



environment, forestry & fisheries

Department:
Environment, Forestry and Fisheries
REPUBLIC OF SOUTH AFRICA

Country specific values for bark fraction²¹, wood density and carbon fraction are included in the MRV tool. Same factors should be used for species in calculating C stock change in forest land and HWP.

$V_{(OB)}$ = overbark volume, m³. If under bark values are used, then $V \times (1 + \text{Bark fraction})$ should be used. This parameter is needed in order to apply consistently the default factors (e.g. fractions, mass flow factors) provided in this guideline.

mC_{recycled} is the mass (tC) of inflow from other timber processing facilities that have not been accounted previously. The reported must demonstrate that inclusion of recycled inflows is not double accounting.

- mC_E = mass of biogenic carbon leaving the mill as gaseous emissions, determined as a fraction of mC_{RM} entering the mill based on the mass flow into biogenic energy, expressed as a fraction of mC_{RM} (FmC_E), t C

$$mC_E = mC_{RM} \times FmC_E \quad \text{Equation C.11}$$

- mC_{SW} = mass of biogenic carbon exiting the mill as solid waste determined as a fraction of mC_{RM} entering the mill based on the mass flow into biogenic energy, expressed as a fraction of mC_{RM} (FmC_{SW}), t C

$$mC_{SW} = mC_{RM} \times FmC_{SW} \quad \text{Equation C.12}$$

- mC_{LW} = mass of biogenic carbon exiting the mill as liquid waste (effluent) determined as a fraction of mC_{RM} entering the mill based on the mass flow into biogenic energy, expressed as a fraction of mC_{RM} (FmC_{LW}), t C

$$mC_{LW} = mC_{RM} \times FmC_{LW} \quad \text{Equation C.13}$$

Note: waste discharge threshold applies to mC_{SW} and mC_{LW} and emissions are only reported if these thresholds are exceeded (see IPCC code 4 schedule 2 of the 2019 Carbon Tax Act).

Since biogenic and waste emissions are discounted (D) when accounting under the 2019 Carbon Tax Act Equation C.9 can be rewritten as Equation C.14.

$$mC_{HWP} = mC_{RM} - \left(mC_E \times \frac{D}{100}\right) - \left(mC_{SW} \times \frac{D}{100}\right) - \left(mC_{LW} \times \frac{D}{100}\right) \quad \text{Equation C.14}$$

The discount is currently set at 100% in the 2019 Carbon Tax Act, but these emissions will still be reported. The derived mC_{HWP} value from equation 10 can be used as the S_{HWP} variable in the S of the C tax equation outlined in the 2019 Carbon Tax Act.

The mass flow approach can be used for all production facilities including the pulp/paper, lignin-based compounds, sawn products or primary wood-based products, or other products well defined as entering or exiting the mill gate. However, certain accounting rules regarding the eligibility of mC_{RM} need to be considered to avoid double accounting, leakage and conserved mass balance with harvest

²¹ Bark fraction is the factor for converting under bark to total merchantable wood i.e. the inclusion of the mixture of bark, wood, branches etc, which is separated from the pulp wood during the process of barking.