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FIEC reaction to the additional draft circular economy technical screening criteria

for

"Demolition of buildings and other structures" (5.3.) and the "Use of concrete in civil engineering works" (4.3.)

of the Platform on Sustainable Finance's "Technical Working Group (TWG) Supplementary Report" (October/November 2022)

19/12/2022

In the following you can find FIEC's comments and proposals for amending the Platform on Sustainable Finance (PSF) Technical Working Group's recommendations for additional circular economy technical screening criteria for the "Demolition of buildings and other structures" (5.3.) and the "Use of concrete in civil engineering works" (4.3.) as included in the "TWG Supplementary Report" of October/November 2022.

As a (former) member of the Technical Working Group in the "first" Platform on Sustainable Finance (October 2020 – October 2022), FIEC especially wants to ensure the usability of the future technical screening and Do-No-Significant-Harm criteria (DNSH) in the upcoming "Environmental Delegated Act" under the EU taxonomy.

The comments below are based on input from FIEC member federations. As highlighted in its initial reaction to the publication of the "TaxO4 Report"[1] on 30 March and in its detailed reaction to the TaxO4 Report (23 June 2022), FIEC is of the opinion that a major overhaul of the criteria is needed. According to FIEC's assessment, the proposed criteria in the TWG Supplementary Report for "Demolition of building and other structures" seem to be technically feasible, whereas the proposed criteria for "Use of concrete in civil engineering works" would be very challenging to meet.

The recommendations taken from the Platform's TWG Supplementary Report are highlighted in **light green**. FIEC comments and/or proposed amendments are highlighted in **red.**

[1] Platform on Sustainable Finance's report with recommendations on technical screening criteria for the four remaining environmental objectives of the EU taxonomy.

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Detailed comments on the additional draft circular economy technical screening criteria

5.3. Demolition of buildings and other structures

a) *Description of the activity*

TWG report

Activities listed by the International Cost Management Standard in the ICMS: Global Consistency in Presenting Construction Life Cycle Costs and Carbon Emissions 3rd edition, Table 1: ICMS Projects with their corresponding codes (page 16)2. In projects associated with the activities 5.1 Construction of New Buildings or 5.2 Renovation of existing buildings, where the demolition works and the new building or renovation works are procured under the same contract, the technical screening criteria for transition to a circular economy referenced in those activities will prevail.

FIEC comment

No comment.

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b) Criteria for substantial contribution to a circular economy

1) Level(s) indicator 2.2 checklist requirement

TWG report

Prior to the commencement of any demolition or wrecking activity, at least the following aspects from level 1 of the Level(s) indicator 2.2 checklist shall be discussed and agreed upon with the client: (i) definition of key performance indicators and target ambition level; (ii) identification of project-specific constraints that may compromise the ambition level (e.g. time, labour and space) and how to minimise these constraints; (iii) details of the pre-demolition auditing procedure and (iv) an outline waste management plan that prioritises selective deconstruction, decontamination and source separation of waste streams. If these actions are not prioritised, an explanation must be provided to justify why selective deconstruction, decontamination or source separation of waste streams are not feasible in the

[2] https://icmscblog.files.wordpress.com/2021/11/icms_3rd_edition_final.pdf

project. Cost or financial considerations are not an acceptable reason to avoid complying with this requirement.

FIEC proposal

If these actions are not prioritised, an explanation must be provided to justify why selective deconstruction, decontamination or source separation of waste streams are not feasible in the project. Cost or financial considerations ~~are not an acceptable reason to avoid complying with this requirement~~ **may be considered in this explanation to justify why these measures are not feasible.**

Explanation

Although it is stated that "cost or financial considerations are not an acceptable reason to avoid complying with this requirement", it should be taken into account that the obligation to meet this "checklist" requirement could lead to more bureaucracy and generate considerable costs. Building owners could look for other ways to demolish their buildings (e.g., have recourse to the "shadow economy"). Therefore, financial considerations should be taken into account in the explanation to justify why selective deconstruction, decontamination or source separation of waste streams are not feasible in a project.

It is also not clear to whom/which authority this information from the Level(s) indicator 2.2. checklist must be submitted to for approval. This should be specified in the text.

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2) Pre-demolition audit requirement

TWG report

To conduct a pre-demolition audit in accordance with the EU Demolition and Construction Waste Protocol and producing estimates using the level 2 DW (Demolition Waste) inventory excel worksheet of Level(s) indicator 2.2, or an equivalent tool.

FIEC comment

An obligation for the client to carry out a demolition audit would help companies carrying out the demolition works to plan the selective deconstruction better and to coordinate the work more efficiently. The company carrying out the activity should even be able to insist on such an audit prior to the commencement of the activity. However, FIEC also notes that this criterion will be hard to apply to non-EU projects.

3) Treatment of demolition waste requirement

TWG report

All demolition waste generated during the project shall be treated in accordance with the EU Demolition and Construction Waste Protocol and logged using the level 3 CDW excel worksheet of Level(s) indicator 2.2 or an equivalent tool. Each type of DW shall be tagged with the appropriate six-digit code from the European List of Waste established by Commission Decision 2000/532/EC. When logging the type of waste treatment (ie preparation for reuse, for recycling, material recovery, energy recovery or disposal) evidence shall be included that the economic operators receiving the waste has the technical capability to carry out this treatment.

Such evidence could be a link to the company's webpages where this is documented or a signed statement from a representative of the company. If the treatment takes place on the demolition site (eg onsite reuse or recycling) then acceptable evidence would be a signed statement from a representative of the company.

FIEC comment

FIEC expects that European companies operating globally will also apply the EU Taxonomy lens to their global operations. FIEC notes that tagging each type of DW with the appropriate six-digit code from the European List of Waste will hardly be possible for projects carried out outside the EU of construction companies operating globally.

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4) Preparation for re-use, recycling or closed-loop recycling requirement of non-hazardous DW

Overall, at least 90 % (by weight) of the non-hazardous DW (excluding naturally occurring material referred to in category 17 05 04 in the European List of Waste established by Commission Decision 2000/532/EC) shall be prepared for re-use, for recycling or for closed-loop recycling[3]. Alternatively, at least 95% for mineral/stony fraction and 70% for the non-mineral/non-stony fraction for non-hazardous demolition waste shall be separately collected and prepared for reuse, for recycling. In addition, organic

[3] Definition developed at CEN: Process in which post-consumer or industrial waste is collected and recycled preserving the value of the material so it can be used again to make the same product category it came from with minimal loss of quality of function. Source: 3.56 – horizontal terminology standard developed by CEN/TC 249/WG24.

and packaging waste generated during the dismantling process are prepared for reused or recycling in situ or ex situ (excluding backfilling) with the implementation of a sorting system to collect separately inert, organic, packaging and hazardous materials handled during the dismantling process.

FIEC proposal

~~Alternatively, at least 95% for mineral/stony fraction and 70% for the non-mineral/non-stony fraction for non-hazardous demolition waste shall be separately collected and prepared for reuse, for recycling. In addition, organic and packaging waste generated during the dismantling process are prepared for reused or recycling in situ or ex situ (excluding backfilling) with the implementation of a sorting system to collect separately inert, organic, packaging and hazardous materials handled during the dismantling process.~~

Explanation

This section requires a certain amount/percentage (90%, 95% and 70%) of the material to be prepared for reuse, recycling or the circular economy. Although these values seem high, figures from Member States suggest that these targets could be achievable[4]. However, it is questionable whether the distinction between mineral/stone fractions on the one hand and non-mineral/non-stone fractions on the other should be made. This terminology is foreign to waste legislation in some Member States and should therefore not be used.

4.3. Use of concrete in civil engineering works

a) *Description of the activity*

TWG report

Building with concrete for new construction, reconstruction, or maintenance of civil engineering objects, except concrete road surfaces[5].

[4] For example, according to figures from Germany ("*Initiative Kreislaufwirtschaft Bau*", that uses the term "reutilisation"), "in 2018 as a fraction road construction waste reutilisation was 97.5%, buildings debris was 93.9%, mixed construction waste was 98.7%, soil and stones was 86.2%...Altogether, 94% reutilisation of the building waste in 2018 was achieved", see https://kreislaufwirtschaft-bau.de/Download/Summary.pdf).

[5] Road surfaces are covered by activity 4.2: Maintenance of roads and motorways.

The activity is classified under NACE code F42 in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006. The criteria only apply where concrete is being used within the context of activities that fall within this NACE code classification.

Maintenance of civil engineering objects is defined as all actions undertaken to maintain and restore the structural health of the structures and thereby extend their service lives.

Demolition activities as classified under NACE code F43 are excluded from the scope of this activity.

FIEC comment

Classifying this activity under NACE code F42 here is misleading. FIEC notes that, with NACE code F42, the scope of application of these criteria would not apply to buildings. The scope of NACE code F42 is limited as it "only" covers the use of concrete in special cases, e.g., civil engineering activities such as the construction of roads or railways, motorways, bridges and tunnels, utility projects, water projects etc. **but not buildings.** FIEC regrets that, at the time the activity was discussed in the Technical Working Group's Sector Team 7, the choice of the right NACE code was not discussed in-depth.

In general, it appears to be more challenging to meet the technical screening criteria for "Use of concrete in civil engineering works" than for "Demolition of buildings and other structures". The criteria appear to be too ambitious and too narrowly focused on one single aspect of circularity (recycling, see detailed comments below).

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1) Preparation for re-use or recycling requirement of construction waste deriving from concrete products

TWG report

At least 90 % (by weight) of the construction waste deriving from concrete products is prepared for re-use or recycling. The works must avoid down-cycling of materials, specifically the construction waste deriving from concrete products shall be prepared for re-use in new concrete products rather than being used as fill or other non-concrete uses.

FIEC proposal

At least **55 %** (by weight) of the construction waste deriving from concrete products is prepared for re-use or recycling. The works must avoid down-cycling of materials, specifically the construction waste

deriving from concrete products shall be prepared for re-use in new concrete products rather than being used as fill or other non-concrete uses.

Explanation

Meeting the 90% threshold is not realistic and technically feasible in the short and medium term. Reuse here is practically impossible. Recycling produces crushed sand which currently may not **yet** be used in concrete, according to national building regulations. In this respect, the 90% target is currently not achievable. We advocate for a maximum threshold of 55%, which we consider to be more realistic[6].

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2) Construction designs and techniques requirement

TWG report

Construction designs and techniques support circularity by demonstrating how they are designed to be resource efficient, adaptable, flexible, and easy to dismantle in order to facilitate reuse and recycling. This should be demonstrated with reference to ISO 20887:2020 "Sustainability in buildings and civil engineering works — Design for disassembly and adaptability — Principles, requirements and guidance" or equivalent.

FIEC comment

FIEC considers the level of ambition of this requirement to be appropriate. Designing in such a way that construction activities become resource efficient, adaptable, flexible and easy to dismantle in order to facilitate reuse and recycling is vital to achieve the EU Green Deal objectives.

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3) Recycled content requirement

TWG report

[6] FIEC points to the fact that the preparation for-reuse or recycling of construction waste deriving from concrete products is a dynamic process and that more preparation will increasingly be possible soon. As soon as the use of these quantities of secondary materials are allowed at national level, these secondary materials can be used and the 90% target would not be impossible to reach.

Concrete products shall contain at least 60% recycled content[7]. This criterion applies to in-situ poured concrete, pre-cast products, and all constituent materials, including any reinforcement.

Deviation from the 60% target is justified where the use of such recycled content leads to higher CO2 emissions than the use of virgin material. This is proven by calculating and comparing the CO2 emissions by a Life Cycle Analysis[8].

FIEC proposal

Concrete products shall contain at least **20%** recycled content. This criterion applies to in-situ poured concrete, pre-cast products, and all constituent materials, including any reinforcement.

Deviation is justified where the use of such recycled content leads to higher CO2 emissions than the use of virgin material. This is proven by calculating and comparing the CO2 emissions by a Life Cycle Analysis.

Explanation

The 60% target is not "current best practice". In principle, it would be technically feasible to meet this threshold but in practice this threshold is currently out of reach because the quantities of recycled components/contents that are needed to meet this threshold are currently not available. There is growing demand for more recycled concrete, but the necessary material flows do not yet exist. This is the main reason why many national building regulations/codes currently set limits for recycled content in concrete products that are far lower than the proposed 60%[9].

[7] Recycled content shall be interpreted as defined in EN ISO 14021 section 7.8 and includes pre-consumer recycled content, post-consumer recycled content, recycled materials and recovered materials. For in-situ poured concrete, waste generated at the construction site is included in the definition of pre-consumer material and is not considered reutilisation (which is excluded from being defined as pre-consumer material under ISO 14021).

[8] The calculation is based on EN 17472 modules A1-A4. Alternatively, a third party verified embodied carbon calculator for concrete can be used.

[9] For example, the admissible shares of recycled aggregate in concrete in relation to the total aggregate (vol. -%) according to the 2010 DAfSTb *(Deutscher Ausschuss für Stahlbeton)* guidelines on "Concrete with recycled aggregates" range from 25 to a maximum value of 35 / 45 % (based on DIN EN 206-1/DIN 1045-2).

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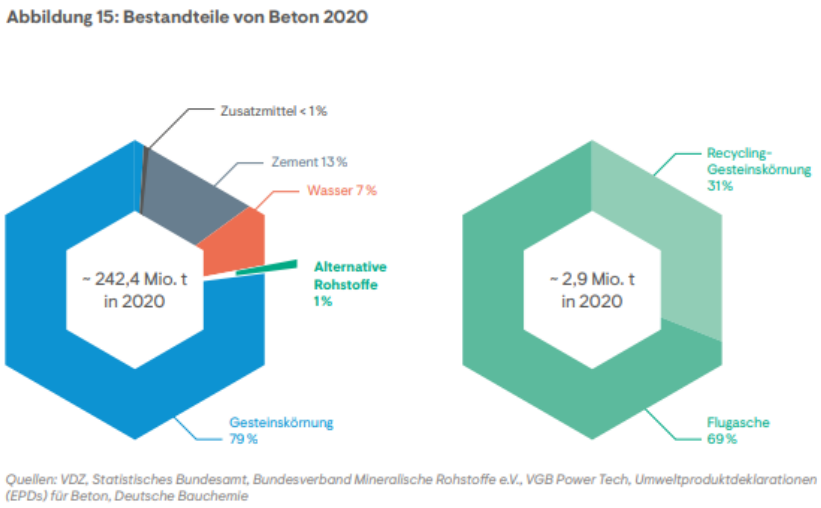

Recycled aggregate 31%

Fly ash 69%

"Components of concrete 2020", source: Resources of the future for cement and concrete - potentials and strategies for action", German Cement Works Association, Federal Statistical Office, Federal Association of Mineral Raw Materials e.V., VGB Power Tech, Environmental Product Declarations (EPDs) for Concrete, Deutsche Bauchemie, 2022, p.26. According to current regulations, recycled aggregate of > 2 mm from crushed concrete (construction chippings, type 1) can be used in new concrete up to a proportion of 45 % by volume or from mixed construction waste (construction chippings, type 2) up to a proportion of 35 % by volume (see also footnote no. 7).

This requirement from the TWG Supplementary Report also contradicts European and national (e.g., DIN) standards. FIEC advocates for a 20% target instead of a 60% target, as a 20% target would not cause any technical difficulties and not lead to restrictions on use at national level.

Another good example is the Spanish Structural Code. The *Código Estructural* (Royal Decree 470/2021 of 29 June 2021 establishing the Spanish Structural Code) deals with concrete structures and sets limits for the use of recycled aggregates (article 30.8. on Recycled aggregates). According to the Code, recycled aggregates are defined as the aggregate obtained as a product of a concrete waste recycling operation, allowing only the use of recycled coarse aggregate. The Code does not foresee substitution percentages that are higher than 20% by weight of the total coarse aggregate content.

Such limits are justified for structural concrete because impurities or contaminants (plastic, wood, gypsum, brick, glass, aluminum, asphalt, etc.) in a recycled aggregate would reduce the strength of the concrete. **A viable solution could be to specify in this section that this technical criterion only refers to non-structural concrete for which the 60% target appears to be more realistic (depending on the type of the project and the availability of recycled concrete).**

4) Electronic tools requirement

TWG report

Electronic tools are used to describe the characteristics of the built asset, including the materials and components used, for the purpose of future maintenance, recovery, and reuse. The information shall be stored in a digital logbook or equivalent and shall be made available to the owner of the asset.

FIEC comment

No comment.

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5) Monitoring functions requirement

TWG report

Bridges, tunnels, dikes, and sluices shall be equipped with monitoring functions to predict maintenance needs such as in-built predictive maintenance.

FIEC comment

What makes sense for large-scale projects such as the Empire State Building is not realistic for many smaller civil engineering works, e.g., small bridges (a simple slab over a ditch).

It should be taken into account that such a requirement would make construction more expensive and skilled and specially trained workers are needed to implement this requirement. However, the construction sector currently lacks skilled workers, and there are currently no short-term solutions to this problem.

DNSH

TWG report

(1) Climate change mitigation	The built asset is not dedicated to the extraction, storage, transport or manufacture of fossil fuels.

(2) Climate change adaptation	DNSH as set out in Appending A of Annex 1 to the Commission Delegated Regulation (EU) .../... supplementing Regulation (EU) 2020/852
(3) Sustainable use and protection of water and marine resources	DNSH as set out in Appending B of Annex 1 to the Commission Delegated Regulation (EU) .../... supplementing Regulation (EU) 2020/852
(5) Pollution prevention and control	Measures are taken to reduce noise, dust and pollutant emissions during construction works. Where appropriate, given the sensitivity of the area affected, in particular in terms of the size of population affected, noise and vibrations from use of infrastructure are mitigated by introducing open trenches, wall barriers or other measures and comply with Directive 2002/49/EC
(6) Protection and restoration of biodiversity and ecosystems	DNSH as set out in Appending D of Annex 1 to the Commission Delegated Regulation (EU) .../... supplementing Regulation (EU) 2020/852

FIEC comment

No comment.

Rationale

TWG report

Construction has the highest raw material consumption when considering all types of materials together (1.8 billion tons) - mostly non-metallic minerals (Eurostat). No specific figures for civil engineering are available. However, an important share can be presumed as civil engineering represent around 20% of investment in construction (FIEC Statistical Report). Data from the Dutch NRA Rijkswaterstaat illustrate

the composition of the materials used (in weight): 92% gravel and sand, 5% asphalt, 2% concrete, 1% metals (TNO). Equally, civil engineering works generate significant amount of waste. By way of illustration, among the construction segments in France, public works generate the highest amount of waste.

Therefore, substantial contribution can be achieved by:

- Improving resource efficiency at the design stage by taking into circularity principles and by using recycled or re-used content.
    - The 60% content for recycled and re-used concrete is based on best-in-class applications: Partition wall in underpass using 75% recycled concrete; Cycling bridge built from 100% recycled aggregates and geopolymers instead of cement as binder; Viaducts A20/N456 using 50% recycled concrete. Paving stones and roadblocks can be made from 90% recycled concrete aggregate. As an example, the Dutch Building Code recommends to use 50% recycled concrete aggregates for general application (excluding harsh environments). Up to 100% is allowed for specific applications and after a more rigorous assessment.
    - The calculation of CO2 emissions is necessary because the use of recycled material might have a larger CO2 footprint than the use of virgin raw materials in case it is transported over long distances.
- Increasing the maintainability/recyclability/re-usability by making available information about the built asset.
- Preventing the generation of waste during the construction process and during the lifetime of the asset by allowing for targeted and effective maintenance.

Achieving a high re-use or recycling or recovery rate of the waste generated. Due to a lack of data at activity level, the starting point for the criterion is Eurostat data referring to country data which is taken as a proxy. The choice of 90% is justified as in 2018, the EU recycled or prepared for re-use 79% of the treated mineral construction and demolition waste. The 90% will ensure a recycling/re-use rate which is close to 100% but still leaves flexibility for materials which at their end of life do not have the properties to be either recycled or re-used. A 90% rate will also signify a growth of the secondary materials market.

FIEC comment

"Best-in-class" is often only possible/achievable within the context of a (subsidised) research project, or a project where, for example, public authorities have a concrete ambition or will to conduct a frontrunner project. The approach, attention, and financial resources necessary for conducting these kinds of projects

cannot be compared to "regular" projects. FIEC considers that "best-in-class" applications should not be used as a basis for the 60% content for recycled concrete, for the reason described above.

On a general note, the argumentation here is not very convincing: "*No specific figures for civil engineering are available. However, an important share can be presumed as civil engineering represent around 20% of investment in construction*". The technical screening criteria of the EU taxonomy should not be based on presumptions but on science-based facts and current practice in the construction sector.