

Sustainability of a posted Christmas card versus an e-greeting

By Neil Beattie, December 2024

Life-cycle Assessment of a Posted Christmas Card

LCA performed using Brightway2 (Activity Browser) and Ecoinvent 3.9 Cutoff database.

Assumptions:

Functional unit is delivery of Christmas greetings to 50 recipients at an average distance of 100 km within a 2-week period.

- No appropriate card in database so used colour laser printed sheet as a proxy. Potentially underestimates impact. Mass of sheet 30 g.
- Paper, woodcontaining, lightweight coated used a proxy for envelope. Mass of envelop 30 g.
- Postage delivery is by light commercial vehicle travelling on average, 100 km, in Switzerland
- Disposal is landfill i.e. no recycling
- Neglects pen and ink used to write the card
- No recycled paper input

Results

Global warming potential (GWP100) 98 g CO₂ e

Carbon emissions of an email Christmas greeting with festive attachment

- Email with an attachment 50 g CO₂ e (Based on *How bad are bananas?* by Mike Berners-Lee, Profile Books, 2020, Revised Edition)
- This value is at the upper end of estimates for an email. See for example, BBC Science Focus: <https://www.sciencefocus.com/planet-earth/the-thought-experiment-what-is-the-carbon-footprint-of-an-email>
- Size of attachment, length of email and time stored afterwards are all contributing factors to impact.