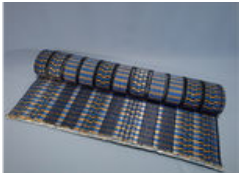


Description of Item



- Plastic Floor Mat**
- Mass: 860g
 - Contents: Virgin polypropylene
 - Plastic packaging material: LDPE film

Functional unit

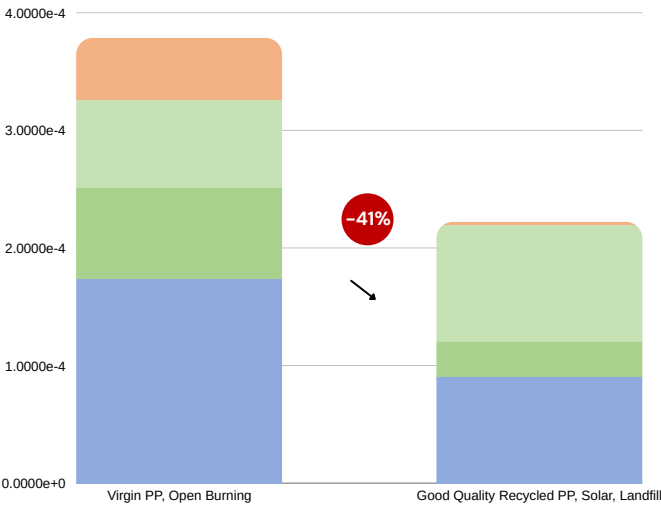
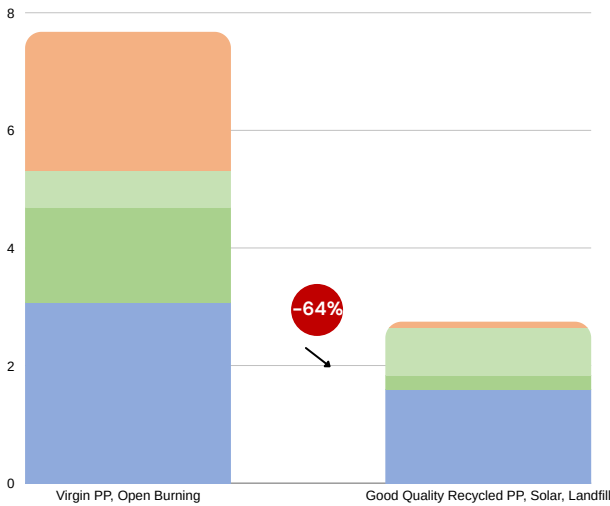
Use of 1 mattress for 10 years

Item	Use life	Reference Flows
Virgin PP	2	1
Good Quality, Recycled	2	1
Poor Quality, Recycled	1	2
Straw	1	2

Assumptions

Baseline product produced in India, sent to port by freight train, and shipped to warehousing and distribution locations. No washing is assumed. Open burning assumed for end-of-life.

Results of the computation



Variations (% from baseline figures presented above)

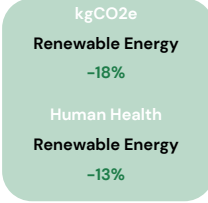
To use recycled material

Computation made by considering recycled polypropylene – of good quality (2 yrs) & bad quality (1 yr)



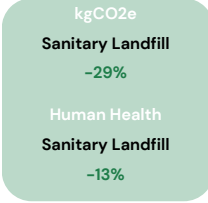
To use renewable energy during production

Computation made by considering 100% solar energy for electricity & heat



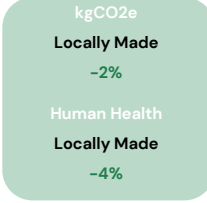
To switch to sanitary landfills

Computation made by considering sanitary landfill (moist infiltration class) at end-of-life



To produce locally

Computation made by considering supply & distribution via land transportation (i.e. trucks) instead of maritime shipping



Best Possible Scenario

Computation made by considering recycled PP produced with solar energy, disposed in a sanitary landfill



Analyses

Combining recycled materials, renewable energy, and better waste management account for the impact reduction of the plastic floor mat with results (reduction of 64% in climate change & 41% in impact on human health) comparable to that of the straw mat (reduction of 57% in climate change & 42% in impact on human health).

However – the assumption of poor-quality straw mats lasting 1 year is circumstantial and could change based on ground realities, therefore the reduction potential would have to be confirmed by additional studies on the lifespan of straw mats in field settings.

Emission factors

The values displayed here are not per functional unit but per item. These values can be used to compute a carbon footprint of an organisation and can be adapted to a specific case using the tool

Name	GHG Protocol Categories	kgCO ₂ e/unit
Cradle-to-grave	N/A	7.68
Cradle-to-gate	3.1 Purchased Goods	4.69
Distribution freight	3.4 and/or 3.9 Transportation	0.62
Use phase	3.11 Use of distributed product	0
End-of life	3.12 End of life of distributed product	2.36

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About this project

Designing methodologies and performing life cycle analyses of high-impact items to build a GHG emission factor and environmental impact database adapted to the humanitarian sector with the goal of identifying key strategies to reduce environmental impacts.

EPFL EssentialTech Center:
Dr. Grégoire Castella, Dr. Cara Tobin, Emeline Darçot

EPFL LEURE:
Dr. Sascha Nick, Ashima Rajput

International Committee of the Red Cross (ICRC):
Anna Maria Liwak, Carmen Garcia Duro

Climate Action Accelerator:
Bruno Jochum, Sonja Schmid, Paolo Sévègnes

Associated expert:
Dr. Damien Friot