

## Does a participatory approach to life cycle assessment solve its problems?

All chemists will agree with the statement that pure samples are rare. If someone makes a calorimetric analysis of a sample, the results will be distorted to some degree by the presence of unknown amounts of unknown contaminants. It is of crucial importance to take this into account. Therefore, one should take care to put a fairly balanced mix of all important contaminants into a sample for calorimetric analysis.

The above presents an exercise in logic, where the premise is correct, but where the corollary is false. The use of the word 'therefore' is improper, and the last sentence reduces from a deductive conclusion to a highly debatable proposition. Yet, this type of argumentation is at the heart of the discursive paradigm in the topical realm of post-modernism. I am referring in particular to a recently published Ph.D.-thesis by Remke Bras-Klapwijk from the Delft University of Technology. It deals with a policy analysis of the use of life cycle assessment in the debate on PVC. Her line of argumentation boils down to the following.

All scientists will agree with the statement that objective analyses are rare. If someone makes a life cycle assessment of a product, the results will be distorted to some degree by the presence of unknown value judgements of unknown stakeholders. It is of crucial importance to take this into account. Therefore, one should take care to put a fairly balanced mix of all important value judgements of all stakeholders into an analysis for life cycle assessment.

I agree with Bras-Klapwijk that personal opinions and value judgements of the researcher and/or the commissioner and/or the supervising committee of an LCA will have an influence on the results. I also agree that these influences are often of unknown magnitude and implicit, and that it may therefore be difficult if not impossible to figure out what the possible influence of this is on the final conclusion. Bras-Klapwijk gives

illustrations of case studies involving PVC where final rankings would change if different system boundaries, allocation rules, equivalency factors and weighting schemes were used. In that sense the dissertation gives a definite blow to the myth of LCA as the objective measurement tool to assess products from the cradle to the grave. At least, it does so to the present use of LCA in the present 'open' form. Although there is a 'Code of Practice' for LCA, and standardisation in ISO is well under way, the procedures for LCA still allow for a variety of interpretations. It seems impossible and undesirable to restrict the open nature of LCA by conforming to an all too rigid and detailed standard.

This is my point of view, and Bras-Klapwijk subscribes it. But, in my view, this does not mean that one should abandon the ideal of seeking for truth with a careful treatment of possible distortions due to value judgements. I see several options: standard procedures for sensitivity analysis, good rules for peer review, incorporation of the ideas of statistical hypothesis testing, etcetera. In line with the rules of Good Laboratory Practice, a set of rules for Good LCA Practice might be envisaged in addition to the more technical set of rules on completing mass balances and calculating indicator results. I think that way out is much more pure, consistent and efficient than the radical mixing up of facts, perceptions of facts and values that is propagated by Bras-Klapwijk. A sentence like "Discourse scientists consider a dialectical treatment of facts and values as most fruitful because facts and values are usually interwoven, e.g. frames containing normative ideas influence what we count as facts" (p.123) is illustrative. I would say that perceptions of facts and values are interwoven. I still believe in the concept of truth as an ideal, perhaps unattainable, but surely approachable.

It should be mentioned, however, that Bras-Klapwijk is not alone in attacking my and others' rational orthodox point of view. She is accompanied by at least two other recent Ph.D.-graduates: Patrick Hofstetter and Arnold Tukker. Although these two authors are somewhat less radical in rejecting the rational paradigm, the publication of three studies of this type within a mere six months may be seen as an alarming signal. Apparently, belief in rational methods has

been undermined to some extent. Sure, defences of the 'scientific method' and its achievements have been written in response to the 'crisis' invoked by post-modernism (e.g. Sokal & Bricmont, Newton; even Feyerabend who is sometimes embraced as the forerunner of this movement has added in the Introduction of the third edition of *Against method* a statement against post-modernism), and in the LCA world similar defences have been written (Pennington). Nevertheless, we must face the fact that no convincing reply to the intellectual challenge of post-modernism has been formulated so far. There are some explanations for the popularity of these movements, for instance the unjustified high expectations of LCA and the fact that LCA has sometimes been claimed to give objective answers. But it is highly questionable whether a participatory approach would cure this.

It is essential that the LCA community reconsiders the purpose, knowledge basis and methods of LCA. The dissertation of Bras-Klapwijk is a provocative source of inspiration for this process of restoration, but I am afraid that its recommendations muddy the waters even more.

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Overheard on the Internet .

## GM Foods and Sustainable Agriculture: Matt Ridley Reports from the Year 2020

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With the modern Gatesian technology available to him in the year 2020, Matt Ridley has been able to place his report from 2020 in the Daily Telegraph, 14 June 1999, as follows.

### Twenty Years On:

#### The GM Harvest by Matt Ridley

London, 2020 Lord Hague's Labour government is coming under increasing pressure from environmentalists to reverse the 20-year ban on

growing genetically modified (GM) crops in Britain. The Greens argue that the non-GM foods that, by law, British supermarkets must stock are more expensive, more contaminated with pesticides, less safe. "Mandatory food segregation has been a disaster," says a spokesman for Virgin-Tesco. "Nobody's buying the British non-GM produce. We throw away tons of it every week." The country now imports approximately 95 per cent of its food from GM-growing countries. Meanwhile, the market for organic produce, once so favoured by the well off, has never recovered from the ergot-poisoning scares of the mid-2010s. In a report issued recently, Pals of the Planet argued that "organic farming cannot be called sustainable: it requires the import of nutrients, it cannot compete with GM agriculture without massive subsidies, and it uses too much land, which could otherwise be left to nature. It should be banned."

A small lobby, largely funded by the pesticide manufacturers, still maintains that there are