

Life Cycle Analysis: Answers

This document contains the answers to the exercises in the module.

Exercise 1

What is the purpose of the study on PET bottles?

- A. To compare the environmental impact from the consumption of drinking water for households, produced in two different ways: spring water distributed in PET bottles and tap water filtered by the FONTINET filter

This LCA study was drawn up to support the choice of which municipality? What do they want to promote?

- A. The municipality Lommel wants to promote the use of purified tap water by applying a water filter. Moreover, the results will be used to promote the Fontinet filter throughout Europe.

Who is the commissioner of this study?

- A. Prime Water

What do you expect about the choices that will be made in the study?

- A. Prime Water is both the producer of the Fontinet filter and the client, so assumptions will often be in favour of the client.

Exercise 2

What would be a suitable functional unit for a study in which the impact of different carrier bags (plastic, compostable, reusable cotton,...) is compared? The production of 1 carrier bag? Or a carrier bag for carrying 2 kg of groceries from the shop home every day for 10 transports?

- A. a carrier bag for carrying 2 kg of groceries from the shop home every day for 10 transports

Choose the best functional unit for lighting

- A. Illuminate 10 square metres up to 3000 lux for 50,000 hours.

Exercise 3

How would you determine the system boundaries for the applications listed below? These are all real-life examples for which LCA studies were performed.

1. The Norwegian government wants to compare the environmental impact of consuming tomatoes of different origins (imported from Spain, grown locally in vertical farms, grown locally in greenhouses), all bought in the supermarket.
A. Cradle to market
2. A producer of tiles for footpaths wants to compare two production processes. The bricks meet the same quality requirements, have the same chemical composition and have the same shape and size.
A. Cradle to gate
3. Before drawing up a complete relighting plan for a company, one wants to compare the environmental impact between recessed spotlights with a halogen lamp and with LED lighting. This way, a responsible choice can be made in the long term.
A. Cradle to grave

References

- Fontinet Case Study



