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BIO-QUESTIONS cards - Educational board game

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This document details the formulas for various bio-based products that can be manufactured from 12 different types of biomasses found in 4 different environments.

12 TOTAL BIOMASSES

The biomasses are divided by environments because, if you play the PRO version of the game, you need to complete a formula for each environment to have the chance to end the game.

- 3 biomasses for the **"Countryside"** environment; Wine Production Waste, Hemp, Tomato Scraps
- 3 biomasses for the "City" Environment; Apple Scraps, Pruning Waste, Coffee Grounds (City)
- 3 biomasses for the "Forest" Environment; Bamboo, Wood Scraps, Mushrooms
- 3 biomasses for the "Sea" environment; Posidonia, Spirulina, and Fishery waste

MAX 7 FORMULAS PER SINGLE BIOMASS

From each type of biomass (from waste or not), up to 7 different bio-based products (Bio-Products), representing a range of product categories/applications, can be manufactured.

ALTERNATIVE BIOMASSES

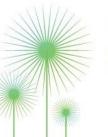
The Card will also indicate alternative biomasses from which the same bio-based product can be manufactured (to give a broader overview).





Grape pomace Waste (Countryside)

PRODUCT	CATEGORY	SPECIFIC CATEGORY
<u>Watercolors</u>	Objects	Paints & Coatings
Wine Production Waste + 4 Energy Units		
1 Sustainability Point		
Cooking Oil	Oils	Foods & Drinks
Wine Production Waste + 4 Energy Units		
1 Sustainability Point		
Food Supplements	Supplements	Supplements & Additives
Wine Production Waste + 4 Energy Units		
1 Sustainability Point		
Natabash	Dava an	Deveryone durate
<u>Notebook</u>	Paper	Paper products
Wine Production Waste + 7 Energy Units		
2 Sustainability Points		
Eco-leather Jacket	Eco-leather	Clothing, Shoes &
Wine Production Waste + 7 Energy Units		Accessories



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2 Sustainability Points		
Biofuels Wine Production Waste + 10 Energy Units 3 Sustainability Points	Biofuels	Energy products
<u>Plant Fertilizer</u> Wine Production Waste + 7 Energy Units 2 Sustainability Points	Compost	Nutrients/fertilisers

Hemp (Countryside)

PRODUCT	CATEGORY	SPECIFIC CATEGORY
<u>Supplement</u>	Supplements	Supplements & Additives
Hemp + 7 Energy Units		
2 Sustainability Points		



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Thermal Insulation Hemp + 7 Energy Units 2 Sustainability Points	Building Materials	Building Materials
Bio-based plastic Water Bottle Hemp + 10 Energy Units 3 Sustainability Points	Objects	Packaging materials
<u>Scarf</u> Hemp + 4 Energy Units 1 Sustainability Point	Fabrics	Clothing, Shoes & Accessories
<u>Pasta</u> Hemp + 7 Energy Units 2 Sustainability Points	Food	Foods & Drinks
<u>Healing Oil</u> Hemp + 7 Energy Units 2 Sustainability Points	Oils	Home, Beauty and Personal Care Products





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<u>Notebook</u>	Paper	Paper products
Hemp + 4 Energy Units		
1 Sustainability Point		

Tomato Scraps (Countryside)

PRODUCT	CATEGORY	SPECIFIC CATEGORY
<u>Cosmetics</u>	Cosmetics	Home, Beauty and Personal Care Products
Tomato Scraps + 7 Energy Units		
2 Sustainability Points		
		Medicines &
Pharmaceutical Compound	Medicatines	Pharmaceuticals
Tomato Scraps + 10 Energy Units		
3 Sustainability Points		
<u>Bio Varnish</u>	Objects	Paints & Coatings
Tomato Scraps + 7 Energy Units		
2 Sustainability Points		

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Protective Lacquers for coating the inside of Metal Food Containers Tomato Scraps + 10 Energy Units 3 Sustainability Points	Objects	Paints & Coatings
<u>Watercolors</u> Tomato Scraps + 4 Energy Units 1 Sustainability Points	Objects	Paints & Coatings
Bio-based plastic Bags Tomato Scraps + 7 Energy Units 2 Sustainability Points	Objects	Packaging materials
<u>Food Additives</u> Tomato Scraps + 4 Energy Units 1 Sustainability Point	Objects	Supplements & Additives

Apple Scraps (City)

PRODUCT	CATEGORY	SPECIFIC CATEGORY
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Drawing Sheets Apple Scraps + 4 Energy Units 1 Sustainability Point	Paper	Paper products
Bio-based plastic Vase Apple Scraps + 7 Energy Units 2 Sustainability Points	Objects	Room decoration
Eco-leather Handbag Apple Scraps + 10 Energy Units 3 Sustainability Points	Objects	Clothing, Shoes & Accessories
Food Packaging Apple Scraps + 7 Energy Units 2 Sustainability Points	Paper	Packaging materials
Toilet Paper Apple Scraps + 7 Energy Units 2 Sustainability Points	Paper	Paper products





Supplement Apple Scraps + 4 Energy Units 1 Sustainability Point	Supplements	Supplements & Additives
Eco-leather Sneakers Apple Scraps + 10 Energy Units	Objects	Clothing, Shoes & Accessories
3 Sustainability Points		

Pruning Waste (City)

PRODUCT	CATEGORY	SPECIFIC CATEGORY
<u>Biofuel</u>	Biofuels	Energy products
Pruning Waste + 10 Energy Units		
3 Sustainability Points		





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Plant Fertilizer Pruning Waste + 7 Energy Units 2 Sustainability Points	Compost	Nutrients/fertilisers
Thermal Insulation Pruning Waste + 10 Energy Units 3 Sustainability Points	Building Materials	Building Materials
<u>Confetti</u> Pruning Waste + 7 Energy Units 2 Sustainability Points	Paper	Paper products
<u>Socks</u> Pruning Waste + 10 Energy Units 3 Sustainability Points	Fabrics	Clothing, Shoes & Accessories
<u>Gift Wrapping Paper</u> Pruning Waste + 4 Energy Units 1 Sustainability Point	Paper	Paper products

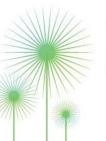




<u>Panels</u>	Building Materials	Building Materia Is
Pruning Waste + 4 Energy Units		
1 Sustainability Point		

Coffee Grounds (City)

PRODUCT	CATEGORY	SPECIFIC CATEGORY
Notebook	Paper	Paper products
Coffee Grounds + 4 Energy Units		
1 Sustainability Point		
Fertilizer for Mushrooms	Compost	Nutrients/fertilisers
Coffee Grounds + 10 Energy Units		
3 Sustainability Points		
Technical Sports T-shirt	Fabrics	Clothing, Shoes & Accessories
Coffee Grounds + 7 Energy Units		ALLESSUNES
2 Sustainability Points		
Coffee Cup	Objects	Kitchen products
Coffee Grounds + 10 Energy Units		
3 Sustainability Points		









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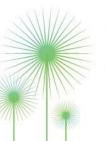
Biofuel Coffee Grounds + 10 Energy Units 3 Sustainability Points	Biofuels	Energy products
Pen Coffee Grounds + 10 Energy Units 3 Sustainability Points	Objects	Office supplies
<u>Air Freshener</u> Coffee Grounds + 4 Energy Units 1 Sustainability Point	Objects	Home, Beauty and Personal Care Products

Bamboo (Forest)





<u>Gloves</u> Bamboo + 10 Energy Units 3 Sustainability Points	Fabrics	Clothing, Shoes & Accessories
Supplement Bamboo + 4 Energy Units 1 Sustainability Point	Supplements	Supplements & Additives
Deodorant Bamboo + 7 Energy Units 2 Sustainability Points	Cosmetics	Home, Beauty and Personal Care Products
<u>Flooring</u> Bamboo + 7 Energy Units 2 Sustainability Points	Building Materials	Building Materials
<u>3D Puzzle</u> Bamboo + 10 Energy Units 3 Sustainability Points	Objects	Toys & Games



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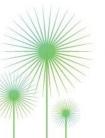
<u>Guitar</u>	Objects	Sports & Music
Bamboo + 10 Energy Units		
3 Sustainability Points		
<u>Toothbrush</u>	Objects	Home, Beauty and
Bamboo + 4 Energy Units		Personal Care Products
1 Sustainability Point		

Wood Scraps (Forest)





Pants Wood Scraps + 10 Energy Units 3 Sustainability Points	Fabrics	Clothing, Shoes & Accessories
<u>Crutches</u> Wood Scraps + 10 Energy Units 3 Sustainability Points	Liquid Wood	t.b.d.
Thermal Insulation Wood Scraps + 10 Energy Units 3 Sustainability Points	Building Materials	Building Materials
<u>Cat Litter</u> Wood Scraps + 7 Energy Units 2 Sustainability Points	Objects	Animal Food & Care
<u>Biofuels</u> Wood Scraps + 10 Energy Units 3 Sustainability Points	Biofuels	Energy products



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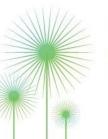
Pharmaceutical Compound Wood Scraps + 10 Energy Units 3 Sustainability Points	Medicatines	Medicines & Pharmaceuticals
Freight Transport Support (Pallet) Wood Scraps + 4 Energy Units 1 Sustainability Point	Objects	Transport & Shipping

Mushrooms (Forest)





Packaging Material	Objects	Packaging materials
Mushrooms + 7 Energy Units		
2 Sustainability Points		
Bricks	Building Materials	Building Materials
Mushrooms + 7 Energy Units		
2 Sustainability Points		
Eco-leather Belt	Eco-leather	Clothing, Shoes & Accessories
Mushrooms + 4 Energy Units		
1 Sustainability Point		
Plant Fertilizer	Compost	Nutrients/fertilisers
Mushrooms + 7 Energy Units		
2 Sustainability Points		
Supplements	Supplements	Supplements & Additives
<u>Supplements</u>		
Mushrooms + 4 Energy Units		
1 Sustainability Point		
<u>Biofuels</u>	Biofuels	Energy products
Mushrooms + 10 Energy Units		
3 Sustainability Points		



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Biodegradable-Interred Vases	Objects	Room decoration
Mushrooms + 7 Energy Units		
2 Sustainability Points		

Posidonia (Sea)

PRODUCT	CATEGORY	SPECIFIC CATEGORY
Cosmetics	Cosmetics	Home, Beauty and
Posidonia + 7 Energy Units		Personal Care Products
2 Sustainability Points		
Pharmaceutical Compound	Pharmaceuticals	Medicines &
Posidonia + 10 Energy Units		Pharmaceuticals
3 Sustainability Points		
Grocery Bag	Objects	Packaging materials
Posidonia + 10 Energy Units		
3 Sustainability Points		



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Plant Fertilizer Posidonia + 7 Energy Units 2 Sustainability Points	Compost	Nutrients/fertilisers
Biofuels Posidonia + 10 Energy Units 3 Sustainability Points	Biofuels	Energy products
Insulating Material Posidonia + 7 Energy Units 2 Sustainability Points	Building Materials	Building Materials
Carpet Posidonia + 4 Energy Units 1 Sustainability Point	Objects	Room decoration



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Spirulina (Sea)

Compating	
Cosmetics	Home, Beauty and Personal Care Products
	Supplements &
Supplements	Additives
Objects	t.b.d.
Food	Foods & Drinks
	Supplements Objects



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Biofuels Spirulina + 10 Energy Units 3 Sustainability Points	Biofuels	Energy products
Animal feed Spirulina + 4 Energy Units 1 Sustainability Point	Food	Animal Food & Care
<u>Lamp stand</u> Spirulina + 7 Energy Units 2 Sustainability Points	Objects	Room decoration





Fishery waste (Sea)

PRODUCT	CATEGORY	SPECIFIC CATEGORY
Sunscreen	Cosmetics	Home, Beauty and Personal Care Products
Fishery waste + 7 Energy Units		
2 Sustainability Points		
Supplement	Supplements	Supplements & Additives
Fishery waste + 4 Energy Units		
1 Sustainability Point		
<u>Wallet</u>	Eco-leather	t.b.d.
Fishery waste+ 10 Energy Units		
3 Sustainability Points		



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Plant fertilizer Fishery waste + 7 Energy Units 2 Sustainability Points	Compost	Nutrients/fertilisers
<u>Bricks</u> Fishery waste + 7 Energy Units 2 Sustainability Points	Building Material	Building Materials
Bioreef-artificial reefs Fishery waste + 7 Energy Units 2 Sustainability Points	Building Material	Building Materials
Packaging material Fishery waste + 7 Energy Units 2 Sustainability Points	Objects	Packaging materials

