T-ReX

software in python building on the Brightway framework — source code on Stew-McD/T-reX

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Simplifying footprint tracking of waste and materials in Life Cycle Assessment (LCA)

Context

- Boost circular economy with 're-X' strategies
- Secure CRM supply for energy transition
- Track hidden waste and material flows
- Improve LCA waste assessment
- T-reX automates waste and material tracking

Methodology

Brightway LCA project

Brightway

LCA databases

ecoinvent

Incorporation of future models

premise

Database deconstruction

Search and categorisation of waste and material flows

(optional user-specific configuration)

Creation of 'pseudo-biosphere' exchanges and methods

T-reX project in Brightway

Footprint calculations

Analysis of potential impacts

Outcomes

- Adapted Brightway databases for inventory tracking
- T-reX streamlines footprint calculations
- Promotes re-X & supply chain visibility in LCA
- Li-ion case study reveals T-reX's utility
- Case study critiques carbon capture focus over waste recovery solutions