The University of Sydney

Integrated Sustainability Analysis™

ISA Information Sheet 19
PAS 2050 and the Carbon Reduction Label

In June 2009 the Carbon Trust announced a memorandum of understanding with Planet Ark to establish its *Carbon Reduction Label* in Australia. The *Carbon Reduction Label* is underpinned by the PAS 2050.

The Publicly Available Specification (PAS) 2050 was prepared by British Standards (BSI) to specify requirements for assessing the life cycle greenhouse gas emissions of goods and services[1]. The development of PAS 2050 was co-sponsored by the Carbon Trust[2] and the UK Department of Environment, Food and Rural Affairs[3] (Defra). It was published in October 2008. British Standards is the oldest standards body in the world and as such was a founder member of the International Organization for Standardisation (ISO). The ISO 14000 (Environmental Management) began life as a British Standard.

The Carbon Trust is a publicly funded independent company set up by the UK Government in 2001 to help businesses transition to the low-carbon economy[4]. In 2007 The Carbon Trust set up the *Carbon Reduction Label* which is administered by the Trust's *Carbon Label Company* “to help businesses to measure, certify, reduce and communicate the lifecycle greenhouse gas (GHG) emissions of their products and services[5]”. In order to display this new label on their products, manufacturers must prove that they have measured a product’s carbon footprint from production to disposal, using an internationally recognised methodology.

The PAS 2050, underpinned by the Carbon Trust’s 'Footprint Expert' system, is the ‘recognised methodology’ promoted by the *Carbon Reduction Label*. The *Carbon Label Company*'s measurement process consists of five steps[6] in accordance with BSI PAS 2050:

1. “Building a process map, including setting boundaries, understanding data available and identifying sources/contacts
2. Collecting primary data from members of the supply chain and collating secondary data
3. Assessing materiality (an iterative process)
4. Building the carbon footprint
5. Certifying the product carbon footprint model (which can require more than one iteration).”

Step five is carried out by the independent team of the *Carbon Label Company* to ensure the label has global consistency.

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1 http://www.bsigroup.com/en/Standards-and-Publications/How-we-can-help-you/Professional-Standards-Service/PAS-2050/
2 http://www.carbontrust.co.uk/carbon/briefing/developing_the_standard.htm
3 http://www.defra.gov.uk/news/latest/2008/climate-1029.htm
4 http://www.carbontrust.co.uk/News/presscentre/carbon-label-australia.htm
5 http://www.carbon-label.com/business/about.htm
6 http://carbonreductionlabel.com.au/process/

To ensure global consistency once the footprint has been calculated the *Carbon Label Company* applies a set of 'proprietary data and comparability rules'. This is because on its own the PAS 2050 cannot fully achieve consistency and comparability between products[7] (or the same product one year to the next). A Code of Good Practice[8] has been developed for the purpose of communicating product emissions and reductions consistently. For example it specifies the level of rounding for the communication of footprints and requires companies to disclose supporting information for its reduction claims including life cycle boundaries and data sources.

Because of developments in Life Cycle Analysis (LCA) techniques some of the processes necessary for PAS 2050 compliance can be addressed within ISA's input output based LCA methodology itself. This makes redundant much of the time consuming work that was previously needed for example to determine a boundary for your LCA. The ISA methodology itself takes care of the boundary (step 1 above). Whereas PAS 2050 requires that "at least 95% of the anticipated life cycle GHG emissions of the functional unit" must be captured in the assessment (BSI 2008, p. 13) the ISA methodology fully accounts for *all* inputs. There is no need to define a system boundary because every item of the economy is tracked along an infinite supply chain. This greatly simplifies the life cycle assessment process because time and energy do not have to be spent on defining system boundaries and justifying the criteria used to select them (BSI 2008: *Section 6 pp 12 – 16*[9] *)*. Without the use of input-output based life cycle analysis a tremendous amount of effort would be required to achieve a capture rate of 95% and most sectors cannot reach this capture rate even after collection of 1000 distinct data points[10] (step 2). The ISA methodology requires only the input of onsite (Scope 1 and Scope 2) emissions data and the expenditure accounts for the product in question. If your organisation produces more than one product this may require the development of a rubric for allocation of an appropriate share of non-product specific onsite data and expenditure, however once that is done it's simply a matter of entering the agreed expenditure items and amounts. All Scope 3 emissions are captured from the expenditure accounts (secondary data). Over time, as more primary information is collected from suppliers it can be substituted for the sector averages (secondary data) that are used in the ISA model.

It should be noted that the completeness that is achieved through use of input-output based LCA by far outweighs any loss of specific detail through use of sector averages. Even so, use of ISA's methodology has the added advantage of being able to substitute more and more accurate emissions data for the default averages as information becomes available. The methodology will show clearly where in the supply chain it is worthwhile spending time collecting primary (first hand/observed) data.

The PAS 2050 also requires that only items with a 'material contribution' of more than 1% of the anticipated life cycle GHG emissions associated with the product be included (step 3). However except for the power generation sector, sectors in Australia generally only achieve a total capture rate of between 40% and 90% with a 1% materiality threshold; meaning that many sectors would be far below the total capture rate of 95% required by PAS 2050. With

[7] http://www.carbon-label.com/business/thecode.htm code p.9
[8] http://www.carbon-label.com/casestudies/Opportunity.pdf
[9] http://www.bsigroup.com/en/Standards-and-Publications/Industry-Sectors/Energy/PAS-2050/
[10] For more details see: http://www.isa.org.usyd.edu.au/education/documents/20090220_ISA-USyd_Pain-Free-Scope-3v_www-version.pdf

ISA's methodology there is no need for a limit of more than 1% material contribution and a risk of not capturing 95% of anticipated emissions. Everything will be automatically included.

Of course there is also the issue of knowing what 95% looks like. Unless we know how much constitutes100% we can't know when we have reached 95%. The PAS 2050 suggests using input output analysis to 'provide an overview of the key sources of emissions' (p. 13). Use of ISA methodology means that input output analysis will provide not only an overview of key sources for follow up as time and funding permit, but also a solution to the time consuming boundary issue and materiality threshold.

References

BSI (2008). PAS 2050:2008 Specification for the assessment of the life cycle greenhouse gas emissions of goods and services. British Standards, UK