**1st Ad-Hoc Working Group (AHWG) meeting for the revision of EU Ecolabel criteria for the product group:**

**Hard Coverings**

**Presentation about policy and project background, product group scope, definition and initial criteria proposals for**

**Concrete-based hard coverings: 10 Dec. 2018**

**Ceramic and clay-based hard coverings: 12 Dec. 2018**

**Natural and agglomerated stone-based hard coverings: 14 Dec. 2018**

**Minutes of the meeting**

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# Agendas

**10 December 2018**

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| **Time** | **Agenda point** |
| 09:30 - 09:40 | Welcome and introduction. |
| 09:40 – 10:20 | High level introductory points and any questions on that. |
| 10:20 – 11:00 | General criteria structure, scoring, presentation of horizontal criteria 1.1 to 1.3 and any relevant questions/discussion. |
| 11:00 – 11:10 | Presentation of horizontal criteria 1.4 to 1.6 and any relevant questions/discussion. |
| 11:10 – 11:20 | Presentation of horizontal criteria 1.7 to 1.9 and any relevant questions/discussion. |
| 11:20 – 11:30 | Concrete sector background, criteria structure, scoring approach and any relevant questions/discussion. |
| 11:30 – 12:00 | Cement criteria (5.1 to 5.4) on clinker factor, non-CO2 emissions to air, CO2 emissions and kiln efficiency. |
| 12:00 – 12:30 | Concrete plant and product criteria (5.5 to 5.8) on recycled/secondary content, energy consumption, photocatalytic surfaces and permeable paving. |
| 12:30 – 12:35 | Summary and closure of the meeting. |

**12 December 2018**

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| **Time** | **Agenda point** |
| 09:30 - 09:40 | Welcome and introduction. |
| 09:40 – 10:10 | High level introductory points and any questions on that. |
| 10:10 – 10:40 | General criteria structure, scoring, presentation of horizontal criteria 1.1 to 1.3 and any relevant questions/discussion. |
| 10:40 – 10:55 | Presentation of horizontal criteria 1.4 to 1.6 and any relevant questions/discussion. |
| 10:55 – 11:05 | Presentation of horizontal criteria 1.7 to 1.9 and any relevant questions/discussion. |
| 11:05 – 11:20 | Specific kiln energy consumption and specific freshwater consumption criteria (4.1 to 4.2) and discussion on CO2. |
| 11:20 – 11:50 | Emissions to air (dust, HF, NOx and SO2), wastewater management, process waste reuse and glazes (criteria 4.2 to 4.6). |
| 12:20 – 12:30 | Summary and closure of the meeting. |

**14 December 2018**

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| **Time** | **Agenda point** |
| 09:30 – 09:40 | Welcome and introduction |
| 09:40 – 10:10 | High level introductory points and any questions on that. |
| 10:10 – 10:30 | General criteria structure, scoring, presentation of horizontal criteria 1.1 to 1.3 and any relevant questions/discussion. |
| 10:30 – 10:40 | Presentation of horizontal criteria 1.4 to 1.6 and any relevant questions/discussion. |
| 10:40 – 10:50 | Presentation ofº horizontal criteria 1.7 to 1.9 and any relevant questions/discussion. |
| 10:50 – 11:00 | Natural stone sector background, criteria structure, scoring approach and any relevant questions/discussion. |
| 11:00 – 11:40 | Quarry criteria (2.1.1 to 2.1.5) on quarry landscape impact ratio, material efficiency, water and wastewater management, air pollution minimisation and noise control. |
| 11:40 – 12:00 | Processing plant criteria (2.2.1 to 2.2.3) on energy consumption, emissions to water and recycling of waste from processing operations. |
| 12:00 – 12:10 | Agglomerated stone sector background, criteria structure, scoring approach and any relevant questions/discussion. |
| 12:10 – 12:30 | Agglomerated stone criteria (3.1 to 3.4) on energy consumption, emissions to air, recycled/secondary material content and binder content. |
| 12:30 - 12:35 | Summary and closure of the meeting |

# Horizontal criteria and aspects

## High level introductory points

*The JRC briefly explained the policy background to the EU Ecolabel as part of the wider sustainable production and consumption policy of the Commission. Other aspects covered were the hard covering project background and timeline, current uptake of the criteria in the sector, relevant REFIT conclusions, the potential influence of Green Building Assessment (GBA) schemes and Environmental Product Declarations (EPDs), the new scoring approach in general and the scope and definition*

Stakeholder discussion:

About the scoring approach, it was mentioned that the Nordic ecolabel also has some product groups with a scoring approach and that there is genuine interest from producers to be able to go for gold, silver, bronze type labels in order to further distinguish themselves. However, the Nordic Ecolabel currently does not allow for this distinction.

Regarding the potential influence of EPDs, one stakeholder wished to highlight the fact that the unquestioned recognition of EPDs by GBAs is a concern. An EPD does not guarantee any good environmental performance or even highlight poor performance. It is simply numerical information that may contribute to LCA impacts at the level of the building if someone wishes to do that - but that this is generally not being done in the end according to some stakeholders.

Regarding the potential influence of EPDs, one ceramic industry stakeholder confirmed that the main reason for the sectorial EPD in Italy was the recognition offered by some GBAs. The same stakeholder stated that the drop in EU Ecolabel licensed products in Italy (e.g. by Concordia) was due to increases in the license costs and that further drops are likely to occur. They added that it was not related to EPDs being considered better or cheaper. In fact, the EPD exercise is not considered as cheap at all. A sectorial EPD was due to be published imminently for the Spanish ceramics sector.

JRC responded by saying that the EU Ecolabel regulation defines thresholds for fees to be applied by Competent Bodies for any particular product group. Then it is up to the Competent Body to define a fee from within those thresholds. One Competent Body stakeholder responded saying that they plan to engage with the industry to determine why exactly they are leaving the EU Ecolabel for ceramics.

Support was expressed for scope expansion as far as is allowed (i.e. supporting the current proposed expansion to include kitchen counter tops, table tops, masonry units and roofing tiles).

One stakeholder stated that they had established contact with an expert about resin-based kitchen countertops and that they could be a useful contact to follow up on (more relevant to agglomerated stone than concrete). The expert is based in NL and should be especially up to date with any recent innovation in these products. However, it is probable that these materials are imported to NL, so this contact might not be able to link all the way back to the initial producer. JRC stated that they would be happy to follow up with this particular expert.

One ceramic industry stakeholder asked if there were going to be any benchmarking exercise carried out as part of the criteria revision process. JRC responded that ideally this would be the case, but that it depends on what data can be gathered. Unlike for cement, there are no existing BAT Conclusions or BREF Document for ceramics available under the current Industrial Emissions Directive. Consequently, there is no harmonised approach across Europe to gathering data or setting specific benchmarks. JRC asked ceramic industry stakeholders to share data on raw emissions data (i.e. NOx, SO2, dust, CO2) that could potentially be used later for BREF but initially for EU Ecolabel benchmarking. JRC clarified that they are not looking to try and benchmark impact category values at the level of EPD results (e.g. GWP, AP etc.), but rather on raw emission data (e.g. CO2, NOx etc.).

It was commented that uptake of EU Ecolabel ceramic tiles in Spain so far has been limited, with only 2 companies to date. The cost and stringency of the criteria were identified as obstacles and the general market functioning itself (i.e. B2B and with hundreds/thousands of product variations from a single site) is not considered to be well suited to the way the EU Ecolabel is understood to operate (i.e. B2C products and using data at the level of the individual product).

Further discussion about the last point (data at the level of the individual product) revealed that a more agglomerated approach to data reporting, either at the level of the all products from a particular production campaign on a particular production line, all products from a particular production line for a full year or for products from the entire factory. Perhaps data at the level of the factory could be going too far, at least in cases where there is a wide range of products and kilns present in the factory. To clarify, *JRC retrospectively adds that any reporting of factory level data should not be interpreted as an EU Ecolabel of the factory, but of the products coming from that factory. It would still be necessary to fairly allocate the environmental data to each EU Ecolabel product existing the factory.* In any case, it was agreed that approaches to simplify the assignment of data to products should be encouraged and further discussion about this would be welcome. The JRC added that lessons from how the data are assessed by Competent Bodies for graphic paper and tissue paper could perhaps be carried over to this product group, since paper mills can also run different production campaigns within a year and one the same or on different paper machines in the same factory.

The shift to a scoring approach was also discussed. In light of a similar approach being promoted under the draft ISO 17889-1 for specifications for sustainable ceramic tiles, it was asked if it would be possible for there to be some sort of overlap and synergy between the two criteria sets. JRC mentioned that they had been given the opportunity to look at the ISO standard beforehand and were happy to align with certain aspects, for example the process waste reuse, dust emissions, HF emissions, the promotion of onsite cogeneration of heat and power (CHP) and specific kiln fuel consumption. However, JRC added that there were still some differences, for example where the ISO standard does not address SO2 and NOx emissions, which the EU Ecolabel does, and that CO2 emissions, which might become relevant for EU Ecolabel, is also not covered by the ISO standard.

## Horizontal criteria 1.1 to 1.3

*The JRC presented the criteria proposal for Environmental Management System (EMS) (1.1), Raw material extraction management (1.2) and horizontal hazardous substance restrictions (1.3).*

*For criterion 1.1, a mandatory requirement was to have an "in-house" EMS with points available if it is certified according to ISO 14001 (2 points) or EMAS (5 points).*

*With the raw material extraction management, it was explained that requirements that apply when extraction occurs on a Natura 2000 site occur have been copied from text previously agreed in Decision (EU) 2015/2099 for EU Ecolabel Soil Improvers and Growing Media. However, it was also admitted by JRC that the other requirements for non-Natura 2000 sites had been mistakenly deleted.*

*For the horizontal hazardous substance restrictions, it was explained that the text, the step-wise approach, the 0.10% w/w of the final product cut-off, the exemption for chemical modification (but not physical immobilisation) and the choice of hazards restricted, were all following the work of the EU Ecolabel Chemicals Task Force. The basis for this criterion is always the Safety Data Sheet and the dosing rate. Should it be reclassified, a provisional derogation for TiO2 was inserted in order to prompt discussion about this potential derogation and how the derogation process should work in general.*

Stakeholder discussion:

Split views were expressed about the new criterion about an EMS. Concern was expressed that to make an EMS mandatory might be an additional burden for the applicant, who might still be perfectly capable of finding the data necessary to prove compliance with EU Ecolabel criteria without an EMS. It was also stressed that an EMS at the level of the organisation might not translate into useful information for individual products made by that organisation. On the other hand, support was expressed for this criterion since it does seem to reflect the outcomes of the REFIT exercise and can only improve the ways in which companies manage and control their environmental data. Clarity was needed about whether or not the EMS is supposed to cover the entire organisation or just the site or sites where EU Ecolabel products are produced. JRC confirmed that the intention was the latter.

When asked, JRC clarified that ISO 14001 was intended to refer to the more recent version published in 2015. It was claimed by one stakeholder that there was not much difference between the new ISO 14001 and EMAS and so why should there be such a difference in points (2 versus 5). JRC responded saying that although the gap had closed, there still is a difference between the two certifications, especially when looking at the details underneath the headlines. For this purpose, the JRC had added a table in the Technical Report to fully contrast the two certifications. JRC concluded by saying that they would discuss the matter further with JRC and ENV colleagues who work with EMAS.

An important legal point was raised about potential legal problems if an EMS is made mandatory under a label (e.g. the EU Ecolabel) if that label is then specified in a Public Procurement tender. Looking at Article 43 of the Public Procurement Directive, it says that any label has to be related to the product (i.e. not the organisation or site). The legal text is reproduced below for convenience:

*Article 43*

*Labels*

*1. Where contracting authorities intend to purchase works, supplies or services with specific environmental, social or other characteristics they may, in the technical specifications, the award criteria or the contract performance conditions, require a specific label as means of proof that the works, services or supplies correspond to the required characteristics, provided that all of the following conditions are fulfilled:*

*(a) the label requirements only concern criteria which are linked to the subject-matter of the contract and are appropriate to define characteristics of the works, supplies or services that are the subject-matter of the contract;*

*(b) the label requirements are based on objectively verifiable and non-discriminatory criteria;*

*(c) the labels are established in an open and transparent procedure in which all relevant stakeholders, including government bodies, consumers, social partners, manufacturers, distributors and non-governmental organisations, may participate;*

*(d) the labels are accessible to all interested parties;*

*(e) the label requirements are set by a third party over which the economic operator applying for the label cannot exercise a decisive influence.*

*Where contracting authorities do not require the works, supplies or services to meet all of the label requirements, they shall indicate which label requirements are referred to.*

*Contracting authorities requiring a specific label shall accept all labels that confirm that the works, supplies or services meet equivalent label requirements.*

*Where an economic operator had demonstrably no possibility of obtaining the specific label indicated by the contracting authority or an equivalent label within the relevant time limits for reasons that are not attributable to that economic operator, the contracting authority shall accept other appropriate means of proof, which may include a technical dossier from the manufacturer, provided that the economic operator concerned proves that the works, supplies or services to be provided by it fulfil the requirements of the specific label or the specific requirements indicated by the contracting authority.*

*2. Where a label fulfils the conditions provided in points (b), (c), (d) and (e) of paragraph 1 but also sets out requirements not linked to the subject-matter of the contract, contracting authorities shall not require the label as such but may define the technical specification by reference to those of the detailed specifications of that label, or, where necessary, parts thereof, that are linked to the subject-matter of the contract and are appropriate to define characteristics of this subject-matter.*

This concern was why no EMS (e.g. ISO 14001) is explicitly specified in Blue Angel criteria. The JRC confirmed that they were unaware of this issue with public procurement exercises. The JRCs understanding was that certain EU Ecolabel criteria could be copy-pasted into any call for tender for relevant products and that in the assessment and verification section, words to the effect of "*if the product carries the EU Ecolabel, compliance with* ***this criterion*** *can be considered as already having been assessed and verified*" would be added. In these situations, the solution would simply be to not copy-paste any criterion relating to an organisational EMS. However, should a public authority decide to simply enter a requirement that the product must carry the EU Ecolabel, or to award points for products carrying the EU Ecolabel, then it is true that the EMS criterion might be a concern if having an EMS is a mandatory requirement to obtain the EU Ecolabel.

Regarding criterion 1.3, some initial concern was expressed about the derogation for TiO2. It was asked if the restriction on TiO2 was intended to apply only to TiO2 particles in the size range of inhalable particles or to all TiO2. JRC explained that since this criterion applies to the final product, which is a solid article, any restriction or derogation applies to the total quantity of TiO2, irrespective of particle size. That being the case, the ceramic industry stakeholder confirmed that derogation would definitely be needed for TiO2 simply due to impurities in the raw materials. JRC informed that this would be quite straightforward to justify for derogation. Another issue is intentionally added TiO2, which was confirmed to be the case for those products where a photocatalytic activity is designed in. This is the same situation as concrete products. Apart from photocatalytic tiles, TiO2 is not often used by ceramic producers. The JRC stated that it would proceed with a provisional two-pronged derogation for TiO2 – one for impurities in raw materials and another for ceramic products with photocatalytic activity.

It was reminded that the Chemicals Task Force also recommends that EU Ecolabel applicants have a "*SVHC management system*" in place, which is basically a means to screen all chemicals and mixtures supplied for SVHCs, either by looking at associated Safety Data Sheets or by updated supplier declarations. Any screening for SVHCs should ideally not just look at SVHCs remaining at more than 0.10% w/w in the final product but also at any level in any of the chemicals and mixtures used in the production process. JRC acknowledged this point and added that it would be necessary to explain to each of the sub-groups how such a system should work in practice. Further research would attempt to gather SDSs for the chemicals and mixtures commonly used in concrete production (e.g. superplasticisers, demoulding agents) ceramics production (e.g. frits, glazes, inks etc.) and natural and agglomerated stone production (e.g. resins, binders, waxes etc.).

## Horizontal criteria 1.4 to 1.6

*The JRC presented some points about requirements for asbestos (1.4), VOC emissions (1.5) and Business to Consumer (B2C) packaging (1.6). JRC questioned whether the requirement on asbestos was still needed since it was banned by REACH except in very restricted applications and would be screened out by the horizontal hazardous substance restrictions (criterion 1.3) if present in quantities greater than 0.10% w/w of the final product. The new requirement on VOC emissions was considered as interesting since it reinforces a generally positive attribute of these products that is also recognised by GBAs and which is still relevant, since some hard coverings are made with organic resin binders (agglomerated stone) or may be surface treated with waxes or resins. With regards to B2C packaging, the JRC admitted that the existing requirement was very narrow (only on B2C paperboard) and that arguably much more B2B packaging is used and with other materials like wood, plastic and metal. Any requirements on packaging should either be enlarged or removed altogether.*

Stakeholder discussion:

It was admitted that it is rare to find asbestos in new products but that monitoring is still carried out via a complicated procedure where a limit of 10 fibres per litre must be complied according to some regulation. It was later confirmed that these are workplace and indoor air requirements rather than product requirements. Asbestos was not considered as a relevant issue for the ceramics industry, that it was in fact banned. Consequently, no added value of this criterion was seen.

Support was expressed about the VOC emission approach by industrial stakeholders, which can be considered as relevant especially due to certain surface treatments. One stakeholder shared their own personal experience with purchasing hard coverings in Belgium, where products with a VOC label (according to a French initiative) were available. So it is considered to be an important aspect for consumers. Even ceramic, natural stone and concrete type products were using the VOC label. JRC acknowledged that this would be a relevant area in which to conduct further research, especially due to the ongoing evolution of different schemes (e.g. AgBB in Germany, ANSIS in France and other requirements cherry-picked by GBAs). Other colleagues in JRC have also tried to look at harmonizing what can be considered as acceptable VOC emission limits. It was pointed out that care should be taken if the VOC emissions are to target the surface treatment only or also the entire binder (in cases where a VOC containing binder is used, as is the case in agglomerated stone). JRC acknowledged the point and would either adapt the horizontal approach or insert a new specific approach for agglomerated stone relating to VOC in the binder for the next version.

Another industry stakeholder highlighted some misleading wording in the assessment and verification text (specifically the word "*extra*") which suggests that more than 5 points could be achieved is carrying out a chamber test. JRC clarified that this was not the intention and that no more than 5 points could be obtained under any circumstances and that the wording would be adapted accordingly to minimise the potential for confusion. Another clarification requested was that the 5% VOC by weight should be clearly expressed as a % of the chemical formulation. JRC agreed to modify the text in this way.

It was stated that the proposal on B2C packaging could be more ambitious. The reuse of packaging should be promoted (B2B and B2C). Reference was made to a "*landfill free*" certification by NSF that can be achieved for products/packaging/processes (*a copy of the standard has now been uploaded to the BATIS forum*). It was stated that it was not clear from the presentation if the intention was to also consider B2B packaging. In response to concern with B2C packaging being too narrowly focussed on paperboard, one industry stakeholder confirmed that it was only really paperboard that is relevant for B2C packaging of ceramics.

## Horizontal criteria 1.7 to 1.9

*The JRC presented some points about fitness for use (1.7), Consumer information (1.8) and Information appearing on the EU Ecolabel (1.9). It was explained that construction products are CE marked and that they should generally comply with the fitness for use standards that have been identified. Although these standards may define a range of minimum technical properties for different applications, instead of trying to define specific requirements for every possible application, it was considered simpler to just refer to the standard. Relevant information under criterion 1.8 was considered as aspects referring to correct handling, installation and maintenance (mainly cleaning). It was considered that the requirements for criterion 1.9 are very much open since first it will be necessary to decide on the criteria and only then on the final information on the label.*

Stakeholder discussion:

One stakeholder stated that the fitness for use standards are not so relevant to environmental benefits or of any added value for GBAs but are instead more technical. JRC explained that the main purpose of the requirement on fitness for use is to make sure that products are sold that are correctly marked with whatever relevant performance class(es) they conform with, which will help ensure the customer about their correct installation and use, which will reduce the risk of wasted materials and premature end-of-life. The required performance class will depend on the intended use application. Instead of trying to be overly prescriptive and define all the performance classes and what class should be used for which use application, it is preferred to simply refer to the relevant standards in cases where the applicant defines relevant performance classes in consumer information.

# Natural stone specific criteria

## Market, LCA, innovation analysis and scoring system.

*The JRC briefly explained the 2017 data from the “XXVIII World Marble and Stones Report". Natural stone production in Europe is dominated by Italy, Spain and Portugal, who together account for around two thirds of the total EU production of around 20 Mt. The LCA impacts were dominated by the A1 (material production) and A3 (manufacturing process) stages. Then, criteria relating to the production stage, both at the quarry and at the processing plant are set. The scoring system was introduced, where up to 100 points are available, 40 of those are related to quarry requirements, 50 to plant processing plant requirements and 10 to the EMS and VOC emissions of the final product. A minimum requirement of 50 points was arbitrarily set. The JRC asked about the interest in a B2B label for the quarry or a list of inspected quarries managed by the CBs. This is because the way that the business works is that processers by stones from lots of different quarries and quarries sell to lots of different processors. A similar dilemma exists with the EU Ecolabel for paper, where often pulp is purchased from more than one external supplier. This has led to the Competent Bodies trying to develop a list of "inspected" pulp mills and a way of sharing data from pulp mills with each other. However, the situation with the natural stone sector is more extreme, because there is no possibility of any integrated production and the number of potential supply quarries is much higher and prone to variation than the number of pulp suppliers for a paper mill.*

Stakeholder feedback

Split opinions were expressed about the idea of B2B licences for quarries. One stakeholder did not observe any advantage for the quarry operator as the challenge is to collect the data rather than simply not to share that data afterwards. Another stakeholder confirmed that data sharing was actually an issue. The JRC explained that the idea was to improve information sharing and streamline the process, avoiding that the same quarry operator will have to provide new data to multiple customers. One stakeholder suggested the possibility of generating a certificate instead of a licence. A CB stakeholder explained that CBs are not allowed to release any certificate but once that they have verified the compliance of a quarry, they could provide a statement indicating that that particular quarry meets the criteria. The statement could be used both by other CBs and by the quarry operators themselves.

It was pointed out that the main reasons for the poor uptake for natural stone were not only the complexity of the criteria but also the difficulty to provide the required documentation. In addition, problems with translation were also mentioned, as the raw material suppliers are coming from different countries, sometime even from non-EU countries. Therefore, the proposal for a statement that qualifies a quarry which has been already verified could be a good option also considering that currently, CBs do not share information among themselves. A similar approach is being used in Italy within the ceramic tiles sector, thus, when a quarry that supplies raw material to a given manufacturing company has been verified as compliant with the criteria, that quarry automatically qualifies for any other manufacturing company using its raw materials.

The JRC expressed some initial support for a certificate, but highlighted that the key point is verification; that some CB must sign off on that certificate, that the numbers therein (and thus the score) have been assessed and verified by them.

No conclusion about whether a separate license for the quarry would be best was reached. The JRC asked the CBs to further discuss this approach and identify the possibilities to share this type of information while respecting confidentiality agreements. A similar issue exists with the pulp and paper sectors for EU Ecolabel graphic paper and tissue paper.

## Quarry requirement criteria (2.1.1 to 2.1.5)

*JRC presented the initial criteria proposals for quarry landscape impact ratio (2.1.1), material efficiency (2.1.2), water and wastewater management (2.1.3), air pollution minimisation (2.1.4) and noise control (2.1.5).*

*Criterion 2.1.1 rewards a responsible use of the land regardless of the nature or the typology of the quarry. Underground quarrying and progressive rehabilitation during operational activities are promoted. The JRC asked if is feasible to present the required values, and what range of values exist in reality. With regards to the material efficiency (2.1.2) a minimum value of extraction efficiency ratio of 0.25 is mandatory but higher efficiencies are rewarded. Both criteria are linked, since an efficient extraction process will reduce the waste generated and thus reduce the impact of waste on the quarry footprint ratio.*

*Wastewater management, air pollution minimisation and noise criteria are all mandatory however no minimum/maximum values are set but instead conditions the applicant should meet to minimise/mitigate their environmental impact.*

Stakeholder feedback

One stakeholder asked if the criterion for noise could be revised as the requirement seems to be rather low and only relative to the working place.

JRC clarified that the proposed value is based on the current category of permits. There are three main categories of permits based on the maximum average noise limit during working periods presented in the environmental impact plan. In Italy, and presumably in the rest of Europe, quarrying activities are not permitted beyond the core hours for emergency services. The noise categories considered are either <80dB(A), 80-85dB(A) or >85dB(A). The most stringent class, (i.e 80db(A)) only during working hours has been chosen as the EU Ecolabel requirement hours.

Regarding the existing criteria during the site visits, it was remarked that the excellent level of 30dB(A) seems extremely low, considering that ambient noise levels when there is no activity can be 45dB(A).

In the light of these remarks, the same stakeholder stated that this criterion has no added value for the EU Ecolabel. The JRC highlighted that to be more stringent with the maximum noise level threshold and make the criterion more relevant, real data would be required to benchmark good noise levels during quarry operations. If a realistic benchmark cannot be set, it would be logical to remove the criterion, thus respecting the REFIT conclusions.

## Plant processing criteria (2.2.1 to 2.2.3)

*The JRC presented the initial criteria proposals for energy consumption (2.2.1), emission to water (2.2.2) and recycling of waste (2.2.3). Due to the great variety of cutting and finishing techniques that can be used and the general lack of specific energy consumption data, it was decided to not set any specific process energy requirement for natural stone slab and tile products. Nonetheless, it is recognised that energy consumption in the processing plant is an important issue and so applicants should be monitoring energy consumption closely. Renewable electricity is being promoted.*

Stakeholder feedback

No comments were received.

# Agglomerated stone specific criteria

## Market, LCA, and scoring system.

*The JRC briefly explained the 2014 data from the Agglomerated Stone Manufacturers Association (ASTA worldwide) since no other public information was available. The EU production is expected to increase in the next years mainly for the use as countertops and vanity surfaces (i.e. bathroom countertops). From the very limited LCA data available, impacts were dominated by the A1 and A3 stages associated with raw materials and ingredients, and the manufacturing process. The scoring system was introduced, where up to 100 points are available. A minimum requirement of 50 points was arbitrarily set.*

Stakeholder feedback

One stakeholder was surprised at the lack of information for this product group category and offered to look into what LCA data they could find for European agglomerated stone products. No comments regarding the score approach.

## Agglomerated stone criteria (3.1 to 3.4)

*The JRC presented the initial criteria proposals for energy consumption (3.1), emissions to air (3.2), recycled/secondary material content (3.3) and binder content (3.4). With regard to the specific energy consumption it was proposed to reduce the limit by around 30% compared to the previous criteria. The JRC asked if the proposed value reflects the actual situation. CHP and renewable electricity are also being promoted. No modification was proposed for the limits for emission to air however the JRC asked if it is relevant to test NOx and SO2 as no high temperatures or significant fuel combustion is expected during the manufacturing process. A new criterion has been introduced to recognise the use of recycled/secondary materials. Commercial products are indeed available with recycled contents ranging from 5 to 30%. The JRC pointed out that the use of recycled material qualifies for LEED. With regards to the binder content, products manufactured with less binder are encouraged as well as any use of the so-called bio-resins. The JRC asked how best to reflect the use of different resins in the mixture (i.e. organic resins and inorganic cement). Should cement criteria be set for agglomerated stones too?*

Stakeholder feedback

One stakeholder considered that the benchmark of 20% share of renewable energy to reach the maximum EU Ecolabel points was too low considering the current average share of renewables in the EU28 energy mix. The JRC agreed in principle and will look at the possibility to increase the value. No further comments were received during the webinar.

# Ceramic specific criteria

## Market, LCA, innovation analysis and scoring system.

*The JRC briefly explained the market data for ceramics in Europe, which is a net exporter of ceramic tiles, with Spain and Italy dominating European production capacity. Moderate recovery since the crisis is largely due to an expanding export market. The LCA impacts were dominated by the A1-A3 stages associated with raw materials and ingredients, transport to factory and the manufacturing process. A number of environmental innovations and improvements are mentioned in the 2007 BREF Document (only recommendations because no harmonised requirements have yet been set under the IED). Two major technical innovations were in the production of larger and thinner format tiles and digital printing. Some evidence of low NOx burners and onsite CHP had been heard of, as well as the incorporation of minor contents of recycled content and renewable fuels. The scoring system was introduced, where up to 100 points are available. The criteria are essentially the same as before (except for the EMS and VOC emissions), but the ambition levels could perhaps change depending on any more recent data that stakeholders might be willing to share. A minimum requirement of 50 points was arbitrarily set.*

Stakeholder feedback

A number of comments were made about the EMS criterion and how it should not carry any mandatory element.

From the industry perspective, it was confirmed that VOC emissions was a key topic and something that is being promoted by GBAs, for indoor air quality aspects, so they were pleased to see this also recognised by the EU Ecolabel.

It was asked if all proposed criteria are mandatory, where is the increased flexibility? JRC explained that the term "*mandatory*" referred to whether or not there was any mandatory element in the criterion. For example, with the EMS criterion, it is mandatory to have a EMS, but even an in-house EMS is accepted. However, additional points, up to 5 points, are available for having a certified EMS. Although, with this particular example, the feedback received so far suggests at this point that there will not be any mandatory requirement for this in the next proposal. Likewise with the VOC emissions, the mandatory elements there were simply to declare if surface treatment has been carried out or not, and if so, to not use formaldehyde-based or and, in cases where sufficiently large quantities of VOCs have been used, to carry out VOC emission testing of the final product.

One stakeholder asked about the purpose behind the scoring approach? Is it to open up to more potential products of different environmental performances or is it to try to drive license holders to improve further? The JRC responded that it is a combination of both of these points.

## Specific kiln energy consumption, CO2 emissions and specific freshwater consumption (4.1 and 4.2)

*JRC presented the initial criteria proposals for specific kiln energy consumption (4.1), a possible approach for kiln CO2 emissions and the specific freshwater consumption (4.2). With regards to the specific kiln energy consumption, it was briefly explained just how important the choice of functional unit is (i.e. MJ/kg or MJ/m2) when considering tiles of different thickness. As a tile becomes thinner, the MJ/kg goes up under the same firing conditions whereas if the unit of MJ/m2 is used, the opposite trend is observed. It was proposed to use MJ/kg for tiles thicker than 10mm and MJ/m2 for tiles thinner than 10mm. JRC asked a number of questions about kiln energy calculations and how exactly are they done? The JRC also asked if there was any clear reason why no interest in CO2 criterion was expressed in the initial stakeholder questionnaire. A simple translation from kiln energy (MJ) to CO2 can be done, using the emission factor for natural gas. The choice of limits for specific freshwater consumption were aligned with the draft ISO 17889-1 which allows one of two different functional units to be used and has a tighter limit (-50%) for cases when no spray drying is carried out onsite (i.e. spray dried raw material is purchased).*

Stakeholder feedback

Regarding the CO2 aspect, industrial stakeholders wished to clarify that while most ceramic producers are covered by the Emissions Trading Scheme, not all of them are. They further clarified that compliance with ETS focuses on the combined emissions from driers and kilns. Consequently, just because a particular factory is ETS compliant, this does not mean that they can easily allocate a specific CO2 emission to particular products. JRC accepted this point, but emphasised that what they would like to know is if a requirement on specific kiln CO2 emissions would be difficult to calculate and comply with. For example, in any case where it can be calculated for MJ, surely it is just a case of multiplying by the emission factor for the average fuel mix used? One industry stakeholder confirmed that this could be done at the level of the kiln average and that this would be similar to the proposal in the draft ISO 17889-1 standard, even though that approach goes one step further by multiplying the result by a normalisation factor to produce a dimensionless result. This prompted JRC to ask stakeholders what level of detail is involved when estimating the specific kiln energy process. Is it the kiln average over one year? Is it only for particular production campaigns? Or is there some other level of data that is used?

One industry stakeholder asked for clarification about what the JRC wanted to do with that data.. Was it to ask for reporting of CO2 from installations as part of a data gathering exercise? Or was it to consider introducing a criterion on CO2 emissions for the EU Ecolabel? The JRC stated that they were thinking about having a criterion on CO2. It could perhaps be something like splitting the existing criterion for kiln energy consumption in MJ/kg or /m2 (25 points) into two: (i) specific kiln energy consumption in MJ/kg or /m2 (15 points) and (ii) specific kiln CO2 emission kgCO2/kg or /m2 (10 points). Such an approach, if the limits set are identical for a case where only natural gas is used in the kiln, could encourage producers to move away from any fossil fuels with a higher CO2 emission factor than natural gas and also to try to incorporate more bio-based fuels.

It was added that the industrial associations have information at the level of CO2 emissions from installations, but not at the level of the product. One particularly salient point was that the existing criterion has only one single specific kiln energy consumption reference value (3.5 MJ/kg) and that the initial proposal is still using this one value as a basis for its criterion. Surely it would be more realistic to have different values for different tiles, for example for large format tiles, for thin format tiles, for porcelain tiles and for wall tiles. JRC completely agreed with this point and added that it is even more important if we agree to expand the scope to kitchen countertops and masonry units. In the presentation it was already clear that there are significantly different kiln operating temperatures for different product categories – which is highly likely to be reflected by different specific kiln energy consumption results. The JRC made a request for any contacts who would be able to help further in defining more realistic specific kiln energy consumption reference values.

One stakeholder pointed out the importance of CO2 in ceramic tiles when trying to work at the level of the GBA. This was considered as an important benefit of EPDs (i.e. from the GBA perspective).

At this point the JRC asked stakeholders for any opinions about how they saw the coexistence of the EU Ecolabel and EPDs in general and also in particular with ceramic products. There are two extremes that can be considered:

* That the EU Ecolabel criteria remain completely independent of life cycle inventories and the need to involve LCA experts (even though LCA hotspots are identified in preliminary research to decide where EU Ecolabel criteria should focus most).
* That the EU Ecolabel criteria could become some sort of EPD+ scheme, where the criteria are basically impact categories or other indicators used in EPD reporting but that the EU Ecolabel sets an upper threshold on all or some of them.

The first extreme is how EU Ecolabel criteria have generally been developed to date. The second extreme really needs a significant number of EPDs to be on the market in order to be able to consider suitable benchmarks for the EU Ecolabel for different impact categories and so on. One of the few areas where major coverage of a product sector by EPDs could be identified is actually that of ceramic tiles, thanks to the German, Italian and Spanish associations having worked to produced sectorial EPDs.

One industry stakeholder explained that it is not so simple to compare an EPD for two different products because in many cases factory average data is used (and the range of processes in each factory may differ), different life cycle stages are reported, different assumptions are made about transport distances and modes and that sometimes generic data is used in one place and other times specific data used in another. It would be very challenging to set EU Ecolabel thresholds for EPDs. On the other hand, another stakeholder with a background in GBAs spoke in favour of EPDs, citing the large public reference database for EPDs in France (www.inies.fr). JRC highlighted the difference between the usefulness of having numbers (i.e. EPDs for GBAs) and the difficulty of deciding what a good number actually is for the life cycle of an individual building product (i.e. EPD threshold for EU Ecolabel).

## Criteria on emissions to air, wastewater management, process waste reuse and glazes (4.3 to 4.6)

*The JRC presented the initial criteria proposals for emissions to air (4.3), wastewater management (4.4), process waste reuse (4.5) and glazes (4.6). The main change in the criteria was related to the specific unit (i.e. now /kg and /m2 is possible for all kiln emissions, in line with ISO 17889-1). The data for SO2 emissions has been split into 3 parts instead of just 2, but is based on the same ambition level. In general for emissions to air it was not possible to identify any more relevant ambition level due to the lack of more recent data submitted, JRC welcomed any stakeholder contributions towards data gathering. Even with no new data, the upcoming change from 18% O2 to 10% O2 is possibly a big enough justification to modify the limits.*

*With wastewater management, the main change was to try to have a common-sense check by only requiring this criterion to be met when the applicant is also responsible for the wastewater discharge to the environment. There was also the intention to reward applicants who separately collect glaze effluents to maximise the potential reuse of glazes. Stakeholders were also asked about where the original numbers came from for wastewater concentration and if Cr(VI) was actually relevant to the ceramics sector.*

*With the process waste reuse, the same 85% reuse rate was maintained but applicants are now rewarded for going up to 95% reuse, in line with the ISO 17889-1 ambition level. For glazes, an arbitrary 10 fold reduction in Cd and Pb migration was proposed and points set for those applicants that use glazes that are free of Pb and Cd (i.e. <0.1% w/w). JRC also asked if kitchen countertops are considered as food contact materials.*

Stakeholder feedback

A clarification was requested about the SO2 requirement and if it really should mean SOx (i.e. SO3 + SO2) or just SO2. The standard that is referred to seems to report on SOx. The JRC stated that the intention was not to change the approach compared to the existing Decision from 2009. Unfortunately it seems that the 2009 Decision did not make this clear either. Consequently, it was suggested to correct "*Sulphur dioxide (SO2)*" to "*Sulphur oxides (as SOx)*". It was added that in Italy, SO2 emissions are not measured if natural gas is used as the fuel (but they are measured in Spain). In cases where a periodic measurement is possible, a frequency should be defined, in Italy, periodically is understood to mean at least 3 times per year.

About the low-NOx burners, one industry stakeholder stated that they believe that this innovation is mainly limited to frit production, but maybe someone else has better knowledge about this (nobody else commented). With CHP, there was only case of onsite CHP in Spain and the heat was used for the spray drying process and not the kiln gas.

The BREF values in Italy are set based on the 18% O2 but since O2 content is not monitored at the same time as monitoring for other emissions, it is very difficult to know what the real values are if normalised to 10% O2 content. In Spain, the permits are currently based on 18% O2 content. The BREF exercise is expected to start in January 2020 and to last 4 years. The JRC stated that they would try to engage with colleagues from the BREF department in order to try and start some preliminary data gathering exercises and just to understand better about what data to look at (e.g. the existing pollutant transfer registers).

About wastewater management, in Italy and Spain the common practice is to close the wastewater loop recycling all water used during the process, so the whole criterion 4.4 where maximum limits are set up for cases where wastewater is discharged to the local watercourses is not relevant. It was also confirmed that Cr(VI) is not relevant to the ceramic sector.

With glazes, it was requested to remove any requirements on Pb and Cd migration since this is purely for food contact purposes and is considered as an unnecessary and expensive test to carry out. The current discussions on migration thresholds are looking at very tight limits that essentially make the exposure of these heavy metals to users less than the potential intake from the food itself. In general, kitchen countertops could be considered as food contact materials, but this final use is not often known by the producer, who sells the large format thin tiles to a business that will provide tiles for a variety of end uses. The main source of Cd and Pb is in the frits, most producers of which are based in Castellon, Spain. Discussions with these producers revealed that Cd and Pb based frits are very rare today and only used when very specific colours are required. One final point was to potentially reconsider the use of the terms "*glazed/unglazed*" due to technological evolution in the production process - a better distinction may be "*decorated/undecorated* ".

# Concrete specific criteria

## Market, LCA, innovation analysis and scoring system.

*The JRC briefly explained the 2016 data from the main PRODCOM category for 23.61.11.50 and that there was a wide (x9) range of specific production values (€/t) at national level in the EU, PO and IE were the cheapest while SE and FI were the most expensive. The LCA impacts were dominated by the A1 stage associated with raw materials and ingredients, with cement considered to be the dominant raw material, even though it only accounts for 6-18% of the concrete mass. The scoring system was introduced, where up to 130 points are available, but 20 of those are only available for what could be considered as niche products (10 for permeable pavers and 10 for photocatalytic surfaces). A minimum requirement of 60 points was arbitrarily set.*

Stakeholder feedback

One stakeholder asked how novel products, such as geopolymers (also known as alkali activated cements) could be deemed to meet any fitness for use requirements set for Portland cement based products. JRC responded by saying that as far as final product requirements are concerned (i.e. on concrete blocks) there really should be no issue to set the same requirements and tests as for more conventional concrete products. Following up after the meeting, JRC can also add the following:

*There have been Technical Committees looking at this issue (specifically RILEM TC 224-AAM). It would tend to be more of an issue if dealing with technical requirements on the cement itself or on fresh concrete (i.e. for ready mix applications where concrete is poured in place) because this is where real differences exist in the novel products (e.g. different setting behaviours, different curing environment needed and maybe an alkaline solution added instead of water).*

Other discussion at this stage related to the CO2 emissions and the need to understand if we are aiming at only CO2 emissions or at greenhouse gas emissions (i.e. CO2 + CH4 + N2O etc.). JRC added that it would check what is actually being requested by the GNR database and the Emissions Trading Scheme because the idea would be to align with the GNR approach. The significance of CO2 emissions at the concrete plant is not well known, most of the data found was related to a single study by the Portland Cement Association (in the US) in 2007[[1]](#footnote-1). However, if anyone wants to take the data all the way through to a carbon footprint (ISO 14067) of the concrete product, it is necessary to know this information.

## Cement criteria (5.1 to 5.4)

*JRC presented the initial criteria proposals that are directly related to cement: clinker factor (5.1), non-CO2 emissions to air (5.2), CO2 emissions to air (5.3) and kiln thermal efficiency (5.4). Doubts about the willingness of cement suppliers to provide information to customers about the clinker factor and non-CO2 emissions were expressed. But at least with the clinker factor, the EN 197-1 class allows for a reasonable approximation. If stakeholders support introducing a criterion about CO2 emissions (5.3), a closer look at the GNR data would be part of further JRC research. The same requirement for kiln thermal energy efficiency was maintained but with a separate value for white cement. If the CO2 criterion is supported, JRC suggested that maybe the thermal kiln efficiency requirement would become redundant.*

Stakeholder feedback

About the clinker factor, one industrial stakeholder stated that this is considered as a highly sensitive piece of information. For example, the Concrete Sustainability Initiative is only allowed to published highly aggregated clinker factor data and only with a one year time lag. Consequently, it is foreseen that the industry would not be comfortable sharing this data with Competent Bodies, even with the existing confidentiality agreements that EU Ecolabel Competent Bodies use. The JRC asked if simply providing information about which of the Portland cement 27 classes defined in EN 197-1, which narrows the possible clinker factor down to a certain range, would be considered as acceptable for the industry to share. In principle this would be okay (because it is also information that is shared with customers) but would need to be checked with members to see if it could raise any anti-trust concerns.

One stakeholder explained that it should be possible for the JRC to obtain cumulative distribution graphs of data for CO2 emissions from the GNR database and any specific requests could be made to the GNR secretariat for other useful statistics (e.g. 1st quartile and 3rd quartile).

About the best practice CO2 emission of 600 kg/t clinker, this would only be possible for plants that have access to low carbonate raw materials. Just from process emissions alone (i.e. decarbonation of limestone, dolomite or organics from raw materials in the kiln) and ignoring any CO2 emissions from fossil fuels, the emission factor is around 530-540 kg/t clinker.

One industry stakeholder confirmed that the criterion on thermal efficiency of the kiln would be somewhat redundant if looking at the CO2 emission associated with the clinker production. The same stakeholder added that the use of alternative fuels, which is particularly well established in central and northern European countries (60-80% fractions of alternative fuels being common), leads to higher fuel consumption rates but not necessarily higher SO2 emission, contrary to what the JRC alluded to during their presentation.

## Concrete criteria (5.5 to 5.8)

*The JRC presented the initial criteria proposals for secondary/recycled material content (5.5), concrete plant energy consumption (5.6), photocatalytic surfaces (5.7) and permeable paving (5.8). The main policy drivers for promoting secondary and recycled material contents were mentioned and a request for further information about responsibly sourced aggregates was made. For criteria 5.5 and 5.6, onsite cogeneration or combined heat and power (CHP) and renewable electricity are being promoted although it was not clear how often concrete producers might use such approaches. Photocatalytic surfaces, a very interesting and relevant development in response to concerns about air quality in urban environments, will ultimately depend on any TiO2 reclassification and subsequent attitudes of EUEB members, because it is precisely these pigments that provide the photocatalytic action. The potential advantages of permeable pavers were mentioned (reduced flood risk, pollutant removal and perhaps material efficiency) although the JRC admitted that there is a need to better understand what kind of specifications might be set on permeable concrete products (a lack of harmonised standards at the European level).*

Stakeholder feedback

It was pointed out that the drawbacks of using recycled materials need to be considered as well. For example, they may have a lower quality or consistency than virgin aggregates, thus requiring a minor increase in cement content, which would be enough to wipe out any GWP benefits associated with recycled aggregate use. A lack of local standards is also a barrier to improving the use of recycled aggregates in concrete. In the Netherlands, with the Milieukeur ecolabel, there are certain requirements on secondary materials which need to be carefully defined (i.e. what is meant by this term exactly). However, the same stakeholder also thought that a life cycle approach also has to come in here, to avoid trade-offs that could occur with rewarding recycled or secondary materials that have been transported much longer distances than local or regional virgin aggregates that could have been used instead.

Regarding the concrete plant energy consumption, it was commented that the requirements were disproportionate. Earlier research by the Concrete Sustainability Council reached the conclusion that energy use in the concrete plant (albeit in ready mix applications) is not significant, being as low as 1% of the total product CO2 footprint. The promotion of onsite CHP might not be such a good idea since concrete plants do not consume large amounts of heat. JRC generally accepted the point about the lack of onsite CHP and the significance of concrete plant energy consumption, although it was thought to be much higher than 1% for ready-mix plants (not directly relevant to the product group scope) when looking at pre-cast concrete plants which are directly relevant to the product group scope (i.e. 7-20%).

It was commented that the images shared for permeable paving referred to blocks with void spaces but that another type of concrete (pervious concrete) can also be used that can have a continuous surface that is porous by itself due to the lack of fine aggregates in the concrete mix. In the Netherlands, "grass" concrete pavers (i.e. those pavers with voids where grass can be seeded) are recognised by the Milieukeur ecolabel scheme.

A request was also made to consider recognition of other innovative concretes (not just photocatalytic and permeable) that have "*enhanced functionality*". JRC responded that they are open to the idea of considering other innovative concrete products but the enhanced functionality would need to be specified first and understood to be linked to some type of environmental benefit. One stakeholder added that further discussion between the Commission and the Concrete Sustainability Council would be considered very useful, to be clear about what both schemes are trying to achieve (CSC was considered by this stakeholder to be looking more at the organisation while the EU Ecolabel is looking more at the product).

The JRC made some final comments about the range of different cements (normal alite-based Portland cement, normal alite-based Portland cement blended with supplementary cementitious materials, belite-based Portland cement, belite-based Portland cement blended with supplementary cementitious materials, hybrid alkali activated cements using water, or alkali activated cements using no Portland cement but mixed with sodium hydroxide/sodium silicate instead of water). While further research would be carried out on these types of cement, it was already clear that a geopolymer based cement is not automatically better than a Portland cement from a CO2 perspective, it really depends on the mix composition and the method of alkali activation used. How such cements are recognised by the EU Ecolabel criteria would need to be considered carefully (e.g. would they receive maximum points for all cement kiln criteria because kiln emissions are essentially zero?).

## Closing remarks

*The JRC thanked the participants for their time and contributions and explained the next steps, which were to share the draft version of the minutes within a week, make any corrections within a few days after sharing then to publish the minutes on the JRC website and on BATIS. Stakeholders would have until 18 January 2019 to make any written comments. Comments should be made on the html version of the Technical Report. Comments on the html document will be transferred into an anonymised table of comments added as an annex to the next Technical Report. Instructions about how to make comments on the html document have already been uploaded to the BATIS forum. While comments can also be made on the BATIS forum, the JRC cannot guarantee that these comments would carry over to the next version of the Technical Report, but use of the forum is encouraged in order to share files and exchange opinions amongst registered stakeholders.*

1. Marceau et al., 2007. Life Cycle Inventory of Portland Cement Concrete. Portland Cement Association (PCA) R&D Serial No. 3007. [↑](#footnote-ref-1)