TECHNICAL BOARD

CEN/BT by correspondence

For information **Issue date:** 2018-11-28

SUBJECT

Announcement of the CEN Workshop "Guideline to design, implement and economically assess an innovative and adaptable envelope system in building refurbishment"

BACKGROUND

UNE has put forward a proposal for a CEN Workshop, with a draft Project Plan on "Guideline to design, implement and economically assess an innovative and adaptable envelope system in building refurbishment".

The workshop is proposed within the context of the FP8 (H2020) project BRESAER that will develop a cost-effective, adaptable and industrialized “envelope system” for buildings refurbishment. The intended content of the workshop is twofold:

- design process of an innovative and adaptable envelope for building refurbishment, describing the possible different technologies and components, and providing guidelines on the selection criteria, limitations for the implementation, estimated costs and payback calculations. This information is intended to help building envelope designers to make informed decisions considering the building particularities.
- production, transport, storage and installation aspects for each system component of an innovative and adaptable envelope for building refurbishment, providing orientation and advice for installers on the overall logistics for the real implementation.

UNE will provide the CEN Workshop secretariat, subject to formal acceptance of the Project Plan at the kick-off meeting. Secretaries and chairpersons of technical committees with related scope have also been invited to the kick-off meeting.

The proposed draft Project Plan of the possible CEN Workshop is in Annex 1. The kick-off meeting will be held on Wednesday 19 December 2018, at the UNE offices.

Should you have any comments on the launching of this CEN Workshop or on its proposed Project Plan, you are invited to contact Mr. Javier López-Quiles (jlopez@une.org).

Assessment

The proposed Workshop was evaluated by CCMC with regard to the four conditions under which there is a need for approval by the BT members before proceeding with the process to launch a workshop:

- The proposed Workshop does not deal with safety matters
- The proposed Workshop does not deal with conformity assessments aspects
- The proposed Workshop does not deal with management systems aspects
- The proposed Workshop does not fall in the scope of other CEN or CENELEC technical committees

Considering the above, together with the self-assessment (Annex 2), there is no need for a CEN BT decision.

2018-11-05

DRAFT

Project Plan for the CEN or CENELEC Workshop on “Guideline to design, implement and economically assess an innovative and adaptable envelope system in building refurbishment”

(to be approved during the Kick-off meeting on 2018-12-19)

1. Status of the Project Plan

Draft Project Plan to be approved at the Kick-off meeting of the Workshop.

2. Background to the Workshop

2.1 Market environment

The current building stock of the EU has an enormous potential for improvement of the energy efficiency and the application of renewable energy systems, making the transformation of that building stock into energy efficient buildings essential to the climate and energy objectives established in the European 2020 Strategy:

a) 20% target for GHG reductions.
b) 20% of EU energy to be sourced from renewables.
c) 20% reduction in energy use

The industry sector can improve its technological competence, particularly aiming at producing solutions that require less energy. By doing so, the industry sector becomes ready to reach these environmental goals. In addition, this will also contribute to increase the competitiveness of the European construction sector in a global competitive environment. The construction industry however, due to its economic model and long time needed to finish a product and obtain payback, has the particularity that it cannot experiment widely with new technologies. It will do so unless they have been proven, there are guarantees they will perform better than traditional ones in the long term, that they comply with regulations and that there are incentives for their application (reduced costs when compared to traditional technologies).

Since the building envelope (façade and roof) is usually a passive boundary between the indoor and outdoor climate, an 'active' envelope responds to (and anticipates on) changes in indoor and outdoor conditions. Therefore the envelope is key element to address in order to

significantly increase the energy efficiency and the use of renewable energy in the building sector.

Advanced technologies achieve considerable gains concerning the energetic efficiency of building envelopes. This concerns both new buildings and the energetic retrofitting of existing ones. Better insulation of buildings is not only increasing their energy efficiency in cold climates but also in warm and hot regions due to the reduction of cooling (AC) power. The use of renewable energy in the building sector has been traditionally dominated by the application of solar domestic hot water and PV systems in new buildings for single-family houses and small non-residential buildings, omitting the existing building stock. Hence, integrated retrofitting concepts can contribute to take advantage of the potential in the existing stock of both residential and non-residential buildings. Concepts easily implemented and versatile as building envelope to integrate both active and passive solutions using prefabricated and adapted existing technologies, as well as technologies tailored for the building use, are needed.

2.2 Legal environment

The European Commission has set up a legal framework represented by the Energy Efficiency Directive (2012/27/EU) and the Energy Performance of Buildings Directive (2010/31/EU). The first one establishes a set of binding measures to help the EU reach its 20% energy efficiency target by 2020, and all EU countries are required to use energy more efficiently at all stages of the energy chain from its production to its final consumption. The second one lays down the common general framework for a methodology for calculating the integrated energy performance of buildings and building units, the application of minimum requirements to the energy performance of existing buildings, building units and building elements, and other. Recently these two directives have been modified by the Directive 2018/844 (EU), with the objective of accelerating the rate of building renovation towards more energy efficient systems and strengthen the energy performance of new buildings, making them smarter.

2.3 Existing standards

There are some standards related to some elements used in Innovative and adaptable envelope systems in building refurbishment:

REFERENCE	**TITLE**
EN 14351-1:2006+A2:2016	Windows and doors - Product standard, performance characteristics - Part 1: Windows and external pedestrian doorsets
EN 13659:2004+A1:2008	Shutters - Performance requirements including safety
EN IEC 61730-1:2018	Photovoltaic (PV) module safety qualification - Part 1: Requirements for construction

EN IEC 61730-2:2018	Photovoltaic (PV) module safety qualification - Part 2: Requirements for testing
EOTA's ETAG 034	Cladding Kits Part 1: Ventilated Cladding Kits comprising Cladding components and associated fixings Part 2: Cladding Kits comprising Cladding components, associated fixings, subframe and possible insulation layer

2.4 Motivation for the creation of this Workshop

This workshop is a result of the currently ongoing Horizon 2020 BRESAER project (Breakthrough solutions for adaptable envelopes for building refurbishment), whose general objective is to design, develop and demonstrate an innovative, cost-effective, adaptable and industrialized envelope system for buildings refurbishment including combined active and passive prefabricated solutions integrated in a structural mesh. The BRESAER system has the potential to solve the problem of the construction sector with respect the utilisation of innovative solutions, by using a combination of known and novel technologies, having potential for success when applied in building refurbishment projects. The main expected impacts that will contribute to improve the energy performance of the refurbished buildings are:

- Total (primary) energy consumption reduction by at least 60% compared to the values registered before the installation of the adaptable envelope, and a consumption of less than 60 kWh/m²;
- Improved indoor environment: the BRESAER system will improve indoor environment quality by increasing thermal, acoustics, lighting comfort and air quality (IAQ);
- Provide solutions with attractive return on investment.

At this moment, all the components of the BRESAER system have been developed, tested in a real environment, certified under relevant structural and safely of use standards and a real demonstrator is being implemented in Burgos, Spain, to accurately assess its energy performance.

The creation of this CEN Workshop was identified by the project consortium as a very useful way to **disseminate the BRESAER project findings and results**, in accordance with the dissemination activities carried out to facilitate the acceptance and utilisation by the market of the developed solutions through the interaction with the standardisation system.

3. Workshop proposers and Workshop participants

This CEN Workshop is proposed by ACCIONA Construcción S.A. and by the Spanish Association for Standardisation (UNE), which will hold the Workshop secretariat.

The participants in the CEN Workshop are the partners in the H2020 project BRESAER:

#	**ORGANISATION**	**COUNTRY**
1	ACCIONA	SPAIN
2	UNE	SPAIN
3	EURECAT	SPAIN
4	CARTIF	SPAIN
5	EKODENGE	TURKEY
6	EMI	HUNGARY
7	MONDRAGÓN	SPAIN
8	NANOPHOS	GREECE
9	NATIONAL MINISTRY OF EDUCATION OF TURKEY	TURKEY
10	SOLARWALL	SPAIN
11	STAM	ITALY
12	TECHNION	ISRAEL
13	TECHNOFI	FRANCE
14	TECNALIA	SPAIN
15	TNO	NETHERLANDS
16	YOURIS	BELGIUM
17	UNIVERSIDAD DE BURGOS	SPAIN

The workshop is open to any interested party or entity that is willing to support the aims of the project plan. The participation will be free of charge.

4. Workshop scope and objectives

This workshop will develop a CEN Workshop Agreement (CWA) with the following main content:

- design process of an innovative and adaptable envelope for building refurbishment, describing the possible different technologies and components, and providing guidelines on the selection criteria, limitations for the implementation, estimated costs and payback calculations. This information is intended to help building envelope designers to make informed decisions considering the building particularities.

- production, transport, storage and installation aspects for each system component of an innovative and adaptable envelope for building refurbishment, providing orientation and advice for installers on the overall logistics for the real implementation.

The CWA is expected to help all relevant stakeholders related to building envelopes value chain and contribute to disseminate the BRESAER project findings. The final document is expected to be freely distributed.

5. Workshop programme

The working language will be English, and the CWA will be drafted and published in English. The estimated duration of the Workshop is 9 months, until July 2019. Besides the on-site kick-off meeting, other meetings and decisions are expected to be held by electronic means.

5.1 Work Plan

The work Plan includes one work item:

- CWA xxxxx: Innovative and adaptable envelopes in building refurbishment. Design, economic assessment, logistics and installation guidelines

The CWA will be developed according the following schedule:

Task	2018				2019													
	Nov		Dec		Jan		Feb		Mar		Apr		May		Jun		Jul	
Project Plan elaboration																		
Commenting period 1																		
Kick-off meeting																		
Drafting																		
Commenting period 2																		
Final approval																		
Publication																		

Despite no safety aspects will be included in the CWA, a commenting period of 60 days is foreseen in order to maximize the transparency and openness of the process. Received comments will be circulated among CEN Workshop participants and will be subject of specific treatment prior the final draft approval.

6. Workshop structure

6.1 Chairperson

The Workshop Chairperson will be appointed by ACCIONA (subject to formal approval of the Project Plan at the Kick-of meeting) and will have five main responsibilities:

• Presides at Workshop plenary meetings
• Ensures Workshop delivers the agreement in line with its Project Plan
• Manages the consensus building process, decides when the Workshop participants have reached agreement on the final CWA, based on the comments received
• Interface with CEN-CENELEC Management Centre (CCMC) and CEN Workshop Secretariat regarding strategic directions, problems arising, and external relationships
• Ensures due information exchange with the Workshop Secretariat

6.2 Secretariat

The CEN Workshop Secretariat will provide the formal link to the CEN system through administrative and operational tasks. The Workshop Secretariat will be held by UNE (subject to formal approval of the Project Plan at the Kick-of meeting) and will have five main responsibilities:

• Formally register Workshop participants and maintain record of participating organisations and individuals
• Offer infrastructure and manage documents and their distribution through the electronic platform
• Prepare agenda and distribute information on meetings and meeting minutes/follow up actions
• Initiate and manage CWA approval process upon decision by the Chairperson
• Advise on CEN rules and bring any major problems encountered (if any) in the development of the CWA to the attention of CEN-CENELEC Management Centre (CCMC)

7. Resource requirements

Registration and participation at this CEN Workshop are free of charge, but each participant shall bear his/her own costs for travel, accommodation, and subsistence.

The administrative costs of the CEN Workshop Secretariat as well as the logistical support, such as online conference tool, will be covered by BRESAER through its Horizon 2020 funding. The copyright of the CWA shall be with CEN. 8% secretariat costs will be provided by UNE to CCMC to cover the free download of the published CWA.

8. Related activities, liaisons, etc.

In the framework of the BRESAER project, European and international standardisation landscapes have been studied looking for existing or ongoing works related to envelopes for buildings. No standardisation technical committees have been identified dealing with this kind of systems. Only two documents issued by EOTA partially maintain relationship with envelope systems, ETAG 034-1 and ETAG 034-2 on cladding kits, but the scope of the CWA is totally different from these.

9. Contact points

Proposed Chairperson:
Isabel LACAVE
ACCIONA Construcción S.A.
C/ Valportillo Segunda 8,
28108 Alcobendas (Madrid)
Tel. 1: +34 918316676
Tel. 2: +34 917912020
isabel.lacave.azpeitia.EXT@acciona.com
www.acciona-construccion.com

Secretariat:
Javier LÓPEZ-QUILES
UNE
C/ Génova 6
28004 Madrid
Tel.: +34 914326070
jlopez@une.org
www.une.org

CEN-CENELEC Management Centre
Padmaja KAMATH
Project Manager
CCMC
Rue de la Science, 23
B-1040 Brussels
Tel.: +32 2 550 09 47
pkamath@cencenelec.eu
www.cen.eu

EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

2018-11-20

Draft Agenda for the kick-off meeting of CEN / WS Guideline to design, implement and economically assess an innovative and adaptable envelope system in building refurbishment

2018-12-19, 10:30 a.m. – 15:30 p.m.

Venue:

Spanish Association for Standardisation (UNE)
C/ Génova, 6, 28004, Madrid, Spain
Room 4.1 (4th floor)

Agenda		**Timing**
1.	Opening of the meeting (10:30 h)	10’
2.	Roll call of participants	10’
3.	Adoption of the agenda	10’
4.	Introduction on CEN and on the Workshop concept	20’
5.	General presentation of the Workshop	20’
6.	Other presentations D2.3 Design guide D2.4 Initial cost and payback calculation D4.3 Logistics and initial installation analysis	60’
7.	Election and appointment of Workshop Chair and confirmation of the Secretariat	20’
Lunch break (13:00 h)		45’
8.	Project Plan	
	a. Discussion and review of comments received	45’
	b. Adoption of the Project Plan (by consensus)	15’
9.	Organization of the technical work	20’
10.	Any other business	10’
11.	Next meeting, future actions and their assignment	10’
12.	Closure of the meeting (15:30 h)	5’