



## environment, forestry & fisheries

Department:  
Environment, Forestry and Fisheries  
REPUBLIC OF SOUTH AFRICA

Emissions from fires and fertilisation are to be reported under the C Tax Act, but these emissions are not included in the final tax account as the C Tax Act fully discounts these emissions (see equation A.4). The rationale for reporting (under the C Tax Act) but not accounting for these emissions is that baseline data is required to develop more suitable accounting procedures in the future. Fertiliser emissions may be excluded from reporting (under C Tax Act) in future if they are found to be insignificant, but the initial reporting is required to determine if these emissions are below the significance threshold. Fire is to be reported so that a background level can be determined in order to exclude wildfire emissions in future (see section A.12.4 for method suggestions for excluding wildfire). On the other hand, fire and fertilisation emissions may also be included for accounting if determined to be significant and if the C Tax Act is reviewed. Equation A.3 is therefore rewritten as:

$$S = -S_{HWP} - \Delta C - \left[ S_{fire} - \left( S_{fire} \times \frac{D}{100} \right) \right] - \left[ S_{fert} - \left( S_{fert} \times \frac{D}{100} \right) \right] \quad \text{Equation A.4}$$

D is the current discount defined in the act (Schedule 2, C Tax Act of 2019), which is 100% for emissions from fires and fertiliser application. Equation 4 excludes emissions associated with forest lands in the IPCC guidelines, which are considered to be negligible in South Africa. These include:

***Nitrogen mineralisation associated with loss of soil organic matter resulting from change of land use or management of mineral soils ( $F_{SOM}$ ) (du Toit et al, 2016). However,  $F_{SOM}$  can directly calculated from soil C stock changes under  $\Delta C$  (equation A.4) and included in the future if considered to be significant (see***