8 Cost-efficient solutions can speed up ecological (and social) development – A proposal

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Abstract

The view that positive ecological, economic and social development need to be combined for sustainable development (SD) is a generally accepted concept. In practice, however, the focus is on achieving ecological advantages to support SD, e.g. through IPP (integrated product policy), ecolabelling etc.

This paper shows that integration of economic advantages – by using them sensibly – can achieve huge ecological savings, compared to ecological advantages alone. By way of example, the paper discusses a case in which part or all of the economic advantage of low-cost products is invested in better thermal home insulation, thus saving heating energy. This mainly yields savings of primary energy and various emissions resulting from the burning of non-renewable resources.

The paper formulates a proposal to better support and speed up SD, by using low-cost products and investing part or all of the resulting cost advantage in ecologically sensible optimisations. In all options investigated, this would lead to much greater ecological gain than could be achieved by just purchasing the ecologically most advantageous product. The cost advantage can of course also be invested in social optimisation, such as improving medical services.

The paper concludes that there is no clear relation between ecological and environmental performance. Low-cost products can have excellent results in quantitative life cycle analysis (LCA) and vice versa.

G. Huppes and M. Ishikawa (eds.), Quantified Eco-Efficiency, 211–219.

8.1 Three-pillar model of sustainable development

The three-pillar model of sustainable development (SD) was introduced at the Rio conference and elsewhere. It stresses the importance of developing the ecological, economic and social pillars to overcome fundamental problems like energy resource exhaustion, the greenhouse effect, the increasing gap between first and third world countries or that between the poor and the rich, etc. It has been accepted by all societal groups, including citizens, politicians, NGOs (non governmental organisations), industry etc.
A source of debate between different groups is of course the relative importance of the different pillars. Environmentalists tend to attach the greatest importance to the ecological pillar, while industry might emphasise the economic pillar. This aspect is not discussed here, but results will show the great importance of the economic pillar.

Although many political programmes are based on this three-pillar model of SD, activities seem to be restricted to strengthening the ecological pillar only.

This paper focuses on the economic pillar and especially on the importance of low-cost products and the opportunities they offer to support ecological and social development. The cost advantages of these low-cost products, as derived from economic life cycle cost (LCC) are converted quantitatively into ecological gains, quantified by ecological life cycle analysis (LCA).

The paper partly answers some more general environmental questions:
1. What is the importance of low cost products for SD?
2. How can an industry based on non-renewable resources support SD?
3. Can consumption be in accordance with SD?

8.2 A proposal for supporting SD

People often have to choose between different products, all serving the same needs, all differing in ecological and economic cost, as measured e.g. by LCA and LCC. A very effective strategy to support SD would be to use low-cost products and invest part or all of their cost advantage in optimisation activities which are ecologically and/or socially beneficial.