

### **Katrien STEEMANS, How can regulation and policy support industrial symbiosis?**

This research focuses on how regulation and policy can incentivise and support solid waste exchanges between industries, where the reuse of one industry's waste by another reduces total volume of waste sent to landfill. Such industrial waste exchanges

Together with exchanges of other wastes, by-products and services have been labelled Industrial symbiosis. Industrial symbiosis supports transitions towards a more circular economy and as a result of its potential economic, environmental and social benefits it has been highlighted as one of the possible responses to some of the critical world challenges, including climate change, financial pressures and waste crises. The traditional economic drivers for self-organisation of industrial symbiosis are no longer proving sufficient. In response to this, a role for regulation has been increasingly recognised in the literature. How regulation can support and its role in supporting industrial symbiosis has not yet been identified. My research explores how regulation and policy can enable initiation and sustainment of industrial symbiosis. The research argues for a commons-based, multi-level and polycentric approach to waste regulation and policy. The arguments are supported by common-pool resources literature, property rights in waste and regulatory theories, particularly those with self-organisation aspects including new governance, smart regulation and responsive regulation.

The research design comprises of case studies, questionnaires and interviews. The outcome of the research is a regulatory and policy framework for waste exchanges, which is then able to inform both policy-makers and industry in incentivising further implementation of symbiosis networks.