Product Carbon Footprint and Assurance

Current status in PCF

Carbon footprinting is increasingly present in environmental and sustainability strategies of companies. The last years have seen the development of international standards (PAS 2050, GHG Protocol from WRI/WBCSD for Product, ISO14067) that have been or will be launched soon around Product Carbon Footprint (PCF). The objective is to arrive to a uniform implementation for carbon management and for communication with customers and stakeholders. Carbon footprint information is more and more used in marketing claims and corporate communications. It is one more reason to ensure that customers, end-consumers and stakeholders have trust in the information provided. A certain number of DataBases (free or non-free) are emerging allowing companies to use external data in their carbon footprint calculations. What trust can stakeholders have in the quality of these data? There is also a question today in the industry about the level of verification (or assurance) that is necessary and that can be provided in the future in this matter.

Objective of PCF/LCA

Life cycle Analysis (LCA) has been used since the beginning by companies to improve processes, support policy and provide a sound basis for informed decisions with respect to the full range of environmental effects assignable to products and services. If PCF followed the same rationale in its early stage but focusing on CO2 emissions only (and is still following it) a shift to a more commercial objective can be seen in the last years: PCF are used in marketing claims and corporate communications. PCF are used on product labels and some people talk about PCF today as a potential "ticket to trade". Comparison of the PCF of similar products delivered by different companies is at the agenda of retailers, suppliers and consumers.

Level of assurance

Without going into the details of the assurance process (the reader might find all necessary information in the standards described above) some main notions have to be known ao. i) the level of assurance and ii) the type of assurance.

There are currently 2 possible levels of assurance a company can get from a verification body: the limited level of assurance and the reasonable level of assurance. It refers to the degree of confidence the intended user of the assurance conclusion can gain from the outcome of the assurance evaluation[1] and it **depends on the objective** of the company seeking assurance. In general (outside the PCF) the reasonable level of assurance is usually required when the assurance statement is used by the company to meet legal or contractual obligations (eg. Verifications of GHG inventories of companies present in EU ETS, in the DJSI or participating to specific sustainable schemes eg. SKAO

[1] The GHG Protocol (WBCSD/WRI)

scheme in the Netherlands, ..). The limited level of assurance is usually used by companies willing to communicate externally on their activity but without meeting such obligations.

Assurance can be provided through 2 types of assurance:
"First Party" (Self or Internal) assurance is conducted by persons from within the organization but independent of the product GHG inventory determination process, or "Third Party" (External) assurance conducted by persons from a certification or assurance body independent of the product GHG inventory determination process.

As seen in the previous paragraph one of the objectives of a PCF is to become a marketing tool, even if it should be noted and emphasized that the final objective is to create products with less impact on climate change. The comparison between products through their PCF is increasing and as a consequence there is a strong need of credibility in the results of the PCF and in the assurance provided. No doubt about it. A recent study[2] made on the LCA of one beer calculated by 4 different consulting companies has showed 4 different results while the data set used in the calculations and provided to the 4 companies was identical. The main reasons for differences in results was a different use of emission factors of secondary data coming from the inventory dataBase, the version of the inventory dataBase, and the assumptions taken when handling non-available data. The relative comparison was effective, but not the absolute comparison. Could we say that after an assurance process the final LCA/PCF calculated would have been the same? Given that the review done by a Third Party assurer includes assumptions, calculation procedures and data sources there is a probability that some pitfalls would have been discovered, especially if the verification would have been done through a reasonable level of assurance (the deeper you verify…).

Cost issue

So assurance is required to give some credibility if your objective is to use your PCF/LCA results as a competitive advantage. And a Third Party assurance is necessary if you want to add trust in the assurance process. But many companies are stating they are struggling with the costs related to a Third Party assurance exercise. There is also a question about comprehensive transparency vs verification. Would verification be necessary in case of comprehensive transparency? Transparency is key in the credibility process but third party verification/assurance will always guarantee that the result has been verified according to the same level of assurance and against the same standards than other similar results. Meaning transparency is necessary but not sufficient.

The costs for a third party assurance statement can be significant as such, especially if the level of assurance requested is reasonable level of assurance. The verification process encompasses the whole PCF exercise (objective, assumptions, data, tools, calculations, competences, reporting, processes and procedures). Nevertheless it has to be seen as part of the full PCF determination process together with the other phases of the LCA (start with the flow model analysis, the research for data, the LCA software costs, the set up and the calculation of the PCF, then the finally the assurance phase). The assurance exercise is then only a short part of the full process. But it remains a cost due to the current way of verification and the current way for companies to set up their LCA/PCF: use of different standards, use of different methodologies, use of different DataBases, … The verification/assurance exercise would be highly facilitated in the case all LCA/PCF from the same product category were using the same methodology, the same assumptions, the same DataBase. This is happening with the creation of Product Category Rules (PCR) where methodologies, assumptions, values are being agreed upfront between the different companies in a defined sector. It could potentially reduce the costs for verification even if the verification exercise would still be needed to ensure that all the rules set at the PCR level have been followed.
Different initiatives on PCR have started and multiple PCR are already a reality in many sectors while many more are to come in the short future. One objective is to come with comparable communication of product carbon/environmental footprints by giving guidance on developing PCRs and facilitating harmonization where necessary. Succeeding in having harmonized methodology, dataBase and assumptions used during the product carbon/environmental footprint exercise is key to provide full credibility in the results and to limit the time spent in verification.

[2] LCA Comparative Study on Beer coordinated by MyClimate, April 2011.

Another issue with respect to assurance and costs is related to the products coming from developing countries (eg. in the food industry) where small producers are confronted with a large number of certifications having different types of requirements and the cost for verification can be substantial. In this case the harmonization in the existing standards/certifications could allow a different type of verification/assurance process. For instance the verification process used in the Program of Activities (POA) under the United Nation Framework Convention on Climate Change (UNFCCC): a large number (sometimes thousands) of very similar and small emission reduction projects meeting the same eligibility criteria are grouped together under one POA. The verification is then performed on a sampling of the activities. Harmonization would then allow reducing the efforts done in the verification exercise without canceling it.

As explained previously the assurance process can provide more credibility to the results of a LCA/PCF. But it's not the only advantage or incentive to go for it. A 3rd party review provides a different, independent and new view on the whole PCF/LCA exercise, it will identify errors, provide ways for improvement for internal accounting and reporting practices, and increase stakeholders (internal and external) confidence on the reported information. Finally 2 more things to say before closing this section on costs of assurance: i) the better the company is adhering to the standard principles and the presence of a transparent, well-documented system will make the verification process faster and easier (leading to a reduction in the costs), ii) the first verification is usually heavier than the following ones (periodical verifications) because it's the one that identifies the biggest number of findings and ways for improvement.

Current schemes using PCF as product label

Several schemes have been developed or are being developed around carbon labels, amongst them the Carbon Trust, Climatop and the recent initiative of the French authorities related to the "Grenelle II" law. Those 3 schemes have decided to go with 3 different approaches when it comes to assurance and verification:
The Carbon Trust (UK) has created its own assessment process and assessment criteria. Each company willing to get the Carbon Trust Standard has to fill in an assessment form summarizing the carbon footprint information and including a series of questions on their carbon management, with the calculation of the carbon footprint following the principles of the GHG Protocol developed by WRI/WBCSD and/or ISO14064. The company is not required to have its footprint verified by a third party auditor even if it's encouraged. During the assessment process, an independent assessor will review the completed assessment form against the rules of the Carbon Trust Standard methodology[3].

Climatop (CH) is asking to an engineering bureau to calculate the LCA of the product requesting their label and of the comparable products based on ISO 14040. Full LCAs" i.e. "cradle-to-grave" including end-of-life and use stage, are calculated which means that all environmental impacts are considered, while only the CO2 emissions are being communicated. The calculations are reviewed by another independent organization. This organization checks the assumptions and the calculation procedures according to ISO14040 requirements[4]. Primary data are gathered at the producers and completed with data coming from the ECOINVENT dataBase.

The French Enviromental Labelling Scheme has designed sector working groups and defined product category rules at the national level. The objective is to ensure companies from the same sector to use the same methodologies (validated by the sector working groups and a stakeholder platform), the same on-line calculation tools and the same public generic on-line dataBase. This database is validated by a database governance committee composed by people from the industry, public authorities and NGOs. The verification process will be done through random market checks and focus i) on the use of the validated indicators, calculation methodologies and tools, ii) on the validated secondary data and iii) on the primary data (with the obligation to make data and methods of proof available to public authorities)[5]

[3] http://www.carbontruststandard.com/pages/Assessment-criteria

[4] Information received from Climatop, May 2011.

[5] Presentation from Sylvain Chevassus during the 5th PCF world Forum on 7-8th of April 2011.

Future and possibilities

As conclusion verification and assurance are necessary to give trust to the LCA/PCF results due to the fact that those results are increasingly used as marketing tools. The costs related to the verification process are considered as heavy and not always understood in the market even if they are justified looking to the objective and the process itself. Today different approaches have been chosen by existing product labelling schemes showing there is no global agreement on the way verification on PCF should happen. However the verification process could become smoother and faster (and cheaper) if there was more harmonization between standards and if companies working in the same sector were using the same methodologies.

Mayta Villafane
DNV Belgium
DNV Climate Change and Environmental Services
Mayta.villafane@dnv.com

DNV & PCF

DNV (Det Norske Veritas) is a Norwegian foundation established in 1864 with the purpose of safeguarding life, property and the environment. DNV has a global presence, with 8500 people working from 100 countries.

DNV has continually been at the forefront of the climate change response by, starting in 2004 with the recognition as the first Designated Operational Entity (DOE) to be accredited under the Kyoto Protocol by the United Nations Framework Convention on Climate Change (UNFCCC). DNV is the global market leader in the validation and verification of Clean Development Mechanism (CDM) emission reduction projects.

DNV has also a wide experience in GHG inventory verifications and has been involved in TC207 as technical expert in the set-up of the ISO14064 and 14065 standards. DNV has also participated to the road testing of the draft Product Life Cycle and the draft Scope 3 Accounting Standards developed by the WBCSD/WRI. DNV was selected ‘Best Verifier’ in the 11th annual Environmental Finance and Carbon Finance market survey of environmental markets (2010).