

## D4.2. Gap Analysis Report

### Annex 6. List of bio-based solutions

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#### Scope:

The annex presents the list of bio-based solutions presented in the D4.1.

#### Note:

This list with numbers were used in the Chapter 4, Table 6 “Identified existing solutions to be multiplied”. This appendix is intended to assist in the correct reading of the above-mentioned table.

Category	No.	BB solutions to be used	Final product of BB solution or SWM result
Multi purpose packaging products	1	Packaging utilizing Notpla Seaweed / Zero Waste Paper	Delivering boxes of different sizes and functions. By-product from seaweed processing.
	2	MYCO 4Pack and SafePads	Combination of protective mailers with cardboard for protection during transport
	3	Sustainable film concept for medical and food packaging	The optimized high-performance film represents an alternative to cellulose-based films.
	4	LAM'ON – Biodegradable laminating film	Biodegradable laminating film from renewable resources like corn.
	5	Monta Biopack® – self-adhesive tape / monta Klebebandwerk	Sustainable self-adhesive tape. It is made from about 90 % renewable resources.
	6	Sway Polybags	Bags made with with seaweed, plants, and compostable polymers.
	7	Wood Foams utilising the Fibrease® and Papira®	Fibrease® - Composite material, suitable for insulation purposes in medical shipments, life science, meal kit deliveries, transport of light and fragile goods. Papira® - It is suitable for packaging of industrial,

			electronic and medical equipment, as well as fragile goods.
Food and drinks packaging products	8	High barrier and compostable packaging materials for food contact applications	High barrier packaging materials for semi-liquids, dry and dehydrated food. The solution is utilizing plant-based by-products and waste (industrial waste and agricultural waste) and is based on cellulose and bioplastics.
	9	PLA bottles for water + Small water bottling unit for blowing and filling PLA bottles	The 100 % (sugar cane) plant-based composition refers to the whole bottle, incl. cap and label. The bottle allows for durable applications.
Hygiene products	10	Anandi 100% Compostable Sanitary Pads + Aakar Mini -Factories	Jute, bagasse, banana fibre and water hyacinth are used to produce the sanitary pads.
	11	NATY Incontinence Pads	Femcare / Inco line with only compostable certified raw plant based materials, including the individual wrapping and packaging.
Construction related products	12	KINGSPAN Bio based insulation in buildings	The products made from hemp have been developed to help reduce the carbon footprint of buildings.
	13	Product lines made from bioPUR	A) KLIMA-PUR Windows: high-performance, energy saving windows with frames made from bioPUR (renewable raw materials)
			B) bioPUR Foams: a diverse range of bioPUR insulation foams for roofs, walls, and floors (renewable raw materials)
14	Eco-friendly insulation with natural sheep's wool	Sheep wool isolating material. The solution could be applied for insulating roofs, ceilings, walls, floors, doors, windows.	
Other products potentially applicable in the context of humanitarian interventions	15	Biodegradable shelter	Within this project, tent fabrics consisting of fabric material that can be molecularly recycled have been developed. The remaining layer can be used as fertiliser.
	16	Bio4Pack Waste Bag (TIPA)	Responsible alternative to a disposable bag made from renewable resources.
	17	Single use compostable HaPPE apron	Single use compostable HaPPE apron is made from HaPPE's proprietary resin with neck loop and waist ties. Alternative to disposable plastic medical consumables.
	18	Biodegradable containers	The solution refers to biodegradability and allows the reduction of usage of fossil-based materials. Based on biomaterial (maize flour) and biodegradable plasticizer.
	19	Monofilament fishing nets	Monofilament fishing nets are utilising biobased and biodegradable bioplastic formulations.
	20	Biodegradable and compostable mulching spray	This mulching spray obtained from renewable sources prevents the growth of weeds in the soil near plants and fruits.
Small – scale technologies	21	Black Soldier Fly (BSF) opportunities	Transform local organic waste into high-protein animal feed and fertilizer.

	22	Small-Scale Residue Utilization Pathways (SSRUP) - Black Soldier Fly technology	The dark cage provided low-light conditions mimicking the flies' natural habitat, while the love cage encouraged mating. Adult BSF are attracted using decomposing organic waste.
	23	Modular micro AD system – Qube Renewables	Anaerobic dry digester that provides a cost-effective solution to fibrous agricultural and food waste.
	24	Single Stage Biogas Digester	It operates anaerobically to break down organic wastes into usable products – methane gas, water and organic fertilizer.
	25	Micro Biogas Digester	small-scale physical installation that is fed with organic waste (food and agricultural / garden waste) to generate biogas energy (for cooking and heating) and to generate fertilisers.
	26	Domestic biogas technologies	The technologies are able to utilize fibrous and non-fibrous feedstock, including animal excrements and or vegetable waste.
	27	Biogas production from (bio) organic waste	The effect of the final product is the production of biogas from the organic fraction of rural or urban solid waste and the reduction of the dependence of fossil fuel for cooking, lighting and electricity generation.