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Life Cycle Assessment

"You cannot manage what you cannot measure"

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- It is an old observation that 'What gets measured gets managed', and that what is not measured or measurable runs the risk of being neglected.
- Processes are not either sustainable or not sustainable, it is therefore important that we have tools for assessing the level of sustainability of our choices.
- We need a method to evaluate technologies and systems that shall help us determine and meet the needs of the present generations in a way that does not compromise the ability of our descendants to meet their needs in the future.

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In 2021, UK imported a third of the sheep meat it consumes, around 100,000 tonnes. More than 70 per cent came from New Zealand (mainly lamb cuts), 15 per cent from Australia, and 10 per cent from EU.







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NZ -> UK = 20,750 km

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The carbon footprint averaged 19 kg of CO2 eq./kg of lamb meat:

- 80% from the cradle-to-farm-gate (mainly animal methane and nitrous oxide emissions)
- 3% from processing

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- 5% from all transportation stages (predominantly from shipping),
- 12% from retailer/consumer/waste stages

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One 5-gram High-Density Polyethylene (HDPE) grocery bag LCA model







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Engineers and scientists who develop decision support, or make decisions where sustainability is a concern, should understand the need to view the solutions in a life cycle perspective and to consider possible trade-offs between environmental impacts and between the three sustainability dimensions.

Designers and engineers who design and develop products and technical systems should be able to critically read and evaluate life cycle assessment information about the alternatives that they are considering, and the environmental sustainability specialists among them should also be able to perform the LCA studies.





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Thank you



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