



## Toward a sociological approach of industrial ecology in harbor area: DEPART, a French applied research program

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### Harbors: laboratories for industrial ecology

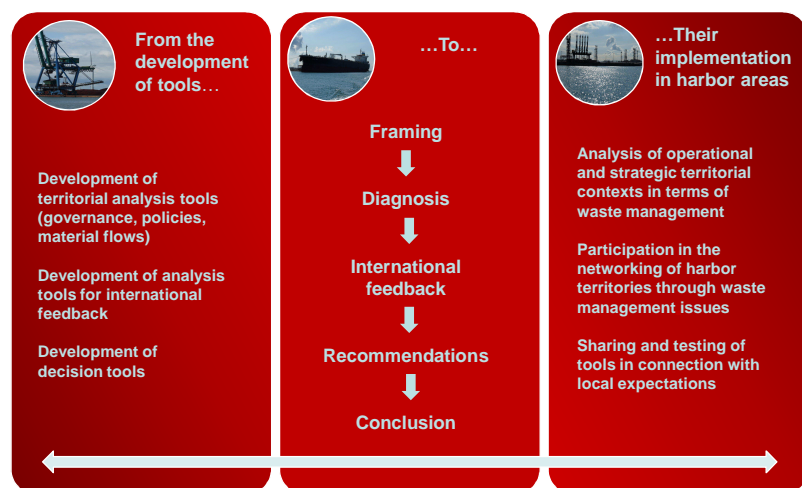
Harbor areas are hubs between the sea and their 'hinterland' and gateways for major material, waste, and energy flows. As areas of high economic interest, they concentrate strategic resource, which enable the development of complementary activities along major corridors of communication, and intensify social and political relations between stakeholders. They appear to be suitable laboratories for investigating how industrial ecology can become a solution for waste management issues. In addition, in France, several institutions involved in harbor development share common waste management issues, such as wise use of dredged materials and construction waste.

Material flows, social networks, and waste management awareness are the pre-conditions for industrial symbiosis. But the question remains: what kind of industrial ecology approach can transform these favorable conditions into sustainable and operational development? Do attempts to impose eco-industrial development lead to more sustainable development than 'uncovering' spontaneous innovative approaches to waste management, which incorporate – albeit unconsciously – industrial ecology principles? (Chertow, 2007)

Having won a call for projects from the French environmental agency (ADEME), the DEPART project will be run within the scope of this theoretical and operational context. Our methodological framework insists on the necessity of the profound integration of technical and sociological approaches to industrial ecology as one of the conditions for the success and durability of sustainable waste management.

**Keywords:** Waste management, symbiosis, harbor, social sciences

### A permanent link between research and field experiment

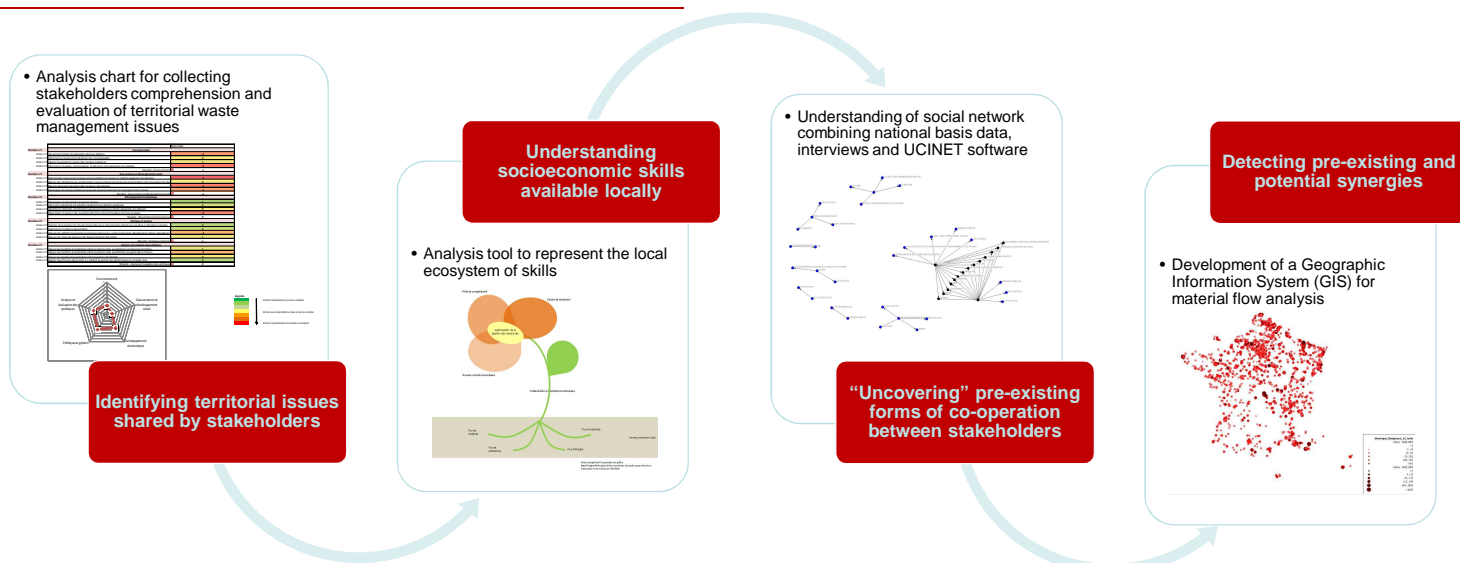


Exploring methodological and operational consequences of the "social embeddedness of industrial ecology" (Boons and Howard-Grenville, 2009), analysis tools developed in the DEPART project aim to help enhance knowledge in the field of industrial ecology and implement it in local territories.

The innovative aspect of DEPART's methodological approach consists in a change of perspectives: rather than focusing on material flows circulating through territories, emphasis is put on the needs of socioeconomic stakeholders as well as the skills available locally as a way to optimize resource management.

Thus, the DEPART project proposes a pragmatic approach: understanding the skills and expectations of local harbor stakeholders, it develops tools in order to benefit from pre-existing eco-industrial relationships, and thus stimulate and catalyze new industrial ecology perspectives. To guarantee the relevance of the tools developed, the DEPART methodologies are tested on experimental sites (harbor areas at Fos-sur-Mer (GPMM) and in Le Havre (CODAH)).

### Innovative tools for industrial ecology in harbor areas



### Conclusion and perspectives

The implementation of these tools for harbor areas will improve the understanding of issues and dynamics that define waste management in harbor areas. In addition, it will explore the link between waste management policies and local development, the impact of stakeholders' culture of cooperation on industrial ecology, as well as the local skills required to facilitate these new collaborative projects. International feedback on waste management strategies developed in harbor areas will allow these issues to be compared across different cultures and contribute to the networking of harbor areas through industrial ecology.