Methods review to support the PAS for the calculation of the embodied greenhouse gas emissions of goods and services

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Key recommendations

- The method most suited to meet the needs of the PAS various applications eg type 3 eco-labelling is a fully integrated, ISO-consistent Hybrid-LCA approach, which combines the detail of Process-LCA with the complete supply chain coverage of input-output LCA. This will require a work programme, which could be completed once the new, more detailed input-output tables are published by the Office for National Statistics post 2010.

- At least for some PAS applications such as Type 3 eco-labelling, carbon trading or product comparisons, the PAS should always demand ‘complete’ system boundaries and include GHG emissions from the input of capital goods and (intermediate) services in production processes as well as company overheads. GHG emissions from the use phase of products should always be included in the PAS.

- The PAS specification should stipulate a user-friendly and streamlined Hybrid-LCA approach based on a defined minimum amount of primary process data. Additional data collection should be encouraged.

- The PAS should endorse a hybrid life cycle inventory (LCI) database to maximise the comparability of embodied GHG estimates across studies. This database should pull together best available process information from a variety of existing LCI databases and link it with available input-output and GHG emissions data from the environmental accounts. As such a database does not currently exist for the UK, its construction should be initiated. A set of best practise GHG emission factors for non-combustion processes should be compiled based on a review. National and international experts should oversee the development and maintenance of such a database. A PAS working group should review and appraise existing software tools in relation to their PAS compliance. Suitable Hybrid-LCA software should be listed. A public or private organisation should support the development of existing or new software tools.

- Applications of the PAS depend on the quality and comprehensiveness of available data. Therefore, PAS applications should be reviewed on a regular basis alongside the database itself. It seems that a variety of applications can already be achieved today such as process improvement or supply chain management. However, applications requiring high levels of robustness and comparability of final estimates such as Type 3 eco-labelling, are not achievable immediately. Further distinctions in applications considering different levels of uncertainties associated with products in different product groups (e.g. food) should be considered.

- If a purely process-LCA approach is chosen, PAS applications need to be more generally restricted for the future.