EUROPEAN COMMISSION
JOINT RESEARCH CENTRE

Directorate B: Growth and innovation
Unit B.5. Circular economy and Industrial leadership

2nd Ad-Hoc Working Group (AHWG) meeting for the revision of Green Public Procurement criteria for:

Buildings

Presentation about second set of criteria proposals

Held online on 30th June 2023

Minutes of the meeting

Seville
Comisión Europea, Edificio Expo, Calle Inca Garcilaso, 3, 41092 Sevilla, ESPAÑA -

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Agenda

Time	Agenda point
9:40 - 10:00	Introduction and selection criteria.
10:00 - 10:25	Theme 1: Energy consumption and greenhouse gas emissions.
10:20 - 11:00	Theme 2: Material circularity.
11:00 - 11:10	Theme 3: Efficient use of water resources.
11:00 - 11:20	Break
11:20 - 11:45	Theme 4: Occupant comfort and wellbeing.
11:50 - 12:15	Theme 5: Vulnerability and resilience to climate change.
12:15 - 12:20	Theme 6: Life cycle costing.
12:20 - 12:50	Theme 7: Biodiversity.
12:50 - 13:30	Final feedback and Q&A

Purpose of this meeting

The purpose of this meeting is to present the second draft of the criteria, updated according to the comments received from stakeholders. In addition to that, to ensure transparency, explaining the proposed changes and the reasons for them, to facilitate the future provision of further feedback through written comments on 10 July.

Introduction to GPP criteria for buildings

In this section the JRC has summarised the most important aspects of the criteria as well as the most important challenges for the process of their definition arising from the revision of the regulatory framework affecting the building sector.

Selection criteria

The JRC presented an overview of:

- *Selection criteria for: (i) the project manager, (ii) the design team, (iii) the main construction contractor and specialist contractors, (iv) Design-Build-Operate contractors and property developers and (v) energy management systems.*

The modifications made to these criteria have been the vehicle for channelling the necessary improvement in the sustainability skills of the actors involved in the building sector.

Stakeholder input to Slido:

Most of the participants agreed in that there is room for improvement in reskilling the sector in sustainability aspects and consensus was reached that the main constructor seemed to be the one who most needed to be upskilled in this matter.

Theme 1: Energy consumption and greenhouse gas emissions

The JRC presented an overview of the main changes on:

- *Criteria under Theme 1.1 Use stage energy consumption (1.1.1 on use stage primary energy consumption; 1.1.2 on passive features; 1.1.3 on energy efficient HVAC, lighting, water heating and other building equipment, 1.1.4 on energy management and onsite renewables and 1.1.5 on Commissioning of energy technical installations).*
- *The award criterion under Theme 1.2 Whole life carbon (WLC).*

The JRC explained how criteria in this theme have been modified to be further aligned with other EU policies, such as the EPBD recast and the EU Taxonomy. Moreover, the level of ambition has been strengthened and the commissioning of technical energy installation has been included to respond to stakeholders comments.

Stakeholder input to Slido:

Roughly, half the stakeholders that responded to Slido stated that they had some basic knowledge on Energy consumption and GHG emissions in buildings. The remaining was evenly distributed among those who were experts and those with some solid background. Only 3% of the stakeholders had no background.

The stakeholders ranked the subtopics that would need further revision as follows:

1. Installation of building energy management and on-site or nearby renewable energy systems
2. Commissioning of energy technical installations
3. Energy-efficient HVAC, lighting, water heating and other building equipment
4. Whole life cycle assessment
5. Passive features
6. Use-stage energy consumption

However, it does not match later discussion as the first two ranked subtopics received no comments, while the one of passive features was the most argued.

Stakeholder discussion:

Regarding the TS1.1.2 on passive features, stakeholders expressed support to the move to climate-differentiated U and g-values. However, they claimed that the Passive House should not be favoured in a public EU reference document as it is a private organisation. The JRC justified its mention in the criteria because their requirements are widely known and well stablished, despite any other institution with climate-differentiated criteria would also be accepted. The JRC asked the stakeholders to name additional institutions that could be also mentioned in the criteria for its consideration.

As an alternative to this criterion, it was suggested to award % improvement of insulation values compared to the national legislation, as countries carry out regular cost-analysis studies under the EPB Directive to update them. Moreover, as an alternative to checking the U and g-values of component separately, the possibility to provide a holistic Passive House calculation for the whole building was also proposed. The JRC will study both proposals.

In addition, stakeholders asked how the climatic zones are defined. Furthermore, it was stated that the criteria should be flexible, as every country has "fine tuned" zones that cannot be neglected. The JRC replied that guidance for the definition of the zones will be provided and that they will try to be aligned with the definitions in other EU policies such as the EPBD recast.

As for TS1.1.3 on efficient equipment, there were some doubts about the “static” (criteria related to top energy classes) or a “dynamic” approach (criteria related to % top performers). Despite some stakeholders agree a dynamic approach ensures that the criteria remain valid, it is true that it requires more assessment and verification effort. The JRC said that filters in Energy Product Registry for Energy Labelling (EPREL) database are expected to be useful and minimise the additional assessment and verification effort of this approach.

Finally, support was expressed for the new Contract Performance Clause on Commissioning of energy technical installations.

As for the Theme 1.2, a stakeholder asked when the WLC assessment should be done. The JRC answered that there were two different approaches in the technical specification. In the core criteria, the assessment is only required at the design stage. In the comprehensive criteria, it shall be carried out at the design stage, after the building has been completed, and after X years occupation.

Theme 2: Material circularity

The JRC presented an overview of the following criteria on Theme 2.

- *2.1: Bill of materials.*
- *2.2: Design for deconstruction*
- *2.3: Design for adaptability*
- *2.4: Design for repairability and upgrading*
- *2.5: CDEW (Construction, Demolition and Excavation Waste) management*

The most important innovations in theme two have been aimed at promoting a circular approach to the building, starting from the design phase and highlighting its leading role. Key concepts have been introduced, such as the estimation of replacement, the selection of materials, selective demolition, easy-to-dismount elements, removal of hazardous substances and high-quality recycling, among others. To ensure the incorporation of a circular economy thinking, a new award criterion has been added regarding design for reparability and upgrading and the target for reuse, recycling and recovery of non-hazardous waste have been increased, according JRC studies to support the revision of the Waste Framework Directive.

Stakeholder input to Slido:

Most of the attendance has a solid or basic background in material circularity and has expressed that the criteria that need further review are Design for reparability and upgrading and Construction, demolition and excavation waste management.

Stakeholder discussion – Theme 2:

The discussion has focused on: raising the level of ambition by requiring the removal of hazardous substances in the core level; framing TS 2.2 as design for circularity as it enables not only deconstruction; guiding contracting authorities to evaluate and compare proposals and to verify the quality of secondary materials before being reused: aligning with the FWD not taking incineration into account and defining recycling in more detail and asking for voluntary reporting formats.

Theme 3: Efficient use of water resources

The JRC presented an overview of the following criteria on Theme 3:

- *3. 4: Greywater reuse systems.*

The JRC presented the main change about Technical specification 3.4 on Greywater systems which concerns the inclusion of greywater reuse systems in buildings to be subject to feasibility studies. Additionally, a new Contract Performance Clause on Commissioning of technical water installations was included in line with the new Contract Performance Clause on Commissioning of electrical installations in Theme 1.

Stakeholder input to Slido:

Almost half of the stakeholders who responded the Slido question on familiarity with the efficient use of water resources in buildings indicated that they have some basic knowledge on the topic.

They also indicated that the criteria on rainwater harvesting systems would need less revision while the requirements on grey water reuse systems would need the most. However, the audience did not raise any questions nor shared any concerns regarding grey water reuse systems during the meeting.

Stakeholder discussion:

One stakeholder suggested to include the water stress index per region in order to be used as a "trigger" for water-concept. Also the outer areas to be assessed including roof i.e. in case of a high ratio of the "Green area" there will be "low" need of reuse. Another stakeholder suggested that the rainwater storage capacity should need more detail (absolute values). The stakeholder indicated that the calculations should include monthly rainwater availability. The design condition asking to cope with a typical 21 dry period would probably be very difficult to be accomplished in some southern EU regions (i.e. Spain).

Theme 4: Occupant comfort and wellbeing

The JRC presented an overview of the following criteria on Theme 4, which have presented the main modifications.

- *Criteria under Theme 4.1 on Indoor Air Quality (IAQ): (4.1.1. Ventilation system performance)*
- *Criteria under Theme 4.2 on Thermal Comfort: (4.2.1: Time out of thermal comfort range).*
- *Criteria under theme 4.3 on (interior) lighting: (4.3.1 Electric lighting requirements).*
- *Criteria under Theme 4.4 on Acoustics: (4.4.1 Weighted average sound pressure levels).*
- *Criteria under theme 4.5 on Electropollution: (4.5.2. In-situ assessment of wiring installation and EMFs).*

- *Criteria under theme 4.6 on Accessibility: (4.6.1. Physical access to the building and its services).*

The JRC highlighted the main changes in the criteria. Concerning Indoor Air Quality, the thresholds of acceptable CO_2 concentration have been strengthened and requirements on ventilation rates per occupant have been added. In addition, the monitoring and control of several pollutants will be awarded. As for thermal comfort, the required category in the core criterion has been modify to foster energy sufficiency but the tolerances in the comprehensive criterion have been reduced.

Moreover, the JRC indicated 3 main changes affecting the criteria on electric lighting (TS 4.3.1). First, it is been proposed to limit the CCT only in places where people work during the dark hours. Secondly, it is proposed that interior light sources are dimmable but without prescribing a particular control system (manual or wireless). Finally, references to energy classes have been removed from technical specification 4.3.1 as they are already covered in Theme 1.

The only main change highlighted by JRC in TS 4.4.1 is the addition requirements on speech intelligibility and reverberation time.

Criteria on electropollution did not include substantial changes. However, it's been stressed the importance of considering the thresholds proposed for electromagnetic radiation always in combination with the already existing ones in national and regional relevant legislation.

Finally, the JRC presented the new criteria on accessibility, in a view to have a 'Design-for-all' approach in EU GPP criteria for Buildings. The JRC indicated that the criteria has been drafted in collaboration with other Commission Directorate-Generals such as DG EMPL. The criteria is in line with the Accessibility Act and the requirements are also built on the standard EN 17210. The JRC indicated that additional requirements taken for Green Building Rating Schemes were not included as per recommendation by other Commission Services. The reason for this is to avoid potential legal issues. The JRC also expressed the possibility of adding additional accessibility requirements as an award criteria to be subject to further discussions with relevant actors in the future.

Stakeholder input to Slido:

Around half of the respondents to the first Slido question have solid background on occupant comfort and wellbeing in buildings while the other half has at least some basic knowledge. It seems there were only a few experts in the room on the topic.

The stakeholders welcomed the criteria on accessibility as the one that may need less revision. The requirements that may need more revision according to the respondents of the Slido poll are the criteria on electropollution.

More in detail, the stakeholders ranked the subtopics that would need further revision (from more to less need for revision) as follows:

1. Electropollution
2. Acoustics
3. Indoor air quality

4. Lighting
5. Thermal comfort
6. Accessibility

Stakeholder discussion:

About requirements for natural ventilated spaces, it was suggested to include limitations of the room depth depending on whether they have single-sided or cross ventilation. The JRC responded that the proposal will be studied.

One stakeholder claimed that Category I of IAQ is meant for spaces with sensitive occupants (schools, hospitals) and that Category II should be allowed for other uses. However, despite the JRC agrees that these requirements should not be too ambitious in order not to conflict with energy sufficiency, they are most likely to be maintained, as the IAQ category I thresholds in EN 16798 correspond to those of category II in other standards and national legislation.

Regarding AC4.1.1, it was recommended to also consider measurements of TVOC and Formaldehyde (according to ISO 16000 -3 and -6). Moreover, beyond the presence of a sensor only, the data would need to be used somehow. JRC accepted the point and highlighted that this will be explored in more detail.

One stakeholder TS4.3.1 recommends CCT below 3000K when sun is down/during dark hours. The supporting rationale on page 84 is that low CCT will minimize circadian rhythm disturbance. We would like to express our concerns with this requirement, since lighting requirements at these times are determined by the task that needs to be done and type of shift-work, e.g. some type of work requires alertness from a safety point of view. This requires higher CCT. We propose to adjust the requirements in this section to the activities being performed and the need of the people in the space independent of time of day. Requirements may be found in EN 12464-1:2021. Further information may be found in ISO CIE TR 21783 Integrative Lighting - Non visual effects. The JRC replied that these documents will be checked in view of the preparation of the next set of EU GPP Buildings criteria on lighting.

Another stakeholder indicated that 3000 K is not advised in rooms when combined with natural light. 4000K-3000K should be recommended. Lastly, a stakeholder commented that pursuing wellbeing, would be nice to include circadian lighting, especially in schools or hospitals.

The JRC replied that with the 3000 K the circadian rhythms are being preserved. But is willing to re-assess these requirements in view of the comments received.

Theme 5: Vulnerability and resilience to climate change

The JRC presented an overview of the following criteria on Theme 5.

- *Criteria under Theme 5.1 Climate vulnerability risk assessment*
- *Criteria under Theme 5.2.Future thermal comfort: (5.2.1. Time out of (thermal comfort) range and 5.2.2. Passive features* to minimise overheating risk.
- *Criteria under Theme 5.*3 Design for resilience to drought
- Criteria under Theme 5.4 Design for resilience to storm/heavy precipitations
- Criteria under Theme 5.5 Design for resilience to flooding.

- *Criteria under Theme 5.6 on Sustainable drainage.*

The focus of this criterion has been changed by basing the technical specifications and their level of ambition on the results of a CVRA. Depending on the level obtained, a series of measures are proposed from which different technical options can be selected, leaving the design team free to choose. In addition, the need to consider trade-offs with other risks is pointed out by exemplifying the different impacts of each measure on other climate events.

Stakeholder input to Slido:

Most of the attendance has a basic or no background in vulnerability and resilience to climate change in buildings and maybe we can find here the reason why it has been so few comments on this topic. Their takes about the criteria that need further review are Design for resilience to flooding, to heat waves and to storms and heavy precipitations

Stakeholder discussion – Theme 5:

There was no discussion regarding this topic.

Theme 6: Life cycle costing

The JRC indicated that no important modifications were implemented in Theme 6. No questions were raised by the audience.

Theme 7: Biodiversity

The JRC presented an overview of the following criteria on Theme 7:

- *7.2: Landscaping and habitat creation*
- *7.3: Roof and façade greening systems*
- *7.5: Certification for wood products*

The JRC explained how the criteria on landscaping and habitat creation embraced a less prescriptive approach, especially in the core criteria. It also incorporated a new requirement on the need for the contracting authority to provide tenderers with a biodiversity assessment so pre-existing ecological conditions of the building plot are considered. This would be in line with some Green Building Rating Schemes that already include similar requirements. Additionally, as part of the comprehensive criterion, the role of plants have been highlighted to create shadows especially in the case of playgrounds in educational buildings.

The JRC indicated that the criteria on roof and façade greening systems have been re-structured and reworded to some extent. No specific criteria per typology of green roof (intensive or extensive) have been prescribed as it was intended in the previous EU GPP for Buildings proposed criteria. Moreover, the role of native plants used in green walls and green roofs have been stressed in both, core and comprehensive criteria. Finally, the JRC highlighted the importance of the existence of maintenance plans for both, green roofs and green walls so the vegetation of these greening infrastructures is preserved.

The JRC presented a new technical specification on chain of custody for wood products. The JRC explained that the requirements are largely based on the existing ones in the EU Ecolabel for wood products including the threshold of 70%.

Stakeholder input to Slido:

The degree of satisfaction with the EU GPP requirements on landscaping and habitat creation as well as on green walls and roofs scored high. However, criteria on artificial light at night were considered as the requirements that may need most revision.

Stakeholder discussion:

One stakeholder indicated that it seems the greening of roofs and facades are strategies to improve landscaping and habitat creation and asked whether the former could be part of the latter, not as a separate issue. The JRC agreed with this comment and indicated that it will be considered in the next revised set of criteria.

Final feedback and Q&A

Stakeholders raised their concern about the need to finish this process as soon as possible and in an efficient way to avoid more buildings without sustainability criteria.

They also suggested highlighting in the reports the fact that the GPP approach for buildings is based on the idea of proposing a comprehensive set of criteria that allows the contracting authority to adapt the process to their national and local scenario by choosing the most appropriate ones. The JRC agrees and also underlines the need to find a balance between simplicity and level of ambition.

They also asked about the next steps, which are clarified below.

The JRC thanked the participants for their time and contributions.

Next steps

- We will email to everyone **draft minutes** of the meeting within one week. Then, we will upload minutes to the JRC website (slides too).
- You will have until 10th July **to submit comments** on the second criteria proposals via BATIS.
- The next set of criteria, answer to stakeholders' comments and background report will be published in late September or early October. They will be sent to DG ENV to start the InterService Consultation. Once finalised, the final criteria will be published.