Addendum to the article "Avoiding co-product allocation in life-cycle assessment" (Journal of Industrial Ecology 4(3):11-33, 2001) by Bo Weidema

The procedure for avoiding co-product allocation, as presented in the article, has been applied in a larger number of cases. During analysis of these cases, I have discovered that the 4 rules of the procedure (page 15-16) may in fact be simplified, since one of the conditions applied is unnecessary, and actually only adds confusion. This is the condition stated in rule 2, that the dependent co-product should actually displace other products.

The removal of this condition leads to a simplified wording of both rule 2 and 3 (see below).

It furthermore renders rule 4 unnecessary, since it can now be regarded as a special case of the situation covered by rule 2 (in its new wording), namely the case where there no point of displacement can be found and the dependent co-product therefore can be defined as a waste from the co-producing process (see the section "Waste or co-product?"), the treatment of which is anyway ascribed to product A.

The removal of rule 4 and the said condition furthermore leaves little left of Table 1 (page 16), which is in fact misleading as it now appears.

Furthermore, when reviewing the examples used for rule 4 (page 22-23), it appears that rule 3 – in its new wording – would be applicable in one of the stated situations, namely that of example 10, which would lead to a revision of the conclusion in this example.

In consequence, and to improve the readability and understanding of the presented concepts, I suggest the following corrections to the article:

- Apply the below simplified wording of the rules (page 15-16),
- Disregard Table 1 on page 16 (or at least its right column and top row),
- In figure 2 (page 17), for step 3, disregard the middle decision box "Does the dependent co-product displace other products?" and the middle terminal point "Use rule 1 + 4",
- In the description of step 3 in the procedure (the section "Identifying the co-product that determines the volume of intermediate processes" on page 21-23), disregard condition b) ("the dependent co-product actually displaces other products"), and the paragraph starting "If condition b) is not fulfilled…",
- Disregard examples 10 and 11 on page 22-23 (noting that conclusion in example 10 is actually incorrect, as rule 3 – in its new wording - would be applicable in the stated situation).

The new, simplified wording of the rules:
1) The co-producing process (and its exchanges) shall be ascribed fully (100%) to the determining co-product for this process (product A),
2) Under the conditions that the dependent co-products are fully utilized in other processes, product A shall be credited for the processes that are displaced by the dependent co-products. The intermediate treatment shall be ascribed to product A. If there are differences between a dependent co-product and the product it displaces,

and if these differences cause any changes in the further life cycles in which the co-product is used, these changes shall likewise be ascribed to product A.
3) When a dependent co-product is not utilized fully (i.e., when part of it must be regarded as a waste), the intermediate treatment shall be ascribed to product B, while product B is credited for the avoided waste treatment of the co-product.
4) (deleted)

Bo Weidema, 2001-08-25