SUSTAINABLE PROCUREMENT FACTSHEET – LATRINE



This factsheet provides practical guidance for humanitarian procurement and programme teams to source latrines more sustainably and from local production. It highlights key considerations throughout the product lifecycle:



1. Before buying

Sustainable procurement starts with a clear assessment of needs. The following questions can guide procurement policies and decisions.

Do we buy the right quantities?	Can we buy local materials?	Can we substitute with sustainable alternatives?
• What is the actual need, based on population size, existing sanitation infrastructure, and duration of assistance? • Can existing latrines be rehabilitated, extended, or shared instead of building new ones? • Can the design be adapted to reduce the quantity or size of materials required?	• Is there a local supplier able to meet the required quality, safety, and quantity specifications for construction materials? • Are the materials sourced and processed locally, or only distributed locally? *If no local supplier meets these criteria, consider regional suppliers for alternative sourcing options.*	• Are there local, recycled, or low-impact materials that meet our technical requirements? • Can we modify specifications to allow for recycled content, modularity, or easier end-of-life disassembly?

2. Choosing the right latrine

These tables help integrate sustainability into your latrine procurement. **Table 1** includes ready-to-use technical specifications for BOQs, and **Table 2** provides supplier evaluation criteria for procurement assessment. The "Impact" column reflects each criterion's importance to the environmental footprint (climate, water, waste).

Table 1. Criteria for sustainable latrine procurement

Criteria	Impact	Sustainability guidance
Durability, lifetime & repairability (spare parts)	High	Modular design with **interchangeable, easily replaceable key components** (seat, hinges, locks, etc.), allowing individual repairs without replacing the entire unit and enabling adaptation to different operational needs. **Easy-to-clean surfaces reduce water and cleaning product consumption**, while a robust build — resistant to intensive use, impacts, UV exposure, and harsh weather, maximises service life.
Material selection	Medium	**Recycled, recyclable, and/or locally sourced materials** (e.g., recycled plastic, steel with high recycled content). Avoid hazardous materials.
End-of-life management	Medium	Fully disassemble toilets for recycling or reuse. Avoid designs that mix materials (e.g., plastic + metal) if they cannot be easily separated.
Energy use	Medium	Minimal or no energy toilets (e.g., passive ventilation, solar-powered lighting for night use) if applicable
Transport and storage efficiency	Low	Lightweight, stackable, or foldable designs reduce transport emissions, storage space requirements, and the risk of damage.

Table 2. Supplier criteria

Criteria	Impact	Sustainability guidance
Take-back	High	The supplier shall take back damaged or end-of-life latrine units for recycling.
Information & traceability	Medium	The supplier shall provide documented information on polymer composition, recycled content (where applicable), material origin, manufacturing process, and relevant environmental data.
Energy used in manufacturing	Low	Sustainability guidance: The supplier shall disclose the share of low-carbon energy used in manufacturing and limit use of diesel generators.

Social impact		The supplier shall demonstrate local employment, fair wages, and safe working conditions. Designs should improve dignity and safety (e.g. gender-segregated, accessible options).

3. During use

- **Clean regularly** using products that are compatible with materials.
- Perform **routine inspections** to identify cracks, loose fittings, or damaged components early.
- **Train** users and maintenance staff on correct operation and handling.
- **Avoid misuse, overloading, or unnecessary impacts** during use and transport.
- Store units in a dry, sheltered location when not in use.
- Carry out **minor repairs promptly** to prevent further deterioration.

4. End of life

- **Reuse functional units** in other humanitarian operations whenever possible.
- **Disassemble products** to maximise component reuse and material recycling.
- **Sort materials** (plastics, metals, wood, etc.) according to local recycling streams: contact the **WREC** or **hulo** in the country.
- Return products to the supplier if a **take-back scheme** is available.
- Dispose of non-recyclable materials in accordance with local regulations.

5. Alternatives: cost and environmental analysis

Table 3. All contexts: environmental benefits of recommended alternatives

Availability of these alternatives must be verified with local suppliers. The reductions in climate change impact were calculated by comparing latrines produced with concrete, plastic and steel with alternatives from local producers in Lebanon.

Alternatives	Reduction in climate impact	Key benefits
Composting toilets	-22%	Require little or no water, reduce wastewater generation, and enable nutrient recovery when properly managed.
Reusable modular sanitation units	Modelling a reuse scenario proved too speculative, as there is currently no empirical data on actual use available.	Designed for repeated deployment across multiple humanitarian operations, reducing the need for new units Environmental benefits depend on how long fixed toilets would remain in use, at how many sites reusable toilets could replace fixed installations or whether, depending on the context, fixed installations might in fact be more beneficial for local populations in the long term.

Table 4. Lebanon: cost and environmental analysis of available alternatives

Locally produced recycled-plastic latrines cost around 25–33% more than standard concrete latrines. This premium reflects the added value of full dismountability, reusability across operations, and reduced reliance on cement. The climate change impact was not modelled due to a current lack of empirical data.

Conventional technical specifications	Sustainable technical specifications
Typical structure in Lebanon: cement block construction	• Locally produced recycled-plastic interlocking brick walls, supported by recycled-plastic structural beams. • Recycled-plastic sheet roofing (double-layer). • Recycled-plastic sheet door and translucent sections for natural light. • Complete sanitary equipment with internal PVC plumbing. • Foundation using reused tyres. • Fully dismountable (Lego-style) and reusable units at end of life.

6. References and resources

This factsheet is based on a project's market assessment in Lebanon, drawing on supplier questionnaire responses, technical observations from site visits, and available guidance on sustainable products and services relevant to the Lebanese context in 2026. For more information, as well as the methodology used for price comparison, total cost of ownership, and the simplified LCA, please refer to the following document: *Appendix 1 - Price comparison & environmental analysis methodologies.*