Towards a robust desicion tool for ecosystems services in the industrial systems: A case study of Distributed recycling for additive manufacturing

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Ecosystem services is a powerful conptual framwerk to put in evicende the benefits that human received from nature. The problem is that it is complex to link between the local ecosystem services of a territory and the industrial systems placed in it to identify the interactions (as synergy and impacts) with the purpose to create strong sustainability. From a decision-maker perspective, there is no a aide decision tool to guide towards a techno-ecological evaluation of the development of industrial systems in a territory. There have been major efforts in the valuation of ES given by ecosystems (terrestial,aquatic, atmospheric) to the human well-being. Likewise, LCA thinking have putting major attention in the impact of industrial filières to the environmental aspect. Nevertheless, few researches have been addressed in aligning the territorial issues in terms of ES for planning and urban development with the supply/demand of ES by industrials systems, particularity for design industrial landscapes that include the ES in the early-design phases of conception. The technical advancements of recycling approaches using additive manufacturing are promissing technical intervation to foster plastic recycling at a local level.