D4.1 Appendix No 1

Bio4HUMAN template for presenting bio-based solutions (WP4, T4.2.1)

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Scope: The template was intended for the Leaders of particular Investigation Lines within T4.2.1. to gather and present information on the scoped bio-based solutions in an unified manner. The following Investigation Lines of the T4.2.1. were followed: 1) the survey conducted with all the bio-based entities being members and associated members of the Bio-based Industries Consortium (Leader ITENE); 2) the analysis of the bio-products and bio-services delivered through projects financed by the Circular Bio-based Europe Joint Undertaking (Leader AIMPLAS); 3) the product information on the web pages of national and international organisations advocating for the bio-based products and bio-based services (Leader IBF); 4) the awards given to the exceptional products at the biggest trade fair events relating to the bio-economic issues (Leader PRO CIVIS); 5) The analysis of the formal applications submitted to the international patent offices (Leader ITENE).

Note: The template was developed by PRO CIVIS and distributed in due time to all the Leaders of the T4.2.1. Investigation Lines, so they may have prepared the necessary planning and execution. The template includes categories of information on the bio-based solutions agreed jointly by the Bio4HUMAN consortium.

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T4.2.1 The identification of bio – based solutions

Investigation lines template

INTRODUCTION

Task 4.2.1 (T4.1) starts the PHASE 3 OF THE SCOPING EXERCISE and is aimed at identifying the already existing bio-based solutions and pointing which of them could respond to the needs and expectations of the humanitarian actors and the beneficiaries of humanitarian actions. As an outcome of this task the detailed data on solutions will be gathered. “The bio-based solutions” are products or processes that are derived from biological resources, such as plants, animals, microorganisms, or enzymes. These solutions often aim to replace traditional materials or processes that rely on fossil fuels, thereby reducing greenhouse gas emissions and promoting sustainability. The outcomes of this task will provide input to the deliverable D4.1 List of bio-based solutions.

The work performed in this task will also support the evaluation of current supply chain management practices and processes in order to prepare Gap Analysis Report. The Gap Analysis Report will compare current practices to sector best practices and benchmarks. It will identify the gaps between your current state and the desired state. It will help to prioritize areas for improvement and establish targets for each gap.

INSTRUCTIONS

The leaders of each Investigation Line will perform the analysis within the scope defined in the project proposal. The leaders will be responsible for filling the template which is a detailed table describing most relevant information about the existing bio-based solutions. **The Investigation Lines leaders will fill the provided template and will send it to PRO CIVIS by 2/12.**

Investigation lines:

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1. Survey conducted with all the bio-based companies' members of the Bio-based industry Consortium
2. An analysis of the bio – products and bio – services delivered through projects financed by the Circular Biobased Europe Joint Undertaking
3. Product information on the web pages of national and international organisations advocating for the bio-product and bio-services
4. The awards given to the exceptional products at the biggest trade fair events relating to the bio-economic issues
5. The analysis of the formal applications submitted to the European Union intellectual property office (industrial designs) and to the European Patents Office

Bellow you will find chapters that will allow you to collect information according to one standardized pattern.

In each chapter you can find detailed instructions highlighting what is necessary to accomplish this task.

INVESTIGATION LINE: xxx

REVIEWED BIO-BASED SOLUTIONS

Please provide data pointed in the table below. If there are no references please indicate this fact.

Solution X	*Please write the name of the solution*
Product / service	*Please mark X if relevant*
Technology	*Please mark X if relevant*
I. Basic information	
Description of functions *What is the effect or final product?* ……	
Description of technology and TRL level (if applicable) ……	
Description of product/service and TRL level (if applicable) ……	
Basic conditions of use *Please include also minimum requirements of a given solution regarding the availability of public infrastructure.* *Please include the optimal scale/size of investment at which their solution or technology makes economic sense* *What kind of waste the solution is able to utilize or valorise?* *To what extent does the use of a given solution or technology depend on climatic conditions?* *Is it possible to refine the solution as an autonomous and mobile unit? (if applicable)* ……	
Solution owner and his willingness to provide detailed technical and technological data ……	
Has the Life Cycle Analysis been already done for this solution? ……	
Source of data	

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References

Please include a description and a photo of any examples of the implementation.

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II. End-of-life stage addressed by the solution

Please describe if the solution refers to 4R Principle (Reduce, reuse, recycle, recover) biodegradability, composability or other means of end-of-life stage.

.....

III. Needs of the humanitarian sector and / or of the solid waste management constraints in the humanitarian settings addressed by identified solution

We are looking for:
***1) bio - based products / services** in order to diminish the amounts of waste generated by humanitarian interventions*
***2) bio - based technologies** in order to cope with the amounts of waste generated in the humanitarian context.*

The expected characteristics of the bio-based solutions potentially applicable in the humanitarian context:
· ability to eliminate the humanitarian waste, i.e. plastic, aluminium, metal, glass, paper & cardboard, organic, wood, medical and chemical;
· sustainability – addressing environmental, economic, and social factors; be adaptable to local conditions; provide long-term benefits without unintended negative consequences;
· utilization of local resources and knowledge.

In case of a doubt as for the applicability of a given product, service or technology in the humanitarian context – please consult the Humanitarian Assessment Report prepared by People In Need and Polish Humanitarian Action. The Report is enclosed; also available in the SharePoint.

Please describe below how the solutions addresses the needs.

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IV. Logistic supply chains application potential - in which stage?

***The 'humanitarian supply chain'** is defined as: "The planning, procurement, storage, transport and delivery of different forms of supplies, works & services used for projects and to respond to emergencies. This includes the flow of supplies from origin to destination but also more complex work of forecasting, optimising resources, value for money to ensure the most efficient process, and decreasing the carbon footprint of related operations"*

Type of waste in humanitarian context:

COMMODITY TYPE	***PACKAGING***
Grains, cereals	*Virgin woven PP bags*
Cornmeal, fortified flour	*Hybrid paper bags and PP woven bags with PE*
Fortified vegetable oil	*Steel cans, plastic bottles, cardboard cartons*
Specialised nutritious food products	*Metallised flexible plastic sachets and pouches, plastic box liners, cardboard cartons*
TYPICAL NON-FOOD ITEMS	
Tents, shelter kits, tarpaulin, synthetic sleeping mats, blankets, clothes, mosquito nets, timber, cement.	
Nutrition-specialized products, such as Ready-to-Use Therapeutic Food (RUTF) and Ready-to-Use Supplementary Foods (RUSF); for example, Plumpy'Nut, vitamin A supplements, iron-folic acid supplements, and micronutrient supplements. These can be on tinplate or laminated packaging structures.	
Medical supplies, wheelchairs, cold boxes.	
Jerrycans/buckets (water containers), water purification tablets (Aquatabs, PUR), Water pumps, hygiene products (soap), menstrual hygiene products (single-use pads, reusable pads-ex. AFRIpads), water testing products, chemicals (such as chlorine), and equipment (for pump mechanics).	
Stoves (fuel-efficient saving stoves), seeds, farming tools (hoes, axes, rakes, watering cans, buckets), storage (bags and sacks), fertilizers, pesticides, etc.	

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Paper, printed products, office equipment, electronic waste, etc.
Petroleum, oil, and lubricants. Electrical transformers with polychlorinated biphenyls (PCBs). Chemicals such as acid, chlorine, and pesticides. Asbestos-containing materials. Treated timber, etc.
Please indicate the link of the supply chain for which the solution can be applied? Describe how.
Identification of needs
.....
Conceptualization and planning
.....
Procurement – sourcing/ purchasing of products and services
.....
Goods collection in warehouses and repacking for transport to final destination
.....
Custom clearance
.....
Transport to the destination country (often multi-stage and using different modes of transport)
.....
Transport to the final destinations – last mile
.....
Storage at the final destination
.....
Operational logistic at final destination - distribution of goods and services
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