


Description of Item



Body Soap Bar

- Mass: 260g
- Contents: 100% crude palm oil, sodium chloride, sodium hydroxide
- Plastic packaging material: LDPE film

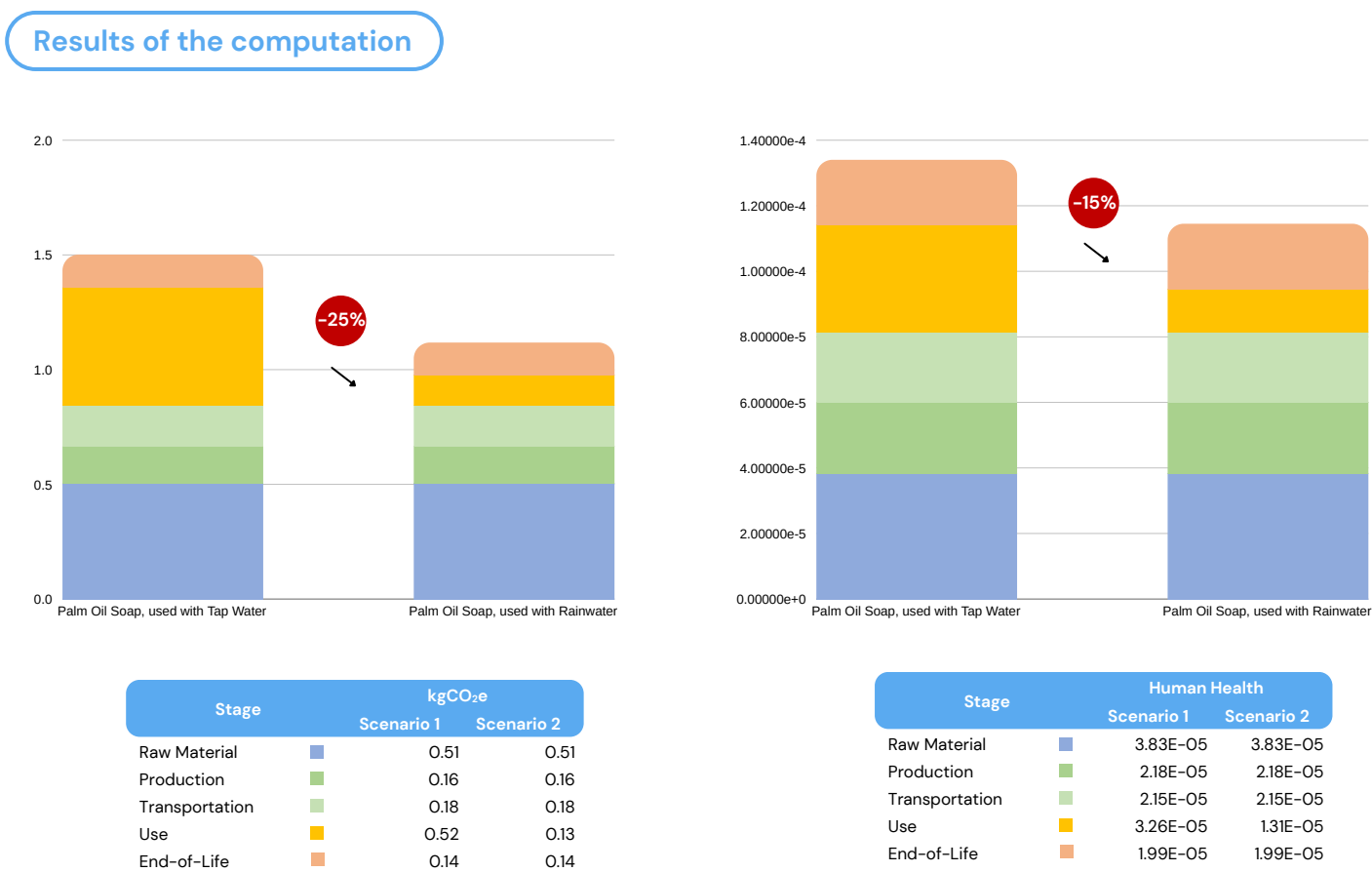
Functional unit

1 soap bar, 50 uses per bar

Item	Use life	Reference Flows
ALL	1	1

Assumptions

All variations are locally manufactured with the base oil imported via sea freight. Use phase includes 10 L water per use, generating wastewater at end-of-life. Packaging is assumed to be dumped in open pits.



Variations (% from baseline figures presented above)

To use alternative oils

Computation made by considering 100% palm kernel oil and 100% coconut oil

kgCO2e	
Kernel	+7%
Coconut	+3%

Human Health	
Kernel	+6%
Coconut	+40%

To use renewable energy for production

Computation made by considering 100% of heat from municipal incineration

kgCO2e	
Better Heat	-4%

Human Health	
Better Heat	-1%

To use a low-impact water supply

Computation made by considering harvested rainwater

kgCO2e	
Rainwater	-25%

Human Health	
Rainwater	-15%

To eliminate packaging

Computation made by considering no packaging with 100% crude oil

kgCO2e	
Packaging-free	-3%

Human Health	
Packaging-free	-2%

Analyses

The water usage during the use phase, as well as the raw material of the soap (i.e. vegetable oils) make up the majority of the impact of the soap. **Improving water supply can lead to 26% lower GHG emissions and 15% lower impact on human health.**

While **palm oil is commonly used and remains an impact-efficient choice**, it is important to consider its significant deforestation effects. RSPO-certified palm oil could be considered; its impacts were not modelled due to missing data on human health impacts.

Emission factors	Name	GHG Protocol Categories	kgCO2e/unit
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	Cradle-to-grave	N/A	1.5
	Cradle-to-gate	3.1 Purchased Goods	0.67
	Distribution freight	3.4 and/or 3.9 Transportation	0.18
	Use phase	3.11 Use of distributed product	0.52
	End-of life	3.12 End of life of distributed product	0.14

References

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Repository of life cycle assessments – Climate Action Accelerator (2025). Available at: <https://climateactionaccelerator.org/repository-of-lifecycle-assessments/>.

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.

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