

New research opportunities in eco-innovation from two years of collaborative research projects

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The French eco-design research network EcoSD has initiated collaborative research projects in order to foster collaborations between academic and industrial members. The authors managed two successive projects from 2012 concerning eco-innovation processes, methods and tools. This paper first offers a synthesis of these projects, and then questions the new directions to feed research in eco-innovation for the forthcoming years. The first project concerned the perception of eco-innovation by companies. It aimed at defining the features and goals of eco-innovation compared to eco-design in industry. The literature review revealed difficulties to establish sharp boundaries between eco-design and eco-innovation. In order to gain a better understanding on industrial viewpoint, a survey with 12 French industrial organizations with an acknowledged expertise in eco-design was conducted. Results confirm that eco-innovation still is an emerging topic and does not seem to be supported by any structured process. The second project made a focus on the particular stage of eco-evaluation and eco-selection of the most promising ideas. In order to understand the emergence of high environmental potential ideas, three groups of mixed academics and industrials were asked to test two methods involving mapping, selection, combination and environmental evaluation of ideas. Main results show that there is a large inter-group variability in the evaluation of environmental potential of ideas. In this paper we identify and discuss three interlinked directions for research in eco-innovation, in a process-based perspective. The first direction deals with the eco-ideation phase. Instead of developing again new eco-innovation tools, appropriate stimulation mechanisms should be integrated into the eco-design process. Moreover, what should be the input (from the eco-ideation stage) and the output (to feed the next steps) formats of an idea? The second direction deals with the environmental evaluation of ideas in early phases of eco-innovation. It is necessary to characterize the inputs and outputs from this phase, building a bridge towards a latter simplified environmental assessment. The last direction deals with the construction of an efficient eco-innovation process based on the two previous phases. The challenge is to reduce the gap existing between academia and industry, enabling companies to introduce an eco-innovation process into their current design process.

Keywords: eco-innovation, eco-design, process, industrial practice, environmental potential, ideas selection