

## Important notice concerning EPDs for wood and wood-based products based on NPCR 015 and EN 16485: Different applications of the standards lead to significantly different LCIA results.

### In brief

It has been discovered that there are differences in life cycle modelling for EPDs based on *NPCR 015 Wood and wood-based products* and *EN 16485 Product category rules for wood and wood-based products*. In general, there are two different “schools” for application of the NPCR 015 and the EN 16485, which leads to significantly different results. Each approach provides insight into the life cycle impacts for a product but comparing results between the two approaches is challenging – here the differences in life cycle impacts results may be around 15-30 % between the two “schools” for the same product system.

A simple rule of thumb: If you intend to compare results between two wood EPDs, we recommend that you check if the life cycle modelling is from the same “school”. If it is not stated in the EPD, you will need to ask the EPD owner for this information. An indication that different approaches have been used is that the difference for GWP-total is more than 15 % for similar products produced with similar production technology.

Recommendation for EPD owners: Clearly state in the EPD which methodological choices have been made for allocation and system partitioning. The variation in results due to methodological choices may be described in the additional information, for example showing consequences for GWP-total for A1-A3.

### Background

The cause of the differences is that the standards are open to interpretation on some aspects, and we see that there are in general two common ways to interpret them (two “schools” of interpretation). The two main differences between these two “schools” are i) how products from forestry are modelled and ii) how products and co-products are allocated in transport and at the sawmill. Main differences and similarities are described in Table 1:

*Table 1: Overview of main differences and similarities between the two “schools” of interpretation. Roundwood is a broader term that includes saw logs and pulpwood.*

	School 1	School 2
Forestry	The forestry activities are allocated to <i>roundwood</i> based on economic value.	The forestry activities are allocated to <i>saw logs</i> and <i>pulpwood</i> based on economic value.
	Low value co-products, such as forestry residues, are typically not allocated an environmental impact.	
Transport from forestry to sawmill	Transportation is modelled as a separate process and allocated based on mass (gate-to-gate allocation).	Transportation is modelled as part of the value chain from forestry to sawmill and allocated on economic value (cradle-to-gate allocation).
Sawmill	Allocation based on economic value of products and co-products. Co-products are typically bark, chips, shavings, etc.	

<i>Consequences</i>	<i>About 1.15 m<sup>3</sup> of roundwood (including transport) is allocated per 1 m<sup>3</sup> sawn wood product.</i>	<i>About 1.7 m<sup>3</sup> of roundwood (including transport) is allocated per 1 m<sup>3</sup> sawn wood product.</i>
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Note that both approaches are in accordance with both NPCR 015 and EN 16485. The differences occur mainly because of different definitions of products and co-products, and where in the value chain the allocation is done. There may also be additional differences depending on how conservative or simplified the modelling is applied, for example in allocation branches and treetops (GROT) in forestry and bark, chips, and shavings at the sawmill, but these variations generally have less impact on the results and may also vary within each school.

Please note that this is a broader challenge than just within a single EPD programme. There is an ongoing harmonisation process in the European Committee for Standardization (CEN) through the revision of the EN 16485 standard, where this is one of the issues that are addressed. However, the revision process will take time and the revised standard is likely to be published in fall 2024 at the earliest (see [here](#) for updated information). Therefore, EPD-Norway will also raise the issue through the mutual recognition agreement between EPD-Norway, EPD International (Environdec), and EPD Denmark.

## Appendix: What does this mean in practice? A simplified example for forestry

*Updated 2024-03-01: Corrected calculation error in table 3.*

A main product from forestry is roundwood. From roundwood we get both saw logs and pulpwood. In school 1, the product from forestry is modelled as *roundwood*. In school 2, roundwood is divided into the two separate products *saw logs* and *pulpwood*. As there is a price difference between these products, the allocation of environmental impacts will be different between the two schools.

To illustrate the significance of this choice we can look at the volume and price for commercial roundwood removal in Norway in the period from 2018 to 2022. The example is simplified and based on data from SSB for [volumes](#) and [prices](#). Tables 2-3 show the volumes [1000 m<sup>3</sup>] and average prices [NOK per m<sup>3</sup>]. Table 4 shows the allocation factors for saw logs and pulpwood compared to roundwood and Table 5 shows the allocation factors compared to saw logs.

The tables show how this allocation choice in the forestry influences the results. Using "school 2", the impact for saw logs is approximately 20 % higher than for roundwood using "school 1". Please note that these are the impacts for the wood before the sawmill, so this is only for one part of the value chain.

*Table 2: Volume. Roundwood is the sum of saw logs and pulpwood.*

Volume (1000 m <sup>3</sup> )	2018	2019	2020	2021	2022
Roundwood, whereof	10280	10652	10021	11138	11027
• Saw logs	5850	5888	5357	6636	6552
• Pulpwood	4430	4764	4664	4502	4475

*Table 3: Average price. For roundwood this is the total income divided by the total volume.*

Average price (NOK per m <sup>3</sup> )	2018	2019	2020	2021	2022
Roundwood, whereof	4490	5051	4267	5220	6087
• Saw logs	5437	5954	5103	6695	7731
• Pulpwood	3239	3935	3307	3045	3679

*Table 4: Allocation factors when compared to roundwood (roundwood = 100%)*

Economic allocation per m <sup>3</sup> , compared to roundwood	2018	2019	2020	2021	2022
Roundwood, whereof	100 %	100 %	100 %	100 %	100 %
• Saw logs	124 %	118 %	122 %	129 %	128 %
• Pulpwood	68 %	78 %	75 %	58 %	60 %

*Table 5: Allocation factors when compared to saw logs (saw logs = 100%)*

Economic allocation per m <sup>3</sup> , compared to saw logs	2018	2019	2020	2021	2022
Roundwood, whereof	81 %	85 %	82 %	78 %	78 %
• Saw logs	100 %	100 %	100 %	100 %	100 %
• Pulpwood	55 %	66 %	62 %	45 %	47 %