



## environment, forestry & fisheries

Department:  
Environment, Forestry and Fisheries  
REPUBLIC OF SOUTH AFRICA

### B.1.1. Definition of S

The term “S” in the C Tax Act, as discussed in section A.6. above, is defined as:

$$S = -S_{HWP} - \Delta C - \left[ S_{fire} - \left( S_{fire} \times \frac{D}{100} \right) \right] - \left[ S_{fert} - \left( S_{fert} \times \frac{D}{100} \right) \right] \quad \text{Equation B.1}$$

### B.1.2. HWP accounting

HWP are accounted by applying the mass flow approach with the land fill approach to account for emissions, therefore  $S_{HWP}$  re calculated as:

$$mC_{HWP} = mC_{RM} - mC_E - mC_{SW} - mC_{LW} \quad \text{Equation B.2}$$

Where:

- $mC_{HWP}$  = mass of biogenic carbon in HWP leaving the mill. This should include pulp, paper, solid wood products, saw milling waste sold for pulping if applicable, fines or lignin by products (t C);
- $mC_{RM}$  = mass of biogenic carbon entering the mill in the timber raw materials (t C);
- $mC_E$  = mass of biogenic carbon leaving the mill as gaseous emissions (t C);
- $mC_{SW}$  = mass of biogenic carbon exiting the mill as solid waste (t C);
- $mC_{LW}$  = mass of biogenic carbon exiting the mill as liquid waste (effluent) (t C).

Note: waste discharge threshold applies to  $mC_{SW}$  and  $mC_{LW}$  and emissions are only accounted 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) under the 2019 Carbon Tax Act Equation B.2 can be rewritten as equation B.3.

$$mC_{HWP} = mC_{RM} - \left( mC_E \times \frac{D}{100} \right) - \left( mC_{SW} \times \frac{D}{100} \right) - \left( mC_{LW} \times \frac{D}{100} \right) \quad \text{Equation B.3}$$

The discount is currently set at 100 % in the 2019 Carbon Tax Act, but these emissions will still be reported.

The land fill approach shall be used to account for HWP emissions:

$$S_{HWP(i)} = mC_{HWP(i)} \times fLC_{96(i)} \quad \text{Equation B.4}$$

Where:

- $S_{HWP(i)}$  = sequestered carbon as HWP of product (i);
- $fLC_{96(i)}$  = fraction of C decayed over 96 years (Skog & Nicholson, 1998).