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Single-use menstrual products and their alternatives: Recommendations from Life Cycle Assessments



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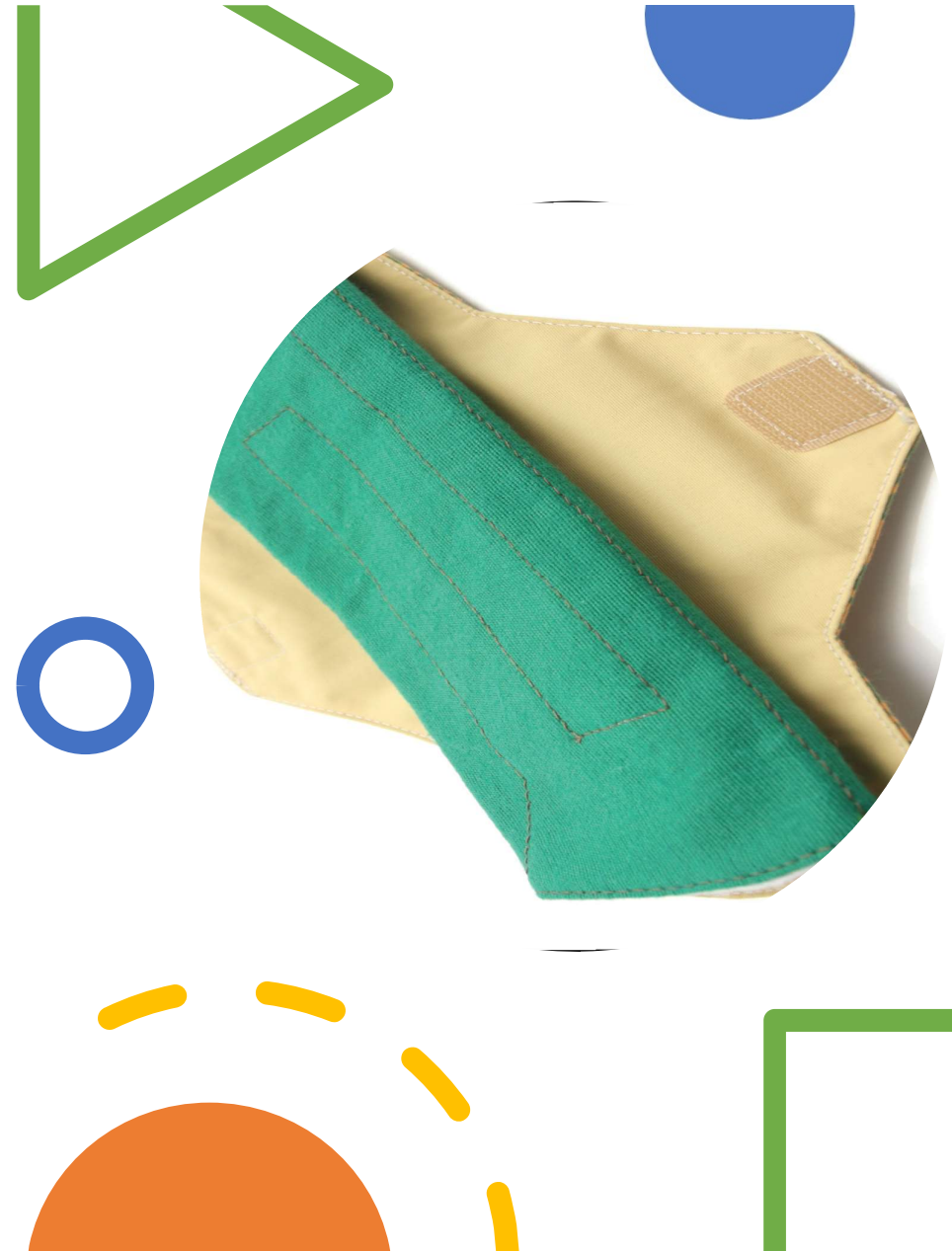


Why (an LCA Meta-Analysis) on Menstrual Products?

- **Single-use menstrual products** such as **tampons and pads** are a substantial contributor to **plastics waste** globally.
- They have significant **environmental impacts** across their life cycle.
- In the EU **49 billion single-use menstrual products** are estimated to be consumed per year and **19 billion** in the US.
- **Improper disposal** has led to blocked sewers, flooding, and pollution of freshwater and marine environments.

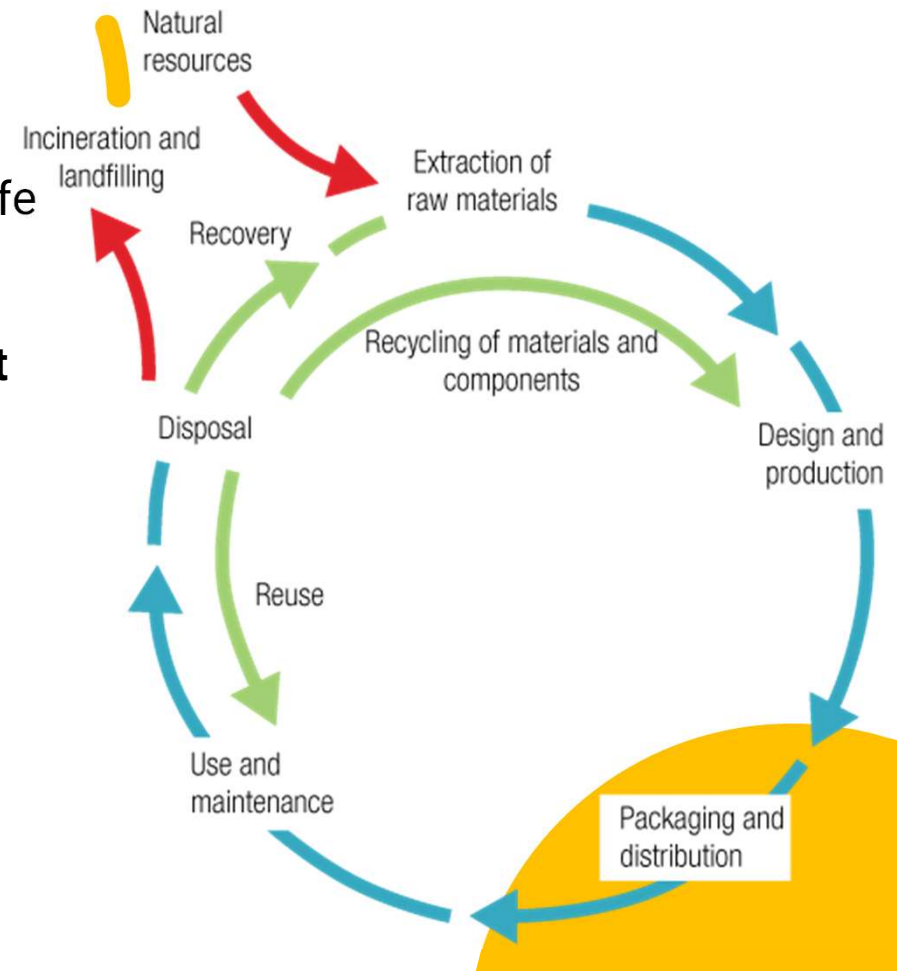
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**Why (an LCA Meta-Analysis)
on Menstrual Products?**

- **Taboo** surrounding menstruation makes it difficult to discuss sustainable menstrual product options.
- This report summarizes current knowledge from **Life Cycle Assessments (LCAs)** about the environmental performance of single-use menstrual products vs. their alternatives
- Assist **policymakers** and **consumers** in making **informed choices**



Applying a Life Cycle Thinking

- **Life Cycle Thinking:** looks at the environmental impacts of a product (or a service) along its entire life cycle from extraction of resources, until end-of-life
- LCA highlights the **areas of highest potential impact** along the value chain and identifies trade-offs between impacts



Context

The Life Cycle Initiative

- Public-private, multi-stakeholder partnership **enabling the global use of credible life cycle knowledge** by private and public decision makers
- Provides global forum to ensure a **science-based, consensus-building** process in policymaking



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- UNEP is the **global authority for the environment**, with development programmes focusing on climate, nature, pollution.
- The United Nations Environment Assembly is the world's highest-level **decision-making body on the environment**. It addresses the critical environmental challenges facing the world today.



Single-use Plastic Products vs. alternatives

Knowledge products on SUPP from a Life Cycle perspective

To respond to the request by Member States at the 4th session of the **UN Environment Assembly** (UNEA 4/9) in March 2019, the Life Cycle Unit has gathered info and proposed recommendations to address single-use plastic products pollution

Recommendations available for the following Single-use Products:



ADDRESSING SINGLE-USE PLASTIC PRODUCTS POLLUTION USING A LIFE CYCLE APPROACH

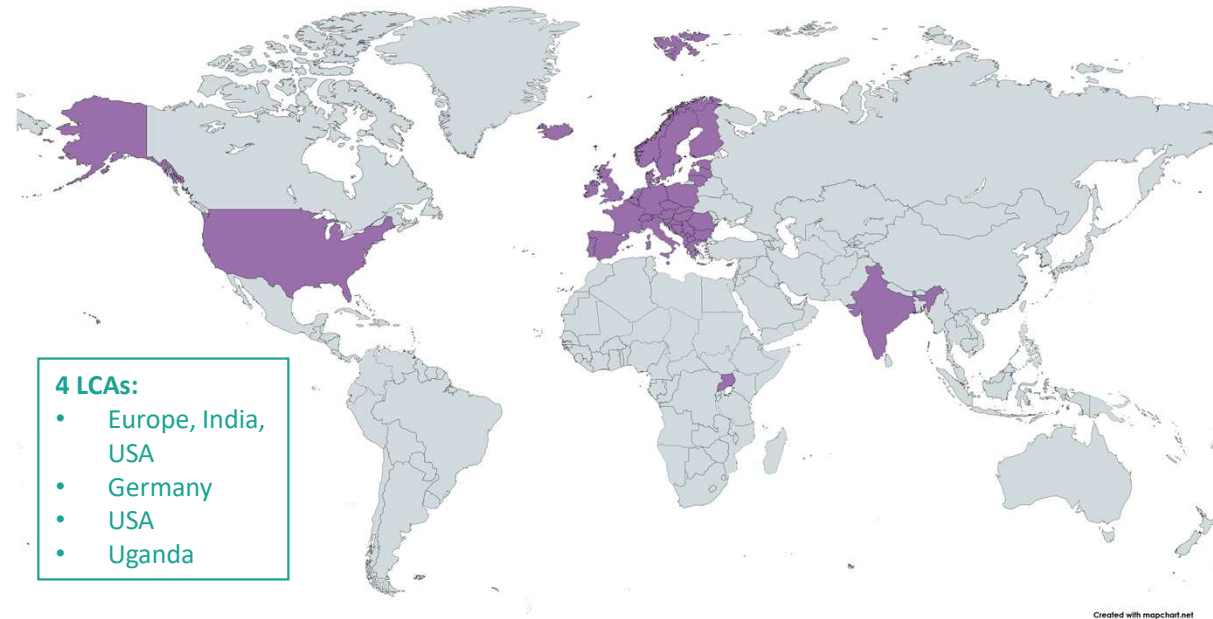


Findings on SUPPs from an LCA perspective

- It is the **single-use nature** of products that is the most problematic for the planet, more so than the material that they're made of
- Cleverly designed products should be **durable**, and the **lighter** a product's weight, (normally) the **lower its environmental impact**
- Member States are encouraged to promote actions that lead to **keeping resources at their highest value**, by **replacing single-use plastic products with reusable products**
- There is **no one single solution to plastic products pollution**. It is context and country-specific but taking a **life cycle approach** can help in taking the right decision.

Methodology of menstrual product meta-analysis

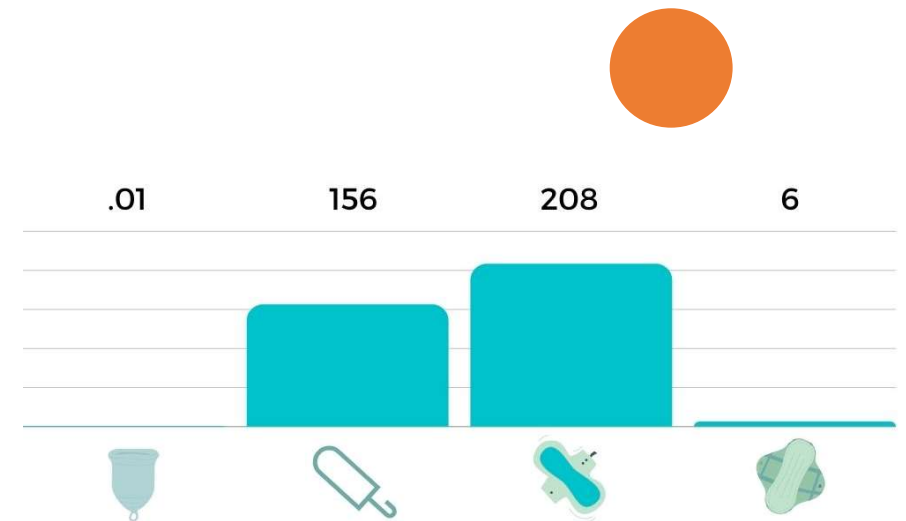
- Meta-analysis of **four** LCA studies from a range of geographic locations
- LCA studies chosen for analysis include recent peer-reviewed studies, published in English, comparing single-use and reusable menstrual products (2015-2020)
- Products considered:
 - Single-use tampon (with and without applicator)
 - Single-use pad
 - Reusable pad
 - Reusable menstrual cup



Map retrieved from MapChart.net

Key findings of meta-study

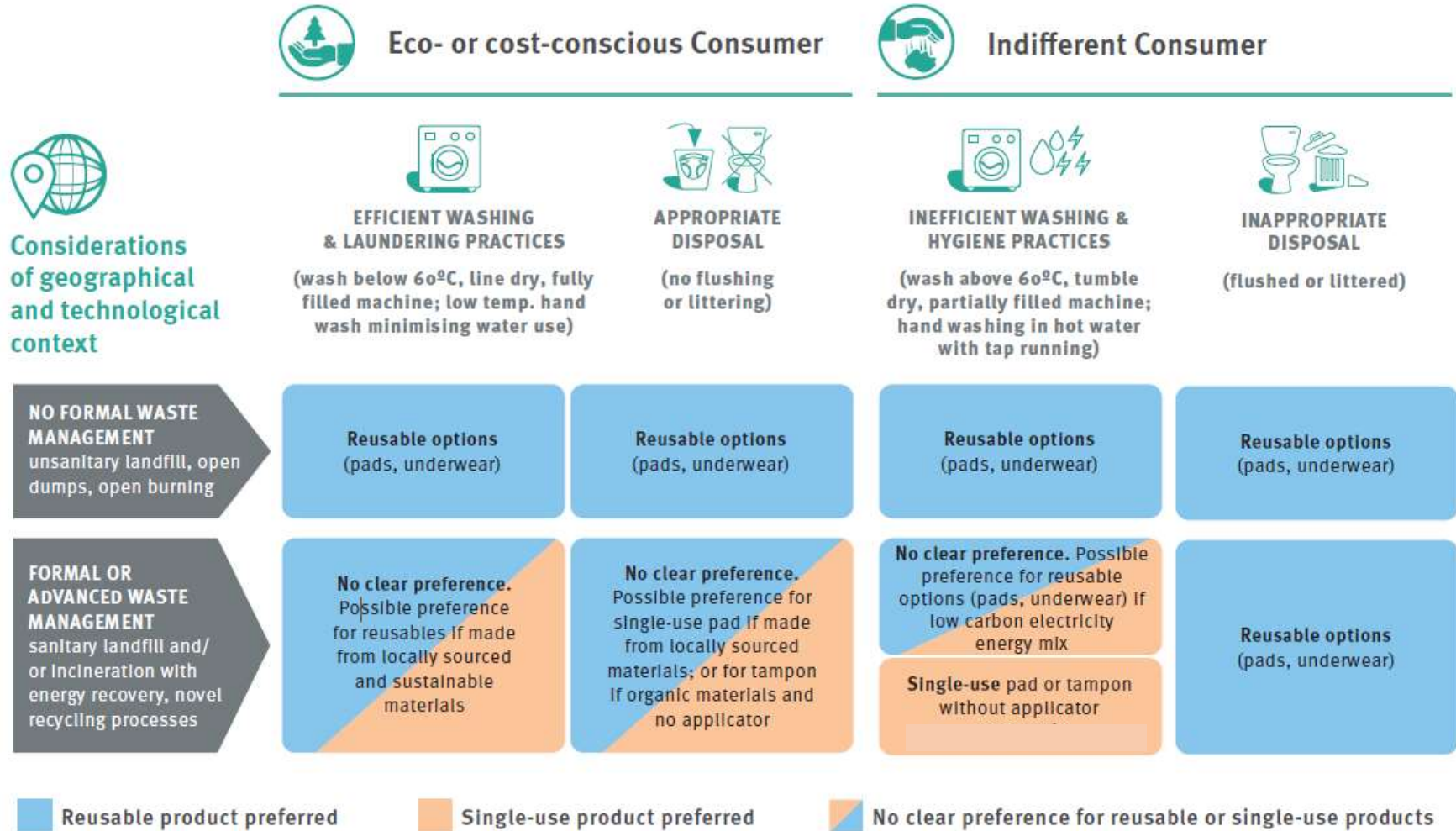
- **Reusable menstrual products** have **lower** environmental **impacts**, with reusable **menstrual cup** having **lowest** environmental impact overall:
 - Even when **sterilized inefficiently or only used for several months**, it still has the lowest environmental impact.
 - Its impact is **less than 1%** of the impact of single-use options over a year of use.
- Environmental impacts of reusables are driven by consumer behavior:
 - E.g., Washing: how much water, how often, type of soap, etc.



Annual menstrual product consumption per person (if cup is used for 10 years)

REUSABLE MENSTRUAL CUPS HAVE THE LOWEST ENVIRONMENTAL IMPACTS AND SHOULD BE CHOSEN WHENEVER PRACTICABLE
(I.e., where there is cultural/social acceptance of cups and sufficient infrastructure for their safe and hygienic use)

IF MENSTRUAL CUPS ARE NOT PRACTICABLE:



Recommendations for policy-makers

- Educate consumers on reusable menstrual product alternatives and on how to efficiently sterilize (cups) and launder (pads).*
- Encourage multiple reuses of reusable products. The longer the lifespan the lower the environmental impacts, so products should be used for as long as they remain functional. For cups preferably for at least a year.
- Advocate for reusable menstrual products, such as requiring public procurement to consider reusable products.
- Provide adequate infrastructure in schools and government facilities, and require workplaces to ensure adequate facilities (e.g., private, and clean bathrooms with working sinks).
- Focus efforts on transitioning to low-carbon electricity.

** The energy used in sterilising cups can be reduced by placing the cup in small bowl or mug and pouring over water boiled in a kettle, or if sterilized by boiling in water, energy use can be minimised by using a small, covered pot and boiling on a stove top or microwaving for the minimum time recommended by the manufacturer. The energy use in laundering pads and period underwear can be minimised by pre-rinsing in cold water, washing them in an energy- and water-efficient washing machine (in a full load) and line-drying. If hand washed, they should be washed*

in a small tub in lukewarm water using the minimum amount of detergent necessary

Key findings

- Among the **single-use** products, there is **no clear preferred option** as to which has the lowest environmental impact. However, **tampon without applicator** and **pads from locally sourced material** tend to stand out.
- **Environmental impacts** of single-use menstrual products can be **reduced** by:
 - Using **locally-made products**,
 - Improving design with **lighter products** and **super-absorbent material**.
 - Ensure **adequate waste collection and appropriate disposal** of single-use menstrual products
- Contamination concerns from single-use menstrual products prevent recycling.



Considerations for policy-making

Understanding the **geographical and social context** before promoting a particular product is necessary.



Although shown to be environmentally preferred by a considerable margin, **the menstrual cup** cannot be considered a viable alternative **unless the wider social and economic system is able to accommodate it.**



Much greater **education and information** is needed on reusable menstrual products to give women the freedom to choose and **to drive the social acceptance** of reusable menstrual products.





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Thank you!

Report link: [Single-use menstrual products and their alternatives: Recommendations from Life Cycle Assessments – Life Cycle Initiative](#)

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