

The deliverables of the proposed new TC are expected to benefit the stakeholders as following examples. Wastewater utility or other organization of water re-use project, which has a plan to supply the effluent from the wastewater treatment plant for specific purposes, can identify the guidelines for planning, designing and operating the facilities in technical, economic, environmental or societal aspects.

Consumers of water re-use projects can evaluate the risks they have concerns related to the use of the water from scientific and objective perspectives.

Relevant authorities of water resources in the area of water shortage can estimate the potential of utilizing wastewater for additional water resources.

An expression of commitment from the proposer to provide the committee secretariat if the proposal succeeds.

JISC, SAC and SII have agreed in principle on distributing the initial work programme between three Subcommittees (treated wastewater for irrigation, treated wastewater for urban use and risk and performance evaluation of water re-use system) and the Technical Committee. Each member signing this proposal is keen to provide the secretariat for the Technical Committee and the Subcommittees.

It is expected from the secretariats to implement good project management practices and apply tools and techniques resulting from the Living Lab "Simpler, faster, better project management".

Purpose and justification for the proposal. (The purpose and justification of the standard to be prepared shall be made clear and the need for standardization of each aspect (such as characteristics) to be included in the standard shall be justified. Clause C.4.12.1 through C.4.12.10 of Annex C of the ISO/IEC Directives, Part 1 contain a menu of suggestions or ideas for possible documentation to support and purpose and justification of proposals. Proposers should consider these suggestions, but they are not limited to them, nor are they required to comply strictly with them. What is most important is that proposers develop and provide purpose and justification information that is most relevant to their proposals and that makes a substantial business case for the market relevance and the need for their proposals. Thorough, well-developed and robust purpose and justification documentation will lead to more informed consideration of proposals and ultimately their possible success in the ISO IEC system.)

There is a rapidly growing market on a global scale for water re-use which inevitably demands the standards applicable world-wide. Today, water shortage is faced in many regions in the world, and the feasibility of water re-use draws attention for various purposes. Meanwhile, the possibility of water re-use is rousing concerns over human health, environmental and societal implications of water re-use across the world. This has led to the increasing needs to specify various aspects of water re-use projects defined by appropriate parameters. Consequently, in such projects, there are growing needs for the international standardisation from supplier, user and regulator sides. Unless these needs are met by the activities of ISO, a great deal of opportunities for the sustainable development based on water re-use will be lost.

Signature of the proposer

JISC, SAC, SII

Further information to assist with understanding the requirements for the items above can be found in the Directives, Part 1, Annex C.

Comments of the Secretary-General (to be completed by the Central Secretariat)

Signature



ITFWA Report to ISO/TMB Final version

1. Introduction

1.1. Mandate of ITFWA

Given the importance of the market-relevance of water and wastewater fields and the recommendation from ISO/Council Task Force on Water, ISO/TMB decided to create a TMB Implementation Task Force on Water (ITFWA) under the co-convenership from AFNOR (France) and JISC (Japan) with the following mandate¹:

- 1) to implement the recommendations of the Council Task Force on Water, which should include a review of whether any improvements are needed to the existing committee structure,*
- 2) to review existing developments in various committees addressing water-related issues and suggest ideas for future standardization activities in the field of water (and related areas), and*
- 3) to take into account the outcomes of the ISO international workshop on water in Kobe (Japan), which will be held² on 25-26 July 2012.*

1.2. ISO International Workshop on Water (Kobe)

On 25 and 26 July 2012, the ISO International Workshop on Water was held in Kobe, Japan, with over 150 participants from 29 countries. The workshop featured leading speakers in the fields of (1) technologies and services for treatment and sanitation; (2) sustainability of water and communities; and (3) managing water-related assets, risks and crises. The workshop developed more than 100 ideas that were captured in **14 broad categories** prioritized as follows:

1. Addressing system water loss and water leakage
2. Standards for the reuse of water
3. Standards on sludge use and generation
4. Storm water management standards
5. Water-related asset management
6. Water crisis management
7. Water footprint

¹ Cf. Technical Management Board Resolution 71/2012

² In the meantime, the ISO international Workshop on Water took place.

8. Benchmarking of water-related processes and approaches
9. Watershed management
10. Expanded work on water quality
11. Public and general awareness issues
12. Building on new energy opportunities utilizing water and sludge
13. Considering new management and system standards
14. Ensuring coherent water terminology and classification

1.3. First meeting of ITFWA – September 2012 – Geneva

The first meeting of ITFWA was held on 24 September 2012, in Geneva, at ISO headquarters. A Webex facility was provided for ITFWA members unable to travel to Geneva.

During this meeting it was decided to establish a mapping in order to make propositions for the future, by combining the current situation and the priorities derived from the Kobe Workshop.

At this meeting, ITFWA members decided to adopt the following work plan:

1. Prepare an inventory of what already exists in ISO standardization in the water sector, including topics developed by TCs not "led" by the water sector (ie. water footprint, within ISO/TC 207 *Environmental management*), create a mapping of the existing TCs and summarize the main topics (on-going projects and future projects).
2. Identify the priorities as far as items for ISO standardization are concerned and the needs for the future.
3. Draft recommendations to ISO/TMB: propose the most efficient organisation of the work, taking into account the existing organization (see point 1) and the future needs (see point 2). If need be, this could eventually - but not necessarily - include new organization of the different ISO/TCs. Propose other recommendations in the Water sector to ISO/TMB.
4. Prepare and submit the final ITFWA report to ISO/TMB by 20 December 2012 (for discussion at ISO/TMB meeting in February 2013).

1.4. Second meeting of ITFWA – December 2012 – Paris

A second meeting of ITFWA was held on 3 December 2012, in Paris, at AFNOR's headquarters.

The objective of this second meeting was to brainstorm with two main supporting documents:

- Synthesis of comments received by ITFWA members (ITFWA Document N 030)
- Synthesis of comments received by ITFWA members – Propositions for future work (ITFWA Document N 031)

This brainstorming produced revised versions of the above documents which are attached to this report as Annex 1 and Annex 2. It also produced **eight ideas for the future**, which are presented in clause 2.

2. Eight ideas for the future

Methodology to achieve the eight ideas

To achieve the eight ideas for the future, we took into account and combined the inventory of existing ISO technical work, the Kobe priorities and the new proposals.

Our starting point was the inventory of ISO technical work completed, underway or being proposed in the field of water (ITFWA Documents N 006 and N 012). This inventory shows that the ISO technical work – existing or future – covers a very broad range of topics, with some lack of structuration and coherence.

This inventory was enriched by the 14 priorities developed by the ISO International Workshop on Water (Kobe). One of the benefits of the Kobe workshop was to achieve a more formalized vision of ISO technical work in the water sector.

We also took into consideration three new proposals of ISO technical work in the field of water and/or with a strong water dimension, that were initiated between July and November 2012:

- Proposal for a new field of technical activity ISO/TS/P 230 – Sludge recovery, recycling, treatment and disposal (proposer AFNOR) – see ITFWA Document N 004;
- Proposal for IWA on Multiple Resource Productivity (MRP) (proposer SII) – see ITFWA Document N 017;
- Proposal for a field of technical activity ISO/TS/P 232 – Treated wastewater re-use in Urban Area (proposer SAC) – see ITFWA Documents N 033 and N 034.

Idea 1

Water Quality: a coherent work package

“Expanded work on water quality” has been ranked as one of the priorities developed by the ISO International Workshop on Water (Kobe) (Broad category N°10).

ITFWA considers that it is quite coherent to have all the ISO technical work on water quality methodology, terminology and analytical methods developed within one ISO/TC, namely ISO/TC 147 *Water quality*. ITFWA supports the work of ISO/TC 147.

ITFWA also notes that quality limits linked to a process or use are not included in the scope of ISO/TC 147 *Water quality*. They are thus treated by specialized committees (for example: ISO/PC 253

Treated wastewater re-use for irrigation). The requirements of quality limits could also be included in the informative annexes of the concerned standards.

Idea 2

Re-use for all kinds of uses: develop a coherent approach

“Standards for the re-use of water” have been ranked as one of the priorities developed by the ISO International Workshop on Water (Kobe) (Broad category N°2).

ITFWA notes that there are a lot of initiatives proposed or underway in the domain of water re-use, including grey water, black water and stormwater, such as:

- Re-use for urban area;
- Re-use for industry;
- Re-use for environmental water;
- etc...

ITFWA notes that the treatment and re-use activities maybe at the municipal level or on-site level (i.e, within a building or property).

ITFWA supports the idea to enlarge the scope of ISO/PC 253 *Treated wastewater re-use for irrigation* to other kinds of re-use of treated wastewater. ISO/PC 253 could then be converted into a new ISO technical committee with the following title: “Water re-use”. The new ISO/TC would need to set up several SCs dealing with specific kinds of re-use of treated wastewater. Therefore, ITFWA notes that the proposal from SAC (China) could be considered as part of the scope of this new ISO/TC. For the time being, ITFWA suggests to put the SAC proposal on hold.

Idea 3

Underground infrastructure: strengthen coherence

ITFWA notes that current work regarding the standardization of pipes, pumps, valves, flanges and joints is dispersed. However, they correspond to a broader category, which could be entitled “underground infrastructure”. In order to develop a more coherent approach, improvements in terms of structuration could be examined.

Therefore, ITFWA supports the idea to strengthen coordination between the different technical items, dealing with underground equipment, water distribution pipelines, firefighting systems using water, plastic pipes, design and installation, earthquake protection, firefighting valves, etc..

This could eventually include some new organization of the different ISO/TCs and/or SCs concerned, such as: ISO/TC 5 *Ferrous metal pipes and metallic fittings* / SC 2 *Cast iron pipes, fittings and their joints*, ISO/TC 138 *Plastic pipes, fittings and valves for the transport of fluids* / SC 2 *Plastic pipes and fittings for water supplies*, ISO/TC 21 *Equipment for fire protection and fire fighting* / SC 5 *Fixed firefighting systems using water*, ISO/TC 153 *Valves* / SC 1 *Design, manufacture, marking and testing* and SC 2 *Valve actuator attachment*.

Idea 4

Service/Management: potential new standardization topics

“Service/Management” issues are included in several priorities developed by the ISO International Workshop on Water (Kobe) (Broad category N°2), for example related to storm water, asset, water crisis, watershed, etc.

ITFWA has identified some potential new standardization topics, which are a matter for service/management, such as:

- HACCP and water safety plans.
- Risks of water shortage for the consumer.
- Storm water management.
- Requirements for water loss strategy, water loss calculation, how to measure water loss...
- Prevention and network management.

Therefore, ITFWA supports the idea to develop these topics under ISO/TC 224 *Services for drinking water supply and wastewater systems*.

Idea 5

Sludge: creation of a new ISO/TC

“Standards on sludge use and generation” has been ranked as one of the priorities developed by the ISO International Workshop on Water (Kobe) (Broad category N°3).

ITFWA supports the creation of the new technical committee on “Sludge: recovery, recycling, treatment and disposal”. ITFWA notes that this new standardization work could expand to industrial sludge (not limited to sludge from wastewater treatment plants).

Idea 6

Water inside buildings and property: A need for an analysis of the existing work at ISO level

ITFWA considers that water inside buildings and property are topics of potential interest for ISO standardization. ITFWA has identified a certain number of potential standardization topics, such as:

- Efficiency of water use in buildings;
- Design and operation of plumbing systems within buildings;
- Energy/heat recovery from grey water in buildings;
- Rain water harvesting;
- Rain water retention or green roofs;
- Consequences of new practices on water and wastewater services.

ITFWA notes the need for an analysis to ascertain what kind of technical work regarding water inside buildings and property has been done so far among ISO technical committees and what kind of work could be developed in the future.

Idea 7

Water loss and efficient use: a double approach: management and measurement

“Addressing system water loss and water leakage” has been ranked as one of the priorities developed by the ISO International Workshop on Water (Kobe) (Broad category N°1).

ITFWA notes that “water loss and efficient use” is both a management and measurement issue, depending on the approach and topics. ITFWA therefore supports the idea that management aspects of water loss and efficiency of use could be treated within ISO/TC 224 *Services for drinking water supply and wastewater systems*. Whereas measurement systems and devices are dealt with already within the technical committees ISO/TC 30 *Measurement of fluid flow in closed conduits* and ISO/TC 113 *Hydrometry* which addresses open conduits.

Idea 8

Coordination: a need to develop a coherent approach for the water sector

Taking into account the seven ideas mentioned above, ITFWA notes the need to develop a coherent approach for the water and wastewater sectors. Therefore, ITFWA supports the idea to set up a kind of “coordination” group, reporting to ISO/TMB. The membership could be the same as for the current ITFWA.

List of Annexes

Annex 1: Synthesis of comments received from ITFWA members [Revised] (ITFWA Document N 036)

Annex 2: Synthesis of comments received from ITFWA members – Propositions for future work [Revised] (ITFWA Document N 037)

Annex 3: List of documents produced by ITFWA