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Finnish Association of Construction Product Industries (RTT)
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Ref.
Notifications of draft Finnish Construction Act (amendment) and Decree on the climate report of building

Why Finnish draft regulation of low-carbon assessment is not credible

Background

In June 2024 Finland (the Ministry of the Environment) sent the following draft regulation (proposals) related also to low-carbon assessment as follows:

Proposal by the Ministry of the Environment for a Government proposal amending the Construction Act and certain related acts
notification number 2024/0310/FI
End of Standstill: 12/09/2024
(https://technical-regulation-information-system.ec.europa.eu/fi/notification/25963)
…

- *The provisions of the Construction Act will be amended to reduce the administrative burden, reduce bureaucracy, clarify the right of appeal and specify the responsibilities of the principal contractor. The Act will lay down a guarantee on the processing time for construction permits.*
- *The Government proposal includes essential technical requirements for the low carbon and life-cycle characteristics of buildings and on the powers to issue decrees on the calculation of the carbon footprint and its limit value as well as the carbon handprint. The essential technical requirements may have an impact on the manufacture and use of construction products and therefore on the functioning of the internal market.*

Proposal by the Ministry of the Environment for a Decree of the Ministry of the Environment on the climate report and the list of construction products
Notification number 2024/0348/FI
End of Standstill: 01/10/2024
(https://technical-regulation-information-system.ec.europa.eu/fi/notification/26011)
…

- *The Decree lays down in more detail the methodology for assessing the low-carbon performance of buildings in accordance with section 38 of the Construction Act, the data to be used for the assessment and the disclosure of the input data and results of the assessment, the preparation of the climate report and the list of construction*

Confederation of Finnish Construction Industries RT
etunimi.sukunimi@rt.fi
www.rt.fi
Business ID 0215303-5
PO Box 381 (Eteläranta 10)
tel. 09 12991
FI-00131 Helsinki

products. The Decree covers the methodology for assessing the life-cycle carbon footprint and carbon handprint (positive climate impacts) of buildings and construction sites. The Decree also contains more detailed provisions on the content of the list of construction products to be drawn up during the building permit stage.

- *One major change in the Construction Act (751/2023) adopted in Finland in 2023 compared with the Land Use and Building Act (132/1999) is the introduction of climate change mitigation as part of the regulatory framework on construction. The aim is to steer construction towards low-carbon construction, i.e. to consider the negative and positive climate impacts that occur throughout the life cycle of the building. Buildings and construction account for a significant proportion of greenhouse gas emissions. The built environment (construction, building heating and electricity consumption) accounts for around one third of global greenhouse gas emissions. The low-carbon assessment methodology set out in this Decree is an essential part of the strategy on low-carbon buildings and allows the setting of carbon footprint limit values for buildings. The assessment methodology is also linked to the recast Directive on the energy performance of buildings (EPBD).*

During the commenting period of the Finnish draft regulations a lot of serious, well justified and fact-based remarks were made. In addition to remarks by Confederation of Finnish Construction Industries (RT) and Finnish Association of Construction Product Industries (RTT), other relevant stakeholders of real estate and building sector raised concerns. Also, the Finnish Climate Change Panel, officially set under the Finnish Climate Law, made very serious remarks. **They were mainly ignored (for political reasons?) but still are and will be under debate**. Main points and justification are presented in the following.

All given comments can be found in a public statement database (in Finnish).
https://www.lausuntopalvelu.fi/FI

Comments of the Finnish Climate Change Panel related to low-carbon assessment (not taken into account in the draft regulation)

Carbon storage of wood products

In the carbon footprint calculation formula, the carbon content of wood products is added together with fossil emissions. The explanatory memorandum states: "In the draft regulation, greenhouse gas removals would refer to those natural or artificial processes that result in greenhouse gases being removed from the atmosphere and – in the context of construction – bound to raw materials for construction materials". The interpretation is wrong in this respect, since at the same time no account is taken of the loss of sinks caused by logging in forests. If the loss of sinks is not taken into account over a period of 50 years, the carbon content of wood remaining in the forest should also be calculated for the benefit of all non-wood materials. Period. It is quite understandable that such a calculation is out of the question. **For this reason, the carbon storage of wood materials should not be calculated in the basic carbon footprint if the carbon sink loss cannot be properly described in the calculation formula**. In this case, carbon storage aspects must be presented as own information outside the carbon footprint data. **In addition and consequently, it currently can't be included in the carbon handprint without new calculation bases**.

The loss of the carbon sink caused by (excessive) harvesting is ignored in the proposal for a regulation when the harvesting of raw materials for wood products does not permanently weaken the carbon sink of the ecosystem at the site, assessed in accordance with generally accepted sustainable climate criteria. This refers to FSC certification for forest management at stand level, which would be an example of a guarantee of sustainable forest

management. However, **the forest level does not describe the situation in the whole country or take a stand on the overall impact of felling. Finnish forests can be a source of emissions even if the FSC standard is applied acceptably in all commercial forests. It is a question of how much is harvested in total**.

The situation is currently alarming from the point of view of the carbon sink of Finnish forests as a result of excessive felling. Forest sinks have decreased far from the level they should be at from the perspective of the climate targets for 2021–2025, 2030 and 2035. The current calculation principle would lead to a result in which domestic wood construction should be increased from the perspective of Finland's climate goals. **This is the wrong conclusion that the Finnish Climate Change Panel has shown in its publication 4/2022 (followed by other later studies). Increasing domestic felling in domestic wood construction will significantly reduce the carbon sink of forests considerably more than it will bring down fossil emissions over at least the next 100 years, and this difference will be particularly large in the coming decades as Finland strives to meet the EU's climate goals and Finland's carbon neutrality targets.**

In order to eliminate the above problem, the Finnish Climate Change Panel proposes that the carbon stock of wood products should be reduced from the initial situation in question. the product's share of the carbon sink deficit shown by the last statistics of the procurement area. The procurement area would be the whole country, for which the EU, for example, has its own country-specific forest sink targets. A simple formula should be developed for this, and the process of drafting and acceptability should be set in motion.

In the initial situation, the carbon storage credit for wood products would therefore be lower for domestic wood than what is proposed in the decree. For this harvested carbon content of timber products, a climate impact of 50 years should be calculated. In connection with this, the PAS standard, for example, contains a simple calculation formula that gives the 50-year shelf life of wood carbon storage a climate impact comparable to other emissions over a hundred-year time span, which is the starting point for the selected GWP coefficients. In this case, the starting point is that in fifty years' time, wooden structures will be burned/incinerated and their carbon content will be released into the atmosphere. If compensation is received for incineration through energy production, it will be taken into account in the handprint. What wood burning will replace in the future is a matter of conjecture, which is why such a speculative matter should not be included in the carbon footprint calculation. If part of the wood is used in a building after 50 years, it will also generate carbon sink credits in the carbon handprint. The same applies to the calculation of circular economy benefits.
Note: recycling of wooden waste and re-use rate of old wood products/wooden components is in practice 0 % currently!

<u>Carbon handprint assessment / Concept</u>

The Ministry of the Environment's proposal for a decree on the climate impacts of buildings comprises two entities: the carbon footprint and the carbon handprint. Carbon footprint is an established term in both practical and scientific work, unlike carbon handprint. According to the Regulation, the carbon handprint should be assessed by calculating the potential climate benefits that would not be created without the project. The carbon handprint is presented for reporting in connection with buildings separately with the carbon footprint result. In many ways, however, the carbon handprint is a summary of the emission reduction potential of the future. The future may be different from what is assumed in the calculations.

The carbon handprint has been used in scientific literature and in connection with industrial products and services in a different way than in this context. It generally refers to the climate impact by which a customer can reduce their own carbon footprint when using company X's products or services instead of using comparable average products or services available on the market.
The way in which the proposal for a regulation defines the carbon handprint has its own term "avoided emissions" in the life cycle assessment. In order to avoid misunderstandings and align the terminology with life cycle assessment, the carbon handprint of buildings should therefore be replaced by the term "Potential of avoided emissions" in the regulation. The word potential should be introduced, if only because in practice, numerous assumptions will have to be made in the future when estimating avoided emissions, and the results are clearly more uncertain than carbon footprint results. The new term would also avoid a direct comparison between the two sets of results, and in this way the focus of the interpretation of the results would be correctly focused on reducing the carbon footprint.

Calculation formulas

The calculation of the carbon handprint involves illogicality, which must be corrected; there are several examples. E.g. carbon footprint of the building does not take into account land use change in connection with the plot land, the significance of which as a source of emissions is easily many times greater than the sink effect of planted trees. The omission of land use change cannot be justified on the grounds that the matter should be dealt with in connection with zoning and is basically the same for all building options. Now we are comparing carbon footprint and handprint issues made with different (temporal) limits are compared, which leads to a wrong interpretation of the overall climate impacts of a construction project.

In the calculations, wood products will again reduce emissions at the end of their life cycle based on their carbon content if they end up being reused after the 50-year calculation period. The explanatory memorandum states: "If, for example, the original wooden floor or ceiling beams of the building to be renovated can be preserved in a large-scale renovation, the organic carbon storage of these structures would be included in the carbon handprint of the life cycle of the building being extensively renovated, because harvesting these raw materials would presumably not have weakened the carbon sink of the ecosystem." **This is correct, but illogical in relation to the calculation of the carbon footprint. At present, the carbon footprint does not take into account the loss of carbon sinks caused by excessive harvesting**.

Relevant remarks by other stakeholders

Also Finnish Association for Nature Conservation made serious remarks on deficiencies of the draft regulation. As long as Finland's carbon sinks are not at the level of the carbon neutrality target required by the Climate Change Act or at the level of the EU's land use sector obligations, wood cannot be counted as a climate-sustainable material. It is unclear how the material factors in the national emissions database take into account the level of Finland's carbon sink, in this case the weakening of the carbon sink. In addition, current certification systems for wood material have not proven sufficient to ensure the preservation of biodiversity.

As a rule, the carbon sink loss caused by wood procurement in forests must be taken into account in all wood use. The carbon sinks of Finnish forests have collapsed and the land use sector has become a source of emissions. The main reason for this is over-logging (excessive…). In 2021, the Finnish Environment Institute published a report according to which an

increase in wood procurement caused by wood construction causes a carbon sink loss in forests, which seems to turn the comparison into something harmful to the climate in terms of wood construction. Correspondingly, a peer-reviewed study published in June 2022 on the connection between increasing wood use and forest carbon sinks shows that approximately 90% of standard life cycle assessments do not take into account this impact of wood procurement in climate impact assessments. The impact of felling on forest carbon storages has been ignored in the proposal for a regulation

Conclusions

- **At this stage, the proposals (act and degree) should not present a carbon handprint, as it has not been credibly defined in the absence of commonly agreed calculation rules.** The Commission should lead this work and development to maintain credibility of assessments and to avoid political involvement
- In particular, biogenic carbon storage should be removed from the climate report, because according to the latest studies (e.g. the Finnish Climate Change Panel and Finnish Environmental Institute), it does not have the claimed climate benefits. It is questionable at this stage to present anything related to the carbon handprint before conducting more detailed background studies based on empirical data
- The explanatory memorandum of the proposal must clearly describe to what extent the proposal is actually based on the EN standards referred to here, and when and on what grounds it deviates from them. **It's obvious and also necessary that the standards referred to in proposals (in particular EN 15804 and EN 16449 Calculation of biogenic carbon in wood products) require updating if they are to be used for the calculation of organic carbon as proposed in the proposals, both in calculation of carbon footprint and poorly defined carbon handprint**
- In general, the proposal for a degree on climate report should present the permissible uncertainty of the results of the climate study caused by the uncertainties included in the life cycle assessment (uncertainties of different data and calculation parameters, especially for different scenarios).

More information:

Pekka Vuorinen
Director, Environment and Energy
Finnish Association of Construction Product Industries
pekka.vuorinen@rt.fi