



environment, forestry & fisheries

Department:
Environment, Forestry and Fisheries
REPUBLIC OF SOUTH AFRICA

- c) **Robust accounting.** If no emissions are applied to all HWP, then the accounting framework does not acknowledge extensive scientific evidence⁷ that solid wood products have longer life-cycles than paper. The discount under the act already excludes biogenic and waste emissions for HWP manufacturing. Therefore, the paper industry will be able to claim the same amount of credits per t C of product as the sawn wood and wood-based panel manufacturing facilities. This is contrary to the scientific literature.
- d) **Baseline approach.** Fact that various industrial entities produce various HWP with different climate or C storage impact is considered part of the baseline, resulted from historical contribution to the national economy.

A.7.3.2. How should HWP decay be accounted?

The forest industry does not accept that the IPCC approach is suitable for accounting HWP removal and emissions. Use of the mass flow approach provides a partial solution for the C allocation aspect of the method. However, alternative methods to account for emissions on an annual basis are still required. A review of the literature concluded the use of one of the three options discussed below could be considered.

A.7.3.2.1. *The land fill approach*

The default half-life factors applied to the paper and other timber products is suggested to be over conservative and the half-life value for paper products is too generalised to capture the range of products produced by the paper industry (see section A.8.3.a)). Alternative approach may be that to use the **share of wood products converted to C emissions in landfills** (Skog and Nicholson 1998). Some studies suggest that C emissions from paper in landfill varies from 3- 38 % over 96 years (Skog & Nicholson, 1998; **Error! Reference source not found.**), magnitudes lower than the expected C lost based on the first order decay approach. The comparable half-life of paper using the landfill approach is 220 years, compared to 1 to 6 years for paper (IPCC, 2006, Skog & Nicholson, 1998). Land fill approach by Skog and Nicholson does not consider paper recycling, product life in use and combustion of paper, so could be considered as an underestimation of emissions.

Table A.4: Estimated maximum proportions of wood and paper converted to CO₂ or CH₄ in landfills (Skog & Nicholson, 1998) with associated life-cycle retention values (fLC₉₆).

Product type (i)	Maximum % carbon converted	fLC ₉₆
Solid wood	3	0.97
Newsprint	16	0.84
Coated paper	18	0.82
Boxboard	32	0.68
Office paper	38	0.62
Mean for paper and pulp		0.74

A.7.3.2.2. *The 100-year approach*

A proposed alternative is the use of the 100-year approach (Miner, 2006), which is designed for application to corporate accounting, considering **future decay of today products of the company** in

⁷ Skog and Nicholson, 1998; Profft et al., 2009; Winjum et al., 1998; Brown et al., 1999; Marland et al., 2010; Miner and Perez-Garcia, 2007; Broadmeadow and Matthews, 2003; O'Connor, 2010; Lippke et al., 2011; Henschel et al., 2008; Pingoud et al., 2006; Skog, 2008; Ellison et al., 2011; UNECE, 2010; etc