

Assumptions and calculations underlying the data in the ZeroSE ‘Climate Action – Carbon drawdown by the land’ Factsheet.

Drawdown and avoided emissions

The full set of assumptions and methods behind the calculations of carbon drawdown and avoided emissions from changed land management practice are found in the document entitled “Natural Climate Solutions Vx.x” (NCS report) found [here](#) on the ZeroSE website. Below are additional notes for the figures presented in the Factsheet.

Forest clearing: It is assumed that 1% of State Forests are cleared each year. This is close to the actual rate of 1.1% across the South East native State Forests (4510 of 411,651 ha available, ForestCorp 2021). The figures in the Factsheet assumed this rate reduces to zero by 2030.

Fire management: This is assumed to produce extra sequestration and avoid emissions by eliminating high intensity fires. (See Table 2 of NCS report). It is assumed to apply to 10% of forest estate (National Parks and State Forests) by 2030. **Currently at 1% - change this in final analysis**

Extra drawdown by stopping logging: This is the extra carbon drawdown from the 1% of native State Forests forests not logged by 2030. Drawdown is assumed to be at a rate of 1.128 tC/ha (i.e. the rate for trees averaged across all ages) after adjustment for individual LGA productivity (see note below).

Planting trees on farms: This assumes an average drawdown rate of forests/woodlands of 1.128tC/ha (Table 3 of the NCS report), adjusted for the LGA’s average carbon drawdown rate (Table 1). This is likely to be an underestimate since young trees grow faster than average, especially between the ages of 10 and 20 years.

Optimal grazing: This leads to extra carbon drawdown into soils by avoiding under- and over-grazing which leads to enhanced forage offtake (Table 2 of NCS report). It is assumed to be practised by 10% of livestock producers grazing native and improved pastures by 2030.

Pasture improvement with legumes. This is the extra carbon drawdown through pasture improvement. Note that this is only applied to areas categorised as improved pastures and native grasslands classed as low conservation value, i.e., not protected from clearing or modification under the biodiversity conservation legislation.

Table 1. Average sequestration rates in uncleared areas by LGA (calculated from Griscom et al. 2017).

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