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REPUBLIC OF SOUTH AFRICA

In the absence of any country specific data for F_{HWPrec}, it is recommended to use the UNECE/FAO conversion factors for the timber industry as a default. Hence Equation C.9 can be restructured for this sector if no specific mC_E, mC_{SW}, mC_{LW} data is available:

$$mC_{HWP} = mC_{RM(i)} \times F_{HWP\,rec(i)}$$ **Equation C.16**

Where:

- F_{HWPrec} is the recovery of product based on raw timber inputs and i is the HWP category.

In the default approach mC_{RM} only includes timber inflow from forest areas within the C tax scheme and recovered waste wood or pulp purchased form 3rd parties within the C tax scheme. Although the presented recovery ratios do not consider use of by products such as wood chips, saw dust used in other processes such as wood-based panels from particles (WBP) and pulp, processing residues are considered as eligible inflows (Figure C.3).

The approach also means that biogenic and waste emissions are reported but these are fully discounted for this sector (Figure C.3).

Default values for F_{HWPrec} by HWP category are included in the **Sheet Parameters in the MRV tool** and can found in Appendix C.1.D.

Higher tier methodologies can use complete C mass flow or models if they are available and verifiable. Hence, individual companies may use their own recovery factors or data relating to biogenic emissions, other wood by-products and C lost in waste from the plant as outlined in Figure C.3, based on the latest available information. Use of such an approach must be verified by supporting production data for each product. It is recommended that the South African milling sector develops specific mass flow factors for each type of mill process. This may be particularly useful if the discount on waste and energy emissions are changed in future amendments to the C Tax Act.

Individual processing facilities should use their own mass flow factors based on the latest available information, which should be verified with supporting documentation.

Tier 2 option. The mass flow principle can also be applied to the milling and solid wood processing sector (Figure C.3). Carbon mass balance studies are at present only available for production of sawn wood (unpublished data, Kerr 2019). But there are no known publications on mass flow balances for mining poles, wood based panels, plywood or pole production in South Africa. If companies have specific information to calculate sawmill HWP mass balance then the same approach can be used as outlined for the paper and pulp sector using equation C.10, the relevant discounts and waste thresholds (Figure C.2).

Note that if standing tons are stated as wet white tons (wwt), i.e. at field wet basis moisture level, then the values need to be converted from wwt to m^3. For this conversion, Standard Industry Conversion Factors (ICFs) for round wood can be used (see Table C.4). It needs also to be ensured that the biomass entering the mill is overbark.