contrast to the national reporting by the IPCC approach (that applies decay to historical inflows). This approach proposes three important modifications:

a) It recognised that the decay is not a first order function, i.e. the decay constant varies over time (see Kurtz et al., 1992; Row & Phelps, 1996). This acknowledges that decay constant declines over time due to the slower breakdown of more recalcitrant C (such as lignin) remaining in product after end of use and during decay. These functions also attempt to construct decay curves by considering time-in-use, an improvement on the IPCC assumptions (see section A.8.3).
b) The 100-year time frame is based on the general IPCC approach used to defining radiative forcing potentials and this 100-year period is used in many climate change projection scenarios.
c) The approach facilitates annual accounting where all future emissions and current removals are accounted in one year.
d) Removals and emissions are all attributed to current business options of the company.

The 100-year method involves five steps:

1) Identify the types and amounts of biomass-based products (e.g. Pine or Eucalyptus) that are made in the year of interest and end up in a final product (e.g. sawlog, pallet, mining poles, paper, long life paper etc.)
2) Express this annual production in terms of the amount of biomass carbon per year for each product.
3) Divide the products into categories based on function and allocate the carbon to the functional categories. Some of the functions may be single use products. Alternatively, products can be divided into the categories used for national and international harvested wood products.
4) Use 2nd or 3rd order decay curves or other time-in-use information to estimate the fraction of the carbon in each functional category, expected to remain in use for 100 years.
5) Multiply the amount of carbon in annual production in products in each functional category by the fraction remaining at 100 years. The result is the amount of sequestered carbon in the products in each functional category attributable to this year's production.

A.7.3.2.3. The CCAR approach

All C trading platforms, besides the Californian Carbon Action Registry (CCAR), do not account for HWP because of methodological and system boundary complications. The CCAR solution is to **use the IPCC approach but to exclude historical HWP C stock in the first year of reporting** because it is not often possible to derive this data at a corporate level. At the end of the first year, the net emission/removal of HWPs is equal to the amount of carbon in products-in-use associated with the company's production for that year. In each subsequent year, the company estimates additions to, and losses from, the pool of carbon attributable to its products. Additions are equal to the carbon in products-in-use attributable to new production. Losses are determined by decay curves that describe the amounts of products-in-use removed from service each year.

Under a scenario where the annual production of new products remains constant, the approach results in large annual increases in the pool of carbon in products-in-use in early years, and smaller annual increases over time. This is because the annual losses from the pool of products-in-use are small at first but increase over time as the pool gets larger and the products get older. This results in what might be termed a "start-up effect", which may be an undesirable feature in a corporate accounting context (Miner, 2006).