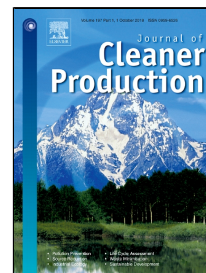


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The future of Swedish food waste: An environmental assessment of existing and prospective valorization techniques



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Title: The future of Swedish food waste: An environmental assessment of existing and prospective valorization techniques

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Abstract.

In Sweden, the current dominant valorization of food waste is the production of biogas. However, as current production has low profitability, other options are sought to find more valuable uses of food waste, e.g. as the feedstock for bio-based chemicals. One example is the use of food waste in the production of bio-based succinic acid.

In this paper, a LCA study is presented in order to highlight whether biogas production or the production of succinic acid has the lowest environmental impact as valorization option for mixed food waste, and if mixed food waste could be an environmentally preferable feedstock to succinic acid production.

The LCA study shows that the environmental results depend on the perspective. From a valorization perspective, food waste has the lowest environmental impact the biogas production. From a feedstock perspective, mixed food waste is an environmentally preferable feedstock to succinic acid production.

Although many uncertainties exist because production processes are still being developed, it can be concluded that mixed food waste seems to be a promising feedstock for bio-based chemicals from an environmental point of view, and is of interest to be included in future assessments of bio-based chemicals for the emerging bio-economy.

Keywords: food waste, LCA, biogas, succinic acid, bio-based economy

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