Integrating Life-cycle Assessment into Transport Cost-benefit Analysis - DTU Orbit

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Traditional transport Cost-Benefit Analysis (CBA) commonly ignores the indirect environmental impacts of an infrastructure project deriving from the overall life-cycle of the different project components. Such indirect impacts are instead of key importance in order to assess the long-term sustainability of a transport infrastructure project. In the present study we suggest to overcome this limit by combining a conventional life-cycle assessment approach with standard transport cost-benefit analysis. The suggested methodology is tested upon a case study project related to the construction of a new fixed link across the Roskilde fjord in Frederikssund (Denmark). The results are then compared with those from a standard CBA framework. The analysis shows that indirect environmental impacts represent a relevant share of the estimated costs of the project, clearly affecting the final project evaluation. Additionally, they can significantly modify the weight of the different components of the overall project costs – evidently becoming a significant part of the estimated construction cost. Therefore, the suggested approach guarantees a higher quality of information thus providing decision makers with a more thorough insight of the environmental impact of the project.

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