



The University of Sydney

Centre for Integrated Sustainability Analysis



Dealing with Scope 3

Stress free Scope 3

Reporting scope 3 emissions¹ would normally require organisations to survey their entire supply chains – and the supply chains of their suppliers; an administratively complex, expensive and methodologically problematic approach for most organisations. The Centre for Integrated Sustainability Analysis at the University of Sydney has developed a solution to this problem by modeling supply chain emissions throughout the economy. The ISA methodology based on Input-Output Analysis automatically carries out a complete upstream life-cycle assessment of your organisation's impacts.

Only one set of data is required

In order to do this it requires **only one** set of information – your organisation's financial accounts.

Of course the more detailed your financial accounts are the more accurate the assessment of your scope 3 greenhouse gas emissions will be. If you, for example, sort *packaging* expenditure into *paper* expenditure and *plastics* expenditure, which will have different GHG implications, then you will get more accurate results than if you lumped them together. However you can get useful and meaningful results with as few as 20 expenditure items.

What's the big deal about scope 3? Who cares?

The big deal is that unless you examine your supply chain you won't know what's hidden there. And unless you examine it using Input/Output analysis you will never be able to uncover more than an arbitrary scattering of potential risks.

Who cares? Well you might if you've made an important strategic decision – based on the wrong information. You might also care if you declare yourself to be *Carbon Neutral* and the ACCC questions your methodology.

Issues

Whilst the boundaries of scope 1 and 2 emissions are quite clearly defined, scope 3 accounting is more problematic – it requires an analysis that extends back through many stages of the upstream supply chain. Consequently, methodological and practical difficulties have inhibited consistent reporting of scope 3 emissions and raised concerns over double counting; examples are given below.

Inter-company comparisons: the GHG Protocol states that “[S]ince companies have discretion over which categories they choose to report, scope 3 may not lend itself well to comparisons across companies.” (p.29). Companies must determine which scope 3 emissions to include and how many levels up the supply chain they want to investigate. Whatever the decision it is likely that other companies will have made different decisions.

Data availability and accuracy: the GHG Protocol says that “[W]hile data availability and reliability may influence which scope 3 activities are included in the inventory, it is accepted that data accuracy may be lower. (p. 31). The Protocol says that verification will often be difficult, something that is confirmed by the Carbon Disclosure Project's 2007 report on the results of their FT500 questionnaire (p. 18)².

¹ Organisations may cause the emission of greenhouse gases either directly - for example, by on-site fossil fuel combustion - or indirectly through their consumption of electricity or other products which resulted in GHG emissions during their production. The accurate accounting and reporting of organisational *carbon footprints* is an increasingly important requirement to guide effective climate change policy, organisational management and investment. For greenhouse gas accounting and reporting purposes three 'scopes' were defined by the World Resources Institute (WRI) in their 2004 Greenhouse Gas Protocol.

Scope 1 accounts for direct GHG emissions from sources owned or controlled by the company. This does not include direct emissions from the combustion of biomass, neither does it cover those not covered by the Kyoto Protocol.

Scope 2 accounts for GHG emissions associated with the generation of electricity, heating/ cooling, or steam purchased for the reporting entity's own consumption. Scope 2 emissions occur at the facility where the generation of electricity, heating/ cooling, or steam takes place.

Scope 3 accounts for all other indirect GHG emissions. These are emissions that occur as a result of the activities of the company – the company's demand for goods and services – but are from sources not owned or controlled by the company.

² <http://www.cdproject.net/cdp5reports.asp>



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Double counting: the GHG Protocol states that “[S]copes 1 and 2 are carefully defined in this standard to ensure that two or more companies will not account for emissions in the same scope. This makes the scopes amenable for use in GHG programs where double counting matters.” (p.25). However if scope 3 is to be reported on it is likely that at least some of the emissions have already been captured in someone else’s reporting as scope 1 or 2 emissions. The Protocol points out that for participation in GHG trading two organisations cannot claim ownership of the same emissions and that it is necessary therefore to be able to differentiate ownership.

Current Position

Although scope 3 is an optional reporting category its importance is rapidly increasing with the need to close loopholes for purposes of carbon trading; to manage the financial impacts of carbon pricing in the supply chain; and the need to maintain consumer confidence and avoid accusations of ‘greenwash’.

The Global Reporting Initiative’s advice is that a sustainability report should include “entities over which the reporting organization exercises control or significant influence both in and through its relationships with various entities upstream (e.g., supply chain) and downstream (e.g., distribution and customers).” (Sustainability Reporting Guidelines, GRI 2000-2006, p. 17). Further it states that an organisation “should include in its boundary all entities that generate significant sustainability impacts (actual and potential)” (p. 18).

avoid questionnaire fatigue and solve the data accuracy and availability problem in one hit

The Carbon Disclosure Program’s questionnaire asks respondents to provide, where feasible, estimates of their supply chain emissions as well as estimates of external distribution/logistics and employee business travel.

How does the ISA methodology evaluate scope 3 emissions?

Your indirect (supply chain) emissions, such as emissions from air travel, are calculated by allocating your organisation’s expenditure across a breakdown of 344 sectors of the national economy, based on Australian Bureau of Statistics data. The total emissions for each sector of the economy are known and a portion commensurate with your expenditure in each sector is calculated. So, for example, you provide your expenditure on airline tickets and the software calculates your share of the average emissions of an airline.

The ISA methodology takes all your expenditure data and converts it into your chosen indicators. For example, say you chose *CO₂ emissions* as an indicator, and you provided a value of, say, 100\$ for paper purchased. Then the ISA methodology calculates how many kilograms of CO₂ are ‘embodied’ in this 100\$ worth of paper. This will be added to the *CO₂ emissions* embodied in all of your other expenditure items.

The methodology traces every one of your purchases through your supplier, the supplier of your supplier, the supplier of your supplier’s supplier and so on in an infinite chain of interactions. The thoroughness of the ISA analysis can be appreciated when you consider that in the ISA model of the Australian economy

- supply chain layer above you – your suppliers – has 344 members, who each have 344 suppliers, so that
- the next supply chain layer has 118,336 “suppliers of suppliers”,
- the one above that has over 4 million “suppliers of suppliers of suppliers”,

and so on throughout the whole of the economy. To assess all these suppliers’ impacts manually is impossible. The ISA methodology and software account for the impacts of *all* suppliers.

The ISA model provides consistency of reporting because there is no cut-off point or imposed boundary. **Thus results between organisations are more comparable.**

There is no boundary to be drawn; results are complete as well as comparable.



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Dealing with double counting

Apportioning emissions along the supply chain has recently been consistently and quantitatively conceptualised by ISA researchers. Allocating each impact – for example on a 50%-50% basis between the supplier and the recipient – removes double-counting. The BL³ software does this automatically.

ISA's framework allocates a 50:50 split of all impacts, so that they cascade along the supply chain. This means that, for example, the portion of greenhouse gas emissions retained/accepted by your organisation is 50% of the on-site total³ plus 50% of your allocation of the upstream impacts embodied in the goods and services that you purchase⁴. The other 50% gets passed on to your customers, pro-rata-ed according to the amount of goods that each customer purchases. **Thus double counting is not possible.**

How can my organisation use ISA methodology?

ISA currently offers access to the methodology described here in several ways: ISA undertakes the analysis work for organisations; it provides training in use of the TBL and Footprint accounting software package BL³, which is underpinned by the ISA methodology. ISA also develops tailored applications for users with specific reporting and analysis requirements.

The methodology meets the full requirements of the ISO guidelines for greenhouse emissions calculation, on which – for example - the Australian Government's "Greenhouse Friendly" certification programme is based (see Information Sheet 8). ISA's methodology for greenhouse calculators was adopted by the Australian Government in its 'Climate Clever' campaign (<http://cc-calc.greenhouse.gov.au/Content/Home.aspx>).

³ In the case of emissions this is the equivalent to the Scope 1 emissions category of the Factors and Methods Workbook (Australian Bureau of Statistics (2006). 2003-04 Household Expenditure Survey - Detailed Expenditure Items. Canberra, Australia, Australian Bureau of Statistics.)

⁴ In the case of embodied emissions these are proportionally allocated to producer and consumer at every intersection so that when the good or service is purchased by an entity it arrives with its own allocation of the emissions generated by every stage of its production and delivery. In the ISA framework *indirect emissions* covers the Scope 3 category of emissions identified in the Factors and Methods Workbook as well as the Scope 2 emissions caused by the consumption of purchased electricity, steam or heat produced elsewhere (Australian Greenhouse Office 2006). Furthermore, emissions occurring further upstream from Scope 3 are also accounted for.