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ABOUT ADAPTING O-LCA TO DECISION MAKERS

MODELLING ORGANIZATIONS IN LCA: 2 APPROACHES

- Standard **organizational LCA** (O-LCA) consists of LCAs for all or many of **an organization's** products, but does not identify who can influence the environmental performance (1)
- A **socio-material flow methodology** informs O-LCA about the coordination, cooperation, and other activities that **organize** product chains, see Figures 1 and 2

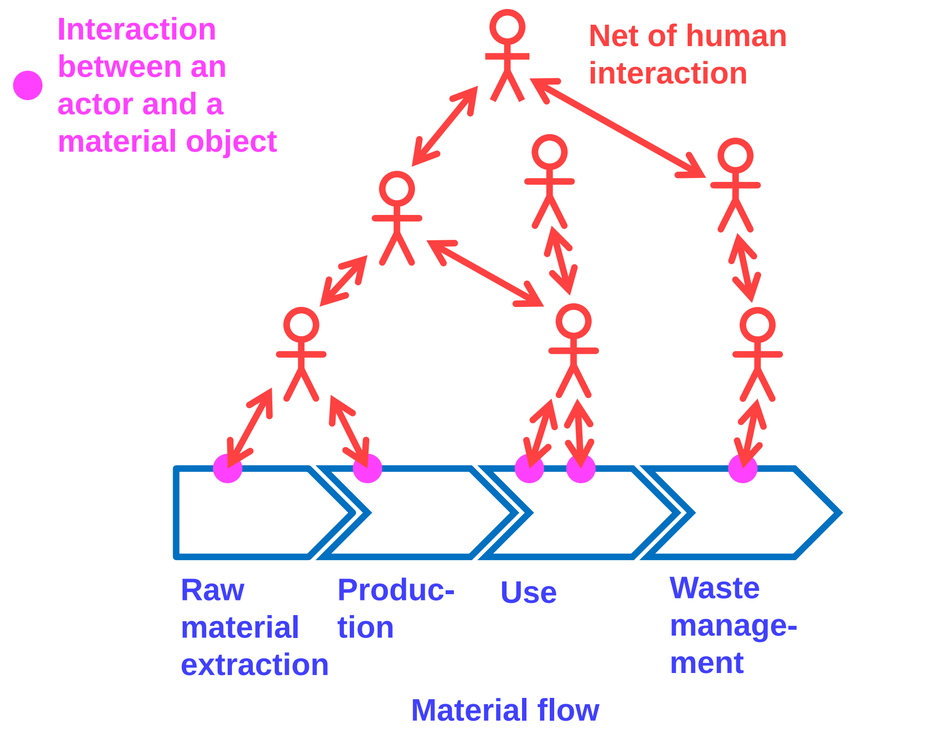

Figure 1: Concepts in the socio-material flow methodology

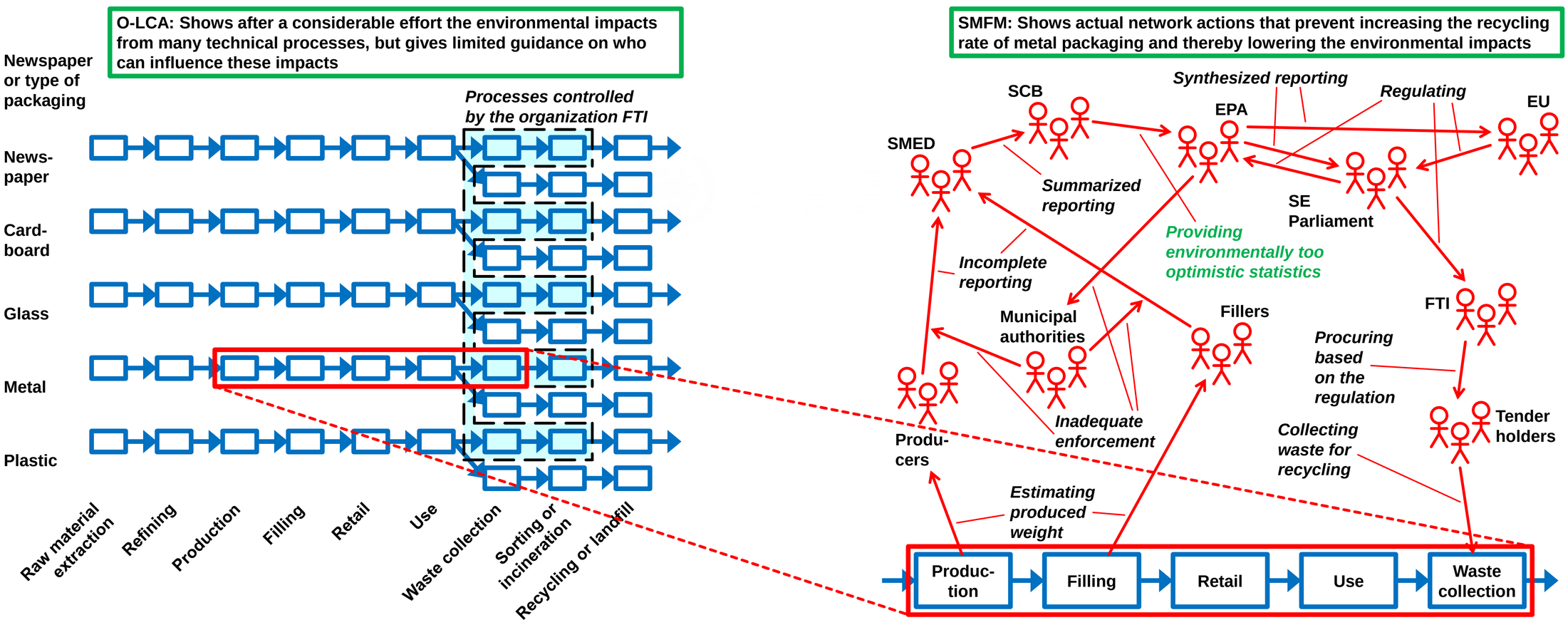

Figure 2: Explanation of typical findings from standard O-LCA (left) and when the socio-material flow methodology (SMFM) is included (right), on the Swedish organization FTI and packaging recycling (2) (3)

POSSIBLE USERS AND APPLICATION OF THE SOCIO-MATERIAL FLOW METHODOLOGY

- **Usefulness:** Decision makers need to handle disorder and uncertainty (4)
- **Feasibility:** We have successfully tested the socio-material flow methodology on among other bowling, packaging recycling, and 'passive houses' (5)
- **Impact:** Our methodology can enable effective use of O-LCA and LCA results

(1) UNEP (2015). *Guidance on organizational life cycle assessment*. UNEP, Paris.

(2) Lindkvist & Baumann (2017). Analyzing how governance of material efficiency affects the environmental performance of product flows: A comparison of product chain organization of Swedish and Dutch metal packaging flows. *Recycling* 2, 23.

(3) FTI (2019). *FTI AB - Förpacknings- och tidningsinsamlingen, FTI* [FTI AB - The packaging and newspaper collection, FTI]. https://ftiab.se/. Accessed on 21 August 2019.

(4) For example: Tsoukas, H. (2017). Don't simplify, complexify: From disjunctive to conjunctive theorizing in organization and management studies. *Journal of Management Studies* 54, 132-153.

(5) For example, Lindkvist (2018). Screening of how the organisation of life cycle nodes influences environmental impacts: A methodology. *Journal of Cleaner Production* 204, 461-470.

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