ENERWATER

Standard method and online tool for assessing and improving the energy efficiency of waste water treatment plants

H2020-EE-2014-3-MarketUptake

Deliverable 5.4 Report on standardization activity

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Dissemination Level		
PU	Public	
PP	Restricted to other programme participants (including the Commission Services)	
RE	Restricted to a group specified by the consortium (including the Commission Services)	X
CO	Confidential, only for members of the consortium (including the Commission Services)	

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1. Executive summary

ENERWATER includes standardization as a strategy to ensure that the knowledge generated within the project and its main result, a methodology for assessing and improving the energy efficiency of waste water treatment plants, reach the market through the development of a standardization deliverable based on the consensus of the stakeholders represented in technical committees.

This report is the third of a set of documents that together describe the interaction of ENERWATER with the standardization system. After analysing the standardization landscape and identifying CEN/TC 165, *Wastewater engineering,* as the European technical committee whose field of activity is closest to the project, Deliverable 5.4 focuses on the bidirectional relationship created between ENERWATER and this Technical Committee with the objective of providing information of the project, getting feedback from standardization stakeholders, checking the feasibility of developing a standardization deliverable and paving the way for a future standardization of the project results.

As a consequence of a permanent communication with CEN/TC 165, and in particular with its WG 40, the standardization route chosen for the ENERWATER methodology consists in the development of an European Technical Report (CEN/TR). This is an informative document that provides information on the technical content of standardization work and may be prepared when it is considered urgent or advisable to provide additional information to the CEN national members, the European Commission, the EFTA Secretariat, other governmental agencies or outside bodies.

Based on the draft provided by ENERWATER consortium, it is expected that CEN/TC 165 will follow the formal procedures of the European Standardization Organizations that finally lead to the publication of the document in the coming months.

2. Introduction

2.1. Background

The standardization activities of Task 5.4 are foreseen to promote the inclusion of the ENERWATER methodology in future standardization documents in order to facilitate its acceptance and utilization by the European wastewater sector. The final objective is to use the standardization system as a fast and much focused dissemination tool to the market stakeholders.

The study of the standardization landscape at European and International level included in Deliverable 5.2[1], confirmed the absence of specific normative documents in the framework of energy efficiency in WWTPs. The study also enabled the identification of the most relevant technical committees which could be useful for the project. In that sense, CEN/TC 165, *Wastewater engineering*, was selected as the main TC which should be closely monitored by the ENERWATER consortium, even establishing a bidirectional relationship that allowed a fluently exchange of information and the possibility to contribute and develop a standardization document considering the project results.

Based on these conclusions, ENERWATER had its first contacts with CEN/TC 165 in April 2016 and was formally invited to attend its 55th plenary meeting in November 2016 in London with the aim of informing the standardization stakeholders of the results achieved at that moment and evaluate the possibilities to address the developing of some standardization document. After the presentation of the ENERWATER project, it was proposed to add the issue to the work programme of CEN/TC 165/WG 40, focused on WWTP>50PT (see Deliverable 5.3[2]).

2.2. Aim of this report

[1] www.enerwater.eu/wp-content/uploads/2015/10/ENERWATER-D5.2-Standardization-landscape.pdf

[2] www.enerwater.eu/wp-content/uploads/2015/10/D5.3-ENERWATER_CORDIS.pdf

Taking into account the information and preliminary activities developed in Task 5.3, Deliverable 5.4 includes:

- the standardization route chosen for the ENERWATER methodology to be considered as part of a new work in CEN;
- the technical proposal itself; and
- the future expectations after the project lifetime.

3. Roadmap for a suitable European standardization

Once the CEN/TC 165 agreed to ask WG 40 to discuss how the issue energy efficiency of waste water treatment plants could be addressed in a new standardization document, the ENERWATER consortium focused its standardization activity on this working group.

In order to keep a direct and permanent channel of communication and exchange of information with WG 40, the representative from UNE in the ENERWATER consortium, was nominated to join and be part of it.

WG 40 had its first discussion on ENERWATER methodology at its 3rd meeting held in January 2017 in London (Annex 1). At this meeting it was also agreed to hold a joint ENERWATER-WG 40 meeting with the aim of presenting the ENERWATER methodology to the WG 40 experts in detail and jointly analyse the different possibilities to contribute to the standardization system and select the most suitable pathway to submit a standardization proposal.

The joint meeting finally held on 16th June 2017 in Madrid (Annex 1 and 2). Three were the presentations made by the ENERWATER consortium (Annex 3):

- An introduction to the Horizon 2020 ENERWATER project
- The ENERWATER methodology
- The ENERWATER methodology in practice: a case study.

Concerning the standardization route, two aspects were taken into account when the proposal was presented:

- The limited ENERWATER project lifetime that made convenient the development of a document in a fast way;
- The priorities of the WG 40 work programme. WG 40 was highly involved in the revision of the European standard EN 12255 series and the study of the ENERWATER methodology could be moved to a second place.

With these considerations, the CEN Workshop Agreement (CWA) seemed to be the most suitable type of CEN deliverable for the ENERWATER methodology. This kind of document consists in a technical agreement developed in an open structure, the Workshop (WS), and reflects the agreement of the registered participants responsible for its content. Despite of the CWA does not meet the same requirements of consensus and transparency of other CEN deliverables, it is a valid document for a new area or technology and provides an interesting option for standardization proposals based on R&D projects´ outcomes. Moreover, the reduced context for the consensus makes it possible for a CWA to be developed much faster than an EN or TS, which let respond to a short time framework.

Therefore, the ENERWATER consortium proposed to develop this kind of fast-track document in a specific CEN WS with contribution from TC 165/WG 40 experts. Once published, the CWA should be offered to CEN/TC 165 for assessment with a view to possible transformation into other document in the future (Technical Specification (TS), Technical Report (TR) or even an European Standard (EN)).

After some discussion and exchange of opinions on this issue, the roadmap for potential standardisation of ENERWATER proposed methodology was agreed. ENERWATER consortium would provide WG 40 a draft Technical Report (TR) which thereafter would be cascaded to CEN/TC 165 for comments. In time, it might be possible for the TR to be developed into an energy performance measurement standard. In this way, the Technical Report (TR), as other type of fast-track document, could ensure the goals of both WG 40 and ENERWATER were met.

Another recommendation from the technical discussion was the consideration by WG 40 of putting a holding paragraph in applicable EN 12255 parts as a reminder to include energy efficiency KPI´s as an informative annex (Annex 1).

Table 1. Characteristics of Technical Reports and Workshop Agreements

Type	International code	European code	National code	Main characteristics
Technical Report	ISO/TR IEC/TR	CEN/TR CLC/TR	When adopting: UNE-CEN/TR, NF-CEN/TR, UNE-ISO/TR, NF-ISO/TR, etc.	Elaboration: free timeframe Internal approval in TC European: optional national adoption No revision required, but recommended regularly review
Workshop Agreement	IWA	CWA	Variable	Elaboration: free timeframe (usually few months) Internal approval in the Workshop European: optional national adoption Revision: at 3 years (upgrading to EN or deletion)

As greed at Madrid meeting, Deliverable 3.4 was distributed among WG 40 members for comments in September 2017. Comments from German and Portuguese experts were received and discussed at the ENERWATER meeting held in Seville (Annex 4).

After considering the comments received and including some improvements in the defined methodology, in April 2018 a first version of the draft Technical Report was sent to WG 40 for its assessment. An updated and definitive version after validating the methodology was finally distributed within WG 40 in September 2018 (Annex 5). The document is already included for its review in the agenda of the 10th meeting to be held in Lisbon in November 2018 (Annex 6).

3.1. The process at national level

In parallel to the European process, at national level, particularly in Spain, the technical committee CTN 149, *Water engineering*, (CEN/TC 165 mirror committee in UNE) has also being informed about the progress of the project thereby providing awareness of standardization activities carried out in ENERWATER.

In fact, USC and UNE as representatives of ENERWATER, attended the meeting that this technical committee held in December 2017 in Madrid to make a presentation of the methodology and explain the progress within CEN/TC 165 (Annex 7). On the other hand, the members of CTN 149 were invited to participate in the event with stakeholders celebrated in April 2018 in Madrid (described in Deliverable 5.1[3]).

[3] http://www.enerwater.eu/wp-content/uploads/2015/10/ENERWATER-D5.1.pdf

4. The technical proposal

As said before, an European Technical Report was considered the most appropriate type of normative document to support standardization of the ENERWATER methodology. Annex 8 includes the final version of the draft proposed for publication by CEN/TC165/WG40 as a Technical Report. Subclause 4.1 describes the procedure to follow for its preparation and approval.

4.1. Preparation of Technical Reports

According to CEN/CENELEC Internal Regulations - Part 2:2018, Technical Reports shall comply with the following rules:

General
A Technical Report (TR) is an informative document made available by CEN/CENELEC in at least one of the official languages, established by a technical body and approved by simple majority vote of CEN/CENELEC national members. A Technical Report gives information on the technical content of standardization work.

Technical Reports may be established in cases when it is considered urgent or advisable to provide information to the CEN/CENELEC national members, the European Commission, the EFTA Secretariat, European agencies or outside bodies, on the basis of collected data of a different kind from that which is normally published as an EN.

Drafting
The decision to develop a TR can be taken by the Technical Board, by a CEN/CENELEC technical body. In the latter two cases, the work programme of that technical body shall include a work item indicating subject and end deliverable and the technical body shall secure approval of that work item.

TRs are drafted as far as applicable in accordance with the CEN/CENELEC Internal Regulations – Part 3.

Approval
TRs are approved by a vote by correspondence of the CEN/CENELEC national members.

The procedure for approval is as follows:

- the distribution of the appropriate reference document as prTR to the CEN/CENELEC national members is made by the CEN-CENELEC Management Centre;
- CEN/CENELEC national members are granted a 12-week term for consultation at national level and voting in accordance with 6.1.3, by correspondence;
  NOTE: A shorter period may be decided by the Technical Board on a case by case basis.
- The responsible CEN/CENELEC technical body assesses the votes.

If the draft TR (abbreviated prTR) fails the vote, the responsible CEN/CENELEC technical body shall decide either to review the draft or to stop the work.

Availability
The approved version of the TR is made available to the CEN/CENELEC national members by the CEN-CENELEC Management Centre, with the addition of a TR title page giving all the necessary information.

Updating and review
TRs are not amended but replaced by a new edition with the same number and new date of edition. Corrigenda published by the CEN-CENELEC Management Centre are, however, possible.

No time limit is specified for the lifetime of TRs, but it is recommended that TRs are regularly reviewed by the responsible CEN/CENELEC technical body to ensure that they remain valid.

5. Future expectations

In the short term, since the ENERWATER project has handed the draft Technical Report over to CEN/TC165/WG40, it is expected that the CEN/TR will be published in the coming months following the formal procedure described in 4.1. It is also expected that the four countries involved in ENERWATER plus Slovenia and Portugal, which have shown especial interest in the project, will be committed to the draft CEN/TR.

In any case the partners of ENERWATER consortium will continue being informed of the evolution of the project and will have the possibility to make the necessary contributions through the National Standardization Bodies of their respective countries. Therefore, after the project lifetime, the link between ENERWATER and the standardization system will remain active.

When finally published, the CEN/TR will be a common reference document for the European wastewater sector for assessing and improving the energy efficiency of its plants. The fact that the document is submitted to consultation and approval by the CEN´s National Members (the National Standardization Bodies of the 28 EU countries, the Former Yugoslav Republic of Macedonia, Serbia and Turkey plus three countries of the European Free Trade Association (Iceland, Norway and Switzerland)[4]), will give it greater acceptance, relevance and dissemination. The Technical Report will also serve to take into consideration the energy efficiency aspects when revising the current standards that the wastewater sector is already using (e.g. EN 12255 series).

In conclusion, the result of the standardization activities developed within the framework of ENERWATER will serve as a starting point to promote best practices and provide organizations and public authorities with the tools to take decisions and design policies to optimize and improve energy efficiency of installations in WWTPs.

6. List of annexes

The following documents are annexed to this report as part of Deliverable 5.4:

Annex 1. Reports of CEN/TC 165/WG 40 meetings with references to ENERWATER project.
Annex 2. Invitation and agenda for the joint ENERWATER-CEN/TC 165/WG 40 meeting in Madrid on 16th June, 2017.
Annex 3. Presentations made by ENERWATER consortium at the joint meeting in Madrid.
Annex 4. Comments to ENERWATER methodology received from WG 40.
Annex 5. Communications with CEN/TC 165/WG 40 regarding draft TR.
Annex 6. Draft agenda of the 10th CEN/TC 165/WG 40 meeting to be held in Lisbon in November 2018.
Annex 7. Agenda of CTN 149 meeting on 2017/12/13.
Annex 8. Draft Technical Report proposed to CEN/TC 165/WG 40.

[4] The list of the CEN´s National Members can be found in the following link: https://standards.cen.eu/dyn/www/f?p=CENWEB:5

Annex 1