

WasteFootprint

a flexible tool for analysing supply-chain waste flows in LCA

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Why?

- To promote 'circularity' we must understand waste
- Waste can be a major environmental problem
- Most focus on downstream waste (EoL)
- Supply-chain waste not well understood

What?

- An extension to the brightway2 LCA framework
- Calculates waste footprint of a product or service
- Finds upstream waste flows in a supply chain
- Categorises waste flows into 14 types
- Finds hotspots in waste generation
- Can also do the same for any other flows!
(e.g., gas, water, critical materials)

How?

- Explodes database, identifies upstream waste
- Exchanges edited and custom methods written
- Waste flows become pseudo-biosphere flows
- Waste footprint calculated as an LCIA method

What are the challenges?

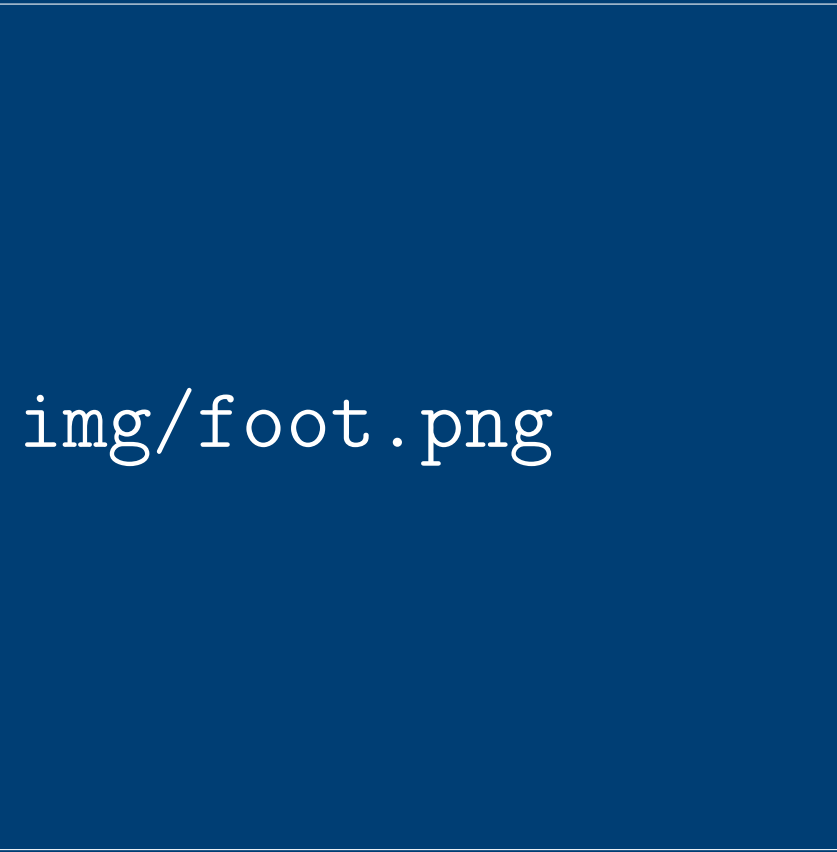
- Data completeness: 95% of waste has no EoL
- Waste is not all the same: Sometimes 'inert-waste' is just moving some rocks around
- LCA system models: both attributional and consequential models make a mess of this

What next?

- Extension with case studies
- Refinement of the method
- Application to other flows
(e.g., water, gas, critical materials)

O waste! waste,
wherefore art thou?

With code our guide,
we seek to find,
The hidden hotspots,
where waste entwined.



Github repo



Step by step through the code

