

Contracting Strategies to Foster Industrial Symbiosis Implementation

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Abstract : Industrial symbiosis (I.S) deals with the exchange of waste materials, fatal energy and utilities as resources for production. While it brings environmental benefits from resource conservation its economic profitability is one of the main barriers to its implementation. I.S involves several actors with their own objectives and resources so that each actor must be satisfied by ex-ante arrangements to commit toward investments and transactions. Regarding I.S Transaction cost economics helps to identify hybrid forms of governance for transactions governance due to I.S projects specificities induced by the need for customization (asset specificity, non-homogeneity). Thus we propose a framework to analyze the best contractual practices tailored to address I.S specific risks that we identified as threefold (load profiles and quality mismatch, value fluctuations). Schemes from cooperative game theory and contracting management are integrated to analyze value flows between actors. Contractual guidelines are then proposed to address the identified risks and to split the value for a set of I.S archetypes drawn from actual experiences.

Keywords : contracts, economics, industrial symbiosis, risks

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